RACGP
Royal Australian College of General Practitioners

Guidelines for preventive activities in general practice

10th edition

Table of Abbreviations

ACIR	Australian Childhood Immunisation Register
ACQUIP	Ambulatory Care Quality Improvement Project
ADA	American Diabetes Association
AF	Atrial fibrillation
AHMAC	Australian Health Ministers Advisory Council
ANRQ	Antenatal Risk Questionnaire
ASHM	Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine
ATAGI	Australian technical Advisory Group on Immunisation
AUDIT-C	Alcohol Use Disorder Identification Test – Consumption
BBV	Blood-borne virus
BCC	Basal cell carcinoma
BMD	Bone mineral density
BMI	Body mass index
BP	Blood pressure
BPD	Borderline personality disorder
CAC	Coronary artery calcium
CALD	Culturally and linguistically diverse

CDC	Centers for Disease Control and Prevention
CF	Cystic fibrosis
CHAT	Community health approaches to
CHC	Combined hormonal contraception
COPE	Centre of Perinatal Excellence
CTFPHC	Canadian Task Force on Preventive Health Care
CVS	Chorionic villus sampling
DASH	Dietary Approaches to Stop Hypertension
DASS	Depression Anxiety Stress Scales
DBAS	Dysfunctional beliefs and attitudes about sleep
DDH	Developmental dysplasia of the hip
DLCN	Dutch Lipid Clinic Network
DXA	Dual energy X-ray absorptiometry
ECG	Electrocardiogram
EPDS	Edinburgh Postnatal Depression Scale
ERSPC	European Randomized study of Screening for Prostate Cancer
FASD	Fetal alcohol spectrum disorder
FBG	Fasting blood glucose
FH	Familial hypercholesterolaemia
FPU	First pass urine
FRAX®	Fracture Risk Assessment Tool

FSRH	Faculty of Sexual and Reproductive Healthcare
FXS	Fragile X syndrome
GP	General practitioner
GPCOG	General Practitioner Assessment of Cognition
GPMHSC	General Practice Mental Health Standards Collaboration
GRADE	Grading of Recommendations, Assessment, Development and Evaluation
HANAA	Here and Now Aboriginal Assessment
HANDI	Handbook of Non-Drug Interventions
HCV	Hepatitis C Virus
HIV	Human immunodeficiency virus
HPV	Human papillomavirus
IGT	Impaired glucose tolerance
IPAV	Intimate partner abuse and violence
KDCP	Koori dementia care project
LARC	Long Acting Reversible Contraception
LBC	Liquid Based Cytology
MBS	Medicare Benefits Schedule
MET	Metabolic equivalent of task
MHT	Menopausal hormone therapy
MRI	Magnetic resonance imaging
MSAC	Medical Services Advisory Committee

NBCSP	National Bowel Cancer Screening Program
NCIRS	National Centre for Immunisation Research and Surveillance
NDIS	National Disability Insurance Scheme
NHMRC	National Health and Medical Research Council
NHS	National Health Service
NICE	The National Institute for Health and Care Excellence
NIPS	National Immunisation Program Schedule
NIPT	Non-invasive prenatal testing
NSAID	nonsteroidal anti-inflammatory drugs
OECD	Organisation for Economic Cooperation and Development
OGTT	Oral glucose tolerance test
OKQ	One Key Question®
OSA	Obstructive sleep apnoea
PEDS	Parents' Evaluation of Developmental Status
PGRTC	Problem Gambling Research and Treatment Centre
PICO	Population, intervention, comparator/control and outcomes
PID	Pelvic inflammatory disease
PRAMS	Pregnancy Risk Assessment Monitoring System
PrEP	Pre-exposure prophylaxis
PSA	Prostate specific antigen
RACGP	The Royal Australian College of General Practitioners

RANZCO	Royal Australian and New Zealand College of Ophthalmologists
RANZCOG	Royal Australian and New Zealand College of Obstetricians and Gynaecologists
RCT	Randomised controlled trial
ROSE	Risk-stratified Osteoporosis Strategy Evaluation
RUDAS	Rowland Universal Dementia Assessment Scale
SCC	Squamous cell carcinoma
SERM	Selective oestrogen receptor modulators
SIDS	Sudden infant death syndrome
SMA	Spinal muscular atrophy
SNAP	Smoking, nutrition, alcohol, physical
SNP	Single nucleotide polymorphism
SOS	SALT Osteoporosis Study
TGA	Therapeutic Goods Administration
TIA	Transient ischaemic attack
USPSTF	US Preventive Services Task Force
WHO	World Health Organization

About the Red Book

Role of the general practice team in prevention

Each year, almost nine in 10 Australians visit a general practitioner (GP).[1] With general practice at the forefront of Australian healthcare, GPs are in a pivotal position to provide the highest standard of preventive healthcare, in partnership with their patients. Preventive healthcare is important at all stages of the lifecycle. Benefits include:

- maintaining and/or improving patients' short- and long-term health
- addressing health disparities faced by disadvantaged and vulnerable population groups
- prevention of chronic disease
- early detection of specific disease through evidence-based screening
- empowering patients through health education and promotion.

Purpose and scope

The Royal Australian College of General Practitioners (RACGP) has published the *Guidelines for preventive activities in general practice* (Red Book) since 1989. It is designed to provide the general practice team with guidance on preventive care by providing a comprehensive and concise set of recommendations **applicable to the substantial portions of the general practice population rather than specific subgroups**. **This means that, in general, recommendations apply to asymptomatic (low-risk) people**. However, there is an emphasis on equity, with recommendations aimed at major disadvantaged groups at higher risk of disease and those who are less likely to receive preventive care. Additional information is provided to tailor advice depending on a patient's individual risk and need, with a focus on the safe, efficient and effective use of healthcare resources in general practice. Widely accepted as the main guide to the provision of preventive care in Australian general practice, the Red Book is one of the most accessed resources produced by the RACGP. It provides a much-needed and valued synthesis of the many aspects of preventive care relevant to our patient population. The Red Book has two companion publications: the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/)* (2nd edition), which is intended for all health professionals delivering primary healthcare to Aboriginal and Torres Strait Islander peoples; and *Putting prevention into practice: Guidelines for the implementation of prevention in the general practice setting (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/green-book)* (3rd edition), also known as the Green Book, which provides advice on how to implement preventive care in practice. The Red Book supports evidence-based screening, case finding and preventive activities in primary care, covering primary (preventing the initial occurrence of a disorder) and secondary (preventive early detection and intervention) activities. The Red Book does not attempt to be a guide to broad public health messaging. In addition, the Red Book does **not** include:

- management of risk factors or disease (eg what medications to use when treating hypertension)
- activities that are rarely or uncommonly seen in general practice
- advice about travel medicine, for which up-to-date information can be obtained from:
    - Australian Immunisation Handbook (https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-international-travellers)
    - Centers for Disease Control and Prevention (CDC) (https://wwwnc.cdc.gov/travel/)
    - World Health Organization (WHO) (https://www.who.int/travel-advice) .

Reference

1. The Royal Australian College of General Practitioners (RACGP). General practice health of the nation 2022. RACGP, 2022 (https://www.racgp.org.au/getmedia/80c8bdc9-8886-4055-8a8d-ea793b088e5a/Health-of-the-Nation.pdf.aspx) [Accessed 16 October 2023].

Screening, case finding and prevention principles

Screening

Screening is defined as 'the examination of asymptomatic people in order to classify them as likely or unlikely to have a disease'.[1] Screening is undertaken to detect early disease in apparently healthy individuals. The WHO has produced guidelines for the effectiveness of screening programs.[2] These guidelines, and those of the National Health Service (NHS) in the UK,[3] have been kept in mind in the development of recommendations about screening in the Red Book, as detailed below. **Condition**

- It should be an important health problem.
- It should have a recognisable latent or early symptomatic stage.
- The natural history of the condition, including development from latent to declared disease, should be adequately understood.

Test

- It should be simple, safe, precise and validated.
- It should be acceptable to the target population.
- The distribution of test values in the target population should be known and a suitable cut-off level defined and agreed.

Treatment

- There should be an effective treatment for patients identified, with evidence that early treatment leads to better outcomes.
- There should be an agreed policy on who should be treated and how they should be treated.

Outcome

- There should be evidence of improved mortality, morbidity or quality of life as a result of screening, and the benefits of screening should outweigh the harm.
- The cost of case finding (including diagnosis and treatment of patients who are diagnosed) should be economically balanced in relation to possible expenditure on medical care as a whole.

Consumers

- Consumers should be informed of the evidence so they can make an informed choice about participation in screening programs.

There are currently five population-based screening programs in Australia:[4]

- National Bowel Cancer Screening Program (https://www.health.gov.au/our-work/national-bowel-cancer-screening-program)
- BreastScreen Australia Program (https://www.health.gov.au/our-work/breastscreen-australia-program?utm_source=health.gov.au&utm_medium=redirect&utm_campaign=digital_transformation&utm_content=breast-screening-1)
- National Cervical Screening Program (https://www.health.gov.au/our-work/national-cervical-screening-program)

- Newborn bloodspot screening (https://www.health.gov.au/our-work/newborn-bloodspot-screening)
- Newborn hearing screening (https://www.health.gov.au/resources/publications/national-framework-for-neonatal-hearing-screening) .

A sixth program, the National Lung Cancer Screening Program, will commence in 2025.

References

1. Morrison AS. Screening. In: Rothman KJ, Greenland S, Lash TL, editors. Modern epidemiology. 2nd edn. Lippincott-Raven, 1998.
2. Principles and practice of screening for disease. J R Coll Gen Pract 1968;16(4):318.
3. UK National Health Services. What is screening? UK National Screening Committee, 2021 (https://www.nhs.uk/conditions/nhs-screening/) [Accessed 16 October 2023].
4. Department of Health and Aged Care. Population-based health screening. Australian Government, 2021 (https://www.health.gov.au/our-work/population-based-health-screening) [Accessed 18 May 2023].

Case finding

Case finding is the examination of an individual or group suspected of having, or at risk of, a condition. Case finding is a targeted approach to identifying conditions in a select group of patients who may or may not already have symptoms.[5]

Reference

1. 5. Aldrich R, Kemp L, Williams JS, et al. Using socioeconomic evidence in clinical practice guidelines. BMJ 2003;327(7426):1283–85.

Preventive activities and advice

Prevention includes all measures that protect, promote and maintain a patient's health and wellbeing, and activities that prevent disease, disability and death.[6] Preventive activities continue across a person's lifespan, from preconception and the fetal stage to old age. In addition, prevention applies to the natural history of disease, with preventive measures applied at any stage during the natural history of a disease to prevent progression.[6]

Reference

1. 6. The Royal Australian College of General Practitioners (RACGP). Putting prevention into practice: Guidelines for the implementation of prevention in the general practice setting. 3rd edn. RACGP, 2018 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/green-book) [Accessed 16 October 2023].

Opportunistic versus systematic prevention

Most preventive activities are undertaken in Australia opportunistically; that is, when patients present for other reasons, with the preventive activity being an add-on.[7] However, systematic approaches to register and recall patients for some specific targeted conditions are important, including childhood immunisations and screening for cervical, breast and colorectal cancers and diabetes. Proactive recall of patients for screening is warranted for high-risk groups, those who may have difficulty accessing services and for conditions where population coverage has been identified by the government as a public health priority.[5] In Australia, there is an increasing number of Medicare Benefits Schedule (MBS) items for health assessments in particular population groups, namely Aboriginal and Torres Strait Islander children and adults, refugees, people with an intellectual disability, those aged 45–49 years with a risk factor and those aged ≥75 years. However, it is important that such 'health checks' involve preventive interventions where there is clear evidence of their effectiveness.

References

1. 5. Aldrich R, Kemp L, Williams JS, et al. Using socioeconomic evidence in clinical practice guidelines. BMJ 2003;327(7426):1283–85.
2. 7. The Royal Australian College of General Practitioners (RACGP). Smoking, nutrition, alcohol, physical activity (SNAP): A population health guide to behavioural risk factors in general practice. 2nd edn. RACGP, 2015 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap) [Accessed 16 October 2023].

Benefits and harms of preventive health activities

There is evidence that some preventive activities are not effective and may even be harmful. Determining whether a preventive activity is beneficial, harmful or of indeterminate effect (ie there is not enough evidence on which to base a decision) requires a consistent, unbiased, evidence-based approach. Screening of asymptomatic patients may lead to overdiagnosis, causing needless anxiety, appointments, tests, drugs and even operations, and may leave the patient less healthy. Therefore, it is crucial that evidence clearly demonstrates that the benefits outweigh those harms for each preventive activity.

Further reading

For further information on the stages of prevention and the social determinants of health and illness: Putting prevention into practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/green-book/understanding-the-basics/about-prevention) | *Guidelines for the implementation of prevention in the general practice setting* (Green Book) For further information on reducing patient harms and avoiding low-value care: *First do no harm: A guide to choosing wisely in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/about-first-do-no-harm/introduction)*

Ethical implications of screening and case finding

Many clinicians confuse screening and case finding tests. Screening and case finding carry different ethical obligations. Before initiating screening in asymptomatic individuals, clinicians must consider whether the test results would change the management of the patient. If the results would not change how the patient is managed, then the test should not be ordered.[8] In addition, the potential harms should be discussed with the patient, including overdiagnosis and false positives. In case finding, the patient has presented with a particular problem, or has asked for some level of assistance or is suspected to have, or be at risk of, a condition. In this situation, there is no guarantee of benefit of the tests undertaken. It could be argued that there is at least some implied exposure to risk (eg performing a colonoscopy to investigate abdominal pain).

Reference

1. 8. The Royal Australian College of General Practitioners (RACGP). First do no harm: A guide to choosing wisely in general practice. RACGP, 2022 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/about-first-do-no-harm/introduction) [Accessed 16 October 2023].

Shared decision making

Taking a shared decision making approach is important when making screening decisions. Shared decision making does not necessary require the use of decision tools; however, these can be useful.[9,10] Shared decision making provides a collaborative approach in which the GP and patient jointly discuss:

- available treatment options (including the option of 'no active treatment' where it is appropriate)
- the potential benefits of each option
- the potential harms of each option
- the patient's individual values, preferences and circumstances.[11,12]

References

1. 9. The Royal Australian College of General Practitioners (RACGP). Management of type 2 diabetes: A handbook for general practice. RACGP, 2020 (https://www.racgp.org.au/getattachment/41fee8dc-7f97-4f87-9d90-b7af337af778/Management-of-type-2-diabetes-A-handbook-for-general-practice.aspx) [Accessed 16 October 2023].
2. 10. Branda M, LeBlanc A, Shah ND, et al. Shared decision making for patients with type 2 diabetes: A randomized trial in primary care. BMC Health Serv Res 2013;13:301. doi: 10.1186/1472-6963-13-301. [Accessed 16 October 2023].
3. 11. Del Mar C, Hoffmann T, Bakhit M. How can general practitioners reduce antibiotic prescribing in collaboration with their patients? Aust J Gen Pract 2022;51(1–2):25–30. doi: 10.31128/AJGP-07-21-6084. [Accessed 16 October 2023].
4. 12. Hoffmann TC, Légaré F, Simmons MB, et al. Shared decision making: What do clinicians need to know and why should they bother? Med J Aust 2014;201(1):35–39. doi: 10.5694/mja14.00002. [Accessed 16 October 2023].

Screening and overdiagnosis

All clinicians need to be mindful of overdiagnosis. Overdiagnosis happens when a patient's diagnosis causes them more harm than good. This can happen when a healthy person undertakes a screening test and is diagnosed with a very early form of a disease, but that disease would never have developed further to cause your patient any symptoms.[8,13] Harms of overdiagnosis include:

- physical and financial harm from unnecessary treatment
- stress and anxiety for patients, their families and carers
- potential for cascading of follow-up tests and/or treatments
- harms to other patients from an overburdened health system.[8]

References

1. 8. The Royal Australian College of General Practitioners (RACGP). First do no harm: A guide to choosing wisely in general practice. RACGP, 2022 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/about-first-do-no-harm/introduction) [Accessed 16 October 2023].
2. 13. Wiser Healthcare. What is overdiagnosis. Wiser Healthcare, n.d (https://www.wiserhealthcare.org.au/what-is-overdiagnosis/) [Accessed 16 October 2023].

Screening tests of unproven benefit

The Red Book provides information to assist GPs in caring for their patients, including in areas where the evidence is uncertain or contentious. Screening activities are only recommended where evidence demonstrates that benefits outweigh harms. Some tests are not recommended as screening tests in low-risk or asymptomatic general practice populations, but may have value as diagnostic tests or as tests or monitor disease progression. These are clearly highlighted. The RACGP resource *First do no harm: A guide to choosing wisely in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/about-first-do-no-harm/introduction)* provides information for GPs and patients on screening tests and treatments that do not have benefit and may even cause harm.

Further reading

For further information on screening tests of unproven benefit and how GPs can overcome overdiagnosis:
First do no harm: A guide to choosing wisely in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/about-first-do-no-harm/introduction)
Responding to patient request for tests not considered clinically appropriate (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/tests-not-considered-clinically-appropriate)

References

1. Morrison AS. Screening. In: Rothman KJ, Greenland S, Lash TL, editors. Modern epidemiology. 2nd edn. Lippincott-Raven,1998.
2. Principles and practice of screening for disease. J R Coll Gen Proact. 1968 Oct;16(4):318. PMCID: PMC2236670.
3. UK National Health Services. What is screening? London: UK National Screening Committee, 2021.
4. Department of Health and Aged Care. Population-based health screening. Australian Government, 2021 (https://www.health.gov.au/our-work/population-based-health-screening) [Accessed 18 May 2023].
5. Aldrich R, Kemp L, Williams JS, et al. Using socioeconomic evidence in clinical practice guidelines. BMJ 2003;327(7426):1283–85. [Accessed 18 May 2023].
6. The Royal Australian College of General Practitioners. Putting prevention into practice: Guidelines for the implementation of prevention in the general practice setting. 3rd edn. 2018 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/green-book) [Accessed 16 October 2023].

7. The Royal Australian College of General Practitioners. Smoking, nutrition, alcohol, physical activity (SNAP): A population health guide to behavioural risk factors in general practice. 2nd edn. 2015 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap) [Accessed 16 October 2023].
8. The Royal Australian College of General Practitioners. First do no harm: A guide to choosing wisely in general practice. 2022 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/about-first-do-no-harm/introduction) [Accessed 16 October 2023].
9. The Royal Australian College of General Practitioners. Management of type 2 diabetes: A handbook for general practice. 2020 (https://www.racgp.org.au/getattachment/41fee8dc-7f97-4f87-9d90-b7af337af778/Management-of-type-2-diabetes-A-handbook-for-general-practice.aspx) [Accessed 16 October 2023].
10. Branda M, LeBlanc A, Shah ND, et al. Shared decision making for patients with type 2 diabetes: A randomized trial in primary care. BMC Health Serv Res 2013;13:301. [Accessed 16 October 2023].
11. Del Mar C, Hoffmann T, Bakhit M. How can general practitioners reduce antibiotic prescribing in collaboration with their patients? Aust J Gen Pract 2022;51(1–2):25–30. doi: 10.31128/AJGP-07-21-6084. [Accessed 16 October 2023].
12. Hoffmann TC, Légaré F, Simmons MB, et al. Shared decision making: What do clinicians need to know and why should they bother? Med J Aust 2014;201(1):35–39. [Accessed 16 October 2023].
13. Wiser Healthcare. What is overdiagnosis (https://www.wiserhealthcare.org.au/what-is-overdiagnosis/) [Accessed 16 October 2023].
14. Nyblade, L., Stockton, M.A., Giger, K. et al. Stigma in health facilities: why it matters and how we can change it. BMC Med 17, 25 (2019). (https://doi.org/10.1186/s12916-019-1256-2)

Thinking holistically about your patient

For patients with different levels of risk, please refer to the notes section of the Lifecycle chart.

In many cases, people experiencing disadvantage have complex needs and health problems. Social, psychological, environmental and physical determinants of health impact on a patient's health. It is important for GPs to be aware of these factors and impacts in order to tailor their advice appropriately.[7] In addition, some groups of people may delay or do not seek healthcare due to stigma, fear of discrimination or previous negative experiences in the health system.[14] Population groups in Australia who tend to experience disadvantage, barriers to healthcare access, discrimination and stigma include:

- people who are socioeconomically disadvantaged
- Aboriginal and Torres Strait Islander people
- people from culturally and linguistically diverse (CALD) backgrounds
- people with serious mental illness
- LGBTIQA+ people
- people who are overweight and obese
- people with disability.

It is important that GPs discuss with individual patients their social situation and know local services in their area they can refer patients to for assistance.[7]

LGBTIQA+ people

GPs have a significant role to play in respecting and acknowledging those who are transgender and/or non-binary through the use of correct names and pronouns and providing gender-affirming healthcare. The terminology in this clinical guideline reflects the clinical research which is focused on cisgender people. The RACGP acknowledges further research is needed in the area of LGBTIQA+ healthcare, and future editions will be continue to be updated to reflect emerging evidence. Where there is evidence for specific population groups, it is included within chapters under the Considerations for Aboriginal and Torres Strait Islander peoples and Specific populations headings.

Further reading

For more information on the impacts of stigma and clinical guidelines:

Impact of racism(to be released mid-2024) | National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (3rd edition) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide)
Equally Well Australia (https://www.equallywell.org.au/)
Mental health guidelines (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/mental-health)
Weight stigma: Why everybody needs to act (https://www1.racgp.org.au/newsgp/gp-opinion/weight-stigma-why-everybody-needs-to-act) | newsGP
Refugee health guidelines (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/refugee-health)
Disability guidelines (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/disability)
Aboriginal and Torres Strait Islander health guidelines (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/aboriginal-and-torres-strait-islander-health)

References

1. 7. The Royal Australian College of General Practitioners (RACGP). Smoking, nutrition, alcohol, physical activity (SNAP): A population health guide to behavioural risk factors in general practice. 2nd edn. RACGP, 2015 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap) [Accessed 16 October 2023].
2. 14. Nyblade L, Stockton MA, Giger K, et al. Stigma in health facilities: Why it matters and how we can change it. BMC Med 2019;17:25. doi: 10.1186/s12916-019-1256-2. [Accessed 16 October 2023].

Structure of the Red Book

Recommendations are listed in the table of recommendations for each topic under the following categories:

Screening **Case finding** **Preventive advice and activities**

How to use the Red book

The Red book should be used to guide both systematic (planned) opportunistic screening and preventive activities in day-to-day general practice.

1. **Lifecycle chart, screening and case finding age bars (pending)** Use the lifecycle chart to quickly check which activities should be performed according to your patient's age group. Similarly, the age bar in each topic highlights which age groups the specific topic recommendations apply to.

2. **Prevalence and context of the condition/phase** Read this section to understand the prevalence of the disease/s, condition/s or phase in the Australian population.

3. **Table of recommendations** The table of recommendations divides the recommendations into screening, case finding and prevention activities. Read the table under each topic for a summary of graded recommendations, including:

    - whether the activity is recommended or not recommended
    - who the recommendation applies to
    - whether the activity has planned, regular intervals or can be undertaken opportunistically.

    Further information on the process and recommendation grade levels is available in the Methodology (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/methodology) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/methodology) section.

4 **Further information** Drop down to this section to read more information about the topic, including justifications for the recommendations made in the table.

5 **Considerations for Aboriginal and Torres Strait Islander peoples** Check this section if your patient is Aboriginal or Torres Strait Islander. Links to relevant recommendations in the National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (3rd edition) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/acknowledgements) are provided if there are additional activities for Aboriginal and Torres Strait Islander people.

6 **Specific populations** Read this section to check for population groups that require a different approach to screening, case finding and prevention.

7 **Resources**

Refer to this section if you would like more information about the specific topic from RACGP guidelines or other recommended resources.

Further reading

The RACGP produces a range of clinical guidelines (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines) and practice resources (https://www.racgp.org.au/running-a-practice/practice-resources) to assist GPs and their practice teams, including several companion resources to the Red book: For all health professionals who deliver primary healthcare to Aboriginal and Torres Strait Islander people: National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (3rd edition) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/)

For effective implementation of preventive activities in general practice: Putting prevention into practice: Guidelines for the implementation of prevention in the general practice setting (Green book) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/green-book)

For improving and monitoring the quality and safety of health services: Standards for general practices (5th edition) (https://www.racgp.org.au/running-a-practice/practice-standards/standards-5th-edition/standards-for-general-practices-5th-ed-1) (the Standards).

What's new in the 10th edition of the Red book

Modified GRADE approach

The development of the Red book 10th edition involves a transition from using the National Health and Medical Research Council FORM approach for guideline development to using the principles of the GRADE approach (Grading of Recommendations, Assessment, Development and Evaluation). Further information and details can be found in the 'Development and methodology (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activitie

s-in-general-practice/methodology) ' section.

Topic format

The format for the topics has been revised and standardised using a prescribed template with word limits to ensure chapters are concise and uniform. Each topic now includes standardised subheadings to ensure GPs and other health professionals can quickly find the information they need.

Topic changes

New topics included for the first time in this 10th edition of the Red book are highlighted in red:

10th edition chapter	9th edition chapter
Lifecycle chart	
Cancer	
Breast	Early detection of cancers
Cervical	Early detection of cancers
Colorectal	Early detection of cancers
Prostate	Early detection of cancers
Skin	Early detection of cancers

Bladder (new topic)	
Lung (new topic)	
Ovarian	Early detection of cancers
Oral	Early detection of cancers
Pancreatic	
Testicular	Early detection of cancers
Thyroid (new topic)	
Cardiovascular	
Atrial fibrillation	Prevention of vascular and metabolic disease
Cardiovascular disease risk	Peripheral vascular disease[A]
	Blood pressure, kidney, stroke and cholesterol[A]
	Prevention of vascular and metabolic disease (assessment of absolute cardiovascular risk)
Development and behaviour	
Developmental delay and autism (new topic)	
Preventive activities in childhood	Preventive activities in children and young people
Genetics	
Genetics	Genetic counselling and testing
Infectious diseases	
Hepatitis B and C (new topic)	
Immunisation	Preventive activities in older age; Communicable diseases
Sexually transmitted disease	Communicable diseases
Injury prevention	

Bullying and child abuse (new topic)	
Elder abuse (new topic)	
Falls	Preventive activities in older age
Intimate partner violence	Psychosocial
Mental health	
Alcohol	Prevention of chronic disease (section titled 'Early detection of at-risk drinking')
Anxiety (new topic)	
Dementia	Preventive activities in older age
Depression	Psychosocial
Eating disorders (new topic)	
Gambling (new topic)	
Smoking and nicotine vaping	Prevention of chronic disease
Suicide	Psychosocial
Perinatal mental health (new topic)	
Metabolic	
Coeliac (new topic)	
Diabetes	Prevention of vascular and metabolic disease
Nutrition	Prevention of chronic disease
Overweight and obesity	Prevention of chronic disease (section titled 'Overweight')
Physical activity	Preventive activities in older age; Prevention of chronic disease
Thyroid (new topic)	

Musculoskeletal disorders	
Developmental dysplasia of the hip (new topic)	
Osteoporosis	Osteoporosis
Scoliosis (new topic)	
Falls	Preventive activities in older age
Women's health	
Preconception	Preventive activities prior to pregnancy
Pregnancy – first antenatal visit (new topic)	
Pregnancy – during pregnancy (new topic)	
Interconception (new topic)	
Perinatal mental health (new topic)	
Post menopause (new topic)	
Miscellaneous	
Frailty (new topic)	
Hearing	Preventive activities in older age
Sleep and sleep-related disorders (new topic)	
Oral health	Oral health
Urinary incontinence	Urinary incontinence
Vision	Preventive activities in older age Glaucoma[B]
Screening and preventive activities of no proven benefit	
Screening and preventive activities of no proven benefit	Screening tests of unproven benefit

[A]These topics in the 9th edition were combined into an overarching cardiovascular disease risk chapter.
[B]Incorporated from the 9th edition.

Not included in the 10th edition:

- Preventive activities in middle age (advice now incorporated within the relevant disease-specific topics)
- Preventive activities in older age (advice now incorporated within the relevant disease-specific topics, including infectious diseases, metabolic, musculoskeletal and miscellaneous).

Development and methodology

The previous version of the Red Book (9th edition) was developed by a team of GPs and experts using the NHMRC FORM framework (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3053308/) . Evidence-based recommendations were developed by adopting or adapting relevant existing guideline recommendations (with preference given to Australian NHMRC-approved guidelines), or by using systematic reviews of the evidence to inform recommendations where no suitable existing recommendations were identified. Given the broad scope of the Red Book, the current 10th edition was developed using a similar pragmatic approach of adopting or adapting existing recommendations from high-quality guidelines where possible (referred to as a meta-guideline approach), rather than the time- and resource-intensive process of developing new recommendations with de novo systematic reviews across all topics. This meta-guideline approach drew on the GRADE principles of considered judgement and the grading conventions used by the GRADE approach.[1,2]

Development of Red book 10 recommendations

The process for developing the Red Book 10th edition recommendations consisted of the following steps:

1. Scoping the topics to be covered by Red Book 10th edition
2. Identifying and assessing source guidelines (for recency, relevance, and quality)
3. Extracting potentially suitable source recommendations (only those relevant to prevention and screening)
4. Assessing potentially suitable source recommendations with consideration of:
    - applicability to the Australian general practice context
    - the feasibility of implementing the recommendations
    - a comparison with the recommendations and practice points in the Red Book 9th edition
    - consistency with recommendations in other guidelines on the same topic
    - the evidence base underpinning the recommendations
5. Adopting, adapting or discarding selected source recommendations through a considered judgement process involving the clinical leads for each topic, topic working groups and/or the Red Book Executive Committee

Where no source recommendations were available, advice was sought from clinical leads for each topic about possible landmark studies, or whether any trials were underway, and targeted literature searches may have been undertaken where necessary. Where evidence was identified, it was assessed and de novo recommendations were developed if appropriate.

Grading of Red book 10 recommendations

Updating from the 9th to the 10th edition of the Red Book involved a transition from using NHMRC FORM methods to a pragmatic meta-guideline approach based on the principles of GRADE, an internationally recognised systematic and transparent approach to the development of guideline recommendations that is considered the gold standard in guideline development. This approach mainly affected the way in which the guideline recommendations were written (to be more actionable) and how they were graded in terms of strength and direction. Source guidelines used different methodologies, and therefore the strength of recommendations, reflecting the strength of the underlying evidence base, was conveyed in different ways. These differing systems of grading of source recommendations were harmonised using a common language as defined in a set of decision rules, developed specifically for the Red Book 10th edition. These rules helped ensure consistency in the assessment of source recommendations and grading of Red Book 10th edition recommendations across the guideline topics (for more detail, see Appendix 1: Methods report (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/appendices/appendix-1-methods-report)). Assessing the suitability of all potential source recommendations and grading the Red Book 10th edition recommendations occurred through a considered judgement process by relevant clinical leads for each topic in collaboration with the Red Book Executive Committee.

Grading conventions for recommendations in the Red book 10th edition

The terminology used to communicate the strength and direction of each recommendation in the Red Book 10th edition is based on that recommended by the GRADE working group (eg a 'strong' or 'conditional' recommendation 'for' or 'against' an option).[1] This terminology has been modified for the Red Book 10th edition for improved implementation across general practice settings. Practice points have also been developed to address important aspects of care that are not addressed by relevant source guidelines, or where evidence is lacking. The categories and their meaning are presented in the table below.

Strength of recommendations in Red book 10

Recommendation	Description
Recommended (Strong)	Denotes strong confidence that the benefits of an intervention clearly outweigh the harms
Not recommended (Strong)	Denotes strong confidence that the harms of an intervention clearly outweigh the benefits
Conditionally recommended	Denotes uncertainty over the balance of benefits (e.g. when the evidence quality is low or very low or when personal preferences or costs are expected to impact the decision) and, as such, refers to decisions where consideration of personal preferences is essential for decision making

Recommendation	Description
Generally not recommended	Denotes uncertainty over the balance of harms (e.g. when the evidence quality is low or very low or when personal preferences or costs are expected to impact the decision) and, as such, refers to decisions where consideration of personal preferences is essential for decision making
Practice points	Used to address important aspects of care that are not addressed by relevant source guidelines, or where evidence is lacking. These were developed by consensus of the Red book working groups or Executive Committee

References

1. 1. GRADE. Welcome to the GRADE working group. GRADE, 2023 (https://www.gradeworkinggroup.org/) [Accessed 16 October 2023].
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Cancer

Cancer

Topics in this section

Bladder cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/bladder-cancer) Breast cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/breast-cancer) Cervical cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/cervical-cancer) Colorectal cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/colorectal-cancer) Lung cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/lung-cancer) Oral cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/oral-cancer) Ovarian cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/ovarian-cancer) Pancreatic cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/pancreatic-cancer) Prostate cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/prostate-cancer) Skin cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/skin-cancer) Testicular cancer

(https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/testicular-cancer) Thyroid cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/thyroid-cancer)

Bladder cancer

Cancer | Bladder cancer

Prevalence and context of the condition

It is estimated that in 2023, more than 3100 people were diagnosed with bladder cancer in Australia.[1] Incidence and mortality of bladder cancer is approximately three- to fourfold higher in males than females.[2]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for bladder cancer in asymptomatic adults is not recommended because there is insufficient evidence to assess the balance of benefits and harms.	**Not recommended (Strong)**	N/A	[3]

Further information

In 2011, the US Preventive Services Task Force found that there is inadequate evidence that treatment of bladder cancer detected from screening leads to lowered rates of morbidity and mortality, and similarly a lack of evidence regarding the harms of screening for bladder cancer.[3]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations for Aboriginal and Torres Strait Islander people.

References

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Breast cancer

Cancer | Breast cancer

Screening and case finding age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44*	45–49*	50–54	55–59	60–64	65-69	70–74	75–79	≥80

*Case finding

Prevalence and context of the condition

Breast cancer is the most common cancer in women and the second most common cause of cancer deaths in women in Australia. In 2022, it was estimated that 20,640 new cases of breast cancer would be diagnosed in Australia (20,428 in women, 212 in men). The risk of being diagnosed with breast cancer by the age of 85 years is currently estimated as 1 in 8 (or 13%) for women and 1 in 668 (or 0.15%) for men.[1]

An assessment should be undertaken to understand a patient's individual degree of risk (see Table 1) in order to provide evidence-based guidance for preventive activities. Breast cancer risk is not normally distributed: most women have a low (<4%) lifetime risk.[2]

Table 1. Risk of breast cancer[3]

Risk level	Average or slightly higher	Moderately increased (<4% of the female population)	Potentially high risk[A] or carrying mutation (<1% of the female population)
Risk in relation to the population average	Approximately 1.5 times the population average	Approximately 1.5–3 times the population average	More than threefold times the population average Individual risk may be higher or lower if genetic test results are known
Lifetime prevalence of breast cancer up to age 75 years	Between 9% and 12.5%	Between 12% and 25%	Between 25% and 50%

Relevant history	• No confirmed family history of breast cancer • One first-degree relative diagnosed with breast cancer at age ≥50 years • One second-degree relative diagnosed with breast cancer at any age • Two second-degree relatives on the same side of the family diagnosed with breast cancer at age ≥50 years • Two first- or second-degree relatives diagnosed with breast cancer at age ≥50 years, but on different sides (ie on each side)	• One first-degree relative diagnosed with breast cancer at age <50 years (without the additional features of the potentially high-risk group) • Two first-degree relatives, on the same side of the family, diagnosed with breast cancer (without the additional features of the potentially high-risk group) • Two second-degree relatives, on the same side of the family, diagnosed with breast cancer, at least one at age <50 years (without the additional features of the potentially high risk group)	• Two first- or second-degree relatives on one side of the family diagnosed with breast or ovarian cancer, **plus** one or more of the following features on the same side of the family: ◦ additional relative(s) with breast or ovarian cancer ◦ breast cancer diagnosed before age 40 years ◦ bilateral breast cancer ◦ breast and ovarian cancer in the same woman ◦ Ashkenazi Jewish ancestry ◦ breast cancer in a male relative • One first- or second-degree relative diagnosed with breast cancer at age <45 years **plus** another first- or second-degree relative on the same side of the family with sarcoma (bone/soft tissue) at age <45 years • Member of a family in which the presence of a high-risk breast cancer gene mutation (eg *BRCA1*, *BRCA2*) has been established

	of the family		

There are multiple risk factors for breast cancer (genetic, hormonal, lifestyle and environmental).[3] However, BreastScreen, Australia's national breast cancer screening program, focuses on age, inviting all Australian women aged between 50 and 74 years for biennial mammographic screening. Women are able to self-refer for biennial mammographic screening in BreastScreen from the age of 40 years.

Clinicians have an important role in identifying people with a strong family history of breast cancer, as well as other cancers, associated with high-risk genetic variants (eg in *BRCA1* and *BRCA2*) and offering referral to a familial cancer service. The Genetics (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/genetics/genetic-screening) chapter provides further information on family history and the use of the family history questionnaire.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Women at average risk or slightly higher than average risk of breast cancer should participate in mammographic screening from ages 50 to 74 years as part of the national BreastScreen program.	**Conditionally recommended**	Every 2 years	2
Screening by mammography is not recommended in women aged ≥75 years due to insufficient evidence to assess the balance of benefits and harms.	**Generally not recommended**	N/A	4
Clinical breast examination for breast cancer screening of average risk women in general practice is not recommended.	**Generally not recommended**	N/A	5
Do not use magnetic resonance imaging (MRI) as a stand-alone screening test for women at average risk of breast cancer.	**Not recommended (strong)**	N/A	6

Do not use thermography in breast cancer screening or as an adjunctive tool to mammography.	**Not recommended (strong)**	N/A	7 8 9

Case finding

Recommendation	Grade	How often	References
Undertake mammographic screening from ages 40 to 74 years for women at moderately increased risk.	**Conditionally recommended**	At least every 2 years	5

Preventive activities and advice

Recommendation	Grade	How often	References
Counsel all women that the following are associated with lower breast cancer risk: • physical activity • maintaining a normal body mass index (for postmenopausal breast cancer) • minimising alcohol consumption • having children • breastfeeding	**Practice point**	N/A	3
It is recommended that all women, whether or not they undergo mammographic screening, are aware of how their breasts normally look and feel, and promptly report any new or unusual changes (such as a lump, nipple changes, nipple discharge, change in skin colour, skin texture, pain in a breast) to their GP. No one method for women to use when checking their breasts is recommended over another.	**Practice point**	N/A	5

Further information

Screening

For asymptomatic, average-risk women, BreastScreen Australia recommends screening mammograms every two years for women aged 50–74 years and actively recalls women in this age bracket.[2] However women at average risk may choose to commence mammography through BreastScreen from the age of 40 years.

For women at moderate risk, annual mammograms from age 40 years may be recommended. Annual mammograms are not recommended for women with a single relative diagnosed at age >50 years, because there is no clear evidence of benefit.[10]

Ongoing surveillance strategies for women at high risk of breast cancer may include imaging with MRI.

A Medicare rebate (https://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=63464&qt=item) is available for MRI scans for asymptomatic patients aged <60 years at high risk of breast cancer.[11]

Reviews of evidence from randomised controlled trials of mammography estimate rates of overdiagnosis of breast cancer of between 11% and 19%.[12] More recent modelling data from the US estimate that biennial screening from ages 40 to 74 years would result in 14 overdiagnosed cases of breast cancer per 1000 women screened over the lifetime of screening (estimated range 4–37 overdiagnosed cases).[13] Screening mammography in women aged 40–49 years reduces the risk of dying of breast cancer, but the number of deaths averted is much smaller than in older women, and the number of false-positive tests and unnecessary biopsies is larger.[13]

There is controversy on how to screen women with dense breasts. The current evidence is insufficient to assess the balance of benefits and harms of supplemental screening for breast cancer using breast ultrasound or MRI in women identified to have dense breasts on an otherwise negative screening mammogram.[4]

Thermography is associated with high false-positive and false-negative rates and is not recommended as a screening modality. Polygenic risk scores to determine breast cancer risk may have a role in the future, but are not currently recommended in general practice.

A single nucleotide polymorphism (SNP)-based breast cancer risk assessment test should only be undertaken after an in-depth discussion led by a clinical professional familiar with the implications of genetic risk assessment and testing, including the potential insurance implications. Genetic testing should be offered only with pre- and post-test counselling to discuss the limitations, potential benefits and possible consequences.[14]

Estimated risks for factors for which there is sufficiently strong evidence of an association with risk of breast cancer (ie factors for which the body of evidence was classified as either ‘Convincing’ or ‘Probable’, are summarised in table 5.2 of the 2018 Cancer Australia publication *Risk factors for breast cancer: A review of the evidence*.[15]

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Prevention and early detection of breast cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-15-prevention-and-early-detection-of-cance/prevention-and-early-detection-of-breast-cancer) chapter in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Specific populations

For women at potentially high risk or carrying a mutation, offer referral to a familial cancer clinic for risk assessment, possible genetic testing and a risk reduction management plan.

Individualised surveillance and risk reduction plan, including consideration of associated risks for other cancers (eg ovarian), may include:

- regular clinical breast examination and annual breast imaging with mammography, MRI or ultrasound
- chemoprevention with selective oestrogen receptor modulators (SERMs; eg tamoxifen or raloxifene) or aromatase inhibitors (eg exemestane and anastrozole)[16]
- mastectomy and/or salpingo-oophorectomy.

Resources

iPrevent (https://www.petermac.org/iprevent) is a validated tool to help in the assessment of breast cancer risk.

References

1. 1. Cancer Australia. Breast cancer –in Australia statistics. Australian Government, 2024 (http://www.canceraustralia.gov.au/cancer-types/breast-cancer/statistics#:~:text=In%202022%2C%20it%20is%20estimated,or%2013%25%20for%20females) [Accessed 21 February 2024].
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3. 3. Cancer Australia. Breast cancer: The risk factors. Australian Government, 2024 (http://www.breastcancerriskfactors.gov.au/) [Accessed 21 February 2024].
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10. 10. Cancer Australia. Advice about familial aspects of breast cancer and epithelial ovarian cancer. Australian Government, 2015 (http://www.canceraustralia.gov.au/publications-and-resources/cancer-australia-publications/advice-about-familial-aspects-breast-cancer-and-epithelial-ovarian-cancer) [Accessed 12 December 2023].
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Cervical cancer

Cancer | Cervical cancer

Screening age bar

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

Prevalence and context of the condition

In 2021, cervical cancer was estimated to be the 13th most commonly diagnosed cancer recorded among females, with 913 new cases of cervical cancer diagnosed in Australia.[1] Aboriginal and Torres Strait Islander women have a higher incidence of cervical cancer.

Under-screened women remain the most likely to develop cervical cancer. The main burden of cervical cancer is in developing countries without screening programs or human papillomavirus (HPV) vaccination.

The introduction of HPV vaccination in Australia has been instrumental in reducing HPV infection and has placed Australia on track to reach the elimination of cervical cancer targets of 90:70:90 (vaccination: 90% of girls fully vaccinated with the HPV vaccine by age 15 years; screening: 70% of women screened using a high-performance test by age 35 years, and again by age 45 years; treatment: 90% of women identified with cervical disease receive treatment) by 2030.[2] GPs play an important role in achieving these targets by providing vaccination and encouraging participation in the cervical cancer screening program to ensure early detection. Population level targets are beyond the scope of the Red Book, which focuses on recommendations that can be implemented in practice.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Cervical screening is not recommended in women under the age of 25 years.	**Screening not recommended (strong)**	N/A	[3]

Evidence does not support screening for women aged less than 25, even when they have experienced early sexual activity. However, for those who experience their first sexual activity at a young age (<14 years) and who had not received the HPV vaccine before sexual debut, a single HPV test between 20 and 24 years of age could be considered on an individual basis but is not required.	**Practice point**	N/A	3
Women and people with a cervix who have ever had sexual contact aged between 25-74 years of age and are eligible for screening should have a HPV screening test for cervical cancer. This can be on a self-collected vaginal sample or on a clinician-collected sample.	**Recommended (strong)**	Every five years.	3
Women with a negative oncogenic HPV screen between the ages of 70–74 no longer require ongoing routine screening.	**Practice point**	N/A	3
Women who are 75 years or older who have never had a cervical screening test or have not had one in the previous five years, may request a test and can be screened. The sample can be clinician-collected or self-collected, according to the woman's choice.	**Practice point**	N/A	3

Preventive activities and advice

Recommendations	Grade	How often	References
Administer one dose of the 9vHPV vaccine in immunocompetent adolescents and young adults from nine years of age and ensure catch up vaccination up to 26 years. For more information, refer to the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/human-papillomavirus-hpv)* .	**Recommended (strong)**	From age 9 to 26 years	4

Administering the HPV vaccine in adults aged ≥26 years is generally not recommended. However, some adults may benefit from HPV vaccination. When deciding whether to vaccinate adults, consider: • the likelihood of previous exposure to HPV • the future risks of HPV exposure.	**Generally not recommended**	N/A	[4]

Further information

- A short course of topical oestrogen therapy could be considered in postmenopausal women, people experiencing vaginal dryness, or trans men, prior to collecting the sample – for example, daily for at least 2 weeks, ceasing 1–2 days prior to the appointment. The reason for this should be explained (to reduce discomfort from the speculum and to improve the diagnostic accuracy of any associated liquid-based cytology [LBC]).[3]
- When deciding whether to choose self-collection or clinician collection, people must be given clear information by the supervising healthcare professional about the likelihood that HPV may be detected and, if so, what follow-up will be required. If a person chooses self-collection, the healthcare professional should provide information about how to collect the sample and how they will receive the test results.[3]
- Cervical screening on a self-collected vaginal sample needs to be ordered and overseen by a healthcare professional.* For details of self-collection, refer to the section on self-collected vaginal samples in the National Cervical Screening Program: *Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding (https://www.cancer.org.au/clinical-guidelines/cervical-cancer/cervical-cancer-screening/management-of-oncogenic-hpv-test-results/self-collected-vaginal-samples)* .[3]
- When follow-up HPV testing is required after an initial positive oncogenic HPV test result, the sample may be self-collected or collected by a clinician. The woman's healthcare professional should advise the woman of the follow-up that will be recommended if HPV is detected and explain that a clinician-collected sample allows for reflex LBC to be performed on the same sample. This potentially avoids the need for an additional visit to collect a cervical sample for LBC. HPV testing is not repeated on the clinician-collected sample in this circumstance.[3]
- Among those attending for a routine screening test, approximately 2% have HPV16/18 detected and approximately 6% have HPV (not 16/18) detected, although the latter varies by age.[3]

*Only doctors and nurse practitioners can sign the pathology request for tests under current Medicare Benefits Schedule (MBS) rules.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter

15: Prevention and early detection of cervical cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-15-prevention-and-early-detection-of-cance/prevention-and-early-detection-of-cervical-cancer) .

Specific populations

Screening in pregnancy[5]

- Routine antenatal and postpartum care should include a review of the woman's cervical screening history. Women who are due or overdue for screening should be screened.
- A woman can be safely screened at any time during pregnancy, provided that the correct sampling equipment is used. An endocervical brush should not be inserted into the cervical canal because of the risk of associated bleeding, which may distress women.
- All women who are due for cervical screening during pregnancy may be offered the option of self-collection of a vaginal swab for HPV testing, after counselling by a healthcare professional about the small risk of bleeding. Women testing positive for HPV (not 16/18) on a self-collected sample should be advised to return so that a cervical sample for LBC can be collected by the healthcare provider.
- For other specific populations, refer to the National Cervical Screening Program: *Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding* (https://www.cancer.org.au/clinical-guidelines/cervical-cancer/cervical-cancer-screening) .

Resources

National Cervical Screening Program: *Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding* (https://www.cancer.org.au/clinical-guidelines/cervical-cancer/cervical-cancer-screening) .

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4. 4. Australian Technical Advisory Group on Immunisation (ATAGI). Australian immunisation handbook. Human papillomavirus (HPV). Department of Health and Aged Care, 2023. Available at: (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/human-papillomavirus-hpv) [Accessed 8 April 2024].

5. 5. Cancer Council Australia. National Cervical Screening Program: Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding. Chaper 14: Screening in pregnancy. Cancer Council Australia, 2022 (https://www.cancer.org.au/clinical-guidelines/cervical-cancer/cervical-cancer-screening/screening-in-pregnancy) [Accessed 8 April 2024].

Colorectal cancer

Cancer | Colorectal cancer

Screening age bar (average risk)

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

Prevalence and context of the condition

Australia has one of the highest incidence rates of colorectal cancer in the world. Colorectal cancer was the third most commonly diagnosed cancer in Australia in 2018; an estimated 15,713 Australians were diagnosed and 5326 died of the disease in 2022.[1]

Colorectal cancer screening using the immunochemical faecal occult blood test (iFOBT) is highly cost effective. The current National Bowel Cancer Screening Program (https://www.health.gov.au/our-work/national-bowel-cancer-screening-program) (NBCSP) sends iFOBT tests to people aged 50–74 years every 2 years. Participation in the NBSCP in 2020–21 is only 41%[2] and general practice plays an important role in identifying those who are under-screened and in endorsing the NBCSP.

The National Health and Medical Research Council (NHMRC) endorsed an update to the *Clinical practice guidelines for the prevention, early detection and management of colorectal cancer (https://www.cancer.org.au/clinical-guidelines/bowel-cancer/colorectal-cancer)* in September 2023, which included a recommendation to commence iFOBT screening for the general (average risk) population from age 45 years. Currently, the NBCSP will continue to send iFOBT kits to people aged 50–74 years.

Due to the potential harms of colonoscopy and additional costs to the health system of this procedure, colonoscopy is only recommended as a screening test for people who are at least at moderate risk of colorectal cancer.[3]

Box 1. Identifying risk[3]

Adults without symptoms			
Risk level	Average		
Definition	People with no symptoms (age 45–74 years)		
According to family history			
Risk level	Category 1: Average or slightly increased (age 45–74 years)	Category 2: Moderately increased	Category 3: Individuals at potentially higher risk, where Lynch syndrome has been excluded

Definition	An individual should be advised that their risk of developing colorectal cancer is: • near-average risk if no family history of colorectal cancer • above average, but less than twice the average risk, if they have only one first-degree relative with colorectal cancer diagnosed at age ≥60 years. This level of risk is still not high enough to justify colorectal cancer screening by colonoscopy.	An individual should be advised that their risk of developing colorectal cancer is at least two times higher than average, but could be up to four times higher than average, if they have any of the following: • only one first-degree relative with colorectal cancer diagnosed before age 60 years • one first-degree relative **and** one or more second-degree relatives with colorectal cancer diagnosed at any age • two first-degree relatives with	An individual should be advised that their risk of developing colorectal cancer is at least four times higher than average, but could be up to 20 times higher than average, if they have any of the following: • two first-degree relatives **and** one second-degree relative with colorectal cancer, with at least one diagnosed before age 50 years • two first-degree relatives **and** two or more second-degree relatives with colorectal cancer diagnosed at any age • three or more first-degree relatives with colorectal cancer diagnosed at any age.

		colorectal cancer diagnosed at any age. Include both sides of the family when assessing an individual's risk category for colorectal cancer. Criteria for category 2 and category 3 can be met by inclusion of relatives from both sides of the family.	Include both sides of the family when assessing an individual's risk category for colorectal cancer. Criteria for category 2 and category 3 can be met by inclusion of relatives from both sides of the family.
Relative risk		At least two times higher than average, but could be up to four times higher than average.	At least four times higher than average, but could be up to 20 times higher than average.
Percentage of Australian population[4]	98	1-2	<1
Lifetime risk to age 75 years (assuming no colorectal cancer screening)	Approximately 5–10%	Approximately 15–30%	Approximately 30–40%

Table of recommendations

Screening

Recommendation	Grade	How often	References
Immunochemical faecal occult blood testing (iFOBT) every 2 years is recommended starting at age 45 years and continuing to age 74 years for those at average risk of colorectal cancer.	**Conditionally recommended**	Every 2 years	5
Colonoscopy is not generally recommended for screening people at average or slightly increased risk according to their family history.	**Generally not recommended**	N/A	6,7,8

Case finding

Recommendation	Grade	How often	References
For people at moderately increased risk of colorectal cancer: • colonoscopy should be offered every 5 years starting at 10 years younger than the earliest age of diagnosis of colorectal cancer in a first-degree relative or age 50 years, whichever is earlier, to age 74 years.	**Conditionally recommended**	Colonoscopy every 5 years	6
For people at potentially higher risk of colorectal cancer, where Lynch syndrome has been excluded: • colonoscopy should be offered every 5 years starting at 10 years younger than the earliest age of diagnosis of colorectal cancer in a first-degree relative or age 40 years, whichever is earlier, to age 74 years.	**Conditionally recommended**	Colonoscopy every 5 years	3

Refer the following individuals to a clinical genetics service or familial cancer centre. **People with a personal history of colorectal cancer and any of the following features:** • isolated colorectal cancer diagnosed under age 50 years* • personal history of colorectal cancer and a second Lynch syndrome associated cancer (including two colorectal cancers) • personal history of colorectal cancer and a family history of one or more first-degree or second-degree relatives with colorectal or endometrial cancer, with at least one of the cancers diagnosed under age 50 years • personal history of colorectal cancer and a family history of two or more first-degree or second-degree relatives with a Lynch syndrome associated cancer,† regardless of the age the cancers were diagnosed. **People with a family history with any of these features:** • family history of two or more first-degree or second-degree relatives with colorectal or endometrial cancer, at least one of the cancers diagnosed under age 50 years • family history of three or more first-degree or second-degree relatives with a Lynch syndrome related cancer,† regardless of the age the cancers were diagnosed. *As some familial cancer services may have a lower referral age, please seek advice from your local genetics service. †Lynch syndrome–associated cancer includes adenocarcinoma of the colorectum, endometrium, small intestine, stomach, ovary, or pancreas, transitional cell carcinoma of the ureter or renal pelvis, cholangiocarcinoma, brain tumour, sebaceous gland tumours, keratoacanthoma.	**Conditionally recommended**	N/A	3,9

Preventive activities and advice

Recommendation	Grade	How often	References
For people at higher-than-average risk, consider in consultation with a healthcare professional (refer to Further information) low-dose (100 mg) aspirin daily from age 45 to 70 years.	**Practice point**	N/A	10
Counsel all patients that the following are associated with lower colorectal cancer risk: • eating a healthy diet, including plenty of vegetables, fruit and whole grains while minimising intake of red meat, barbequed/grilled meat and processed meat • maintaining a healthy body weight • undertaking regular physical activity • avoiding or limiting alcohol intake • not smoking.	**Practice point**	N/A	11

Further information

Colonoscopy is not recommended as a screening test for people at average risk of colorectal cancer; despite this, colonoscopy is common in high socioeconomic areas.[3]

Colonoscopy has indirect and direct harms including, rarely, death from the procedure (one in 10,000–14,000 colonoscopies). Harm may be caused by the bowel cleanout prior to the procedure (eg dehydration, electrolyte imbalances), sedation used during the procedure (eg cardiovascular events), or the procedure itself (eg colonic perforations, bleeding).[4,12,13]

General practice can play an important role in increasing participation in the NBCSP.[10,11,14,15] Identifying those who are under-screened when they consult, potentially using information accessed via the National Cancer Screening Register, is an important element of this. The implementation of the Alternative Access Model means that GPs can provide NBCSP kits to all eligible patients, including their under-screened patients, as a key strategy to increase participation in bowel cancer screening. Additional ways to increase screening participation include GP endorsement messages before the NBCSP kit arrives (by SMS or letter), addressing individual patient concerns and barriers to screening, and establishing recall and reminder systems.

Until a decision is reached by the NBCSP in relation to the recommendation to commence iFOBT screening from age 45 years, GPs can order an iFOBT as a screening test for people aged 45–50 years through their pathology provider.

Aspirin use

Chemoprevention trials for calcium, some vitamin supplementation, selenium and statins, have provided mixed evidence of benefit. The strong evidence for benefit has emerged from observational studies of exposure to nonsteroidal anti-inflammatory drugs, especially aspirin.[10]

Results from randomised controlled trials about the use of aspirin in the primary and secondary prevention of colorectal cancer and adenomas are now available and point to a similar benefit to that associated with screening by colonoscopy in people aged <70 years.[10] Aspirin is an affordable and accessible option, and has other benefits such as cardiovascular protective effects, and relatively no significant side effects, although these side effects increase with age.[10] It is important to note that the benefits for aspirin in cancer prevention become apparent after a latency period of 10 years, and it is less studied in older people, especially women.[10]

Considerations for Aboriginal and Torres Strait Islander peoples

Participation in screening is under-represented by Aboriginal and Torres Strait Islander peoples. There are several barriers to participation in the NBCSP for Aboriginal and Torres Strait Islander people, including limited knowledge about bowel cancer and screening, privacy and storage of samples at home, cultural norms about faeces and low English literacy. The Alternative Access Model was initially piloted in Aboriginal Controlled Community Health Organisations and was shown to increase participation in the NBCSP.[14,16]

For further specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter 15: Prevention and early detection of cancer – Prevention and early detection of colorectal (bowel) cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-15-prevention-and-early-detection-of-cance/prevention-and-early-detection-of-colorectal-(bowe) .

Resources

Colorectal cancer (https://www.cancervic.org.au/downloads/health-professionals/optimal-care-pathways/I-PACED_colorectal_resource_card_online.pdf) : A resource card for general practitioners, Optimal Care Pathways, I-PACED (Implementing Pathways for Cancer Early Diagnosis) resources | Cancer Council Victoria

References

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2. 2. Australian Institute of Health and Welfare. Cancer screening programs: Quarterly data. AIHW, 2023 (http://www.aihw.gov.au/reports/cancer-screening/national-cancer-screening-programs-participation/contents/national-bowel-cancer-screening-program/participation) [Accessed 27 June 2023].
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5. 5. Cancer Council Australia. Clinical practice guidelines for the prevention, early detection and management of colorectal cancer. 5. Summary of recommendations for population screening. Cancer Council Australia, 2023 (https://app.magicapp.org/#/guideline/j1Q1Xj/section/Ea0BB1) [Accessed 31 October 2023].
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10. 10. Cancer Council Australia. Clinical practice guidelines for the prevention, early detection and management of colorectal cancer. 2.1.2 Chemopreventive candidate agents. Cancer Council Australia, 2023 (https://app.magicapp.org/#/guideline/noPKwE/section/Lwre0X) [Accessed 31 October 2023].
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12. 12. Lew J-B, St John DJB, Macrae FA, et al. Evaluation of the benefits, harms and cost-effectiveness of potential alternatives to iFOBT testing for colorectal cancer screening in Australia. Int J Cancer 2018;143(2):269–82. [Accessed 8 April 2024].
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Lung cancer

Cancer | Lung cancer

Prevalence and context of the condition

In Australia, lung cancer is the fifth most commonly diagnosed cancer and is the leading cause of cancer death excluding non-melanoma cancers.[1] It is estimated that, in 2023, more than 14,700 people were diagnosed with lung cancer in Australia.[1]

Further information

On 2 May 2023, the Minister for Health and Aged Care, the Hon Mark Butler MP, announced Federal Government investment of $263.8 million from 2023 to 2024 to implement a National Lung Cancer Screening Program, for commencement by July 2025. This chapter will be updated when the program commences.

Reference

1. Cancer Council. Lung cancer. Cancer Council, 2023 (https://www.cancer.org.au/cancer-information/types-of-cancer/lung-cancer) [Accessed 2 November 2023].

Oral cancer

Cancer | Oral cancer

Prevalence and context of the condition

It is estimated that more than 700 people were diagnosed with oral cancer in 2023 in Australia.[1]

Table of recommendations

Screening			
Recommendation	Grade	How often	References
Screening for oral cancer in asymptomatic adults is not recommended because there is insufficient evidence to assess the balance of benefits and harms.	**Not recommended (Strong)**	N/A	[2]

Further information

In 2013, the US Preventive Services Task Force (USPSTF) found that there is inadequate evidence for the accuracy of diagnosis, benefits and harms of screening for oral cancer.[2]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations for Aboriginal and Torres Strait Islander people.

References

1. Cancer Council. Mouth cancer. Australia: Cancer Council, 2023 (https://www.cancer.org.au/cancer-information/types-of-cancer/mouth-cancer) [Accessed 3 November 2023].
2. US Preventive Services Task Force (USPSTF). Oral cancer: Screening. USPSTF, 2013 (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/oral-cancer-screening) [Accessed 17 January 2024].

Ovarian cancer

Cancer | Ovarian cancer

Prevalence and context of the condition

It is estimated that more than 1200 people were diagnosed with ovarian cancer in 2023 in Australia.[1]

Table of recommendations

Screening			
Recommendation	Grade	How often	References
Screening for ovarian cancer in asymptomatic women is not recommended.	**Not recommended (Strong)**	N/A	[2]

Further information

In 2019, Cancer Australia found that there is currently no evidence available that screening for ovarian cancer results in reduced mortality for women.[2]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations for Aboriginal and Torres Strait Islander people.

References

1. Cancer Council. Ovarian cancer. Australia: Cancer Council, 2023 (https://www.cancer.org.au/cancer-information/types-of-cancer/ovarian-cancer) [Accessed 3 November 2023].
2. Cancer Australia. Testing for ovarian cancer in asymptomatic women. Australia: Cancer Australia, 2019 (https://www.canceraustralia.gov.au/publications-and-resources/position-statements/testing-ovarian-cancer-asymptomatic-women) [Accessed 3 November 2023].

Pancreatic cancer

Cancer | Pancreatic cancer

Prevalence and context of the condition

In Australia, pancreatic cancer is the eighth most commonly diagnosed cancer.[1] In 2023, it is estimated that more than 4500 people were diagnosed with pancreatic cancer and that one in 70 people will be diagnosed by the time they are aged 85 years.[1]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for pancreatic cancer in asymptomatic adults is not recommended.	**Not recommended (Strong)**	N/A	[2]

Further information

In 2019, the US Preventive Services Task Force found that there are currently no accurate or validated biomarkers for early detection of pancreatic cancer.[2]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations for Aboriginal and Torres Strait Islander people

Specific populations

People with a strong family history of pancreatic cancer should be referred to a familial cancer service, geneticist or oncologist for possible genetic testing.[3]

References

1. 1. Cancer Council. Types of cancer: Pancreatic cancer. Cancer Council, 2023 (https://www.cancer.org.au/cancer-information/types-of-cancer/pancreatic-cancer) [Accessed 3 November 2023].
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3. 3. Cancer Council Victoria and Department of Health Victoria. Optimal care pathway for people with pancreatic cancer. 2nd edn, Cancer Council Victoria, 2021 (https://www.cancer.org.au/assets/pdf/pancreatic-cancer-optimal-cancer-care-pathway) [Accessed 7 April 2024].

Prostate cancer

Cancer | Prostate cancer

Shared decision making age bar in the general population

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Prostate cancer is the most commonly diagnosed cancer in Australian men with an estimated 25,500 new cases in 2023, with around one in seven eventually dying of prostate cancer. It is the third commonest cause of cancer deaths in men (estimated 3743 deaths from prostate cancer in 2023).[1,2]

National population screening for prostate cancer is not recommended in Australia, nor in the United States or Europe. Instead, Australian and international guidelines emphasise the need for men to be given the opportunity to discuss the potential benefits and harms of prostate-specific antigen (PSA) testing before deciding whether to be tested. Despite advances in diagnostic techniques, the risk of overdiagnosis remains substantial and may lead to treatment for men who may never have become symptomatic in their lifetime.[3]

Box 1. Identifying risk of prostate cancer[3]

Risk level	**Average**	**Moderate** Increased risk of 2.5–3-fold of death due to prostate cancer	**High** At least 8–10-fold increased risk of death due to prostate cancer
Definition	Men without family history	Men with a brother or multiple first-degree relatives diagnosed with prostate cancer	Men with three affected first-degree relatives diagnosed with prostate cancer

Table of recommendations

Screening

Recommendation	Grade	How often	References
GPs should not order a prostate-specific antigen (PSA) test for men unless they provide informed consent for screening.	**Practice point**	N/A	4
Offer men the opportunity to discuss the potential benefits and harms of PSA testing as a screening test for prostate cancer. Evidence-based decision support tools can assist in this discussion.	**Practice point**	N/A	3
For men aged 50–69 years at average* risk of prostate cancer who have been informed of the benefits and harms of testing and who decide to undergo regular testing for prostate cancer, offer PSA testing every 2 years, and offer further investigation if total PSA is greater than 3.0 ng/mL.	**Conditionally recommended**	Every two years	3
For men at moderately raised risk* of prostate cancer due to family history, offer testing every 2 years from age 45 to 69 years.	**Conditionally recommended**	Every two years	3
For men at high risk* of prostate cancer due to family history, offer testing every 2 years from age 40 to 69 years.	**Conditionally recommended**	Every two years	3
For men aged 50–69 years with initial total PSA >3.0 ng/mL, offer repeat PSA within 1–3 months. For those with initial total PSA >3.0 ng/mL and up to 5.5 ng/mL, measure free-to-total PSA percentage at the same time as repeating the total PSA.	**Practice point**	N/A	3
Advise men aged ≥70 years who have been informed of the benefits and harms of testing and who wish to start or continue regular testing that the harms of PSA testing may be greater than the benefits of testing in men of their age.	**Practice point**	N/A	3

*Refer to Box 1. Identifying risk of prostate cancer.

Case finding

Recommendation	Grade	How often	References
PSA testing in men who are likely to live less than another 7 years is not recommended (as any mortality benefit from early diagnosis of prostate cancer due to PSA testing is not seen within less than 6–7 years from testing).	**Testing not recommended (strong)**	N/A	3
Digital rectal examination is not recommended as a routine addition to PSA testing in asymptomatic men interested in undergoing testing for early diagnosis of prostate cancer.	**Testing not recommended (strong)**	N/A	3

Further information

The use of decision aids is recommended to help men make an informed choice about PSA testing. The RACGP is updating its Should I have prostate cancer screening? (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/prostate-cancer-screening) decision aid to assist this discussion between GPs and their patients.

Longer term follow-up from the large European Randomized study of Screening for Prostate Cancer (ERSPC) trial has provided new estimates of benefit from PSA testing with a number needed to screen of 246 to prevent one prostate cancer death at 21 years' follow-up.[5]

Changes in urological practice, including use of multiparametric magnetic resonance imaging (MRI), transperineal biopsy and active surveillance for low-risk prostate cancer aim to reduce the harms of overdiagnosis and overtreatment from PSA testing. Multiparametric MRI is more accurate at diagnosing clinically significant prostate cancers than trans-rectal ultrasound-guided biopsy and is recommended in international guidelines as the next step along the diagnostic assessment in men with raised PSA.[6,7] This approach reduces the proportion of men with a raised PSA who require biopsy and exposure to the potential harms of the procedure, and also reduces the diagnosis of clinically insignificant disease.

Considerations for Aboriginal and Torres Strait Islander peoples

While there are no specific recommendations for Aboriginal and Torres Strait Islander peoples, evidence suggests that while there are lower rates of prostate cancer among Aboriginal and Torres Strait Islander people, they may experience differences in treatment and mortality in comparison to non-Aboriginal men. While further research is required to explain these differences, ongoing monitoring and efforts are needed to ensure Aboriginal and Torres Strait Islander men have equitable access to best practice care.

Refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter 15: Prevention and early detection of cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-15-prevention-and-early-detection-of-cance/early-detection-of-prostate-cancer) – Early detection of prostate cancer.

Specific populations

Men of African ancestry are at increased risk of prostate cancer but neither Australian nor US guidelines make specific recommendations about PSA testing in this population.[3,4] This increased risk should be considered as part of shared decision making.

References

1. 1. Australian Institute of Health and Welfare. Cancer. AIHW, 2022 (http://www.aihw.gov.au/reports/australias-health/cancer) [Accessed 19 May 2023].
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Skin cancer

Cancer | Skin cancer

Melanocytic and keratinocyte (non-melanocytic) skin cancer

Case finding age bar

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

Prevalence and context of the condition

Australia has the world's highest incidence of skin cancer.[1] Skin cancer incidence and mortality is higher in males than females.[2] Melanoma (melanocytic skin cancer) is the third-most common invasive cancer diagnosed in Australia. In 2021, an estimated 16,878 Australians were diagnosed with invasive melanoma and a further 27,585 were diagnosed with a melanoma in situ (stage 0; early form of melanoma).[2] Melanoma incidence is similar for males and females up to the age of approximately 45 years but by age 80 years the incidence is twice as high for males than for females. Melanoma incidence increases with age but is disproportionately high among young adults compared to other cancers, and is the most commonly diagnosed cancer for the age group 20–39 years.[2] Once a person has developed a melanoma, they are at approximately 5- to 10-times higher risk of developing another primary melanoma, although personal risk varies according to the presence of different risk factors.[3]

Keratinocyte cancers (non-melanocytic skin cancers), including basal cell carcinoma (BCC) and squamous cell carcinoma (SCC), are common in the Australian population. It is estimated that over two-thirds of Australians will develop a keratinocyte cancer in their lifetime, and many people develop multiple skin cancers.[4]

Skin cancer is highly preventable through sun protection strategies.

It is estimated that skin cancer–related conditions account for approximately 3% of all health problems managed in Australian general practice (not including primary care skin cancer clinics), and this is higher in regional or remote areas and in areas associated with lower socioeconomic status.[5]

Identifying risk of melanoma

Use one of these validated melanoma risk assessment tools to determine risk level:

- Risk prediction tools (http://www.melanomarisk.org.au/) | Melanoma Institute Australia
- Melanoma risk predictor (https://publications.qimrberghofer.edu.au/Custom/QSkinMelanomaRisk) | QIMR Berghofer Medical Research Institute

The following are considered at high risk of melanoma:

- those with previous melanoma.

The following are considered at very high risk of melanoma:

- those with previous melanoma plus any of
  - multiple atypical naevi
  - multiple primary melanomas
  - family history of melanoma
- known carrier of high-risk variant in CDKN2A gene.

Use the following keratinocyte cancer risk assessment tool to determine risk level:

- Keratinocyte cancer risk score (https://publications.qimrberghofer.edu.au/p/qimr/qskinriskcalculator) | QIMR Berghofer Medical Research Institute

Refer to the Resources section for further information on these tools.

Table of recommendations

Screening

Recommendation	Grade	How often	References
For individuals at **average/below average risk** of developing melanoma or keratinocyte cancer, regular skin checks are not recommended.	**Generally not recommended**	N/A	6,7,8

Case finding

Recommendation	Grade	How often	References
Opportunistic examination of the skin is recommended for individuals at **above-average risk** of developing melanoma or keratinocyte cancer.	**Conditionally recommended**	Opportunistically (usually no more than once every 12 months).	6,7
Regular skin checks are recommended for individuals at **high risk** of developing melanoma or keratinocyte cancer.	**Conditionally recommended**	At least every 12 months.	6,7

Individuals at **very high risk** of developing a new primary melanoma should be checked regularly by a clinician with six-monthly full skin examination supported by total body photography and dermoscopy. They and their partner or carer should be educated to recognise and document lesions suspicious of melanoma.	**Practice point**	Six-monthly	6

Preventive activities and advice

Recommendation	Grade	How often	References
Everyone regardless of their risk category should be: • provided with education that raises awareness of the early signs of skin cancer • be encouraged to be familiar with their skin and get any suspicious new or changing spots checked by a doctor	**Conditionally recommended**	N/A	6,7
The most common preventable cause of skin cancer is ultraviolet (UV) radiation exposure. All people (especially children, adolescents, young adults) should be advised to be 'sun smart' – broad-brimmed hat, covering clothing, sunscreen, sunglasses and shade. Every morning sunscreen should be applied to the head, neck, arms and hands. It should be reapplied after heavy sweating, bathing or long sun exposure, especially if outdoors when the UV Index is ≥3.	**Recommended (Strong)**	N/A	9,10
GPs should strongly counsel patients against personal home use of sunbeds or sunlamps for cosmetic tanning purposes.	**Practice Point**	N/A	11
Patients should be advised to avoid getting sunburnt, especially to the point of blistering and skin peeling, because multiple episodes have been shown to increase the risk of developing melanoma.	**Practice Point**	N/A	12,13

Further information

Sun protection times are available from the Bureau of Meteorology. Apps for Apple and Android tablets and smartphones or desktops provide real-time electronic alerts on recommended sun protection times, current and maximum ultraviolet (UV) levels, and information on recommended exposure for vitamin D. They are adjustable to specific geographic locations around Australia and internationally, available at SunSmart Global UV (https://apps.apple.com/au/app/sunsmart-global-uv/id1571645042) .

Most Australian adults will maintain adequate vitamin D levels from sun exposure during typical day-to-day outdoor activities. There is little evidence to suggest that sunscreen increases risk of vitamin D deficiency.[14]

Relevant validated risk tools (calculators) for the Australian population available to help individuals assess risk

- Risk prediction tools (http://www.melanomarisk.org.au/) | Melanoma Institute Australia
- Melanoma risk predictor (https://publications.qimrberghofer.edu.au/Custom/QSkinMelanomaRisk) | QIMR Berghofer Medical Research Institute
- Keratinocyte risk score (https://publications.qimrberghofer.edu.au/p/qimr/qskinriskcalculator) | QIMR Berghofer Medical Research Institute

Each risk tool provides a valid assessment of personal risk, but they have been developed and presented differently depending on the population for whom they are intended (ie people with or without a previous melanoma) and because there is little evidence guiding optimal risk category classification and cut-points. The risk tools have been comprehensively developed but some rare risk factors may be missing, such as immunosuppression (eg among organ transplant recipients).

Genetic risk assessment

Individuals with or at risk of a mutation in the *CDKN2A gene* or at high risk for new primary melanoma

In individuals with a strong family history of melanoma (ie three or more cases in first- or second-degree relatives) considered where predictive features are present, such as multiple primary melanoma, early age of onset, pancreatic cancer, or multiple other cancers, clinical genetic testing for *CDKN2A* or other high-risk mutations and genetic counselling should be undertaken.[6]

Cancer Institute NSW eviQ guidelines (https://www.eviq.org.au/cancer-genetics/adult/genetic-testing-for-heritable-pathogenic-variants/1864-cdkn2a-genetic-testing) provide information on risk assessment and clinical genetic testing for *CDKN2A*.[15]

Considerations for Aboriginal and Torres Strait Islander peoples

Aboriginal and Torres Strait Islander people are usually at lower risk of skin cancer, but their actual risk will depend on the presence of risk factors including the level of skin pigmentation. When Aboriginal and Torres Strait Islander people are diagnosed with skin cancer, they generally experience poorer outcomes. Thus, it is important that they are provided with education that raises awareness of the early signs of skin cancer, and are encouraged to be familiar with their skin and get any suspicious new or changing spots checked by a doctor. It is also important to note that the acral lentiginous subtype of melanoma, which accounts for approximately 1% of melanomas diagnosed in Australia, is the most frequently diagnosed melanoma in persons with darker skin colour, is not related to sun exposure, and often has a poor prognosis.[16] For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/)* .

Specific populations

Immunosuppression is also a strong risk factor for skin cancer, and organ transplant recipients are at very high (very much above average) risk of keratinocyte cancers.[7]

Resources

Educational tools and resources for health professionals to provide messages about skin cancer prevention, vitamin D and the early detection and management of skin cancer:

Resources for health professionals (https://www.sunsmart.com.au/skin-cancer/health-professionals) | SunSmart Sunscreen for skin cancer prevention (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/a-z/s/sunscreen-for-skin-cancer-prevention) , *Handbook of non-drug interventions (HANDI)* | RACGP

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Testicular cancer

Cancer | Testicular cancer

Prevalence and context of the condition

In Australia, testicular cancer is the second most common cancer in young men aged 20–39 years, not including non-melanoma skin cancer.[1] It is estimated that more than 1000 people were diagnosed with testicular cancer in 2023 in Australia.[1]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for testicular cancer in adolescent or adult men is not recommended.	**Not recommended (Strong)**	N/A	[2]

Further information

In 2011, the USPSTF found that screening using clinical or self-examination is unlikely to offer health benefits because of the very low incidence and high cure rate of testicular cancer.[2] Potential harms from screening include false-positive results, anxiety and harms from diagnostic tests or procedures.[2]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations for Aboriginal and Torres Strait Islander people.

References

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Thyroid cancer

Cancer | Thyroid cancer

Prevalence and context of the condition

In Australia, thyroid cancer is the ninth most commonly diagnosed cancer.[1] It is estimated that more than 4000 people were diagnosed with thyroid cancer in 2023 in Australia and that one in 79 people will be diagnosed with the condition by the time they are 85 years of age.[1]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for thyroid cancer in asymptomatic adults is not recommended.	**Not recommended (Strong)**	N/A	[2]

Further information

In 2017, the USPSTF found that screening for thyroid cancer in asymptomatic people resulted in harms that outweigh the benefits.[2]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations for Aboriginal and Torres Strait Islander people.

References

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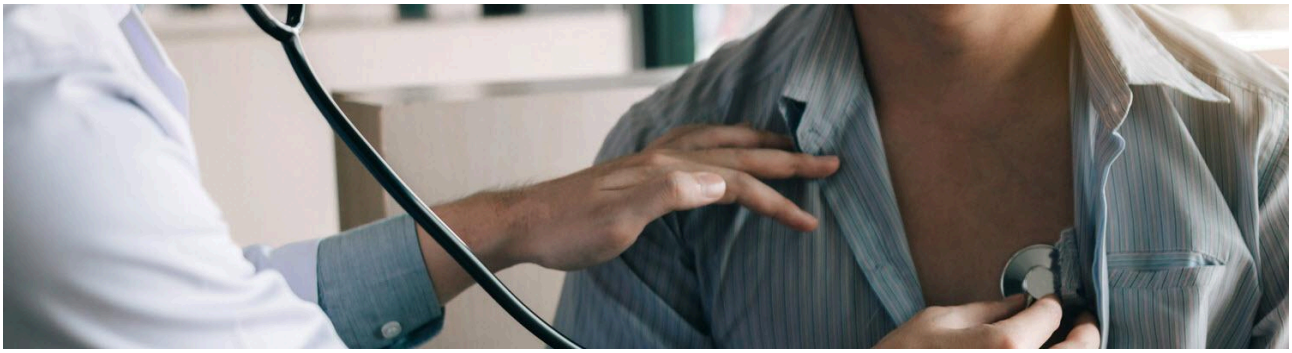
Cardiovascular

Cardiovascular



Topics in this section

Atrial fibrillation (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cardiovascular/atrial-fibrillation) Cardiovascular disease (CVD) risk (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cardiovascular/cardiovascular-disease-cvd-risk) Kidney (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cardiovascular/kidney)

Atrial fibrillation

Cardiovascular | Atrial fibrillation

Case finding age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Atrial fibrillation (AF) is the most common recurrent arrhythmia in Australia, with estimates suggesting that approximately 2–4% of the Australian population has AF and prevalence increasing with age.[1,2] It is expected that AF cases in people aged ≥55 years will increase over the next 20 years due to the ageing population and improved survival from contributory diseases.[1]

AF can be persistent or paroxysmal. Although AF can be symptomatic (transient ischaemic attack [TIA], stroke, breathlessness, reduced exercise capacity, palpitations, syncope or dizziness, fatigue, weakness, chest discomfort),[2–4] it can also be asymptomatic.[1] Clinical AF is known to increase stroke risk,[5,6] but the stroke risk associated with subclinical AF, particularly low-burden or short-duration AF, is less well understood.[5,7,8] As of 2018, AF was listed as the underlying or associated cause of over 14,000 deaths in Australia (9.0% of total deaths).[2]

Screening for AF in asymptomatic people is undertaken to determine whether someone is at sufficiently high risk to require oral anticoagulants to prevent a thromboembolic event.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for AF, with an electrocardiogram (ECG) or other device, has insufficient evidence to assess the balance of benefits and harms in adults aged ≥50 years without: • a diagnosis or symptoms of AF • a history of TIA or stroke.	**Practice point**	N/A	[5]

Case finding

Recommendation	Grade	How often	References
Opportunistic clinical palpation or auscultation is recommended to detect asymptomatic AF in people aged ≥65 years (in the clinic or community). If irregular, this should be followed by an ECG, or by an ECG rhythm strip using a handheld ECG. The presence of AF can be missed when using automatic blood pressure machines.	**Recommended (Strong)**	Opportunistically.	1

Further information

Apart from increasing age, AF risk factors and comorbidities include:[1,9–13]

- hypertension
- heart failure
- coronary artery disease
- valvular heart disease
- obesity
- diabetes
- chronic kidney disease
- family history of AF
- smoking
- obstructive sleep apnoea
- alcohol
- thyroid disease.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Cardiovascular disease prevention (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-11-cardiovascular-disease-prevention) chapter in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

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Cardiovascular disease (CVD) risk

Cardiovascular | Cardiovascular disease (CVD) risk

Screening age bar

*Check blood pressure opportunistically for people aged 18–44 years

#Screen all people aged 45–79 years without known CVD

Prevalence and context of the condition

Cardiovascular disease (CVD) was the underlying cause of 25% of all deaths in Australia in 2019.[1] Behavioural and biomedical risk factors for developing CVD include smoking, diabetes, raised blood pressure (BP), dyslipidaemia, metabolic syndrome, physical inactivity and poor diet.[1,2] It is estimated that 57% of Australian adults had three or more key modifiable CVD risk factors in 2014–18.[1] Additionally, family history of premature heart disease in a first-degree female relative aged <65 years or a first-degree male relative aged <55 years, severe mental illness, and psychosocial stressors are recognised risk factors for CVD.[2,3]

Use of the Australian CVD risk calculator (https://www.cvdcheck.org.au/calculator) is recommended to assess risk and guide further management.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for high blood pressure (BP) in children and adolescents is generally not recommended.	**Generally not recommended**	N/A	[4]

Screening for hypertension in the general population (from age 18 years) is recommended. Secondary causes and white coat hypertension should be considered (refer to Further information). For further detail, please see the Heart Foundation's 'Guidelines for the diagnosis and management of hypertension in adults – 2016 (http://www.mja.com.au/journal/2016/205/2/guideline-diagnosis-and-management-hypertension-adults-2016) '.	**Recommended (Strong)**	Opportunistically, (Practice point)	2, 5
Routine measuring of cholesterol before age 45 years is generally not recommended, unless familial hypercholesterolaemia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/disease-specific-topics/familial-hypercholesterolaemia) is suspected.	**Generally not recommended**	N/A	2, 6
Assessing cardiovascular disease (CVD) risk in all people aged 45–79 years using the Australian CVD risk calculator (https://www.cvdcheck.org.au/calculator) is recommended. Refer to the *Australian guideline for assessing and managing cardiovascular disease risk (https://www.cvdcheck.org.au/overview)* for risk categorisation, management and follow-up.	**Recommended (Strong)**	Every 5years unless risk factors worsen. Intervals between reassessments (https://www.cvdcheck.org.au/identify-risk-category) of CVD risk should be determined using the most recent estimated risk level as baseline.	2
Screening for CVD risk using a coronary artery calcium (CAC) score (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/gp-resources/coronary-artery-calcium-scoring) is not recommended in the general population.	**Not recommended (Strong)**	N/A	2, 7

If the person has other [significant risk considerations (https://www.cvdcheck.org.au/reclassification-factors-other-considerations)](https://www.cvdcheck.org.au/reclassification-factors-other-considerations) (eg family history, severe mental illness, estimated glomerular filtration rate [eGFR] <45), consult the [Australian cardiovascular disease risk calculator (https://www.cvdcheck.org.au/calculator)](https://www.cvdcheck.org.au/calculator) for further information.	**Practice point**	N/A	2

Preventive activities and advice

Recommendation	Grade	How often	Reference
Smoking cessation Encouraging, supporting and advising all people who smoke to quit is recommended. Refer them to a behavioural intervention (eg smoking cessation counselling program) combined with a Therapeutic Goods Administration–approved pharmacotherapy, where clinically indicated.	**Recommended (Strong)**	N/A	2
Physical activity Regular, sustainable physical activity, such as an exercise program, is recommended to reduce risk of CVD.	**Recommended (Strong)**	N/A	2
Healthy eating Following a healthy eating pattern low in saturated and trans fats is recommended. A healthy eating pattern should consist of: • plenty of vegetables, fruit and wholegrains • a variety of healthy protein-rich foods from animal and/or plant sources • unflavoured milk, yoghurt and cheese • foods that contain healthy fats and oils (eg olive oil, nuts and seeds, and fish).	**Recommended (Strong)**	N/A	2

Consume oily fish Regular consumption of oily fish is recommended to reduce risk of coronary heart disease and death due to coronary heart disease.	**Conditionally recommended**	N/A	2
Restrict sodium Restriction of sodium intake to lower BP is recommended.	**Conditionally recommended**	N/A	2
Healthy weight Achieving and maintaining a healthy weight is recommended.	**Conditionally recommended**	N/A	2
Alcohol consumption Reducing alcohol consumption where necessary, for people who consume alcohol, is recommended. Refer to the national guidelines (https://www.nhmrc.gov.au/health-advice/alcohol) to reduce health risks from drinking alcohol.	**Conditionally recommended**	N/A	2
Aspirin It is currently unclear if the additional benefits of taking aspirin for the primary prevention of CVD outweigh the potential harms of gastrointestinal bleeding. Refer to Further information.	**Practice point**	N/A	2

Further information

Blood pressure

Measure BP on at least two separate occasions with a calibrated mercury sphygmomanometer, or automated device that is regularly calibrated against a mercury sphygmomanometer. For the Australian CVD risk calculator (https://www.cvdcheck.org.au/calculator) , use the average of the last two seated, in-clinic BP measurements, or two measurements at least 10 minutes apart if at the same visit.[2] At the patient's first BP assessment, measure BP on both arms. Thereafter, use the arm with the higher reading.

In patients who may have orthostatic hypotension (eg elderly, diabetic), measure BP in a sitting position and repeat after the patient has been standing for at least two minutes.[6]

Ambulatory BP monitoring

If possible, use ambulatory BP monitoring or self-measurement or out-of-clinic measurements for patients with:[6]

- unusual variation between BP readings in the clinic
- suspected 'white coat' hypertension
- hypertension that is resistant to drug treatment
- suspected hypotensive episodes.

Primary aldosteronism

Primary aldosteronism occurs in approximately 5–10% of patients with hypertension, and should be suspected in patients with:[6,8]

- moderate to severe hypertension (sustained BP above 150/100 in three separate measurements taken on different days)
- treatment-resistant hypertension (hypertension is controlled with four or more medications)
- hypokalaemia.

Referral to a specialist for investigation is recommended when primary aldosteronism is suspected.[6] The management of primary aldosteronism: Case detection, diagnosis, and treatment: An Endocrine Society clinical practice guideline (https://academic.oup.com/jcem/article/101/5/1889/2804729) provides further information.

Cholesterol

If lipid levels are abnormal, a second confirmatory sample should be taken on a separate occasion (as levels may vary between tests) before making a treatment decision based on a risk assessment. A fasting sample should be used when assessing elevated triglycerides.

Screening tests using capillary blood samples produce total cholesterol results that are slightly lower than on venous blood. These may be used, providing they are confirmed with full laboratory testing of venous blood for patients with elevated lipid levels and there is good follow-up.

In adults with low CVD risk, blood tests results within five years may be used for review of CVD risk, unless there are contrary reasons to review more regularly.

Lipoprotein(a)

There is currently no justification for lipoprotein(a) screening in the general population.[2]

Prevention

It is important to communicate five-year CVD risk to patients to enable informed decisions about reducing risk and improve compliance.[2]

Modifiable risk factors should be managed at all risk levels.

Managing CVD risk should always involve encouraging, supporting and advising appropriate healthy lifestyle and behaviours, with or without BP-lowering and/or lipid-modifying pharmacotherapy. Once the recommended management plan is identified according to risk category, this needs to be further refined in collaboration with the person, after discussing the risks and benefits of treatment options, and their personal values and preferences.

People vary in what they find motivating; for some this is having targets in place. Set targets in consultation with the person according to what is practicable and achievable for them.

Pre-existing cardiovascular disease requires preventive pharmacotherapy. Conditions include:[2]

- myocardial infarction
- angina
- other coronary heart disease
- stroke
- transient ischaemic attack
- peripheral vascular disease
- congestive heart failure
- other ischaemic CVD-related conditions.

Aspirin

As part of patient decision making, GPs may want to also consider the aspirin recommendation in relation to bowel cancer prevention. Please refer to the Bowel cancer (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/cancer/colorectal-cancer) chapter.

Please also refer to the Atrial fibrillation (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/cardiovascular/atrial-fibrillation) , Kidney (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/cardiovascular/kidney) and Diabetes (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/metabolic/diabetes) chapters for further information on screening and preventive activities.

Considerations for Aboriginal and Torres Strait Islander peoples

Aboriginal and Torres Strait Islander people experience a higher burden, earlier onset and faster progression of kidney disease, due to ongoing impacts of colonisation (CKD guidelines). CVD risk assessments also need to commence earlier for Aboriginal and Torres Strait Islander people.

Assess CVD risk[2]

- Aboriginal and Torres Strait Islander people, without known CVD, aged 30–79 years.

Assess individual CVD risk factors[2]

- Aboriginal and Torres Strait Islander people, without known CVD, aged 18–29 years.

Assessment can be considered in younger age groups (aged 12–17 years). Please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter 11: Cardiovascular disease prevention (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-11-cardiovascular-disease-prevention) .

Specific populations

There are some specific populations that are associated with high rates of CVD whose risk assessments need to commence earlier than usual.[2]

Assess CVD risk[2]

- People with diabetes, without known CVD, aged 35–79 years.
- First Nations people, without known CVD (includes Aboriginal and Torres Strait Islander people and Māori people), aged 30–79 years.

Assess individual CVD risk factors[2]

- First Nations people, without known CVD (includes Aboriginal and Torres Strait Islander people and Māori people), aged 18–29 years.

People living with severe mental illness are sixfold more likely to die from CVD than people without severe mental illness.[9] For people living with severe mental illness, consider reclassifying estimated CVD risk to a higher risk category, particularly if calculated risk is close to a higher risk threshold.[2]

People with reduced eGFR, or persistently raised urine albumin-to-creatinine ratio, are at increased CVD risk.[2]

Resources

A guideline for GPs and other health professionals to support people who wish to quit smoking: *Supporting smoking cessation: A guide for health professionals (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/supporting-smoking-cessation)* | RACGP A guide for GPs and other health professionals to work with patients on the lifestyle risk factors of smoking, nutrition, alcohol and physical activity (SNAP): *Smoking, nutrition, alcohol, physical activity (SNAP) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap)* | RACGP For further information about familial hypercholesterolaemia: Familial hypercholesterolaemia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/disease-specific-topics/familial-hypercholesterolaemia) , *Genomics in general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/disease-specific-topics/familial-hypercholesterolaemia) | RACGP The early identification and optimal management of people with type 2 diabetes: *Management of type 2 diabetes: A handbook for general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/introduction) | RACGP Comprehensive guideline about CVD risk assessment and management: *Australian guideline for assessing and managing cardiovascular disease risk* (http

s://www.cvdcheck.org.au/) | Australian Chronic Disease Prevention Alliance A risk assessment, communication and management tool for health professionals: Australian CVD risk calculator (https://www.cvdcheck.org.au/calculator) | Heart Foundation, Australian Chronic Disease Prevention Alliance Evidence-based advice on the health effects of drinking alcohol: Australian guideline to reduce risks from drinking alcohol (https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-reduce-health-risks-drinking-alcohol) | National Health and Medical Research Council (https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-reduce-health-risks-drinking-alcohol) Further information and resources to help improve the physical health, including cardiovascular health, of people living with mental illness: Equally Well (https://www.equallywell.org.au/)

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Kidney

Cardiovascular | Kidney

Prevalence and context of the condition

Due to Australia's ageing population, decreasing renal function is a significant issue. However, people can remain largely symptom free until 90% of kidney function is lost.

Kidney Health Australia defines chronic kidney disease (CKD) as an estimated or measured glomerular filtration rate (GFR) <60 mL/min/1.73m^2 that is present for ≥3 months with or without evidence of kidney damage,[1] or evidence of kidney damage, with or without decreased GFR, that is present for ≥3 months, as evidenced by the following:[1]

- albuminuria
- haematuria after exclusion of urological causes
- structural abnormalities (eg on kidney imaging tests)
- pathological abnormalities (eg kidney biopsy).

CKD in itself is not a primary diagnosis. Attempts should be made to identify the underlying cause of CKD and to fully specify it.[1]

People with the following are at increased risk of CKD:[1,2]

- diabetes
- hypertension
- established cardiovascular disease (ischaemic heart disease, chronic heart failure, peripheral vascular disease or cerebral vascular disease)
- family history of kidney failure
- obesity (body mass index = 30 kg/m^2)
- current or past smoker
- history of acute kidney injury
- structural renal tract disease, recurrent renal calculi or prostatic hypertrophy
- multisystem diseases with potential kidney involvement (eg systemic lupus erythematosus)
- gout
- incidental detection of haematuria or proteinuria.

There is a higher prevalence of kidney disease in Aboriginal and Torres Strait Islander people.[3]

Table of recommendations

Case finding

Recommendation	Grade	How often	References
Detection of CKD should be targeted and focused with a history of: • acute kidney injury (AKI) • family history of kidney failure.	**Practice point**	**For AKI:** every year for first 3 years post-AKI, then every 2 years **For family history of kidney failure**: every 2 years	1,2

Other testing for CKD with estimated GFR (eGFR), creatinine and albumin-to-creatinine ratio is included as part of cardiovascular disease (CVD) risk assessment and routine monitoring of chronic diseases such as: • diabetes (annually) • hypertension (annually) • established cardiovascular disease (every 2 years) • obesity (every 2 years) • smoking (every 2 years). Please refer to Further information for cautions about overdiagnosis and underdiagnosis in CKD.	**Refer to CVD risk chapter for individual recommendations**	Refer to CVD risk (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cardiovascular/cardiovascular-disease-cvd-risk) chapter	1, 4

Further information

Causes of kidney failure

Common causes of kidney failure include:[1,5]

- diabetic nephropathy 40%
- glomerular disease 18%
- hypertension/renal vascular disease 11%
- familial/hereditary kidney diseases 7%.

Other causes (24%) include tubulointerstitial disease, other systemic diseases affecting the kidney and miscellaneous kidney disorders.

Diabetic nephropathy

Diabetic nephropathy is the single leading cause of end-stage renal disease.[1,2,5] It occurs in one in four women and one in five men with type 2 diabetes,[6] and is more common in Aboriginal and Torres Strait Islander peoples.[3,7]

For further information on diabetic nephropathy, please refer to RACGP and Diabetes Australia's *Management of type 2 diabetes: A handbook for general practice*, Microvascular complications: Nephropathy (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/microvascular-complications-nephropathy) .

GFR testing[1]

GFR is accepted as the best overall measure of kidney function.[1] In clinical practice, GFR is often estimated (eGFR) from serum creatinine and other parameters, including sex and age, using a formula such as that of the CKD epidemiology collaboration (CKD-EPI).

However, eGFR can be unreliable or misleading, and so care should be taken in accepting an eGFR at face value.[1,3] Factors that can impact the eGFR value include:

- acute changes in kidney function (eg AKI)
- on dialysis
- recent consumption of cooked meat (consider re-assessment when the individual has fasted or specifically avoided a cooked meat meal within 4 hours of blood sampling)
- exceptional dietary intake (eg vegetarian diet, high protein diet, creatine supplements)
- extremes of body size
- conditions of skeletal muscle, paraplegia, or amputees (may overestimate eGFR)
- high muscle mass (may underestimate eGFR)
- aged <18 years
- severe liver disease present
- eGFR values >90 mL/min/1.73m^2
- drugs (eg trimethoprim) interacting with creatinine excretion
- pregnancy.

Minor changes in eGFR (≤15% change) could be due to physiological or laboratory variability.

Overdiagnosis and underdiagnosis of CKD

There are concerns over the classification of declining kidney function in older people, and the potential for overdiagnosis.[8,9] Management recommendations are based on absolute eGFR cut-off values, irrespective of age.[8] This may lead to overdiagnosis and overtreatment of patients who would otherwise not progress to kidney failure.

Conversely, younger patients (particularly Aboriginal and Torres Strait Islander patients and/or with diabetes) with a rapidly declining eGFR that is still in the normal range may not be recognised as having a clinical problem until their kidney function is substantially reduced.[8] A study found that the use of an age-percentile chart (https://ebm.bmj.com/content/27/5/288.long) showed potential to change GP classification of declining kidney function, in order to prevent both overdiagnosis and underdiagnosis.[8]

Considerations for Aboriginal and Torres Strait Islander peoples

While major modifiable risk factors in Aboriginal and Torres Strait Islander people are the same as those in non-Indigenous people (refer above), social and political determinants of the health such as poverty, living conditions and racism contribute to rates of CKD in Aboriginal and Torres Strait Islander populations.[3] Diabetic nephropathy also occurs at higher rates for Aboriginal and Torres Strait Islander peoples.[3,7]

Please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter 13: Chronic kidney disease prevention and management (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-13-chronic-kidney-disease-prevention-and-m) .

Specific populations

People with severe socioeconomic disadvantage may also be at higher risk of CKD.[3]

Resources

Microvascular complications: Nephropathy (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/microvascular-complications-nephropathy) , *Management of type 2 diabetes: A handbook for general practice* | RACGP and Diabetes Australia
CKD management in primary care (https://kidney.org.au/health-professionals/ckd-management-handbook) | Kidney Health Australia

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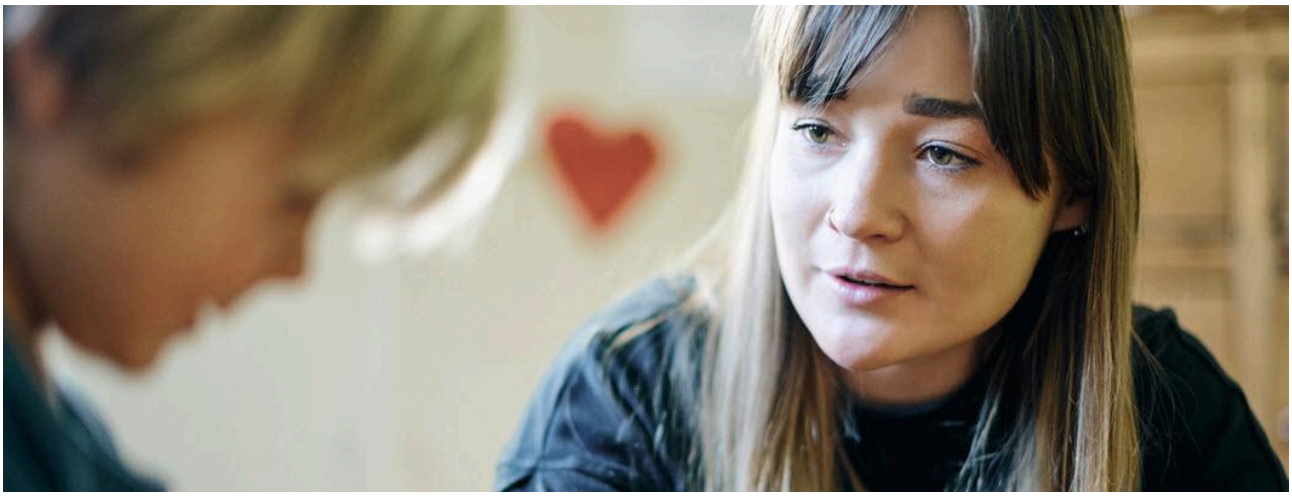
Development and behaviour

Development and behaviour



Topics in this section

Developmental delay and autism (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/development-and-behaviour/autism) Preventive activities in childhood (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/development-and-behaviour/childhood-development)

Developmental Delay and Autism

Development and behaviour | Developmental Delay and Autism

Case finding age bar

0–9*	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

*Case finding from 0 – 5 years.

Prevalence and context of the condition

Child development occurs rapidly across all domains early in life, with most milestones met in the first three years of life.[1]

Developmental domains that should be assessed are social, emotional, communication, cognition/fine motor/self-care and gross motor. More than one in five children are developmentally vulnerable in at least one domain,[2] with boys more vulnerable to delay in all domains. Parental health, including mental health, can have a significant impact on children's health and lives in general, with an Australian survey showing that 12% of parents living with children rated their health as fair or poor, with a rate of 21% among Aboriginal and Torres Strait Islander people.[3]

Current estimates are that 7.4% of children aged 0–14 years have some level of disability, with the most prevalent disabilities being intellectual (4.3%) and sensory and speech (3.2%).[4] At five years of age, one in five children is described as developmentally vulnerable in Australia.[5] Missed or delayed reporting of developmental delay may be associated with parental factors.[6]

Based on international data, the prevalence of autism spectrum disorder is thought to be 1–2%,[7] with a higher prevalence in males. The male to female ratio was previously thought to be 3–4 : 1, but more recent data suggest this ratio is closer due to the 'masking' of symptoms by girls and a diagnostic bias towards boys.[7–9]

Autism is a neurodevelopmental condition that affects child development in the first few years of life and remains present for life. Autism is characterised by differences or delays in social communication and social interaction, which include problems with social or emotional reciprocity (a back-and-forward sharing of emotions) and joint attention between carer and child, as well as restricted, repetitive behaviour and interests and sensory issues. The latter can be a hypo- or hypersensitivity to any of the five senses.[9]

Early detection allows remediation, support for families and planned proactive developmental monitoring. Developmental delay is diagnosed when milestones are not met in one or more domains: social, emotional, communication, cognition, fine or gross motor. Developmental disability occurs when there are functional impacts for a child's physical, cognitive, language or behaviour. 'Developmental vulnerability' is a term for children who are at risk of developmental delay because of child factors or environmental factors.

In addition to general practice opportunities to detect and manage developmental delay, there are children's health services organised at state and territory levels. Parents are encouraged through handheld personal health records to use Parents' Evaluation of Developmental Status (PEDS) (https://www.rch.org.au/ccch/peds/About_PEDS/) assessments at intervals from birth to five years. Refer to the Preventive activities in childhood (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/development-and-behaviour/childhood-development) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/development-and-behaviour/childhood-development) chapter for more information.

Table of recommendations

Screening

Recommendation	Grade	How often	References
General population screening with standardised tools for developmental delay is not recommended in children aged <5 years.	**Generally not recommended**	N/A	6
Screening for speech and language delay is not recommended in the general population of children aged <5 years.	**Not recommended (Strong)**	N/A	10
General population screening for autism spectrum disorder in young children aged 1.5–5 years is generally not recommended in those for whom no concerns of autism spectrum disorder have been raised (because of insufficient evidence).	**Generally not recommended**	N/A	11

Case finding

Recommendation	Grade	How often	References

In children at risk of developmental delay (see Box 1), assess achievement of milestones in social, emotional, communication, cognition, fine and gross motor domains.	**Practice Point**	Opportunistically	6, 12
In children aged <5 years: • be alert for risk factors, including low birthweight, premature birth, family history of developmental delay, prenatal exposure to alcohol and other drugs • elicit parent/carer concerns about developmental delay • observe but do not formally assess development.	**Practice Point**	Opportunistically	6, 12

Further information

When assessing child development, an understanding of the context in which child development occurs will assist with both the assessment process and advising parents and carers about how their child is going and how they can assist development. Particularly in the first year, the development by the child of secure attachment to their primary carer and the development of warm, responsive relationships will accelerate their neurological development,[13,14] enhancing their social, emotional and interpersonal skills.

As child development progresses beyond age 12 months, two aspects are of great importance to childhood development, namely play and the emergence of language skills. Play, particularly with another person, provides opportunities to develop skills such as communicating, thinking, solving problems, moving and being with other people, including other children. In a similar way, language skills, which are a part of the broader communication developmental domain, provide opportunities for the enhancement of development across all the domains. Making parents and carers aware of the importance of providing opportunities for play, language and shared attention and interaction will enhance development, which is particularly important for the child for whom there may be developmental concerns.

When developmental concerns are flagged, a thorough assessment of the child's development is essential. This may involve assessment by allied health or non-GP specialists. If developmental delays are confirmed, outcomes for children have been shown to be improved by early intervention using evidence-based programs, which are funded by the National Disability Insurance Scheme (NDIS) early childhood approach. Children who do not fully meet the definition of developmental delay but still have developmental concerns will also be supported through this program.

Pragmatic approaches in the GP context can include making the family's journey to the doctor as easy as possible. Be aware of the stress that attending appointments can cause young people with autism and consider flexible approaches to consultations and offer support for families or carers. In recent

years there has been a drift away from using the terms ‘high functioning’ and ‘low functioning’ because often the degree of functional impairment may not be determined by the level of autism, but more by co-diagnoses that often accompany an autism diagnosis.[13] Common co-occurring conditions include intellectual disability,[7] specific learning disorders,[7] speech and language disorders, epilepsy and seizure disorders,[14] attention deficit hyperactivity disorder (ADHD),[14] anxiety[15] and depression (more common in older children and adolescents).[15,16]

Box 1. Factors indicating children at risk of developmental delay[6,12]

- Prematurity
- Low birthweight
- Birth complications
- Poor maternal health during pregnancy
- Prenatal exposure to alcohol or drugs
- Infections
- Genetic characteristics
- Trauma
- Maltreatment
- Exposure to toxins
- Lead poisoning
- Low socioeconomic status

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Child health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-3-child-health/preventing-child-maltreatment-–-supporting-familie) chapter in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Resources

The 'red flag (https://www.racgp.org.au/getattachment/21c724bc-9280-4262-814f-77366aa9e640/Appendix-3A.pdf.aspx) ' early intervention referral guide for children aged 0–5 years | Central Queensland Hospital and Health Services

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Preventive activities in childhood

Development and behaviour | Preventive activities in childhood

Screening age bar

0–9*	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75v79	≥80

*Newborn screening

Introduction

Prevention and health promotion in the early years, from conception to 5 years of age, is important for an individual's lifelong health and wellbeing.[1] It may also be an opportunity to redress health inequalities.[2,3] In adolescence, neurodevelopmental studies support the value of early intervention to prevent ongoing harm.

Many infants and children visit their GP frequently, and adolescents visit at least once a year.[4] This frequent contact provides opportunities for disease prevention and health promotion.

Evidence provides moderate support for the hypothesis that 'accessible, family-centred, continuous, comprehensive, coordinated, compassionate and culturally effective care improves health outcomes for children with special healthcare needs'.[5] There is also evidence that supports the beneficial impact of similar care for children without special healthcare needs.[6–7]

Table of recommendations

Screening

Recommendation	Grade	How often	References

All newborns should have: • metabolic screening • universal hearing screening • a physical exam as outlined in the Child Personal Health Record ◦ ACT: Blue (https://nla.gov.au/nla.obj-2864006598/view) Book (https://www.health.act.gov.au/sites/default/files/2023-01/Baby%20Personal%20Health%20Record_Inner_2022_FINAL.pdf) ◦ NSW: Blue Book (https://www.health.nsw.gov.au/kidsfamilies/MCFhealth/Pages/child-blue-book.aspx#:~:text=Summary,copy%20of%20the%20Blue%20Book.) ◦ Queensland: Red Book (https://www.childrens.health.qld.gov.au/chq/information-for-families/personal-health-record/) ◦ Victoria: Green Book (https://www.betterhealth.vic.gov.au/health/healthyliving/victorian-child-health-record) ◦ SA: Blue Book (https://www.cafhs.sa.gov.au/resources/blue-book) ◦ WA: Purple Book (https://www.cahs.health.wa.gov.au/Our-services/Community-Health/Child-Health/Child-Health-appointments) ◦ NT: Yellow Book (https://nt.gov.au/wellbeing/pregnancy-birthing-and-child-health/baby-child-assessments-clinics) ◦ Tasmania: Blue Book (https://www.health.tas.gov.au/health-topics/child-and-youth-health/child-health-and-parenting-service-chaps) .	**Practice point**	Neonatally	8,9,10

Case finding

Recommendation	Grade	How often	References
For the psychosocial assessment of adolescents, use the HEEADSSS assessment (https://www.rch.org.au/clinicalguide/guideline_index/Engaging_with_and_assessing_the_adolescent_patient/) , in which the patient is asked about: • **H**ome life • **E**ducation/employment • **E**ating habits • **A**ctivities • **D**rug and alcohol use • **S**exuality • Personal **s**afety • **S**uicidal ideation/depression.	**Practice point**	Opportunistically	11

Preventive activities and advice

Recommendation	Grade	How often	References
Immunisation			
Ensure immunisation in accordance with the Australian Immunisation Schedule. For information, see the immunisation chapter (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/infectious-diseases/immunisation) .	**Practice point**	As per the immunisation schedule	12
Preventive counselling and advice			

Neonatally, provide education and advice about: • the harms of passive smoking • the prevention of sudden infant deaths (SIDS; see Further information) • the need to use appropriate restraints in motor vehicles • the benefits of breastfeeding.	**Practice point**	Neonatally	11, 13,14
Throughout childhood, provide education and advice to parents regarding injury prevention, sun protection, promotion of good oral health, nutrition, physical activity and providing a strong antismoking message. See Skin cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/skin-cancer) , Oral health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/oral-health) , Nutrition (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/nutrition) , Physical activity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/physical-activity) and Smoking and nicotine vaping (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/smoking) chapters.	**Practice point**	Opportunistically	15,16,17
Monitor weight and height in children aged 2–6 years using age-specific body mass index charts (either CDC (https://www.cdc.gov/growthcharts/clinical_charts.htm) or WHO (https://www.who.int/toolkits/child-growth-standards/standards/body-mass-index-for-age-bmi-for-age)).	**Practice point**	At well child visits or immunisation	18,19

Monitor weight and length in children aged <2 years using WHO growth charts (https://www.who.int/toolkits/child-growth-standards/standards/body-mass-index-for-age-bmi-for-age) .	**Practice point**	At well child visits or immunisation	19
Breastfeeding and introduction of solid food			
When the infant is ready, at around 6 months, but not before 4 months, start to introduce a variety of solid foods (texture appropriate, in any order, as long as iron-rich foods are included), preferably while continuing to breastfeed. Refer to the Australian dietary guidelines (https://www.eatforhealth.gov.au/guidelines/guidelines) .	**Practice point**	start at 6 months	14
Unless there is already an established allergy to certain foods, all infants should be given the common food allergens (peanut, tree nuts, cow's milk, egg, wheat, soy, sesame, fish and shellfish), including smooth peanut butter/ paste, cooked egg, dairy and wheat products before 12 months of age. More information is available in First Do No Harm: a guide to choosing wisely in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/gp-resources/excluding-allergenic-foods) .	**Practice point**	Before 12 months of age	14, 20
	Recommended (Strong) for peanuts		

Further information

Table 1. Prevention of sudden infant deaths (SIDS)
Place on back to sleep for every sleep
Use a firm, flat, non-inclined sleep surface to reduce the risk of suffocation or wedging/entrapment

Feeding of human milk is recommended because it is associated with a reduced risk of SIDS
It is recommended that infants sleep in the parents' room, close to the parents' bed, but on a separate surface designed for infants, ideally for at least the first 6 months
Keep soft objects (eg pillows, pillow-like toys, quilts, comforters, mattress toppers and fur-like materials) and loose bedding (eg blankets and non-fitted sheets) away from the infant's sleep area to reduce the risk of SIDS, suffocation, entrapment/wedging and strangulation
Avoid smoke and nicotine exposure during pregnancy and after birth
Avoid alcohol, marijuana, opioids and illicit drug use during pregnancy and after birth
Avoid overheating and head covering in infants
It is recommended that infants be immunised in accordance with Australian guidelines
Do not use home cardiorespiratory monitors as a strategy to reduce the risk of SIDS
Supervised awake tummy time is recommended to facilitate development and to minimise the risk of positional plagiocephaly. Parents are encouraged to place the infant on their tummy while awake and supervised for short periods of time beginning soon after hospital discharge, increasing tummy time incrementally to at least 15–30 minutes total daily by the age of 7 weeks
There is no evidence to recommend swaddling as a strategy to reduce the risk of SIDS
Table modified from Moon et al.[21]

Considerations for Aboriginal and Torres Strait Islander peoples

The rates of stillbirth and neonatal deaths of Aboriginal and Torres Strait Islander infants were 1.5- and 2-fold higher than for non-Indigenous infants, respectively, in 2015–19.[22] Aboriginal and Torres Strait Islander infants are also more likely to be born premature or with low birthweight,[23,24] and are more likely to be hospitalised before one year of age.[25]

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Child health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-3-child-health/preventing-child-maltreatment-–-supporting-familie) chapter in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Resources

Australian dietary guidelines (https://www.eatforhealth.gov.au/guidelines/guidelines) | NHMRC *First Do No Harm: a guide to choosing wisely in general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/gp-resources/excluding-allergenic-foods) | RACGP

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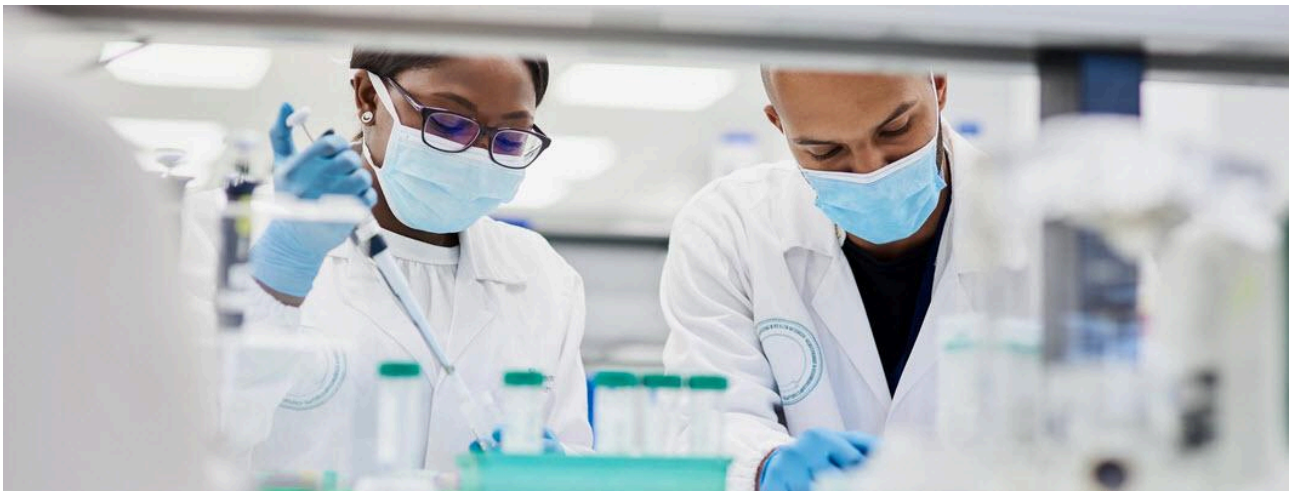
Genetics

Genetics



Topics in this section

Genetics (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/genetics/genetic-screening)

Genetics

Genetics

Prevalence and context of the condition

Advances in genomic medicine will continue to have a growing role in general practice. Genetic tests are available for an increasing number of indications from preconception planning, during pregnancy, for neonates (newborn screening), during childhood and through to adult-onset familial diseases such as cancer, cardiac and neurodegenerative diseases. More detail is available in the *RACGP Genomics in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genomics-in-general-practice/background)* [1] resource.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Genetic carrier screening: Preconception and prenatal All women/couples planning a pregnancy, or who are already pregnant, should have a comprehensive family history recorded to identify relatives with heritable genetic disorders, as well as the presence of consanguinity.	**Practice point**	Prior to or in early pregnancy	1,2

Information on carrier screening for genetic conditions should be offered to all women planning a pregnancy or in the first trimester of pregnancy, regardless of family history or ethnicity. Options for carrier screening include screening with a panel for a limited selection of the most frequent conditions (eg cystic fibrosis, spinal muscular atrophy [SMA] and fragile X syndrome), or screening with an expanded panel that contains many disorders (up to hundreds). MBS items (https://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=73451&qt=item&criteria=73451) are available for carrier screening for cystic fibrosis, SMA and fragile X syndrome.	**Practice point**	Prior to or in early pregnancy	1,2
Screening can be sequential or couple screening. In sequential screening, one member of the couple is screened (usually the woman since the woman's carrier status for X-linked conditions is relevant) and the second member of the couple is only screened if the first member is a carrier of one or more autosomal recessive conditions. In couple screening, both members of the couple are screened at the same time. • All couples with a high chance of having a child with one of the conditions screened for should be referred for genetic counselling to be informed of available reproductive options and to assist with prenatal testing if the woman in the couple is found to have a high chance is pregnant when the result becomes known. • All pregnant women should be offered basic screening for thalassemia carrier status by a full blood examination at initial presentation. Screening with specific assays for haemoglobinopathies (eg high-performance liquid chromatography [HPLC] or serum protein electrophoresis [EPG], and haemoglobinopathy gene DNA testing) should be considered in high-risk ethnic or population groups (Mediterranean, African and Asian ethnicity).	**Practice point**	Prior to or in early pregnancy	2

Prenatal screening for chromosomal conditions Screening or diagnostic testing for *w*omen at risk of carrying a baby with fetal chromosomal and genetic conditions is voluntary and should only be undertaken as an informed decision by the pregnant woman. Acceptable first-line screening tests for fetal chromosome abnormalities in the **first trimester** include either: • combined first trimester screening with nuchal translucency and serum pregnancy-associated plasma protein A (PAPP-A) and beta human chorionic gonadotropin (βHCG) measurements OR • cell-free DNA (cfDNA)-based screening (also called non-invasive prenatal testing [NIPT]),* usually available from 10 weeks. The choice of first-line screening test will depend on local resources, patient demographics and individual patient characteristics. Pre-test counselling for cfDNA-based screening should include informed decision making regarding testing for fetal sex and sex chromosome aneuploidy. The potential for other unanticipated findings of relevance to maternal health (including maternal genomic imbalances) should be included in pre-test counselling. Acceptable first-line screening tests for chromosome conditions in **second trimester** include: • maternal serum screening (MA + AFP + βHCG +UE3 +/− inhibin) and, • cfDNA-based screening. The choice of first-line screening test will depend on local resources, patient demographics and individual patient characteristics. If a screening test result indicates an increased chance of a chromosome or genetic condition, the woman should have access to genetic counselling for further information and support. The available options for prenatal diagnosis should be discussed and offered.	**Practice point**	First trimester where possible Second trimester	1,3

Routine population-based screening for genome-wide chromosome abnormalities and microdeletion syndromes is not recommended due to the absence of well-performed clinical validation studies.	**Not recommended (strong)**	N/A	3
Familial hypercholesterolaemia (FH) FH assessment should be conducted when an individual presents with: • clinical features such as tendon xanthomata • untreated low-density lipoprotein cholesterol (LDL-C) >4.9 in adults mmol/L • premature cardiovascular disease (CVD) or a family history (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/family-history) of such (CVD aged <60 years). Assess their probability of having FH using the Dutch Lipid Clinic Network (DLCN) criteria. Offer referral to a lipid disorders clinic if DLCN score ≥3. While FH can be diagnosed clinically, a confirmatory DNA test allows for cascade screening within the family of an affected patient. There is MBS funding (https://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=73352&qt=item&criteria=familial%20hypercholesterolaemia) for genetic testing for FH. MBS item 73352 can only be ordered by a specialist physician to make the diagnosis; GPs can order the test for cascade screening in unaffected relatives.	**Conditionally recommended**	Once off	1

Hereditary haemochromatosis (HHC) Consider HHC in: • patients with liver disease of unknown cause, including those with suspected alcoholic liver disease • family members of patients with HHC • other increased risk groups – patients with atypical arthritis, cardiomyopathy, chronic fatigue, diabetes mellitus. Test fasting transferrin saturation and serum ferritin. Genetic testing for variants in the homeostatic iron regulator (HFE) gene, rebatable via the MBS, is recommended in: • individuals with suspected iron overload (ie fasting serum transferrin saturation >45% or serum ferritin >200 µg/L in females or >300 µg/L in males) • first-degree relatives of patients with HHC who are p.Cys282Tyr homozygous or p.Cys282Tyr/p.His63Asp compound heterozygous.	**Conditionally recommended**	Once off	1,4
Breast cancer – refer to section on breast cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/breast-cancer) .			
Colorectal cancer – refer to section on colorectal cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/colorectal-cancer) .			
*NIPT is not available through the MBS or covered by private health insurance.			

Case finding

Recommendation	Grade	How often	References

Those identified with a family history of a specific inherited disorder should be offered referral to a genetic counselling service for information about carrier screening and prenatal diagnosis/ preimplantation genetic diagnosis for the condition.	**Practice point**	Prior to or in early pregnancy	[1,2]

Further information

Individuals and couples should be supported with advice to make informed decisions about genetic testing that includes discussion of out-of-pocket expenses required for the test. MBS funding is available for a limited number of genetic tests, some of which can be accessed in general practice under specific criteria. (Note that NIPT is not available through the MBS, nor is it covered by private health insurance.)

Family history remains an important tool in identifying individuals at increased genetic risk. Ideally, a three-generation family history should be collected on all patients where possible, including first-degree relatives (ie children, siblings, parents) and second-degree relatives (ie aunts, uncles, grandparents).[5] The use of a family history screening questionnaire (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/family-history) can help identify individuals who may require a more detailed assessment of their family history of cancer, heart disease or diabetes.

Considerations for Aboriginal and Torres Strait Islander peoples

There are no additional recommendations for Aboriginal and Torres Strait Islander people.

Specific populations

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) Position statement Prenatal screening and diagnostic testing for fetal chromosomal and genetic conditions (https://ranzcog.edu.au/wp-content/uploads/2022/05/Prenatal-Screening-and-Diagnostic-Testing-for-Fetal-Chromosomal-and-Genetic-Conditions.pdf) [3] provides specific recommendations related to genetic carrier screening in people of Eastern European (Ashkenazi) Jewish descent and women with multiple pregnancies.

Resources

Genomics in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genomics-in-general-practice/background) | RACGP – includes a suite of concise summaries on various clinical topics in genetics and genomics:

- Reproductive carrier screening (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genetic-tests-and-technologies/reproductive-carrier-screening)
- Prenatal testing (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genetic-tests-and-technologies/prenatal-testing)
- Hereditary haemochromatosis (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/disease-specific-topics/hereditary-haemochromatosis)
- Family history – Table 1. Family history screening questionnaire (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/family-history)

Dutch Lipid Clinic Network (DLCN) criteria (https://www.csanz.edu.au/for-professionals/position-statements-and-practice-guidelines/) , Cardiovascular Genetics – Familial hypercholesterolaemia (2016), Diagnosis and management of familial hypercholesterolaemia – Position Statement | Cardiac Society of Australia and New Zealand

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Infectious diseases

Infectious diseases

Topics in this section

Hepatitis B and C (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/infectious-diseases/hepatitis-b-and-c) Immunisation (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/infectious-diseases/immunisation) Sexually transmissible infections including HIV (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/infectious-diseases/sexually-transmitted-infections-stis-and-hepatitis)

Hepatitis B and C

Infectious diseases | Hepatitis B and C

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

*Recommendations will depend upon specific risk factors.

Prevalence and context of the condition

Hepatitis B

Chronic hepatitis B impacts over 250 million people worldwide, with the majority infected either at birth or during early childhood.[1] If left untreated, chronic hepatitis B can lead to liver cirrhosis, liver failure and hepatocellular carcinoma in up to 25% of those affected, resulting in an estimated 800,000 deaths globally each year.[1] In 2020, there were approximately 222,599 people living with chronic hepatitis B in Australia, accounting for 0.9% of the population.[1] The introduction of the hepatitis B vaccination in the 1980s has reduced new infections and the prevalence of chronic hepatitis B, particularly among younger people.[1]

In Australia, as of 2021, only 72.5% of people living with chronic hepatitis B have been diagnosed, 26% are engaged in care and 12.7% are receiving treatment.[2] In addition, 70% of all people living with chronic hepatitis B in Australia were born overseas, highlighting the importance of screening based on country of birth, particularly among people born in areas with a high prevalence of hepatitis B.[3]

Exposure to the hepatitis B virus early in life carries the highest risk of chronic infection, whereas exposure during adulthood typically results in a self-limiting acute infection in over 95% of cases.[1] Therefore, most individuals with chronic infection acquired hepatitis B virus during birth or in early childhood, particularly among people born in areas with a high prevalence of hepatitis B.

Other modes of transmission include sharing of injection equipment or items that may have blood on them, and unprotected sex.[4] For people growing up in some countries with high rates of hepatitis B, transmission could also occur through injuries involving blood passing between a person living with hepatitis B and another person; having an operation; receiving a blood transfusion; a dental visit; or getting a tattoo.[4]

There is no cure for hepatitis B, but there is a vaccination and treatment to manage the infection. It is also important to note that hepatitis B is an infection that carries stigma for certain community groups, and culturally safe care and conversations are required.

Hepatitis C

Hepatitis C is a blood-borne virus that is one of the major causes of liver cirrhosis, hepatocellular carcinoma and liver failure. Within Australia, it was estimated that approximately 117,000 people were living with chronic hepatitis C in 2020. There were 9230 notifications of hepatitis C in 2019, 69% of which in among.[5]

Hepatitis C is an infection that is associated with high-risk populations (eg people who inject drugs, immigrants from high-prevalence countries, men who have sex with men [MSM]). For this reason, risks may not be readily disclosed, so screening needs to be done with care and sensitivity to ensure the safety and confidence of patients, as well as helping to find those who are unknowingly living with hepatitis C.

Hepatitis C is transmitted by a blood-to-blood route. The main transmission routes include the sharing of needles and auxiliary injecting equipment, perinatal transmission and sexual practices that lead to sexual transmission.

Tattooing and piercing with unsterilised equipment have also been associated with the acquisition of hepatitis C. Hepatitis C is now easily treated with oral medications that offer a 95% cure rate.

Table of recommendations

Hepatitis B

Screening

Recommendation	Grade	How often	References
At a minimum, all population groups at high risk (see Box 1) should be offered testing to determine their hepatitis B virus status.	**Recommended (strong)**	Single screen with additional testing if the risk factors are continuing	1

When testing for hepatitis B, the tests to be ordered are: hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (anti-HBs) and hepatitis B core antibody (anti-HBc). Positive HBsAg indicates current infection, positive anti-HBs indicates immunity (through vaccination or past infection) and positive anti-HBc indicates past or current infection (this test may occasionally give a false-positive result). A history including country of birth, overseas travel, vaccination and exposure risks, and a physical examination are important to distinguish between possible recent, acute or chronic infection and to guide the addition of anti-HBc IgM testing.	**Practice point (for the three qualitative tests)**	N/A	1

Preventive activities and advice

Recommendation	Grade	How often	References
Infants, children, people with HIV, chronic liver disease and/or hepatitis C and others at high risk* are recommended to receive the hepatitis B vaccine if they are not immune. *For a complete list of those at high risk, see the *Australian immunisation handbook* (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/hepatitis-b) .	**Practice point**	N/A	6
Recommend safe sexual practices to prevent hepatitis B and C.	**Practice point**	N/A	1,7
Recommend safer injecting practices to minimise transmission of hepatitis B and C, such as needle exchange and minimising the sharing of needles and auxiliary injecting equipment.	**Practice point**	N/A	1,7

Hepatitis C

Screening

Recommendation	Grade	How often	References

All individuals with a risk factor* for hepatitis C virus infection should be tested. The appropriate initial screening test for hepatitis C virus infection is hepatitis C virus serology (hepatitis C virus antibodies), which indicates exposure to hepatitis C virus, either current or past infection. Hepatitis C virus seronegative people with risk factors* for hepatitis C virus transmission should be screened for hepatitis C virus infection. *People at risk of hepatitis C virus infection include: • those with previous or current injecting drug use • those in custodial settings, such as prison • those who have ever had an unsterile tattoo or piercing • those born in a high-prevalence region • MSM • those who have evidence of liver disease • those who received a blood transfusion or organ transplant before 1990 • those with coagulation disorders who received blood products or plasma-derived clotting factor treatment products before 1993 • children born to hepatitis C virus-infected mothers • those who have had a needle-stick injury • all pregnant women (refer to the First antenatal visit chapter) • those infected with HIV or hepatitis B virus • sexual partners of a hepatitis C virus-infected person (individuals at higher risk of sexual transmission include MSM and people with hepatitis C virus–HIV coinfection) • migrants from high-prevalence regions (Egypt, Pakistan, the Mediterranean and Eastern Europe, Africa and Asia)	**Recommended (Strong)**	At initial consultation and annually if the risk of exposure continues. 3-6 months for people who inject drugs.	7,8

Preventive activities and advice			
Recommendation	**Grade**	**How often**	**References**
Recommend safe sexual practices to prevent hepatitis B and C.	**Practice point**	N/A	1,7
Recommend safer injecting practices to minimise the transmission of hepatitis B and C, such as needle exchange and minimising the sharing of needles and auxiliary injecting equipment.	**Practice point**	N/A	1,7

Further information

Sensitive history gathering is important to ensure people living with yet-to-be-diagnosed infection are not missed.

A non-judgemental attitude and environment will facilitate disclosures on sexual matters. It is important to ask open-ended questions, and to avoid assumptions about sexual orientation by using the term 'partner'. Gentle enquiry about recent sexual activity, gender, number of partners, contraception (including the use of condoms), travel history and immunisation status helps to inform decision making. In addition, ask about risk factors for blood-borne viruses (hepatitis B, hepatitis C and HIV), such as injecting drug use, tattooing and piercing. Investigations should be explained, and patients should be asked for consent before tests such as HIV or hepatitis C are ordered. Refer to the Sexually transmissible infections (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/infectious-diseases/sexually-transmitted-infections-stis-and-hepatitis) chapter for more information.

Hepatitis B

In Australia, routine adolescent Hepatitis B immunisation commenced in 1997 and routine infant Hepatitis B immunisation commenced in May 2000. However, it is important to note that people born in high-risk countries who then moved to and have grown up in Australia and people with other risk factors should be offered testing to determine their status and not assumed that they are immune.[9]

It is important that appropriate consent is obtained, and pre-test counselling is provided before testing for chronic hepatitis B. Given that most people living with chronic hepatitis B are from Culturally and Linguistically Diverse (CALD) communities, it is essential that discussions are held before testing and after diagnosis, and when necessary, with the assistance of an accredited interpreter.[1]

Box 1. Groups that should be screened for hepatitis B in Australia[1,10]

Populations with a higher prevalence of chronic hepatitis B

- People who inject drugs
- Men who have sex with men
- Aboriginal and Torres Strait Islander people
- People living with chronic hepatitis C
- People who have ever been incarcerated

People born overseas in regions with ≥2% chronic hepatitis B prevalence

- People born in North-east Asia
- People born in South-east Asia
- People born in the Pacific Islands – Māori and Pacific Islander people
- People born in North Africa
- People born in Central Asia
- People born in Southern Europe
- People born in Eastern Europe
- People born in Sub-Saharan Africa

Populations with a higher risk of onward transmission and/or adverse outcomes

- Pregnant women
- People receiving immunosuppressive therapy
- Healthcare workers
- People with other chronic liver diseases (eg metabolic-associated fatty liver disease)
- People undergoing renal dialysis
- People living with HIV
- Household and sexual contacts of people with chronic hepatitis B
- Children born to mothers with chronic hepatitis B
- People with multiple sexual partners

Hepatitis C

Screening for hepatitis C should be provided if the patient is HIV positive or there is a history of injecting drug use, because this increases the risk of transmission. If hepatitis C virus antibodies are detected, current infection should be confirmed by testing for hepatitis C virus RNA using a sensitive polymerase chain reaction (PCR) assay.[6]

Considerations for Aboriginal and Torres Strait Islander peoples

The hepatitis B immune status of all Aboriginal and Torres Strait Islander people should be documented, and Aboriginal and Torres Strait Islander people should be offered hepatitis B immunisation if they are not immune and not vaccinated.[11]

For specific advice about hepatitis B immunisation for Aboriginal and Torres Strait Islander people, please refer to the *Australian immunisation handbook* (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/hepatitis-b#recommendations) and the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-14-sexual-health-and-blood-borne-viruses) .

Specific populations

All pregnant women should be screened for hepatitis B, hepatitis C, HIV and syphilis. Consider screening pregnant women aged up to 29 years for chlamydia (and gonorrhoea, if the patient is at high risk; see Sexually transmissible infections (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/infectious-diseases/sexually-transmitted-infections-stis-and-hepatitis)). See the Pregnancy – First antenatal visit (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/first-antenatal-visit) chapter for more information.

Resources

Decision making in hepatitis B (https://ashm.org.au/resources/decision-making-in-hepatitis-b/) tool | ASHM *B positive: A guide for primary care providers* (https://www.hepatitisb.org.au/) | ASHM *Australian immunisation handbook* (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/hepatitis-b)

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Immunisation

Infectious diseases | Immunisation

Prevalence and context

Immunisation is recommended from birth for all children, and at particular ages throughout life, according to the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/)* (this is updated regularly).[1]

GPs need to be aware of groups with lower levels of age-appropriate immunisation.[2] Lower immunisation rates at 12 months[3] have been associated with:

- being born overseas
- no private health insurance
- being in the highest or lowest socioeconomic quintile
- being of low birth weight.

All these factors are also associated with lower immunisation coverage at 24 months, with the exception of low birth weight, which was only significant in the very low birth weight category.[3]

Table of recommendations

Immunisation recommendations for non-Indigenous Australians without risk factors for vaccine-preventable diseases **Table 1. Vaccine recommendations for non-Indigenous Australians based on age and pregnancy status** This table is a summary of Australian immunisation handbook (https://immunisationhandbook.health.gov.au/) vaccine recommendations for non-Indigenous Australians based on age and pregnancy status. Shaded cells represent vaccinations funded under the National Immunisation Program (https://www.health.gov.au/topics/immunisation/when-to-get-vaccinated/national-immunisation-program-schedule?language=und) (NIP).[a] Parentheses indicate that these vaccines are only recommended for a population sub-group. Further detail is provided in the corresponding footnotes.

Disease/ vaccine antigen	Abbrev.	Age							
		At birth	2 months[b]	4 months	6 months	12 months	18 months	4 years	Adolescents
Hepatitis B	HepB	✔	✔*	✔*	✔*	(✔)[c]			
Diphtheria, tetanus, pertussis	DTPa/ dTpa		✔*	✔*	✔*		✔	✔†	• 12–yea

Poliomyelitis	IPV		✔*	✔*	✔*		.	✔†	
***Haemophilus influenzae* type b**	Hib		✔* .	✔* .	✔*	.			
Pneumococcal	13vPCV 15vPCV 20vPCV				check for medical risk conditions				
	23vPPV		.	.				Check for medical risk	
Rotavirus						.			
Measles, mumps, rubella	MMR						• ‡, f		
Varicella	VV						✔‡	✔h	
Meningococcal serogroup B	MenB		✔i					(Refer to footnote i)	• **15–yea**
Meningococcal serogroup ACWY	MenACWY		✔j			✔j		(Refer to footnote j)	• **15–yea** NIP school program dos at 14–16 yea j
Influenza (annual)	QIV				✔k				(Refer to footnote k)
Human papillomavirus	HPV								• **9–2** NIP school program dos at 14–16 years
Herpes zoster	HZ								

Key

DTPa = Diphtheria-tetanus-acellular pertussis vaccine (paediatric formulation) IPV = Inactivated poliomyelitis vaccine 15vPCV = 15-valent pneumococcal conjugate vaccine	DTPa = Diphtheria-tetanus-acellular pertussis vaccine (paediatric formulation) IPV = Inactivated poliomyelitis vaccine 15vPCV = 15-valent pneumococcal conjugate vaccine	DTPa = Diphtheria-tetanus-acellular pertussis vaccine (paediatric formulation) IPV = Inactivated poliomyelitis vaccine 15vPCV = 15-valent pneumococcal conjugate vaccine
dTpa = Diphtheria-tetanus-acellular pertussis vaccine (reduced antigen	dTpa = Diphtheria-tetanus-acellular pertussis vaccine (reduced antigen	dTpa = Diphtheria-tetanus-acellular pertussis vaccine (reduced antigen
formulation) MenB = Meningococcal serogroup B vaccine 20vPCV = 20-valent pneumococcal conjugate vaccine	formulation) MenB = Meningococcal serogroup B vaccine 20vPCV = 20-valent pneumococcal conjugate vaccine	formulation) MenB = Meningococcal serogroup B vaccine 20vPCV = 20-valent pneumococcal conjugate vaccine
HepB = Hepatitis B vaccine MenACWY = Meningococcal serogroup ACWY conjugate vaccine 23vPPV = 23-valent pneumococcal polysaccharide vaccine	HepB = Hepatitis B vaccine MenACWY = Meningococcal serogroup ACWY conjugate vaccine 23vPPV = 23-valent pneumococcal polysaccharide vaccine	HepB = Hepatitis B vaccine MenACWY = Meningococcal serogroup ACWY conjugate vaccine 23vPPV = 23-valent pneumococcal polysaccharide vaccine
Hib = Haemophilus influenzae type b vaccine MMR = Measles-mumps-rubella vaccine QIV = Quadrivalent seasonal influenza vaccine	Hib = Haemophilus influenzae type b vaccine MMR = Measles-mumps-rubella vaccine QIV = Quadrivalent seasonal influenza vaccine	Hib = Haemophilus influenzae type b vaccine MMR = Measles-mumps-rubella vaccine QIV = Quadrivalent seasonal influenza vaccine
* HepB, DTPa, IPV and Hib are administered at 2, 4 and 6 months of age using a combination vaccine. The first dose can be given as early as 6 weeks of age; refer to footnote (b).		
† DTPa and IPV are administered at 4 years of age using a combination vaccine.		
‡ MMRV [Measles, mumps, rubella and varicella] are administered at 18 months of age using a combination vaccine.		

a. The National Immunisation Program Schedule is available on the Australian Government here [Department of Health immunisation website (https://www.health.gov.au/health-topics/immunisation/immunisation-throughout-life/national-immunisation-program-schedule)]. (https://www.health.gov.au/health-topics/immunisation/immunisation-throughout-life/national-immunisati

on-program-schedule) Contact your state/territory health department for further information on any additional immunisation programs specific to your state or territory.

b. Vaccines scheduled at 2 months of age can be given as early as 6 weeks of age. The next scheduled dose should still be given at 4 months of age.
c. A booster dose of hepatitis B vaccine is recommended at 12 months of age for infants who were born preterm at <32 weeks' gestation or whose birth weight was <2000 g, **unless** a blood test 1 month after the final dose of the primary course showed an anti-hepatitis B (HBs) antibody titre of ≥10 mIU/mL.
d. DTPa [diphtheria-tetanus-acellular pertussis] vaccine is given in adolescence as dTpa (reduced antigen formulation). School years during which school-based programs are delivered vary among states and territories. Contact your state or territory health department for more details. dTpa vaccine is recommended for any adult who wishes to reduce their likelihood of becoming ill with pertussis. Adults aged ≥65 years are recommended to receive a dose of dTpa if they have not had one in the past 10 years. Adults aged ≥50 years are recommended to receive a booster dose of tetanus-containing vaccine if their last dose was more than 10 years ago. [Adults aged ≥65 years are recommended to receive a dose of dTpa if they have not had one in the past 10 years.] Adults with tetanus-prone wounds are recommended to receive a booster dose of dT or dTpa if their last dose was more than 5 years ago.
e. dTpa vaccine is recommended and funded during each pregnancy. If a mother was not vaccinated during pregnancy, maternal vaccination is recommended as soon as possible after birth and preferably before hospital discharge.
f. MMRV should not be given as the first dose of measles-containing vaccine in children aged <4 years.
g. 2 doses of MMR are recommended for adults born during or since 1966, unless the individual is documented to be immune. MMR vaccine is recommended for women of childbearing age who are seronegative for rubella. Vaccinated women should avoid pregnancy for 28 days after vaccination.
h. A second dose of varicella vaccine is recommended to provide increased protection and minimise the chance of breakthrough varicella in children and adolescents aged <14 years. This could potentially be given at 4 years of age, or at any time up to 14 years of age (at least 4 weeks after the 1st dose). 2 doses of varicella vaccine are recommended for all adults who are non-immune to varicella. Non-immune women are recommended to receive varicella vaccine before they become pregnant.
i. MenB vaccine is recommended for all people aged ≥6 weeks who wish to reduce the likelihood of becoming ill with meningococcal disease, and is recommended for infants and children aged <2 years and adolescents aged 15–19 years. Bexsero is the only MenB vaccine that can be used in infants and children aged <10 years. The doses required and the schedule depend on the age at which the vaccine course is started and the presence of at-risk medical conditions. For further details, refer to the *Australian immunisation handbook* (https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/meningococcal-disease) . (https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/meningococcal-disease)
j. MenACWY vaccine is recommended for all people ≥6 weeks of age who wish to reduce the likelihood of becoming ill with meningococcal disease, as well as for infants and children aged <2 years and adolescents aged 15–19 years. The doses required and the schedule depend on the age at which the vaccine course is started, the brand used and the presence of at-risk medical conditions. A single NIP-funded dose of MenACWY vaccine (Nimenrix®) is scheduled at 12 months of age. A single dose of MenACWY vaccine (Nimenrix®) is also provided for

adolescents through a school-based program (14–16-year-olds); those aged 15–19 years who did not receive the vaccine at school can receive it from their GP. For further details, refer to the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/meningococcal-disease)* . (https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/meningococcal-disease)

k. Influenza vaccine is recommended annually for all people aged ≥6 months who wish to reduce the likelihood of becoming ill with influenza. Influenza vaccine is funded under the NIP for all children ≥6 months to 59 months (<5 years) of age, people ≥5 years of age with certain medical conditions predisposing them to severe influenza. For older people aged ≥65 years, the adjuvanted quadrivalent influenza vaccine (aQIV, Fluad Quad®) is funded under the NIP and is preferentially recommended over standard QIV. The QIV is funded under the NIP for adults with a medical condition that predisposes them to severe influenza, pregnant women, non-Indigenous adults aged ≥65 years. For further details, refer to the ATAGI [Australian Technical Advisory Group] advice on seasonal influenza vaccines (https://www.health.gov.au/resources/publications/atagi-advice-on-seasonal-influenza-vaccines-in-2021) . (https://www.health.gov.au/resources/publications/atagi-advice-on-seasonal-influenza-vaccines-in-2021)
l. A single dose of HPV vaccine is recommended and NIP-funded for adolescents and young adults (ie aged ≤25years). A 3-dose schedule of HPV vaccine is recommended and NIP-funded for immunocompromised adolescents and adults. School years at which the school-based programs are delivered vary among states and territories. Contact your state or territory health department for more details.
m. A 2-dose schedule of herpes zoster vaccine (Shingrix®) is recommended and funded under the NIP for adults aged ≥65 years, 2–6 months apart.

Note: This table does not include recommendations on use of vaccines in the context of response to, and control of, a disease outbreak, or (specifically) for travel outside Australia. Refer also to Immunisation recommendations for Aboriginal and Torres Strait Islander people without risk factors for vaccine-preventable diseases living in the ACT, NSW, Tas, Vic (http://www.ncirs.org.au/health-professionals/immunisation-schedules) and Immunisation recommendations for Aboriginal and Torres Strait Islander people without risk factors for vaccine-preventable diseases living in the NT, QLD, SA, WA (http://www.ncirs.org.au/health-professionals/immunisation-schedules)

Reproduced with permission from the National Centre for Immunisation Research and Surveillance (https://ncirs.org.au/health-professionals/immunisation-schedules) . Immunisation recommendations for non-Indigenous Australians without risk factors for vaccine preventable diseases. March 2024 update. NCRIS, 2024. Available at https://ncirs.org.au/sites/default/files/2024-03/NCIRS_Immunisation%20schedule_non-Indigenous%20people%20without%20risk%20factors_March%202024.pdf (https://ncirs.org.au/sites/default/files/2024-03/NCIRS_Immunisation%20schedule_non-Indigenous%20people%20without%20risk%20factors_March%202024.pdf) [Accessed 6 April 2024].

State and territory health departments also fund some additional vaccines. Visit the National Immunisation Program (https://www.health.gov.au/topics/immunisation/when-to-get-vaccinated/national-immunisation-program-schedule?language=und) for information on state and territory immunisation schedules.

COVID-19 regulations change regularly. For information about the COVID vaccines, visit the *Australian*

immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/covid-19) .
Vaccination guidance changes over time and vaccination providers are responsible for checking for the latest information. Visit the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/covid-19)* and the National Centre for Immunisation Research and Surveillance (https://ncirs.org.au/health-professionals/immunisation-schedules) (NCIRS) for the most up-to-date immunisation information.

Further information

The National Immunisation Program (https://www.health.gov.au/topics/immunisation/when-to-get-vaccinated/national-immunisation-program-schedule?language=und) lists the recommended funded vaccines for all Australian residents. There are other vaccines that are not funded but are recommended in the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/)* , depending on occupation or travel. There may be variability in vaccines recommended/funded (eg hepatitis A vaccine).

Consent

Consent should be sought from someone with legal capacity before each vaccination. The individual providing consent should have the intellectual capacity to understand specific information and agree voluntarily without pressure, coercion or manipulation. The consent process should include written advice about benefits and harms of the vaccines, risk of not having the vaccine, and what to do after receiving the vaccine.

Information on providing valid consent is available within the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccination-procedures/preparing-for-vaccination#valid-consent)* .

Recording, setting up effective recall systems and assessing the need for catch-up vaccinations

Information on recording on the Australian Immunisation Register (https://www.servicesaustralia.gov.au/australian-immunisation-register-for-health-professionals) , setting up effective recall systems (https://immunisationhandbook.health.gov.au/contents/vaccination-procedures) and on catch-up vaccinations (https://immunisationhandbook.health.gov.au/contents/catch-up-vaccination) is available within the *Australian immunisation handbook*.

Notification of adverse events

The reporting of adverse events following vaccinations varies geographically. It is possible to report directly to the Therapeutic Goods Administration (https://www.tga.gov.au/resources/resource/guidance/reporting-adverse-events) from anywhere in Australia or by telephone on 1800 044 114.

Considerations for Aboriginal and Torres Strait Islander peoples

Immunisation recommendations for Aboriginal and Torres Strait Islander people without risk factors for vaccine-preventable diseases vary across states and territories. Refer to NCIRS advice for Aboriginal and Torres Strait Islander people living in the Australian Capital Territory, New South Wales, Tasmania or Victoria (https://ncirs.org.au/sites/default/files/2023-07/NCIRS%20Immunisation%20schedule%20for%20Aboriginal%20and%20Torres%20Strait%20Islander%20people%20living%20in%20NSWVICACT%20TAS_July2023.pdf) , and for those living in the Northern Territory, Queensland, South Australia and Western Australia. (https://ncirs.org.au/sites/default/files/2023-11/NCIRS_Immunisation%20schedule_Aboriginal%20and%20Torres%20Strait%20Islander%20people_QLD%20NT%20WA%20SA_November%202023.pdf)

For specific recommendations and advice for Aboriginal and Torres Strait Islander people, also please refer to the Department of Health and Aged Care's Immunisation for Aboriginal and Torres Strait Islander people (https://www.health.gov.au/topics/immunisation/when-to-get-vaccinated/immunisation-for-aboriginal-and-torres-strait-islander-people) and The Royal Australian College of General Practitioners' *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-3-child-health/immunisation)* .

Specific populations

Adults or children who develop asplenia, human immunodeficiency virus (HIV) infection or a haematological malignancy, or who have received a bone marrow or other transplant, may not be fit for some vaccinations, or may require additional or repeat vaccinations.

Men who have sex with men (MSM) have additional vaccine recommendations:

- hepatitis A
- hepatitis B
- monkeypox (Mpox)
- human papillomavirus vaccine (HPV).

Meningococcal ACYW and B vaccination should also be considered.

Mpox is a viral illness easily transmitted via sexual activity. A worldwide outbreak in 2022 lead to a successful vaccination campaign to reduce risk of transmission. All MSM are recommended to have a completed Mpox vaccination.

MSM are at higher risk of HPV-related anal cancers. A completed HPV vaccine course is recommended to reduce the risk of anal cancers later in life.

There have been regular outbreaks of meningococcal disease at large MSM gatherings, such as parades, parties and other events that might attract attendance from an interstate or international audience.

People with compromised immunity

Meningococcal B vaccination is recommended for people with compromised immunity, including those living with HIV. There is some emerging evidence of reduction of gonococcal sexually transmitted infections in people who have been vaccinated for Meningococcal B.

Certain vaccines may not be recommended for individuals with compromised immune systems due to contraindications. Further, these people might require additional vaccine doses to increase their protection.[1] For more information on vaccination for people who are immunocompromised, refer to the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-people-who-are-immunocompromised)* .

For more information about vaccinations for special risk groups, refer to the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups)* .

Resources

Australian immunisation handbook (https://immunisationhandbook.health.gov.au/) Australian Immunisation Register (AIR) (https://www.humanservices.gov.au/customer/services/medicare/australian-childhood-immunisation-register) | The AIR can be used to obtain information on the vaccination history of individuals from birth to age 7 years given since 1 January 1996. The AIR can be contacted by email (mailto:acir@humanservices.gov.au) or telephone on 1800 653 809. National Centre for Immunisation Research & Surveillance (NCIRS) (http://www.ncirs.edu.au/) National Immunisation Program (NIP) schedule (https://www.health.gov.au/health-topics/immunisation/immunisation-throughout-life/national-immunisation-program-schedule)

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Sexually transmissible infections including HIV

Infectious diseases | Sexually transmissible infections including HIV

Screening age bar – women for chlamydia and gonorrhoea

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

In Australia in 2021 there were 86,916 diagnoses of chlamydia, 26,577 of gonorrhoea and 5,570 of infectious syphilis.[1] Young people aged 15–29 years are significantly impacted by sexually transmissible infections (STIs),[2] with this age group accounting for 70% of all chlamydia notifications in 2021.[1] Notification rates of gonorrhoea and syphilis continue to increase in young people, with nearly half of new gonorrhoea diagnoses and approximately one-third of new syphilis diagnoses occurring in people aged ≤29 years.[1]

STIs are frequently seen in general practice, especially chlamydia, which is typically asymptomatic.[3,4] It is important to detect chlamydia early to prevent transmission to others and to minimise potential complications, such as infertility.[5] It may also be appropriate to screen for other STIs. The individual's age, sexual behaviour and community HIV or STI prevalence all influence the level of risk and should influence the choice of STI screening tests.

In asymptomatic, sexually active people up to 29 years of age, the overall absolute risk of infection is approximately 5% for chlamydia and 0.5% for gonorrhoea.[6]

Rates of gonorrhoea and syphilis are higher among men who have sex with men (MSM) and among Aboriginal and/or Torres Strait Islander peoples, particularly those in remote communities.[1] The rates of gonorrhoea, syphilis and HIV have grown considerably in the past 5 years among heterosexual populations, with considerable concern in recent years about syphilis in pregnant women leading to increased cases of congenital syphilis.[8]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for chlamydia and gonorrhoea is recommended in all sexually active women aged ≤24 years, but only in those who are at increased risk (see Box 1) among women aged ≥25 years.	**Conditionally recommended**	Opportunistically if indicated (evidence is unclear on testing interval)	9
Although current evidence is insufficient to assess the balance of benefits and harms of screening for chlamydia and gonorrhoea in heterosexual men, it should be considered in order to prevent transmission to their partner/s.	**Practice point**	N/A	9
Test all pregnant women for syphilis during routine antenatal screening in the first trimester of pregnancy, or if presenting for the first time in late pregnancy without previous antenatal care. Recommend repeat testing early in the third trimester (28–32 weeks) and at the time of birth for women at high risk of infection or reinfection. Actively follow up pregnant women who do not attend for testing.	**Recommended (Strong)**	As per recommendation	10

Case finding

Recommendation	Grade	How often	References

Perform an asymptomatic STI check for people who: • have been exposed to any STI or have a history of an STI within the past 12 months • are at increased risk of an STI (eg new sexual partner, living or travelling to areas of higher prevalence in Australia or in other countries) • request STI testing • are a partner of a special subpopulation (eg MSM, sex workers, pregnant women, Aboriginal and Torres Strait Islander people, trans and gender-diverse people) or a partner of anyone meeting any of the above. STI testing is detailed in the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine's (ASHM) *STI management guidelines for use in primary care* (https://sti.guidelines.org.au/standard-asymptomatic-checkup/) (see Further information for recommended STI tests).	**Practice point**	Opportunistically	11
Asymptomatic *Mycoplasma genitalium* testing is not recommended (see Further information for more details).	**Practice point**	N/A	11

Preventive activities and advice

Recommendation	Grade	How often	References
Advise people that safe sex is the use of condoms and water-based lubricant during anal or vaginal intercourse. Safe sex can: • prevent HIV transmission • prevent pregnancy • help prevent most STIs.	**Practice point**	Opportunistically	12

Further information

Identify the risk of an STI by taking a sexual history and clarifying sexual practices with the patient.[11]

Information and example questions on how to take a sexual history are available in the ASHM's *STI management guidelines for use in primary care* (https://sti.guidelines.org.au/sexual-history/) .

Any STI diagnosis detected in screening should lead to a comprehensive STI check (https://sti.guidelines.org.au/sexual-history/) .[11]

Recommended STI tests

(As per the ASHM's *STI management guidelines for use in primary care* (https://sti.guidelines.org.au/standard-asymptomatic-checkup/))

Blood tests	
Test	**Consideration**
HIV (antigen/antibody test)	Repeat if recent exposure (6-week window period if antigen/antibody test)
Syphilis serology	If recent exposure, repeat at 12 weeks and treat presumptively
Hepatitis B HBsAg (hepatitis B surface antigen) Anti-HBs (hepatitis B surface antibody) Anti-HBc (hepatitis B core antibody)	Establish hepatitis B virus status and immunise if not previously documented
In Australia, routine adolescent hepatitis B immunisation commenced in 1997 and universal infant hepatitis B immunisation commenced in May 2000. Therefore, people aged ≤34 years in 2020 and who grew up in Australia can generally be assumed to have been vaccinated and do not need testing.	

Gonorrhoea and chlamydia testing		
Site/specimen	**Test**	**Consideration**

Self-collected vaginal swab Urethral first-pass urine (FPU) For MSM, oropharyngeal and anorectal swabs	Nucleic acid amplification test (NAAT)	A vaginal swab is more sensitive than FPU and is the specimen of choice. If speculum examination is indicated, then an endocervical swab can be collected in place of a vaginal swab.

Sexual health consultation

Many patients and doctors feel uncomfortable discussing sexual histories even when indicated or the patient is requesting STI testing. Taking a sexual history is an important part of the assessment and management of STIs, and it should not be a barrier to offering STI testing.[13]

A non-judgemental attitude and environment will facilitate disclosures on sexual matters.[14] It is important to ask open-ended questions and to avoid assumptions about sexual orientation by using the term 'partner'. Gentle enquiry about recent sexual activity, gender, number of partners, contraception (including the use of condoms), travel history and immunisation status helps inform decision making. In addition, ask about the risks for blood-borne viruses (hepatitis B, hepatitis C and HIV), such as injecting drug use, tattooing and piercing. Investigations should be explained, and patients should be asked for consent before tests such as HIV or hepatitis C are ordered (see Hepatitis C (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/infectious-diseases/hepatitis-b-and-c) section).

Some patients may present with a request for one specific test, such as 'I want an HIV test'. It is important to contextualise that HIV is relatively rare compared with infections such as chlamydia. These presentations represent an excellent opportunity for STI screening as per the recommendations and education. For people who may be at risk of HIV, this is an excellent opportunity to offer prevention information, such as condom use or pre-exposure prophylaxis (PrEP).

Mycoplasma genitalium

Mycoplasma genitalium is a sexually transmitted bacterial STI. *Mycoplasma genitalium* can cause urethritis, pelvic inflammatory disease (PID), cervicitis and rectal infections. *Mycoplasma genitalium* testing is only recommended in people who are symptomatic despite negative screening for chlamydia or gonorrhoea. Further information is available in the ASHM's *STI management guidelines for use in primary care* (https://sti.guidelines.org.au/sexually-transmissible-infections/mycoplasma-genitalium/) .

Mycoplasma genitalium should not be routinely tested in asymptomatic people; however, if a person still has STI like symptoms after a negative chlamydia/gonorrhoea test, it is advised a *Mycoplasma genitalium* polymerase chain reaction (PCR) test is performed.

Contact tracing

Contact tracing is essential in reducing the transmission of STIs and HIV. It is the responsibility of the diagnosing clinician to facilitate the process of notifying current and past partners. This may be through a direct approach from the patient, their treating health professional or by using available online partner notification services, such as:

- www.letthemknow.org.au (http://www.letthemknow.org.au/)
- www.thedramadownunder.info/notify (http://www.thedramadownunder.info/notify) (for MSM)
- www.bettertoknow.org.au (http://www.bettertoknow.org.au/) (for Aboriginal and Torres Strait Islander youth).

For more information and to determine 'how far back to trace', refer to the contact tracing manual at the ASHM website (http://contacttracing.ashm.org.au/) or the NSW Government's STI/HIV testing tool (https://stipu.nsw.gov.au/wp-content/uploads/STI-HIV-Testing-Tool-online.pdf) .

For HIV contact tracing, seek assistance from local sexual health services. Getting assistance from local sexual health services is recommended for HIV and syphilis because it leads to more contacts being tested and treated.[15]

Referral to sexual health services should be considered for problematic or repeated infections.[16]

In the case of a notifiable condition, the patient should be informed that case notification to public health authorities will occur. Notification should be made as set by the department of health in the relevant state or territory.

Box 1. Increased risk of chlamydia and gonorrhoea[9]

Women aged ≥25 years are at increased risk if they:

- have a new sexual partner, more than one sexual partner, a sexual partner with concurrent partners or a sexual partner who has a sexually transmissible infection (STI)
- practice inconsistent condom use when not in a mutually monogamous relationship or have a previous or coexisting STI
- exchange sex for money or drugs and have a history of incarceration.

Considerations for Aboriginal and Torres Strait Islander peoples

Aboriginal and Torres Strait Islander peoples are at higher risk of STIs and should also be screened for gonorrhoea, chlamydia, syphilis and HIV. For specific recommendations and advice for Aboriginal and Torres Strait Islander people, refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-14-sexual-health-and-blood-borne-viruses) .

Specific populations

Some subpopulations (eg MSM, sex workers, pregnant women, Aboriginal and Torres Strait Islander people, trans and gender-diverse people) have special requirements for testing due to increased risk of infection, adverse health outcomes, community prevalence or other factors.[11] Further information is available in the ASHM's *STI management guidelines for use in primary care* (https://sti.guidelines.org.au/) .

Pregnant women

All pregnant women should be screened, with consent, for hepatitis B, hepatitis C, HIV and syphilis.[11] Consider screening pregnant women up to 29 years of age for chlamydia (and gonorrhoea, if the patient is at high risk). Untreated pregnant women infected with chlamydia have a 20–50% chance of infecting their infant at delivery.[17] See the First antenatal visit (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/first-antenatal-visit) chapter.

Repeat syphilis testing at 28–32 weeks of pregnancy and at delivery in all women at risk of STIs, and in all women presenting with signs or symptoms of any other STI.

Repeat syphilis tests in all women in communities experiencing syphilis outbreaks. The Departments of Health in each state and territory will issue alerts to clinicians in areas where a syphilis outbreak occurs.

Men who have sex with men

MSM should be routinely screened for STIs (refer to the STIGMA guidelines (https://stipu.nsw.gov.au/wp-content/uploads/STIGMA_Guidelines2019_Final-1.pdf) for further guidance).

Chlamydia pharyngitis can be associated with oral sex. Gonorrhoea can be transmitted via oral sex. Throat swabs should be considered for chlamydia/gonorrhoea PCR in all MSM, but are worth considering for all sexually active patients.[11,18]

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Injury prevention

Injury prevention

Topics in this section

Bullying and child abuse (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/child-abuse-and-maltreatment) Elder abuse (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/elder-abuse) Falls (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/falls) Intimate partner abuse and violence (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/intimate-partner-violence)

Bullying and child abuse

Injury prevention | Bullying and child abuse

Case finding age bar

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	7

Prevalence and context of the condition

Child abuse includes physical abuse, sexual abuse, emotional abuse and neglect as well as children experiencing adult domestic violence.[1] National figures reflect high levels of child abuse in Australia.[2] Sixty-two per cent of Australians have experienced child abuse and neglect and 40% of 16–24-year-olds have experienced more than one type of abuse.[3] The prevalence of sexual and emotional abuse is higher among girls compared to boys, with rates of sexual abuse reported at 37% for girls and 19% for boys, and rates of emotional abuse at 36% for girls and 25% for boys.[4]

Child abuse is most commonly perpetrated by someone within the family, or by a person known to the child.[1] (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/children-and-young-people/child-abuse-and-neglect#ref-num-1)
Children less than one year of age are particularly vulnerable, especially to physical abuse and poor attachment to parents.[1] Child abuse is associated with immediate and long-term health problems including in mental health, physical health and health risk behaviours, and increased use of health services.[2] People who have experienced child abuse and neglect are two times more likely to have had six or more visits to a GP in a 12-month period.[2]
Bullying in children and young people has been defined as 'any unwanted aggressive behaviour(s) by a peer or sibling that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated'.[5] Bullying can be direct (physical or verbal) or indirect (relational/social, social exclusion, spreading rumours, psychological/stalking, cyberbullying). It is also common and harmful, with up to half of children experiencing bullying at some stage.[6,7] Bullying can result in significant increases in behavioural and mental health problems, including suicide.[8,9]

Sibling bullying can start in toddlers (typically aged 2–6 years) and is common between the ages of six and nine years. Sibling bullying can involve two-way sibling bullying, with both parties being a bully and a victim.[1]

Table of recommendations

Case finding

Recommendation	Grade	How often	References
Consider the risk of child abuse, if people caring for a child are presenting with the following factors: • hazardous use of alcohol or use of illicit drugs, particularly during pregnancy • a family violence situation (50% overlap with intimate partner abuse and violence) • mental health problems or intellectual disability, which can compromise a parent's ability to care for their child • poor attachment to the infant • absence of social supports or isolation • unstable housing or financial situation • history of own abuse or neglect or that of another child in the family.	**Practice point**	Opportunistically	1
GPs and parent/carers should maintain an awareness and ask about the possibility of both peer and sibling bullying in children with risk factors. Refer to Box 1.	**Practice point**	Opportunistically	1

Further information

All health practitioners need to be aware of their legal obligations under state or territory mandatory reporting requirements when they suspect child abuse.[1] While research shows that the response to child abuse is challenging for GPs and can threaten the therapeutic relationship, strategies such as reframing any reporting as seeking help for the child or emphasising mandatory reporting duty can help maintain the therapeutic relationship.[10] Health practitioners can play a crucial role in providing support to families affected by adverse circumstances through offering ongoing supportive and trauma-informed care and linking to services as required. GPs can intervene at three levels:

- Recognise risk factors and intervene early to reduce risk of abuse and neglect and prevent harm (primary prevention).
- Recognise harm and respond appropriately to mitigate future harm (secondary prevention).
- Support the ongoing wellbeing of both the child and the family to manage the long-term negative impacts of harm.

Unlike in the case of adult perpetrators, in situations where the child or adolescent is using violence, young people who use violence against their parents are legally children and therefore their protection, safety and developmental needs need to be taken into consideration.[1]

Box 1. Risk factors for peer and sibling bullying[1]
Individual:

- Physical (eg overweight, disability, chronic illness)
- Behavioural (eg externalising and disruptive behaviours including aggression, learning disability)
- Gender (eg LGBTQIA+)
- Emotional dysregulation (eg impulsivity)
- Adverse childhood experiences

Family:

- Structural family characteristics (eg first born, having an older brother, having step-siblings)
- Domestic violence
- Financial difficulties
- Negative family dynamics (eg conflicting partnerships, arguing, hostile communication), interparental conflict
- Parenting quality (eg harsh discipline or failure to discipline, lack of parental warmth, neglect, interparental hostility and abuse)

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations and advice for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter 3: Child health: Preventing child maltreatment – Supporting families to optimise child safety and wellbeing (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-3-child-health/preventing-child-maltreatment-–-supporting-familie) .

Specific populations

Supporting parents who have experienced trauma to understand the effects on, and care for, their children provides an opportunity to help transform cycles of intergenerational trauma to cycles of nurturing and recovery.[11]

Health practitioners also have a role in preventing, detecting and managing abuse in their patients with disabilities. People with disabilities are a vulnerable group within our society and among general practice patients.[1] They are at increased risk for neglect and for multiple forms of abuse, including verbal, psychological, physical and sexual abuse.[1]

Resources

Abuse and violence – Working with our patients in general practice (White Book) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/preamble) | RACGP Reporting child abuse and neglect (https://aifs.gov.au/resources/resource-sheets/reporting-child-abuse-and-neglect) | Australian Institute of Family Studies Guidelines (various) on recognising child abuse and neglect (https://pathways.nice.org.uk/pathways/child-abuse-and-neglect#path=view%3A/pathways/child-abuse-and-neglect/recognising-child-abuse-and-neglect.xml&content=view-node%3Anodes-response-to-alerting-features) | National Institute for Health and Care Excellence (NICE) VEGA family violence education resources – free educational resources for health professionals recognising and responding to child abuse and neglect (https://vegaproject.mcmaster.ca/) | VEGA Family Violence Project

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Elder abuse

Injury prevention | Elder abuse

Prevalence and context of the condition

Abuse of older people may be physical, emotional, sexual or financial, and may include neglect. It can occur in any setting, including in aged care facilities and in the community, and affects 16% of the Australian population.[1] Abuse of older people is linked to increased mortality and disability.[1,2] Caring for older people who are being abused is critical to the health of these patients.[1,2] Risk factors for the abuse of older people can be related to the individual, the perpetrator, relationships, the home and the wider community. There are many barriers to the older person being able to disclose the abuse.[1,2]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Routine screening for abuse of older people is not recommended.	**Practice point**	N/A	1,3

Case finding

Recommendation	Grade	How often	References
Clinicians should be alert to symptoms and signs of abuse. See further information.	**Practice point**	Opportunistically	1

Preventive activities and advice

Recommendation	Grade	How often	References
Be aware of carer stress as a contributing factor to elder abuse.	**Practice point**	N/A	1

Further information

Risks factors at the individual level include:[1,4,5] (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/specific-abuse-issues-for-adults-and-older-people/abuse-of-older-people#ref-num-14)

- poor physical health or frailty
- cognitive impairment and dementia
- poor mental health, including psychiatric illness
- behavioural problems
- functional dependency (needing assistance with activities of daily living)
- low income or wealth
- trauma or past abuse
- ethnicity
- social isolation or loneliness and lack of social support
- gender.[4]

Risk factors related to the carer or care relationship include:[1,4,5]

- caregiver burden or stress
- mental health problems
- alcohol or substance use
- financial dependency on the older person
- a history of trauma or abuse.

Relationship risk factors include a history of poor family relationships and unrealistic expectations of caring. Being in a shared living situation is a risk factor for the abuse of older people. However, it is not clear whether spouses or adult children of older people are more likely to be the perpetrators of abuse.[2]

Within residential aged care homes, abuse is more likely to occur where:[2]

- standards for healthcare, welfare services and care facilities for older people are low
- staff may be poorly trained, poorly remunerated and overworked
- the physical environment is deficient
- policies operate in the interests of the institution rather than the residents.

For possible signs and symptoms of abuse in older people, see table 15.1 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/specific-abuse-issues-for-adults-and-older-people/abuse-of-older-people) in the RACGP's *Abuse and violence: Working with our patients in general practice*.

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations or advice for Aboriginal and Torres Strait Islander peoples.

Resources

Abuse and violence: Working with our patients in general practice, 5th edition (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/preamble) (The White Book) | RACGP

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Falls

Injury prevention | Falls

Prevalence and context of the condition

Approximately 30% of people aged ≥65 years report having one or more falls in the past 12 months,[1] and this increases with age. Approximately 10% of falls in those aged ≥65 years result in a fracture.[2] Falls are more prevalent in people with dementia, especially those with Parkinson's dementia.[3] Almost half of those who experience a fall will have a repeat fall within the next year.[3] Injuries are higher in older people due to the prevalence of underlying disease and reduced physiological reserve.[3] It is important to ask patients whether they have experienced 'near falls' as well as falls.[3]

Most falls are caused by an interaction of multiple risk factors. Older people who fall are at risk of a 'long lie' because of their inability to get up from the fall without assistance, which can result in hypothermia, bronchopneumonia, dehydration, pressure injuries, rhabdomyolysis and, in some instances, death.[3]

Some falls are associated with a loss of confidence, functional decline, social withdrawal, anxiety and depression, increased use of medical services and a fear of falling. An older person is at greater risk of institutionalisation following a fall.[3]

Table of recommendations

Case finding

Recommendation	Grade	How often	References
GPs should routinely ask about falls in interactions with community-dwelling older (≥65 years) adults, asking whether they have experienced a fall in the past year, because falls will not often be spontaneously reported.	**Recommended (Strong)**	At least once a year	1,4

Preventive activities and advice

Recommendation	Grade	How often	References

All older adults should be advised on falls prevention and physical activity. Refer to *Staying active and on your feet* (https://www.activeandhealthy.nsw.gov.au/preventing-falls/staying-active-and-on-your-feet/) or the Exercises for falls prevention (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/exercise/exercises-for-falls-prevention) in the *Handbook of non-drug interventions* (HANDI).	**Recommended (Strong)**	Annually	1,4
Older adults who had a single, non-severe fall but also have gait and or balance problems should be considered as being at 'intermediate risk' (see Figure 1) and would benefit from a strength and balance exercise intervention or physiotherapist referral.	**Recommended (Strong)**	Annually	1,4,5
Older adults at high risk (see Figure 1) should be offered a multifactorial falls risk assessment to inform individualised, tailored interventions.	**Recommended (Strong)**	Annually	1,4

Further information

The *World guidelines for falls prevention and management for older adults: A global initiative* (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9523684/pdf/afac205.pdf) provides an algorithm for risk stratification, assessment and interventions for community-dwelling older adults (see Figure 1). Opportunistic case finding begins with one question: 'Have you fallen in the past 12 months?' This question is highly specific in predicting future falls, but it has low sensitivity because it does not consider common risk factors, resulting in a high rate of false negatives.[1] Tools that assess more than one fall risk factor, such as the 3 Key Questions (3KQ), have higher sensitivity.[1] The 3KQ are:

1. Have you fallen in the past year?
2. Do you feel unsteady when standing or walking?
3. Do you have worries about falling?[1]

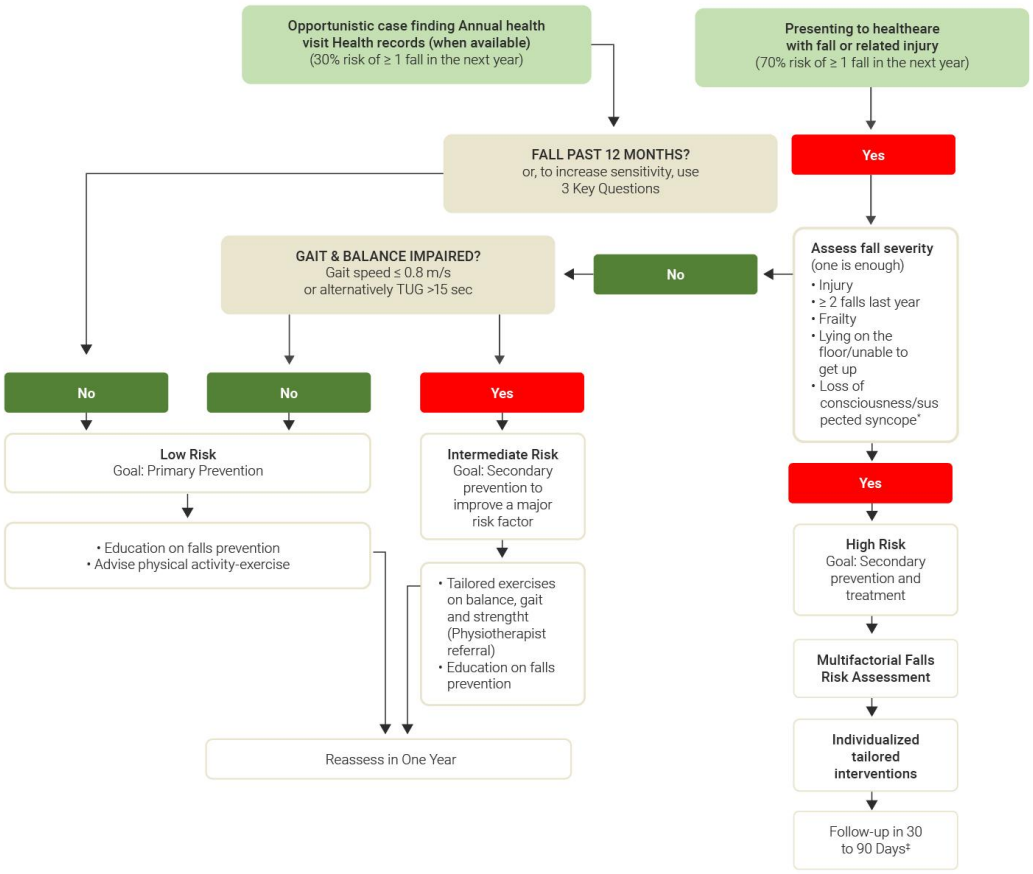

Figure 1. Algorithm for falls prevention for older adults.

Reproduced from Montero-Odasso et al. with permission from Oxford Academic.[1] Medications should be regularly reviewed, and patients should be encouraged to keep a medication review card.[3,6] Reduce doses to address side effects and dose sensitivity and stop medications that are no longer needed. Certain medications, such as psychotropic drugs, those with anticholinergic or sedative effects and those with hypotensive or orthostatic hypotensive side effects, can contribute to falls.[3,6] Although treatment of osteoporosis does not reduce the number of falls, it may reduce the number of falls that result in a fracture. Refer to the osteoporosis chapter (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/musculoskeletal/osteoporosis) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/musculoskeletal/osteoporosis) for information on the prevention of osteoporosis.[3,6] For individuals at a moderately high to high risk of falls, a home assessment should be considered. Occupational therapy interventions can help identify falls hazards, raise awareness of falls risks and implement safety strategies.[6,7] When referring patients, it is essential to specify fall prevention as the goal. The Quickscreen assessment tool (https://neura.edu.au/resources-tools/quickscreen) , developed and validated for use in an Australian population, includes home assessment tests, as well as simple assessments of medication use, vision, sensation and balance. However, payment is required to access this tool. Active management of other risk factors involves:[6,7]

- using a multidisciplinary team (eg podiatrist regarding foot problems, optometrist regarding avoidance of multifocal lenses, physiotherapist or nurse regarding urge incontinence)
- referring to relevant medical specialists (eg ophthalmologist for cataract surgery, cardiologist for consideration of pacemaker)
- investigation of the causes of dizziness
- optimal management of other medical conditions that may increase the risk of falls (eg Parkinson disease, multiple sclerosis, dementia).

Falls can be prevented through both pharmacological and non-pharmacological means.[3] Pharmacological-related prevention of falls includes:[3]

- deprescribing where possible, including a pharmacist review of medications where appropriate (refer to Part A: Deprescribing (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/silver-book/part-a/deprescribing) in the Silver Book)
- reducing or ceasing psychotropic medications
- reviewing medications with a dehydrating effect/those contributing to postural hypotension (eg diuretics, laxatives)
- ensuring the patient is replete of vitamin D by checking the baseline, and supplement if required (low levels of vitamin D may make no difference to the risk of falling in individuals, but being vitamin D replete reduces the rate of falling)
- ensuring the patient is replete of vitamin B12.

Non-pharmacological approaches to the prevention of falls include:[3]

- managing other medical conditions (as required)
- addressing the causes of postural hypotension: encourage adequate hydration; reduce salt in the diet where possible; review medications; consider graduated light pressure stockings (if tolerated); suggest small frequent meals rather than large meals; advise mindful, slow postural adjustments after rising in the morning, after meals and after defecation
- addressing undernutrition
- managing incontinence
- managing visual impairment: optometrist/ophthalmologist input, expedite necessary cataract surgery
- managing hearing impairment: refer for audiology assessment
- developing an individualised exercise program to improve muscle strength, balance, endurance and flexibility; referral to a physiotherapist for individual or group classes may assist with improving muscle strength, balance, endurance and flexibility (eg commencing Tai Chi)
- referring to a physiotherapist for mobility assistive devices
- referring to a podiatrist for foot care and appropriate footwear
- referring to an occupational therapist for home assessment and environmental modifications (eg flooring, furniture, lighting, handrails).

Considerations for Aboriginal and Torres Strait Islander peoples

Screening for falls in Aboriginal and Torres Strait Islander people is from the age of ≥50 years. Refer to the section on falls (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-5-the-health-of-older-people/falls) in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people* for specific recommendations and advice.

Specific populations

Exercise programs targeting non-English-speaking patients may need to address cultural norms about appropriate levels of physical activity.

Resources

RACGP aged care clinical guide (Silver Book) (https://www.racgp.org.au/silverbook) World guidelines for falls prevention and management for older adults: A global initiative (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9523684/pdf/afac205.pdf) Screening and intervention to prevent falls and fractures in older people (https://www.nejm.org/doi/full/10.1056/NEJMoa2001500) Staying active and on your feet (https://www.activeandhealthy.nsw.gov.au/preventing-falls/staying-active-and-on-your-feet/) Exercises for falls prevention (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/exercise/exercises-for-falls-prevention) , *Handbook of non-drug interventions* (HANDI) | RACGP

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Intimate partner abuse and violence

Injury prevention | Intimate Partner Abuse and Violence

Prevalence and context of the condition

Intimate partner abuse and violence (IPAV) is not only physical; it can also be sexual, psychological, social, cultural, financial and spiritual. IPAV can be in-person or technology facilitated. IPAV is a pervasive public health problem with short- and long-term impacts on the health of all members of the family, particularly women and children.[1] In Australia, 1 in 4 women and 1 in 17 men since the age of 15 years have experienced physical, sexual, emotional or economic abuse from a cohabiting partner.[2] IPAV often commences and escalates in pregnancy. Most survivors are women in heterosexual relationships; however, men and non-binary people can experience IPAV, in same-sex and gender-diverse relationships.[3] (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/domestic-or-intimate-partner-abuse-violence/intimate-partner-abuse#ref-num-1) It is estimated that one-half to two-thirds of women survivors have children in their care at the time of the violence, which results in behavioural, cognitive and health issues for their children in later life.[3] IPAV is a leading contributor to ill health and premature death among women, mainly due to mental health issues.[1] Social impacts include economic insecurity, isolation and homelessness.[4] Women who have experienced IPAV use healthcare services more than women not experiencing IPAV.[5]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for IPAV in the general population is not recommended, because of insufficient evidence (to assess the balance of benefits and harms).	**Not recommended (Strong)**	N/A	3
Routinely screen for IPAV in pregnancy.	**Recommended (Strong)**	As part of antenatal care	3

Case finding

Recommendation	Grade	How often	References
Ask all patients who present with clinical indicators, particularly psychological symptoms, about possible experiences of IPAV (see Box 1). See Box 2 below for questions to ask and statements to make if you suspect IPAV.	**Recommended (Strong)**	Opportunistically	[3]

Further information

Women survivors identify healthcare providers as the professionals they would most trust with disclosure of abuse.[5] Therefore, consider asking all pregnant adult and adolescent women about IPAV during antenatal care, because this is a time of high risk and there are interventions that have been shown to work in this setting.[3] However, there is insufficient evidence for screening the general population attending general practice;[6,7] there should be a low threshold for asking about IPAV, particularly when the GP suspects underlying psychosocial problems.[3]

Provide first-line support to women who disclose IPAV. This includes the LIVES approach:[8]

- **L**istening
- **I**nquiring about needs
- **V**alidating women's disclosure
- **E**nhancing safety
- Providing **s**upport/referrals.

This first-line response should be in the context of a CARE approach of providing:[9]

- **C**hoice and control
- **A**ction and advocacy
- **R**ecognition and understanding
- **E**motional connection with the patient.

People can experience IPAV regardless of race, religious group, age, gender and socioeconomic status. Those most at risk include:

- Aboriginal and Torres Strait Islander women, women from culturally and linguistically diverse (CALD) backgrounds, women with intellectual or physical disabilities
- LGBTIQA+ people
- pregnant women
- women who are recently separated or divorced, or who are on low incomes
- women who aged <25 years
- women who have experienced child abuse or come from a family where abuse and violence

occurred.[3]

Risk assessment in migrant and refugee people needs to assess language proficiency, immigration status and the individual's eligibility for support services. Many will experience marginalisation from the wider community through racism, as well as dislocation from their ethnocultural heritage.

Box 1. Clinical indicators where practitioners should think about asking patients directly about intimate partner abuse and violence[3]

Psychological

- Insomnia, nightmares
- Difficulty concentrating and making decisions
- Confusion, memory issues
- Irritability, feeling overwhelmed
- Anxiety and panic disorder
- Depression
- Suicidal ideation
- Somatoform disorder
- Post-traumatic stress disorder – hyperalertness and hypervigilance
- Eating disorders
- Drug and alcohol use
- Poor self-esteem

Social

- Isolation from family and friends
- Homelessness
- Financial and food insecurity

Physical

- Injuries, including strangulation
- Bruises at various stages of healing
- Sexual assault
- Sexually transmissible infections
- Chronic pelvic and abdominal pain
- Chronic headaches
- Fatigue
- Miscarriage, premature labour and stillbirth
- Nausea, chronic diarrhoea and change in appetite

Box 2. Questions to ask and statements to make if you suspect intimate partner abuse and violence[3]

- 'How are things at home?'
- 'Do you feel safe at home?'
- 'Often people who have these types of health problems are experiencing difficulties at home. Is this happening to you?'
- 'Sometimes these symptoms can be associated with having been hurt in the past. Did that ever happen to you?'
- 'Has your partner physically threatened or hurt you?'
- 'Is there a lot of tension in your relationship? How do you resolve arguments?'
- 'Sometimes partners react strongly in arguments and use physical force. Is this happening to you?'
- 'Are you afraid of your partner? Have you ever been afraid of any partner?'
- 'Have you ever felt unsafe in the past at home?'
- 'Violence is very common in the home. I ask a lot of patients about abuse because no one should have to live in fear of their partners.'
- 'Has your partner ever controlled your daily activities?'
- 'Has your partner ever threatened to physically hurt you?'

Considerations for Aboriginal and Torres Strait Islander peoples

In Aboriginal and Torres Strait Islander communities across Australia, family violence (abuse by any family member, including partners) is disproportionately high in comparison with the non-Indigenous Australian population.[3] In addition, Aboriginal and Torres Strait Islander women are more likely to experience serious forms of violence, such as physical assault. This high prevalence is attributable to the many interrelated elements that are associated with colonisation, kinship disruption, disconnection from land and culture, including trauma, racism, unemployment and poverty.[3]

Refer to the Family abuse and violence (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-16-family-abuse-and-violence) chapter in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people* for specific recommendations and advice.

Resources

Abuse and violence – working with our patients in general practice, 5th edition (The White Book) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/preamble) | RACGP *Health care for women subjected to intimate partner or sexual violence: A clinical handbook (https://apps.who.int/iris/bitstream/handle/10665/136101/WHO_RHR_14.26_eng.pdf?sequence=1)* | WHO

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7. 7. O'Doherty LJ, Taft A, Hegarty K, Ramsay J, Davidson LL, Feder G. Screening women for intimate partner violence in healthcare settings: Abridged Cochrane systematic review and meta-analysis. BMJ 2014;348:g2913. doi: 10.1136/bmj.g2913. [Accessed 1 November 2015].
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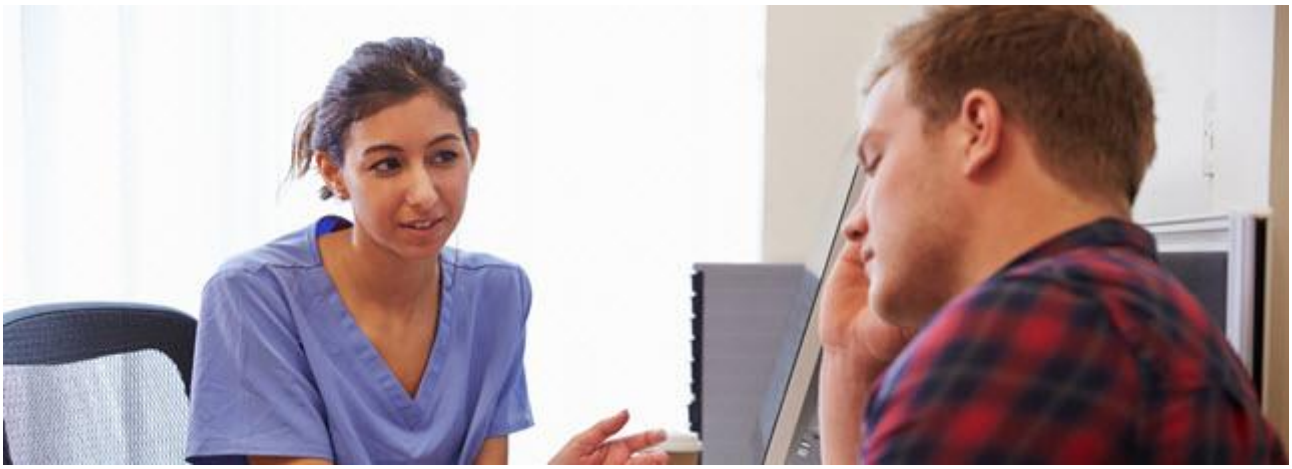
9. 9. Tarzia L, Bohren MA, Cameron J, et al. Women's experiences and expectations after disclosure of intimate partner abuse to a healthcare provider: A qualitative meta-synthesis. BMJ Open 2020;10:e041339. doi: 10.1136/bmjopen-2020-041339. [Accessed 8 May 2023].

Mental health and substance use

Mental health and substance use



Topics in this section

Alcohol (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/alcohol) Anxiety (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/anxiety) Dementia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/dementia) Depression (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/depression) Eating disorders (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/eating-disorders) Perinatal mental health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/perinatal-depression) Gambling (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/problem-gambling) Smoking and nicotine vaping (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/smoking) Suicide (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/suicide)

Alcohol

Mental health and substance use | Alcohol

Screening age bar

0–9	10–14	15	–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Alcohol is the most commonly used drug in Australia. Behind tobacco, alcohol is the second greatest cause of drug-related harm. Approximately 8 out of 10 adults drink alcohol.[1] In a 2019 survey, 76.6% of the Australian population aged ≥14 years reported having consumed alcohol in the previous 12 months.[1]

Alcohol use has risks at any level, and can cause harm to the person who drinks, as well as the people around them, particularly household members.[3] Alcohol consumption has been associated with a range of long-term conditions, such as cardiovascular disease; some cancers, including breast, colon, oropharynx and liver cancer; type 2 diabetes; nutrition-related conditions; obesity; liver disease; mental health conditions; alcohol use disorders; and cognitive impairment.[3] It has also been associated with risks to the fetus during pregnancy (eg fetal alcohol spectrum disorder [FASD]) and to the baby through breastfeeding.[3] In 2015, drinking alcohol contributed 14% of the burden due to homicide and violence, and alcohol can contribute to family disruption, crime, road accidents, work-related harms and community safety issues.[3]

Men tend towards higher levels of risk-taking behaviour, and thus have a greater overall risk of immediate harm from drinking (eg road crashes, falls and self-harm),[3] and the disease burden for men is greater;[4] however, women are more susceptible than men to the direct physiological effects of alcohol. For women, the immediate effects of alcohol occur more quickly than for men; they also last longer. In addition, lifetime risk of disease will climb at a faster rate for women once low levels of alcohol use have been exceeded.[3]

Table of recommendations

Screening

Recommendation	Grade	How often	References

Screen adults aged ≥18 years, including pregnant women, for unhealthy alcohol use. The Alcohol Use Disorder Identification Test – Consumption (AUDIT-C) tool can be used to assess this. Provide persons engaged in risky or hazardous drinking with brief behavioural counselling interventions to reduce unhealthy alcohol use.	**Conditionally recommended**	Every 2 years (Practice point)	4

Preventive activities and advice

Recommendation	Grade	How often	References
Advise healthy men and women drink no more than 10 standard drinks* a week and no more than four standard drinks* on any one day to reduce the risk of harm from alcohol-related disease and injury. *The Australian definition of a standard drink is 10 g alcohol. Be aware of international variation.	**Recommended (Strong)**	Opportunistically	3
Advise children and people aged <18 years not to drink alcohol to reduce the risk of injury and other harms to health.	**Recommended (Strong)**	N/A	3
Advise women who are pregnant or planning a pregnancy not to drink alcohol to prevent harm from alcohol to their unborn child. Refer to the Preconception (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/preconception) and During pregnancy (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/preconception) chapters	**Recommended (Strong)**	Opportunistically	3
Advise women who are breastfeeding that not drinking alcohol is safest for their baby.	**Recommended (Strong)**	Opportunistically	3

Those with at risk patterns of alcohol consumption should be offered brief advice on the risk of drinking. Risky patterns of drinking are more common in: • young adults aged 18–25 years • people aged >60 years • people with mental or physical health conditions • people with a family history of alcohol dependence • people who use illicit drugs or take medications that interact with alcohol. Be alert to drinking in young people aged <18 years.	**Practice point**	N/A	[3]

Further information

Alcohol-related harm

The risk of alcohol-related harm rises with increasing alcohol consumption.[3] There is no threshold of alcohol consumption below which there is no risk. The National Health and Medical Research Council (NHMRC) *Australian guidelines to reduce health risks from drinking alcohol* (https://www.nhmrc.gov.au/sites/default/files/documents/attachments/Alcohol/Australian%20guidelines%20to%20reduce%20health%20risks%20from%20drinking%20alcohol.pdf) provide guidance such that if they are followed by a healthy adult, the risk of dying from an alcohol-related condition or injury is less than 1 in 100. Some people are recommended to abstain from alcohol to lower their risk of alcohol-related harm.

Role of the GP

Patients are positive towards the role of GPs in health promotion, and this is enhanced when:[6]

- there is perceived relevance of the alcohol enquiry dialogue to the consultation
- appropriate approach and language are used in the patient–doctor interaction
- unease regarding the moral and stigmatising dimension of alcohol consumption is alleviated.

Reasons for presenting can also influence the perceived acceptability of alcohol questions by patients.[7]

Brief interventions

Alcohol brief interventions (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap/applying-the-5as-to-each-risk-factor) undertaken by GPs are effective in reducing risky drinking.[8]

Assess whether there are possible harmful interactions between medications and alcohol for people with a mental health problem made worse by alcohol (eg anxiety and depression) or for people taking multiple medications.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations and advice for Aboriginal and Torres Strait Islander people, please refer to the Alcohol (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-1-lifestyle/alcohol) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Specific populations

Individuals with health conditions that can be caused or worsened by alcohol consumption are at risk of exacerbating their condition if they continue to drink.[3] These conditions include alcohol dependence, various liver diseases (eg alcoholic hepatitis, cirrhosis, non-alcoholic fatty liver disease and viral hepatitis), pancreatitis and epilepsy.[3] Commonly prescribed categories of medications including, but not limited to, benzodiazepines, opioids, analgesics, antidepressants, anticoagulants, anticonvulsants, antibiotics, antihistamines, anti-inflammatories, antipsychotics and drugs used for the management of conditions such as erectile dysfunction or diabetes are known to interact with alcohol, potentially leading to severe side effects when used together.[3]

Resources

Australian guidelines to reduce health risks from drinking alcohol (https://www.nhmrc.gov.au/sites/default/files/documents/attachments/Alcohol/Australian%20guidelines%20to%20reduce%20health%20risks%20from%20drinking%20alcohol.pdf) | National Health and Medical Research Council

Smoking, nutrition, alcohol, physical activity (SNAP) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap) | RACGP

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Anxiety

Mental health and substance use | Anxiety

Case finding age bar

0–9*	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

*from age 8 years

Prevalence and context of the condition

Anxiety is the most common mental health condition experienced in the Australian population, affecting 17% of adults (aged 16–85 years) and 7% of children (aged 4–15 years).[1] Anxiety commonly co-exists with other mental health conditions, particularly depression.[2,3] It is estimated that 23% of men and 34% of women aged 16–85 years have experienced any anxiety disorder in their lives.[1] Yet, feeling anxious is also a common experience of all people, especially at times of ill health, when they are more likely to consult their GP. So the GP's task is not only to detect and offer appropriate treatment options to those who meet the diagnostic criteria for anxiety, but also, equally, to offer reassurance and practical advice to people in distress, aiming to prevent the progression of that worry to something more serious. Fortunately, there are some very simple, brief questions the GP can use that are reasonably specific and sensitive to the probability of an anxiety disorder;[4,5] hence they can be used as part of a case finding approach to more efficiently detect patients who need a more thorough assessment.

There is a risk of underdiagnosis and delayed diagnosis because many people do not seek treatment. GPs should be aware of a patient's worries about stigma and that under-reporting by patients is common.[6]

Table of recommendations

Screening

Recommendation	Grade	How often	References
General population screening for anxiety is not recommended.	**Generally not recommended**	N/A	7,8

Case finding

Recommendation	Grade	How often	References
Be alert to possible anxiety disorders in those aged 8–64 years, including pregnant and postpartum women (particularly in people with a history of an anxiety disorder, possible somatic symptoms of an anxiety disorder, in those who have experienced traumatic or adverse childhood events or in those with insomnia).	**Practice Point**	As required	6,7,8
Consider asking the person (aged 18–64 years) about their feelings of anxiety, and their ability to stop or control the worry, using the Generalized Anxiety Disorder 2-item (GAD-2) (https://www.hiv.uw.edu/page/mental-health-screening/gad-2) scale. • If the person scores ≥3 on the GAD-2 scale, consider an anxiety disorder and follow the recommendations for assessment (see the *Common mental health problems: Identification and pathways to care (https://www.nice.org.uk/guidance/cg123/chapter/recommendations#assessment)* guidelines). • If the person scores <3 on the GAD-2 scale but you are still concerned they may have an anxiety disorder, ask the following: 'Do you find yourself avoiding places or activities and does this cause you problems?'. If the person answers 'yes' to this question, consider an anxiety disorder and follow the recommendations for assessment (see the *Common mental health problems: Identification and pathways to care (https://www.nice.org.uk/guidance/cg123/chapter/recommendations#assessment)* guidelines).	**Conditionally recommended**	As required	6

Further information

For a common condition like anxiety, there is an overlap of symptoms with other conditions like depression.[6] This allows the introduction of a stepped care model in mental health care that attempts to encourage people with milder symptoms of distress to engage in lower intensity interventions (eg self-help and eMental Health programs) and allocate more intense interventions (eg medication and individual psychotherapy) to those who are most likely to benefit.[9] In the context of inequitable

distribution of mental health care in Australia, ensuring resources reach those most in need remains an ongoing challenge.[10] The quiz (https://www.headtohealth.gov.au/quiz) on the Australian Government's Head to Health website is an example of such an approach,[11] informed by algorithms developed using Australian primary care population data to predict which patients presenting to the GP are likely to have a more severe outcome from depression and anxiety symptoms at three months[12] to help GPs and their patients in navigating the system.

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations or advice for Aboriginal and Torres Strait Islander peoples.

Specific populations

In 2018, 11% of anxiety disorders in women were attributable to intimate partner violence, and 27% of anxiety disorders were attributable to child abuse and neglect.[13] For more information on these topics, refer to the Intimate partner violence (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/intimate-partner-violence) and Bullying and child abuse (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/child-abuse-and-maltreatment) chapters.

Resources

Quiz (https://www.headtohealth.gov.au/quiz) | Australian Government Head to Health website Screen for Child Anxiety Related Disorders (SCARED) (https://www.aacap.org/App_Themes/AACAP/docs/member_resources/toolbox_for_clinical_practice_and_outcomes/symptoms/ScaredChild.pdf) tool

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Dementia

Mental health and substance use | Dementia

Case finding age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

It is estimated that over 400,000 people in Australia are living with dementia. Dementia is the leading cause of death in women and a leading cause of burden of disease overall.[1,2] Dementia is the fourth-highest cause of disease burden in women, responsible for 6.8 disability-adjusted life years (DALYs) per 1000 population. Dementia is the sixth-highest contributor to disease burden in men responsible for 5.8 DALY per 1000 population.[3] The prevalence of dementia is increasing as the population ages.[4]

Although dementia is usually regarded as a disease of older age, younger-onset dementia is becoming increasingly recognised. In 2019, more than 27,000 people were thought to be living with younger-onset dementia in Australia.[5]

Table of recommendations

Screening

Recommendation	Grade	How often	References
General population screening for dementia is not recommended.	**Not recommended (strong)**	NA	[6]

Case finding			
GPs should be alert to the symptoms and signs of dementia, which include not just memory difficulties, but also changes in personality, behaviour and executive function. These may be detected opportunistically and assessed using questions addressed to the person and/or their carer, including formal cognitive function tests and carer scales. Symptoms such as apathy and low mood may lead the GP to consider depression. Depression and dementia may co-exist, and both may need diagnosis and management.	**Conditionally recommended**	Opportunistically	6
Be alert for dementia in those with increasing age. For other risk factors known to be associated with dementia, see Box 1.	**Conditionally recommended**	Opportunistically	7,8,9,10,11,12,13,14,15,16,17,18,19,20,21

For people with any of the findings listed below*, over several consultations obtain a history from the person and their family, and perform a comprehensive physical examination. Consider administering of one of the following cognitive screening tests: • Standardised Mini-Mental State Examination (SMMSE) (https://www.ihacpa.gov.au/sites/default/files/2022-08/smmse-tool-v2.pdf) • General Practitioner Assessment of Cognition (GPCOG) (https://gpcog.com.au/) (carer may need to be contacted) • Kimberley Indigenous Cognitive Assessment-Cog (KICA-Cog) (https://www.dementia.org.au/sites/default/files/20120821_KICA_Instruction_Booklet.pdf) or modified KICA-Cog (https://www.nari.net.au/Handlers/Download.ashx?IDMF=f413763e-bfe3-498a-9d4f-2d52e0490e15) • Rowland Universal Dementia Assessment Scale	**Practice point**	N/A	22,23

(RUDAS) (https://www.dementia.org.au/resources/rowland-universal-dementia-assessment-scale-rudas) for culturally and linguistically diverse (CALD) communities *Symptoms such as memory loss or behaviour change, concerned family members, history of repeated head trauma, Down syndrome, elevated cardiovascular risk, depression or a history of depression.			
For people who are showing signs of dementia, concerns or symptoms should be explored when first raised, noted or reported by the person, carer(s) or family and should not be dismissed as 'part of ageing'.	**Practice point**	N/A	6

Preventive activities and advice

Recommendation	Grade	How often	References
Provide preventive advice in relation to the following associations with dementia. See Box 2.	**Practice point**	N/A	24

Further information

Dementia is a strong source of burden for carers and for the health system overall. It is vitally important that GPs move to prevent as much dementia as possible through attention to the risk factors, and then recognise and assist the person to manage their life if they develop dementia.

The best time to identify risk factors is earlier in life. GPs' work in identifying and modifying cardiovascular and other risk factors in midlife also reduces the risk factors for dementia. Dementia risk scores may help.[25] It may be helpful for GPs to mention the risk score to patients as a motivating factor for behaviour change. The health assessments funded for midlife and the care plans for chronic disease management may help with this.

GPs need to recognise and respond to the barriers to the identification of dementia. These include:

- system-related factors (eg short consultation lengths)
- GP factors (eg difficulties of diagnosis and management)
- patient factors around stigma and a consequent reluctance to discuss dementia, or around difficulties in understanding the concept[26]
- patients being investigated for dementia (eg in the case finding paradigm outlined above, patients need to be aware of the reasons for the questionnaire investigations and follow-up blood tests and referrals)

A preference not to be told the diagnosis should be respected. However, it is important that the person and/or their carer understands that there is a problem with cognition that will need management. The concept of secondary prevention (ie slowing the progression of the disease using the strategies outlined above) can then be introduced (eg smoking cessation, correction of hearing impairment, optimal management of other cardiac risk factors, diet and exercise).

Box 1. Risk factors associated with dementia (other than increasing age, which doubles the risk for every five-year increase)

- A family history of Alzheimer's disease and genetic factors[6]
- A history of repeated head trauma[27]
- Down syndrome
- Elevated cardiovascular risk[6,27,28]
- Depression or a history of depression[6,27]
- Low education levels[28]
- Smoking [14,27,]
- Physical inactivity[27,29]
- Aboriginal and Torres Strait Islander status
- Low social contact[27]
- Hearing loss[27]

Box 2. Risk reduction interventions for cognitive decline and dementia[24]

Physical activity interventions

- Physical activity should be recommended to adults with normal cognition to reduce the risk of cognitive decline
- Physical activity may be recommended to adults with mild cognitive impairment to reduce the risk of cognitive decline

Tobacco cessation interventions

- Interventions for tobacco cessation should be offered to adults who use tobacco because they may reduce the risk of cognitive decline and dementia in addition to having other health benefits

Nutritional interventions

- A Mediterranean-like diet may be recommended to adults with normal cognition and mild cognitive impairment to reduce the risk of cognitive decline and/or dementia
- A healthy, balanced diet should be recommended to all adults
- Vitamins B and E, polyunsaturated fatty acids and multicomplex supplementation **should not** be recommended to reduce the risk of cognitive decline and/or dementia

Interventions for alcohol use disorders

- Interventions aimed at reducing or ceasing hazardous and harmful drinking should be offered to adults with normal cognition and mild cognitive impairment to reduce the risk of cognitive decline and/or dementia in addition to other health benefits

Cognitive interventions

- Cognitive training may be offered to older adults with normal cognition and with mild cognitive impairment to reduce the risk of cognitive decline and/or dementia

Social activity

- There is insufficient evidence for social activity reducing the risk of cognitive decline/dementia
- Social participation and social support are strongly connected to good health and wellbeing throughout life, and social inclusion should be supported over the life course

Weight management

- Interventions for midlife overweight and/or obesity may be offered to reduce the risk of cognitive decline and/or dementia

Management of hypertension

- Management of hypertension should be offered to adults with hypertension
- Management of hypertension may be offered to adults with hypertension to reduce the risk of cognitive decline and/or dementia

Management of diabetes

- Management of diabetes in the form of medications and/or lifestyle interventions should be offered to adults with diabetes
- Management of diabetes may be offered to adults with diabetes to reduce the risk of cognitive decline and/or dementia

Management of dyslipidaemia

- Management of dyslipidaemia at midlife may be offered to reduce the risk of cognitive decline and dementia

Management of depression

- There is currently insufficient evidence to recommend the use of antidepressant medicines to reduce the risk of cognitive decline and/or dementia
- Management of depression in the form of antidepressants and/or psychological interventions should be provided to adults with depression

Management of hearing loss

- There is insufficient evidence to recommend the use of hearing aids to reduce the risk of cognitive decline and/or dementia
- Screening followed by provision of hearing aids should be offered to older people for timely identification and management of hearing loss

Considerations for Aboriginal and Torres Strait Islander peoples

GPs should be aware of the increased risk for dementia for Aboriginal and Torres Strait Islander people. This particularly applies to those who have suffered trauma, for example the Stolen Generations.[6] For specific recommendations and advice, refer to the Dementia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-5-the-health-of-older-people/dementia) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people* and the *Best-practice guide to cognitive impairment and dementia care for Aboriginal and Torres Strait Islander people attending primary care* (https://www.racgp.org.au/getattachment/b5e33105-dde0-474d-83c3-ef5d80e09634/Best-practice-guide-to-cognitive-impairment-and-dementia-care-for-Aboriginal-and-Torres-Strait-Islander-people-attending-primary-care.pdf.aspx) .

Specific populations

GPs should be aware that culturally and linguistically diverse (CALD) populations may have culturally specific understandings of and attitudes towards dementia and how it should be managed.[7] Ethno-specific workers may be able to assist GPs who are concerned about undertaking primary or secondary prevention in this context.

Resources

Cognitive screening tests:

- Standardised Mini-Mental State Examination (SMMSE) (https://www.ihacpa.gov.au/sites/default/files/2022-08/smmse-tool-v2.pdf)
- General Practitioner Assessment of Cognition (GPCOG) (https://gpcog.com.au/) (Carer may need to be contacted)
- Kimberley Indigenous Cognitive Assessment-Cog (KICA-Cog) or modified KICA-Cog (https://www.dementia.org.au/professionals/assessment-and-diagnosis-dementia/kimberley-indigenous-cognitive-assessment-tool-kica)
- Rowland Universal Dementia Assessment Scale (RUDAS) (https://www.dementia.org.au/resources/rowland-universal-dementia-assessment-scale-rudas) for CALD communities

Journal articles:

- Dementia prevention, intervention, and care: 2020 report of the Lancet Commission (https://www.thelancet.com/article/S0140-6736(20)30367-6/fulltext)
- Future Directions for Dementia Risk Reduction and Prevention Research: An International Research Network on Dementia Prevention Consensus (https://content.iospress.com/articles/journal-of-alzheimers-disease/jad200674)
- Dementia Risk Scores and Their Role in the Implementation of Risk Reduction Guidelines (https://www.frontiersin.org/articles/10.3389/fneur.2021.765454/full)

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Depression

Mental health and substance use | Depression

Case-finding age bar

0–9	10–14*	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

*from age 12 years

Prevalence and context of the condition

Major depressive disorder is a high-prevalence condition in Australia. It is estimated that 9% of men and 14% of women aged 16–85 years have experienced at least one depressive episode in their lives, with a 12-month prevalence of 4% and 6%, respectively.[1] A depressive episode may occur in the absence of major depressive disorder (eg as a consequence of seasonal associated disorder).[1] Given that GPs provide most of all mental health care, including depression care. in Australia, it is appropriate that they use screening and case finding according to population groups as outlined in the recommendations below. This is in light of mixed evidence for the effectiveness of universal screening for major depressive disorder, depending on the context of the patient population, and the level of system support available.

Table of recommendations

Screening

Recommendation	Grade	How often	References
General population screening for depression is not recommended.	**Generally not recommended**	N/A	2,3,4

Case finding

Recommendation	Grade	How often	References

Be alert to signs of depression in adolescents aged 12-18 years with risk factors. See Box 1.	**Conditionally recommended**	At every encounter	5,6,7,8,9,10
Be alert for the various symptoms of depression (eg low mood, substance use, insomnia, anhedonia, suicidal thoughts, fatigue and persistent somatic complaints) in the adult population. If present, use one of the validated mental health assessment tools to undertake further assessment (see Further information).	**Conditionally recommended**	Opportunistically	3, 5,11,12,13

Further information

Although there is evidence that depression screening instruments have reasonable sensitivity and specificity, the evidence for improved health outcomes and the cost-effectiveness of screening for depression in primary care remain unclear. There is evidence for routine screening for depression in the general adult population in the context of staff-assisted support to the GP in providing depression care, case management and coordination (eg via practice nurses).[14] There is insufficient evidence to recommend routine screening in adults or adolescents where case management and coordination are not available.[2,3,14] There is insufficient evidence to recommend screening in children.[5] Clinicians should maintain a high level of awareness for depressive symptoms in patients at high risk of depression and make appropriate clinical assessments wherever the risk is high.[11]

Consider the use of the HEADSSS assessment tool (https://www.rch.org.au/clinicalguide/guideline_index/Engaging_with_and_assessing_the_adolescent_patient/) for the assessment of depression in adolescents aged 12–18 years.

Consider using Sphere-12 (https://www.racgp.org.au/getattachment/0cda86c7-cf66-49bd-b62b-296e65248e9e/attachment.aspx) , the K10 anxiety and depression test (http://www.beyondblue.org.au/the-facts/anxiety-and-depression-checklist-k10) , the Depression Anxiety Stress Scales (DASS) (http://www2.psy.unsw.edu.au/dass) or the Depression self-report questionnaire (DMI-10 and DMI-18) (https://www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/dmi-10.pdf?sfvrsn=2) for the assessment of depression in adults.[15]

Box 1. Risk factors for depression in adolescents aged 12–18 years[5–10]

- History of depression
- Family history of depression
- Other psychiatric disorders, including substance misuse
- Chronic medical conditions
- Unemployment
- Low socioeconomic status
- Older adults with significant life events (eg illness, cognitive decline, bereavement or institutional placement)
- All family members who have experienced family violence
- Lesbian, gay and bisexual peoples
- Experience of child abuse
- Deliberate self-harm
- Comorbid mental health or chronic mental health conditions
- Experience of a major negative life event (including being bullied)

Considerations for Aboriginal and Torres Strait Islander peoples

Universal screening for depression is not recommended among Aboriginal and Torres Strait Islander peoples. Identify those people in whom the risk of depression is greater as part of annual health assessments. Consider using one of the 'social and emotional wellbeing' or mental health assessment tools to guide the conversation. Options include the Kessler Psychological Distress Scale (K-5), the Here and Now Aboriginal Assessment (HANAA) tool, the Patient Health Questionnaire (PHQ)-9, PHQ-9 adapted, PHQ-2 and link-me.[16]

Medications are not recommended for the primary prevention of depression.[16]

For specific recommendations and advice for Aboriginal and Torres Strait Islander people, please refer to the Prevention of depression (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-17-mental-health/prevention-of-depression) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

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Eating disorders

Mental health and substance use | Eating disorders

Prevalence and context of the condition

There are approximately 1 million Australians living with eating disorders, comprising approximately 25,000 with anorexia nervosa, 100,000 with bulimia nervosa, 500,000 with binge eating disorder and 350,000 with other forms of eating disorders.[1] Anorexia nervosa has one of the highest mortality rates of any mental illness, with approximately 450 deaths from anorexia nervosa every year in Australia.[1] The prevalence of eating disorders is higher among athletes, women, younger adults aged 18–29 years and transgender individuals. It is also important to understand that eating disorders in men and individuals from diverse or minority populations (eg LGBTQIA+/gender diverse, ethnic minority groups, Aboriginal and Torres Strait Islander people) are often missed and that they may face poorer outcomes due to delayed diagnosis and a lack of access to services.[2,3] Various biological, psychological, social and environmental factors, such as genetics, the presence of other mental health conditions, trauma, perfectionism, rigidity, social pressure related to appearance and childhood adversity, are associated with a higher risk of developing an eating disorder.

Eating disorders are serious and potentially life-threatening mental illnesses with complex aetiology that can present to primary care in myriad ways. Patients will more often present *with* an eating disorder than *for* an eating disorder, and, as such, GPs with their skilled generalist approach are ideally placed with curious questioning to provide a safe space for patients to explore help seeking at any stage.[4]

There is an opportunity to improve the detection and management of eating disorders in Australian primary care settings, particularly when patients present for 'other' issues or with unexplained low body mass index (BMI) and one or more symptoms related to an eating disorder.[5]

Although the evidence for screening is insufficient,[4] implementing opportunistic case finding in high-risk groups is likely to improve access to early intervention, accurate diagnosis and treatment, which will improve outcomes for individuals and the community.[2]

Table of recommendations

Screening

Recommendation	Grade	How c
Screening for eating disorders (eg binge eating disorder, bulimia nervosa and anorexia nervosa) is not recommended in adolescents and adults.	**Not recommended (Strong)**	N/A

Case finding

Recommendation	Grade	How c
Assess the risk of eating disorders. When assessing for an eating disorder or deciding whether to refer people for assessment, consider the information in Box 1.	**Practice point**	N/A

Preventive activities and advice

Recommendation	Grade	How c
GPs have a vital role in prevention by educating about the risks of dieting, which is a risk factor for the development of both eating disorders and obesity, by: • discouraging unhealthy dieting; instead, encourage and support the use of positive eating and physical activity behaviours that can be maintained on an ongoing basis • promoting a positive body image among all adolescents • encouraging families to have body-positive conversations that do not focus on weight but celebrate health • encouraging families to engage in family-centred/led activities such as healthy family meals and routine and regular physical activity	**Practice point**	N/A

Further information

Screening for eating disorders has the potential to improve health outcomes, such as quality of life or function, if it leads to early detection and effective treatment. However, the current evidence on whether screening improves health outcomes is unclear.[6]

GPs can also implement sensitive weighing practices at every opportunity, being mindful of the Academy of Eating Disorder position statement on preventing Childhood Obesity,[9] which states:

Weighing [children] should only be performed when there is a clear and compelling need for the information. The height and weight of a child should be measured in a sensitive, straightforward and friendly manner, in a private setting. Height and weight should be recorded without remark.

Refer to the Preventive activities in childhood chapter (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/development-and-behaviour/childhood-development) for information on measuring the height and weight of a child. Further, BMI assessment should be considered just one part of an overall health evaluation and not as the single marker of a child's health status.

Box 1. Assessing for an eating disorder[7]

Potential indicators of an eating disorder include:

- an unusually low or high BMI or body weight for age
- rapid weight loss
- dieting or restrictive eating practices
- family members or carers reporting a change in eating behaviour
- social withdrawal, particularly from situations that involve food
- other mental health problems
- a disproportionate concern about weight or shape
- problems managing a chronic illness that affects diet, such as diabetes or coeliac disease
- menstrual or other endocrine disturbances, or unexplained gastrointestinal symptoms
- physical signs of:
    - malnutrition, including poor circulation, dizziness, palpitations, fainting or pallor
    - compensatory behaviours, including laxative or diet pill misuse, vomiting or excessive exercise
- abdominal pain that is associated with vomiting or restrictions in diet and cannot be fully explained by a medical condition
- unexplained electrolyte imbalance or hypoglycaemia
- atypical dental wear (eg erosion)
- taking part in activities associated with a high risk of eating disorders (eg professional sport, fashion, dance, or modelling).

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations or advice for Aboriginal and Torres Strait Islander people.

Specific populations

It is important to understand that men and individuals from diverse or minority populations (eg LGBTIQA+/gender diverse, ethnic minority groups) with eating disorders are often missed and may face poorer outcomes due to delayed diagnosis and a lack of access to services.[2]

Resources

Eating disorders: A professional resource for general practitioners (https://www.nedc.com.au/assets/NEDC-Resources/NEDC-Resource-GPs.pdf) | National Eating Disorders Collaboration
Weighing an individual with an eating disorder (https://insideoutinstitute.org.au/assets/weighing%20an%20individual%20with%20an%20eating%20disorder.pdf) | Inside Out Institute for Eating Disorders
Weekly weighing (https://www.cci.health.wa.gov.au/~/media/CCI/Mental-Health-Professionals/Eating-Disorders/Eating-Disorders---Information-Sheets/Eating-Disorders-Information-Sheet---Weekly-Weighing.pdf) | Centre for Clinical Interventions

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Perinatal mental health

Reproductive and women's health | Perinatal mental health

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

The perinatal period (the time from conception to 12 months after birth) is a time of significant change for parents. Subsequently, it can be a high-risk time for the onset and relapse of mental health conditions.[1] It is estimated that perinatal depression and anxiety affects 1 in 5 mothers and 1 in 10 fathers/partners.[1,2]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Assess psychosocial risk factors as early as practical in pregnancy and again after the birth using the Antenatal Risk Questionnaire (ANRQ) (https://www.cope.org.au/health-professionals/clinical-tools-health-professionals/) .	**Recommended (strong)**	As early as practical in pregnancy, again after birth.	1

Screening women for a possible depressive or anxiety disorder using the Edinburgh Postnatal Depression Scale (EPDS) (https://www.cope.org.au/health-professionals/clinical-tools-health-professionals/) is recommended.	**Recommended (strong) for depression** **Practice point for anxiety**	Complete the first postnatal screening 6–12 weeks after birth and repeat screening at least once in the first postnatal year.	1
Routinely screen for intimate partner violence. Explain to all women that asking about family violence is routine part of postnatal care. Ask about family violence only when alone with the woman, using validated screening tools (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/resources-1/useful-tools) .	**Recommended (strong)**	Consider more than once.	3,4

Further information

Perinatal depression

Common symptoms of perinatal depression:[5]

- Loss of interest or pleasure in everyday life
- Physical symptoms (eg lethargy, numbness)
- Cognitive symptoms (eg negative thinking)
- Behavioural symptoms (eg withdrawal)
- Emotional symptoms (eg tearfulness)

Depression in the perinatal period is identified by the presence of a number of symptoms experienced over a period of time, typically two weeks or more. Moderate to severe perinatal depression can also affect a parent's ability to care for their baby and/or other children in their care.[5] Any discussion of suicide should be taken seriously, with treatment from a mental health professional or other appropriate person immediately sought.[6]

Perinatal anxiety

Although pregnancy and the arrival of a new baby can be very exciting, most women experience some worries about things like having a healthy pregnancy, delivering the baby, keeping their baby safe and potential impacts on their relationship, career or finances. For some people, those worries can become overwhelming and unmanageable.[6]

Common symptoms of perinatal anxiety:[7]

- Anxiety or fear that interrupts thoughts and interferes with daily tasks
- Panic attacks: outbursts of extreme fear and panic that are overwhelming and feel difficult to bring under control
- Anxiety and worries that keep coming into the woman's mind and are difficult to stop or control
- Constantly feeling irritable, restless or 'on edge'
- Having tense muscles, a 'tight' chest and heart palpitations
- Finding it difficult to relax and/or taking a long time to fall asleep at night
- Anxiety or fear that stops the woman going out with her baby
- Anxiety or fear that leads the woman to check on her baby constantly

Information on key considerations before screening and psychosocial assessment (https://www.health.gov.au/resources/pregnancy-care-guidelines/part-e-social-and-emotional-screening) is available at the *Pregnancy care guidelines*.

Be aware that anxiety disorders are very common in the perinatal period and should be considered in the broader clinical assessment.

Non-birthing partners

Information on assessing perinatal mental health in non-birthing partners (https://www.cope.org.au/health-professionals/health-professionals-3/review-of-new-perinatal-mental-health-guidelines/) is available in Part B – Screening and psychosocial assessment of the Centre of Perinatal Excellence's (COPE) *Mental health care in the perinatal period Australian clinical practice guideline*.

Considerations for Aboriginal and Torres Strait Islander peoples

When screening Aboriginal and/or Torres Strait Islander women, consider language and the cultural appropriateness of the tool.[1,4] It is important to note that EPDS scores among Aboriginal and Torres Strait Islander women may be influenced by factors such as understanding of the language used, mistrust of mainstream services or fear of consequences of depression being identified (ie involvement of child protection services).[1] If use of the EPDS is considered inappropriate, involvement of an Aboriginal Health Worker may facilitate assessment of symptoms of depressive or anxiety disorders.[1]

The Kimberley Mum's Mood Scale (KMMS) (https://kahpf.org.au/kmms) has been developed for use in Aboriginal and Torres Strait Islander populations; however, it has only been validated for use in the Kimberley region and may not be applicable for Aboriginal and Torres Strait Islander women in other areas.[1]

Where possible, seek guidance/support from an Aboriginal and/or Torres Strait Islander worker or professional worker or professional when screening Aboriginal and/or Torres Strait Islander woman for depression and anxiety.[1]

For further information, refer to the Prevention of depression (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-17-mental-health/prevention-of-depression) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Specific populations

Perinatal depression and anxiety are more commonly reported among the following population subgroups:[1,2]

- people with a prior history of mental illness
- Aboriginal and Torres Strait Islander peoples
- migrant women (including refugees, asylum seekers)
- women living in rural and remote areas
- women experiencing pregnancy in adolescence
- women experiencing intimate partner violence
- LGBTIQA+ parents
- women who experienced birth trauma.

For screening in women from a culturally and linguistically diverse (CALD) background, use appropriately translated versions of the EPDS with culturally relevant cut-off scores. Consider language and the cultural appropriateness of the tool.[1]

Resources

Further information on the identification and management of abuse and violence: *Abuse and violence – working with our patients in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/preamble)* | RACGP Guideline for the early identification of mental health conditions in the perinatal period for women and/or their partners *Mental health care in the perinatal period: Australian clinical practice guideline (https://www.cope.org.au/health-professionals/health-professionals-3/review-of-new-perinatal-mental-health-guidelines/)* | COPE Guidelines on all aspects of pregnancy care, including social and emotional screening: *Pregnancy care guidelines* (https://www.health.gov.au/resources/pregnancy-care-guidelines) | Department of Health and Aged Care A broad collection of resources for GPs to help patients with mental health illness: Resources for GPs (https://gpmhsc.org.au/ResourceSection/Index/aa96bb9f-b39c-4c90-821f-5a9be3a42d20) | GPMHSC

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Gambling

Mental health and substance use | Gambling

Case finding age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

It is estimated that over 7% of Australians are at risk of gambling-related harms.[1] In Australia, 48% of men and 28% of women gamble at least weekly. Of these, 53% of men who gamble and 38% of women who gamble experience or are at risk of experiencing gambling-related harm.[1] When the impact of gambling on others is considered, even low-risk gambling affects other people (usually family members), rising to an impact of six people per typical problem gambler.[2] Gambling-related harms include effects on relationships, health, emotional wellbeing, finances and work/study, in addition to cultural harms and criminal activity.[3] There has been extraordinary growth in recent years in opportunities to gamble, both in-person and online, leading to concern about the potential for associated harm, and a call for more research into the potential for screening in healthcare settings.[4]

While GPs wait for screening tools to be validated and tested in primary care to demonstrate improved health outcomes for gamblers, a case finding approach is warranted, given the opportunities afforded GPs by knowing their patients over time and within the context of their families and communities.

Table of recommendations

Case finding

Recommendation	Grade	How often	References

In patients experiencing stress, mental health issues or substance use problems; in people experiencing or perpetrating domestic violence; in people experiencing relationship breakdown; and/or in people with symptoms of compulsive gambling (see Box 1), ask about gambling behaviours (eg sports betting, wagering, card playing, pokies, casino gambling, online gambling). For example, 'In the past 12 months, have you or someone you are close to ever had issues with gambling?'	**Practice point**	Opportunistically	5,6,7,8

Further information

Calls for a public health approach to gambling will hopefully see reductions in the future rates of problem gambling, along the same lines as the success Australia has had in smoking cessation and immunisation. Health professional awareness of the problem is one factor within a larger conceptual framework required to address this problem.[9]

This approach allows for GPs to offer brief interventions, such as motivational interviewing or referral to gambling support helplines and websites, for patients who report gambling issues.

Box 1. Symptoms of compulsive gambling (gambling disorder)[10]

- Being preoccupied with gambling, such as constantly planning gambling activities and how to get more gambling money
- Needing to gamble with increasing amounts of money to get the same thrill
- Trying to control, cut back or stop gambling without success
- Feeling restless or irritable when you try to cut down on gambling
- Gambling to escape problems or relieve feelings of helplessness, guilt, anxiety or depression
- Trying to get back lost money by gambling more (chasing losses)
- Lying to family members or others to hide the extent of your gambling
- Risking or losing important relationships, a job or school or work opportunities because of gambling
- Asking others to bail you out of financial trouble because you gambled money away

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations and advice for Aboriginal and Torres Strait Islander people, please refer to the Gambling (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-1-lifestyle/gambling) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Resources

Gambling Help Online (https://aifs.gov.au/resources/resource-sheets/gambling-help) , an online counselling, information and support service for problem gambling issues (includes contact details for local face-to-face counselling and support)

National telephone counselling services:

- National Gambling Helpline, 1800 858 858
- National Debt Helpline, 1800 007 007

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Smoking and nicotine vaping

Mental health and substance use | Smoking and nicotine vaping

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Australia has made major progress in tobacco control, with population prevalence of smoking falling substantially since the 1960s. Australia has one of the lowest smoking rates among the Organisation for Economic Co-operation and Development (OECD) countries.[1] In 2019, 11% of Australians smoked tobacco daily, down from 12.2% in 2016 and 24% in 1991.[2] In recent years, smoking rates have also fallen for Aboriginal and Torres Strait Islander peoples, but the prevalence remains unacceptably high (37% in 2018–19).[1,3] Despite the decline in prevalence, smoking remains the behavioural risk factor responsible for the highest levels of preventable disease and premature death.[1]

Smoking rates are influenced by socioeconomic status, with higher rates in low socioeconomic status communities. Smoking rates remain high in key population groups, including people with mental illness. Smoking in pregnancy has serious adverse effects for both the mother and developing fetus.

Many people start smoking in during adolescence, with 80% of long-term smokers having started smoking before the age of 20 years.[4] The prevalence of e-cigarette use is on the rise, even among individuals who have never smoked before. From 2016 to 2019, the percentage of people who had tried e-cigarettes increased from 8.8% to 11.3%.[2] Although the use of e-cigarettes grew across various age groups, the increase was particularly significant among young adults. Among individuals aged 18–24 years, almost two-thirds (64%) of current smokers and one-fifth (20%) of non-smokers reported experimenting with e-cigarettes. In addition, among those who had tried e-cigarettes, the frequency of use also escalated, with a greater number of people using them at least once a month (rising from 10.3% in 2016 to 17.9% in 2019).[2] There is increasing evidence that non-smokers who use e-cigarettes are more likely than those avoiding e-cigarettes to start cigarette smoking and become current smokers.[5]

Up to half of all smokers can be expected to die from a smoking-related condition.[6]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Ask patients whether they are currently smoking and document their smoking status. Also ask about and document the use of vaping products.	**Recommended (Strong)**	At every opportunity starting from the age of 10 years	1

Preventive activities and advice

Recommendation	Grade	How often	References
All patients who smoke should be offered brief advice to quit smoking. Set quit goals, offer Therapeutic Goods Administration (TGA)-approved pharmacotherapy (nicotine replacement therapy, varenicline or bupropion), referral to a smoking cessation service (see Further information) and follow up as appropriate.	**Recommended (Strong)**	At every visit	1
For patients who have not been able to quit with the combination of behavioural support and approved pharmacotherapy, consider the use of nicotine e-cigarettes to assist smoking cessation. This needs to be preceded by an evidence-informed shared decision-making process where the lack of evidence on long-term safety and the current unapproved status of nicotine e-cigarettes is discussed.	**Conditionally recommended**	N/A	1,6
All patients who vape should be advised to quit vaping. Offer brief cessation advice in routine consultations and appointments, whenever possible.	Practice point	At every visit	1

Further information

The delivery of smoking cessation advice is likely to be one of most effective interventions in reducing mortality.[8] Some smokers may not be ready to quit, but may still benefit from brief advice about smoking cessation.

Using the Ask Assess Help model (https://www.racgp.org.au/getattachment/dac134bf-dcde-416c-93de-250cccc5d02b/attachment.aspx?disposition=inline) as part of shared decision making by considering readiness to quit.

Nicotine dependence can be assessed by asking about the:

- number of minutes between waking and smoking the first cigarette
- number of cigarettes smoked a day
- type of craving or withdrawal symptoms experienced in previous quit attempts.[2]

There is a high likelihood of nicotine dependence if the person smokes within 30 minutes of waking and smokes more than 10–15 cigarettes a day.

Referrals to Quitline, SMS cessation services and online cessation support (https://www.health.gov.au/topics/smoking-and-tobacco/smoking-and-tobacco-contacts) are all effective and may complement brief interventions delivered by clinicians.

See RACGP's *Supporting smoking cessation: A guide for health professionals* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/supporting-smoking-cessation) for more information on smoking cessation advice and follow up.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Smoking (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-1-lifestyle/smoking) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people.*

Resources

Supporting smoking cessation: A guide for health professionals (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/supporting-smoking-cessation) | RACGP

References

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Suicide

Mental health and substance use | Suicide

Prevalence and context of the condition

There are over 3000 deaths due to suicide in Australia each year,[1] and hence this is a key priority for governments and the healthcare system. Given that GPs see almost nine in 10 Australians each year,[2] they are viewed as a key part of the solution to detecting people most at risk of suicide and offering them appropriate interventions.[3] Contact with primary healthcare services is common in the months or weeks prior to suicide.[1,4]

The suicide rate is threefold higher for men than women.[1] The causes of suicidality are complex and diverse, but there is an association between suicide and psychiatric conditions,[5] and there is some evidence that treatment of mental health conditions can reduce risk.[7] People affected by complex mental health issues are anywhere from 10- to 45-fold more likely to die by suicide than the general population.[8] The risk is highest for those living with borderline personality disorder (BPD), one of the most stigmatised and poorly understood conditions, but it is also high for those living with anorexia nervosa (31-fold higher than in the general population) and schizophrenia (13-fold higher than in the general population).[8]

Although traumatic experiences can increase the risk of suicide, the effects of trauma can be protracted over a period of time or lifelong. For example, adverse childhood events can be a risk factor for mental ill health. Historical experiences of trauma should not be discounted as a current risk factor for suicidal behaviour and poor mental health.[9]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Routine screening for suicide risk is not recommended.	**Not recommended (Strong)**	N/A	10

Case finding

Recommendation	Grade	How often	References

Be alert for the risk of attempted suicide in those with: • mental illness, especially mood disorders, and alcohol and drug abuse • previous suicide attempts or deliberate self-harm • recent loss or other adverse event • access to harmful means, such as medication or weapons • legal or disciplinary problems • relationship problems, such as conflict with parents or intimate partner • bullying • a family history of attempted or completed suicide • a recent bereavement • chronic and terminal medical illness as well as those: • who are living alone • who are/have been in prison • who have been discharged from a psychiatric hospital in the previous 12 months • are women experiencing intimate partner violence	**Practice point**	Opportunistically	11,12,13

Further information

Although there is lack of evidence for routine screening for suicide using a screening instrument, a case finding approach rather than universal screening is recommended given that there are clearly defined patient groups known to be at greater risk. GPs should be alert for patients who are at higher risk of self-harm and suicide. Mental health first aid strategies can be offered in general practice and are recognised as an effective strategy for suicide prevention.[3] The system-based strategy that has the greatest estimated reduction in suicide deaths is GP capacity building and support.[14]

The General Practice Mental Health Standards Collaboration (GPMHSC) provides guidelines written specifically for GPs to assist with suicide prevention and first aid.[2] These guidelines provide the t (https://gpmhsc.org.au/guidelines/index/7b3a8bbb-844f-4716-a13a-46ed224908a0#main-content) ypes of questions to ask those identified as being at risk (https://gpmhsc.org.au/guidelines/index/7b3a8bbb-844f-4716-a13a-46ed224908a0#main-content) and some effective strategies for managing risk. (http

s://gpmhsc.org.au/guidelines/index/3196c496-3a69-4179-aaa9-97b23d17bb1e#main-content) Conceptualising risk according to both static and dynamic factors can also assist the GP in the clinical assessment of a patient regarding level of risk.[15]

Considerations for Aboriginal and Torres Strait Islander peoples

There is a higher incidence of attempted suicide among Aboriginal and Torres Strait Islander peoples.[1] For specific recommendations and advice for Aboriginal and Torres Strait Islander people, please refer to the Prevention of suicide (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-17-mental-health/prevention-of-suicide) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people.*

Specific populations

There is a higher incidence of attempted suicide in LGBTIQA+ communities.[1]

Resources

Suicide prevention and first aid: A resource for GPs (https://gpmhsc.org.au/guidelinessection/index/fd093e3b-ceff-4e0d-81c0-b04dfba936d1/suicide-prevention-and-first-aid) | GPMHSC Suicide (https://www.beyondblue.org.au/mental-health/suicide-prevention) | Beyond Blue

References

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Metabolic

Metabolic

Topics in this section

Coeliac (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/coeliac) Diabetes (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/diabetes) Nutrition (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/nutrition) Overweight and obesity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/overweight-and-obesity) Physical activity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/physical-activity) Thyroid (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/thyroid)

Coeliac

Metabolic | Coeliac

Prevalence and context of the condition

The prevalence of self-reported non-coeliac wheat sensitivity and gluten avoidance in Australia is approximately 13.8%.[1] However, the prevalence of proven coeliac disease is 1.2% in adult men and 1.9% in adult women[2] (based on symptoms, the presence of anti-transglutaminase antibodies and histological features on duodenal biopsy).

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for coeliac disease in the general population is not recommended, because of insufficient evidence.	**Not recommended (strong)**	N/A	[3]

Further information

There is insufficient evidence for population screening. Screening for anti-transglutaminase antibodies may detect asymptomatic coeliac disease but may also cause harm associated with further investigations and overtreatment. In 2017, the US Preventive Services Task Force (USPSTF) found inadequate evidence on the accuracy of screening for coeliac disease; the potential benefits and harms of screening versus not screening or targeted versus universal screening; and the potential benefits and harms of treatment of screen-detected coeliac disease.[3]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no additional recommendations for this specific population.

Specific populations

Testing for coeliac disease is appropriate for:[4,5]

- people with signs and symptoms, such as:
    - persistent unexplained gastrointestinal symptoms
    - delayed growth or weight loss
    - prolonged fatigue
    - persistent mouth ulcers
    - iron, vitamin B12 or folate deficiency
- first-degree relative of a patient with coeliac disease
- people with associated conditions, such as:
    - type 1 diabetes
    - autoimmune thyroid disease
    - irritable bowel syndrome in adults.

Resources

For further information on coeliac disease and patient information: Coeliac Australia website (https://coeliac.org.au/)

References

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Diabetes

Metabolic | Diabetes

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Diabetes is a common condition, with approximately 1 in 20 Australians having diabetes. The prevalence of diabetes increased 2.8-fold between 2000 and 2020.[1] Type 2 diabetes is comparatively more prevalent in lower than higher socioeconomic groups and in people living in remote and very remote areas than in those living in urban areas.[1] In 2020, approximately one in six pregnant women had gestational diabetes.[1] Aboriginal and Torres Strait Islander Australians were 2.9-fold more likely than non-Indigenous Australians to have diabetes.[2] The prevalence of diabetes increases with age, and is 1.3-fold more common in men than in women.[1] Type 2 diabetes occurs in 11.8% of general practice encounters and 5.5% of patients in general practice.[3]

Table of recommendations

Screening

Recommendation	Grade	How often	References
General population of normal risk Assessing the risk of diabetes is recommended for those in the general population aged >40 years without specific risk factors. Use a validated screening tool to assess the risk of diabetes, such as The Australian type 2 diabetes risk assessment tool (https://www.health.gov.au/resources/apps-and-tools/the-australian-type-2-diabetes-risk-assessment-tool-ausdrisk) (AUSDRISK).	**Conditionally recommended**	Every 3 years.	4, 5

High-risk population* In asymptomatic adults at high risk* of developing type 2 diabetes, screen using fasting blood glucose (FBG) or glycosylated haemoglobin (HbA1c). *Adults at high risk of developing type 2 diabetes include people with any one of the following: • overweight or obesity and age ≥40 years • overweight or obesity, age 18–40 years and hypertension • overweight or obesity, age 18–40 years and clinical evidence of insulin resistance (acanthosis nigricans, dyslipidaemia) • a first-degree relative with diabetes • a history of a cardiovascular event (eg acute myocardial infarction, angina, peripheral vascular disease or stroke) • a high-risk ethnicity/background (Aboriginal and Torres Strait Islander†, South Asian, South-east Asian, North African, Latin American, Middle Eastern, Māori or Pacific Islander people [includes individuals of mixed ethnicity]) • a history of gestational diabetes mellitus (GDM) • polycystic ovary syndrome (PCOS) • taking antipsychotic medication. An AUSDRISK score ≥12 also indicates high risk.	**Conditionally recommended**	Every 3 years (every 12 months for people with impaired glucose tolerance [IGT] and impaired fasting glucose [IFG]) †Annually for Aboriginal and Torres Strait Islander people	5,6,7,8

An oral glucose tolerance test (OGTT) is recommended for people who have previously had an intermediate hyperglycaemia result, such as FBG (5.5–6.9 mmol/L). Further information regarding the screening and diagnosis of type 2 diabetes in asymptomatic people is provided in figure 1, *Management of type 2 diabetes: A handbook for general practice* (https://www.racgp.org.au/getattachment/a453b6a0-144c-4080-a955-829030f5ff40/attachment.aspx?disposition=inline) .	**Conditionally recommended**	Re-test every 1–3 years, depending on result (see figure 1, *Management of type 2 diabetes: A handbook for general practice* (https://www.racgp.org.au/getattachment/a453b6a0-144c-4080-a955-829030f5ff40/attachment.aspx?disposition=inline))	4
Highest-risk population In asymptomatic adults at very high risk** of developing type 2 diabetes, screen using FBG or HbA1c. **Adults at very high risk of developing type 2 diabetes include those with any one of the following: • impaired fasting glucose • impaired glucose tolerance • overweight or obesity[A], age 18–40 years with one or more additional risk factors and increasing body mass index (BMI) • overweight or obesity[A], age ≥40 years and increasing BMI. [A] BMI ≥25 kg/m2; specific cut-off points recommended for South Asian and South-east Asian people are BMI >23 kg/m2 for overweight and BMI >27.5 kg/m2 for obesity.	**Conditionally recommended**	Every 3 years, earlier if BMI is increasing Every 12 months for people with IGT and IFG	8

Preventive activities and advice

Recommendation	Grade	How often	References

People should follow a diet in line with the Australian dietary guidelines (https://www.eatforhealth.gov.au/guidelines) to help prevent diabetes.	**Practice point**	N/A	9
People at high risk of developing type 2 diabetes may also benefit from a structured weight loss, healthy diet and exercise program to reduce their risk of developing the condition. Even modest weight loss (5–10%) may provide clinical benefits, and with further weight loss there are further improvements.	**Practice point**	N/A	4
All people who smoke should be offered advice to quit smoking.	**Recommended (strong)**	N/A	10

Further information

Screening using AUSDRISK has the advantage of identifying patients without diabetes who are at high risk for preventive activities. Those with an HbA1c 6.0–6.4% (42–46 mmol/mol) should be considered at higher risk of developing diabetes and screening should be repeated in 1 year. Screening in those with an HbA1c ≥6.5% (48 mmol/mol) should be repeated to confirm the diagnosis of diabetes. Although it does not require a fasting test, HbA1c may be inaccurate if the person has haemoglobinopathies or other conditions.[4]

For further information see Preventing progression to type 2 diabetes (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/preventing-progression-to-type-2-diabetes) in *Management of type 2 diabetes: A handbook for general practice*.

Considerations for Aboriginal and Torres Strait Islander peoples

Recommendations in some areas of diabetes care, including a lack of accuracy of AUSDRISK scores, are different for Aboriginal and Torres Strait Islander people. Aboriginal and Torres Strait Islander people should be screened annually with blood testing (FPG, random venous glucose or HbA1c) from 18 years of age.[4,11]

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to Type 2 diabetes prevention and early detection (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-12-type-2-diabetes-prevention-and-early-de) in the *National Guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Resources

Evidence-based recommendations for management of patients with type 2 diabetes: *Management of type 2 diabetes: A handbook for general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/introduction) | RACGP and Diabetes Australia Further information on the identification and management of hyperglycaemic emergencies: *Emergency management of hyperglycaemia in primary care* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/chronic-disease/emergency-management-of-hyperglycaemia) | RACGP and Australian Diabetes Society (ADS) Further information on the management and support of patients during COVID-19: *Diabetes management during coronavirus (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/chronic-disease/diabetes-management-during-coronavirus)* | RACGP Guidance for GPs on managing diabetic patients who fast during Ramadan: *Diabetes management during Ramadan (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/chronic-disease/diabetes-management-during-ramadan)* | RACGP Guidance and flow charts for the emergency management of children with diabetic ketoacidosis (DKA) and hyperosmolar hyperglycaemic state (HHS): *Guideline for the early recognition of hyperglycaemia in children under 16* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/chronic-disease/early-recognition-of-hyperglycaemia-in-children) | Clinical Excellence Queensland Evidence-based recommendations the amount and kinds of foods to eat for health, wellbeing and prevention of chronic disease: *Australian dietary guidelines* (https://www.eatforhealth.gov.au/guidelines) | National Health and Medical Research Council To assess and manage cardiovascular risk in people with diabetes aged 35–79 years without known atherosclerotic cardiovascular disease (CVD): Australian CVD risk calculator (AusCVDRisk (https://www.cvdcheck.org.au/calculator)), a risk assessment, communication and management tool for health professionals

References

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2. 2. Australian Bureau of Statistics (ABS). National Aboriginal and Torres Strait Islander Health Survey. ABS, 2019 (https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/national-aboriginal-and-torres-strait-islander-health-survey/latest-release) [Accessed 2 August 2023].
3. 3. NPS MedicineWise. General practice insights report July 2019–June 2020 including analyses related to the impact of COVID-19. NPS MedicineWise, 2021 (https://www.nps.org.au/assets/NPS/pdf/GPIR-Report-2019-20.pdf) [Accessed 31 January 2024].
4. 4. The Royal Australian College of General Practitioners (RACGP). Management of type 2 diabetes: A handbook for general practice. RACGP, 2020 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/introduction) [Accessed 31 January 2024].
5. 5. Chen L, Magliano DJ, Balkau B, et al. AUSDRISK: An Australian type 2 diabetes risk assessment tool based on demographic, lifestyle and simple anthropometric measures. Med J Aust 2010;192(4):197–202. doi: 10.5694/j.1326-5377.2010.tb03507.x. [Accessed 31 January 2024].

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10. 10. The Royal Australian College of General Practitioners (RACGP). Supporting smoking cessation: A guide for health professionals. 2nd edn. RACGP, 2019 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/supporting-smoking-cessation) [Accessed 31 January 2024].

11. 11. National Aboriginal Community Controlled Health Organisation; The Royal Australian College of General Practitioners (RACGP). National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people. 3rd edn. RACGP, 2018 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide) [Accessed 31 January 2024].

Nutrition

Metabolic | Nutrition

Prevalence and context of the condition

Diet is the most important behavioural risk factor that can significantly impact health.[1] The quality and quantity of foods and beverages we consume affects the health and wellbeing of individuals, society and the environment. Therefore, improving nutrition has the potential to improve individual and public health while reducing healthcare costs.[1] Optimal nutrition is vital for the normal growth and physical and cognitive development of infants and children. Nutrition plays an important role in maintaining a healthy weight, enhancing quality of life and wellbeing, strengthening resistance to infections and safeguarding against chronic diseases and premature death in all Australians.[1] Conversely, inadequate nutrition is linked to ill health.[1]

Numerous chronic diseases related to diet, such as cardiovascular disease, type 2 diabetes and certain forms of cancer, are major causes of death and disability among Australians, and over one-third of all premature deaths in Australia are from preventable chronic diseases.[1] Many of these conditions are closely associated with being overweight or obese.[1] For specific information on overweight and obesity, refer to the Overweight and obesity (http://~/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/overweight-and-obesity) chapter.

Generally, Australians of all ages do not eat enough of the five food groups (vegetables, fruit, grains, meat and alternatives, and dairy products and alternatives) and eat too much sugar, saturated fat, sodium and food that is high in energy and low in nutrients ('discretionary food').[2]

Table of recommendations

Preventive activities and advice

Recommendation	Grade	How often	References
Patients should be encouraged and supported to follow the Australian dietary recommendations (https://www.eatforhealth.gov.au/guidelines/guidelines) which includes eating five serves of vegetables (or more, depending on age and life stage) and two serves of fruit per day.	**Recommended (strong)**	Opportunistically.	1

Choose a variety of nutritious foods from these five groups every day: • plenty of vegetables, including different types and colours, and legumes/beans • fruit • grain (cereal) foods, mostly wholegrain and/or varieties high in cereal fibre, such as bread, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley • lean meats and poultry, fish, eggs, tofu, nuts/seeds and legumes/beans • milk, yoghurt, cheese and/or their alternatives, mostly reduced fat (reduced fat milks are not suitable for children under two years of age). Limit the intake of foods and drinks containing saturated fat, added salt, added sugars and alcohol. See Box 1. Care for food; prepare and store it safely.	**Practice point**	Opportunistically.	1
Encourage, support and promote breastfeeding.	**Recommended (strong)**	Discuss antenatally and 12 months of age and beyond, for as long as the mother and child desire.	1,3,4

Further information

Infants should be exclusively breastfed until around six months of age, when solid foods are introduced (texture appropriate, in any order, as long as iron-rich foods are included) and at a rate that suits the infant's development[4] (for further information, refer to the Eat for Health *Infant feeding guidelines (https://www.eatforhealth.gov.au/sites/default/files/2022-09/170131_n56_infant_feeding_guidelines_summary.pdf)*). Breastfeeding in Australia has a high initiation rate at 96%, but this drops off quickly and only a small percentage of women meet the current recommendation of exclusive breastfeeding until around six months of age.[4] Iron-fortified cereals, pureed meat, vegetables, fruit and other nutritious foods will provide a variety of tastes and textures that should be encouraged. Breastfeeding should continue while solid foods are introduced until 12 months of age and beyond, for as long as the mother and child desire.[4] The benefits of breastfeeding include reduced risks of sudden infant death, necrotising enterocolitis, gastrointestinal, respiratory and middle ear infections, being overweight and obese, type 1

and type 2 diabetes and dental issues and improved cognitive development.[5] For babies whose mothers cannot breastfeed or who discontinue breastfeeding early, infant formulas will need to be used up to the age of 12 months, at which time cows' milk (full fat up to the age of two years), combined with an adequate diet, will provide the required nutrients and energy.

Reducing sugar intake will assist in reducing weight gain and dental decay.[6]

Because of the importance of the health outcomes that are determined by these nutritional issues, assessment and the education of parents and carers regarding children's nutrition can be of great benefit. For further information about good nutritional advice in children, please see the Eat for Health guidelines (https://www.eatforhealth.gov.au/sites/default/files/2023-08/n55f_children_brochure.pdf) .

Box 1. Foods that adults should limit[1]

Adults should:

- limit the intake of foods high in saturated fat, such as many biscuits, cakes, pastries, pies, processed meats, commercial burgers, pizza, fried foods, potato chips, crisps and other savoury snacks
- replace high-fat foods, which contain predominantly saturated fats such as butter, cream, cooking margarine, coconut and palm oil, with foods that contain predominantly polyunsaturated and monounsaturated fats, such as oils, spreads, nut butters/pastes and avocado
- limit the intake of foods and drinks containing added salt
- read labels to choose lower-sodium options among similar foods (do not add salt to foods in cooking or at the table)
- limit the intake of foods and drinks containing added sugars such as confectionary, sugar-sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Growth failure (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-3-child-health/growth-failure) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*. Visit the Eat for Health website (https://www.eatforhealth.gov.au/guidelines/guidelines) for Aboriginal and Torres Strait Islander information sheets, brochures and posters to assist implementing the Australian dietary guidelines.

Specific populations

Pregnancy and lactation bring nutritional risks due to increased nutrient requirements. It is important to note that a mother's nutritional status significantly impacts the wellbeing of both the fetus and the infant.[1]

For people who are at high risk of cardiovascular disease, following a Mediterranean diet (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/nutrition/mediterranean-diet-for-reducing-cardiovascular-dis) can reduce their risk.[7] For people with hypertension, following a DASH (Dietary Approaches to Stop Hypertension) diet (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/nutrition/dash-dietary-approaches-to-stop-hypertension-diet) can prevent and control hypertension.[7] For specific information, refer to the Cardiovascular disease risk (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cardiovascular/cardiovascular-disease-cvd-risk) chapter.

Resources

For up-to-date advice, including the *Australian dietary guidelines* and the *Infant feeding guidelines*: Eat for Health website (https://www.eatforhealth.gov.au/guidelines/guidelines)

References

1. 1. National Health and Medical Research Council (NHMRC). Australian dietary guidelines. NHMRC, 2013 (https://www.eatforhealth.gov.au) [Accessed 6 March 2024].
2. 2. Australian Institute of Health and Welfare. Diet. Australian Government, 2023 (https://www.aihw.gov.au/reports/food-nutrition/diet) [Accessed 3 October 2023].
3. 3. National Health and Medical Research Council (NHMRC). Eat for health: Infant feeding guidelines. NHMRC, 2012 (https://www.eatforhealth.gov.au/sites/default/files/files/the_guidelines/n56b_infant_feeding_summary_130808.pdf) [Accessed 6 March 2024].
4. 4. The Royal Australian College of General Practitioners (RACGP). Smoking, nutrition, alcohol, physical activity (SNAP). RACGP, 2015 (https://www.racgp.org.au/getattachment/bb78b780-1c37-498a-8ba3-b24a1a4288d9/Smoking-nutrition-alcohol-physical-activity-SNAP.aspx) [Accessed 6 March 2024].
5. 5. Australian Institute of Health and Welfare. Australia's children: Breastfeeding and nutrition. Australian Government, 2022 (https://www.aihw.gov.au/reports/children-youth/australias-children/contents/health/breastfeeding-nutrition) [Accessed 23 May 2023].
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7. 7. The Royal Australian College of General Practitioners (RACGP). Handbook of non-drug interventions (HANDI). RACGP, 2014 (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi) [Accessed 6 March 2024].

Overweight and obesity

Metabolic | Overweight and obesity

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

In 2017–18, 67% of Australians aged ≥18 years had or were living with overweight or obesity (31% had obesity).[1] One in four children and adolescents aged 2–17 years had overweight or obesity (8.2% had obesity).[1] Genes and the physical and social environment are important risk factors for having overweight and obesity, along with an imbalance between energy intake from the diet and energy expenditure in physical activity and metabolism.

Table of recommendations

Screening			
Recommendation	Grade	How often	References

Assess height, weight and calculate body mass index (BMI) with caution (see Further information) in adults without a known eating disorder and who are not pregnant (see Eating disorders (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/eating-disorders) , First antenatal visit (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/first-antenatal-visit) and During pregnancy (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/during-pregnancy)).	**Conditionally recommended**	Opportunistically.	2
Assess height, weight and calculate BMI using age-appropriate charts (either Centers for Disease Control and Prevention [CDC] (https://www.cdc.gov/growthcharts/clinical_charts.htm) or World Health Organisation [WHO (https://www.who.int/toolkits/child-growth-standards/standards/body-mass-index-for-age-bmi-for-age)]) in children and adolescents 6 years and older without a known eating disorder and who are not pregnant. See Eating disorders (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/eating-disorders) , First antenatal visit (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/first-antenatal-visit) and During pregnancy (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/during-pregnancy)	**Conditionally recommended**	Opportunistically.	3,4
Preventive activities and advice			

Recommendation	Grade	How often	References
Formal, structured interventions aimed at preventing weight gain are not recommended for healthy weight adults, children or adolescents.	**Generally not recommended**	N/A	2,4

Further information

The recommendations in this chapter refer to the prevention of overweight and obesity and should be read in conjunction with nutrition, physical activity and preventive activities in childhood.

The Australian guidelines, *Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia* (https://www.nhmrc.gov.au/about-us/publications/clinical-practice-guidelines-management-overweight-and-obesity) , are currently being updated and are due to be released in 2024.

BMI precautions[5]

- Ethnicity: People with a South Asian, Chinese, other Asian, Middle Eastern, Black African or African Caribbean family background are prone to central adiposity and their cardiometabolic risk occurs at a lower BMI, so use lower BMI thresholds as a practical measure of overweight and obesity:
    - overweight: BMI 23–27.4 kg/m^2
    - obesity: BMI ≥27.5 kg/m^2.

For people in these groups, obesity classes 2 and 3 are usually identified by reducing the thresholds highlighted in Recommendation 1.2.7 (https://www.nice.org.uk/guidance/cg189/chapter/Recommendations#identifying-and-assessing-overweight-obesity-and-central-adiposity) of the National Institute for Heath and Care Excellence (NICE) guidance by 2.5 kg/m^2.

- People with high muscle mass: Interpret BMI with caution in adults with high muscle mass because it may be a less accurate measure of central adiposity in this group.
- People aged ≥65 years: Interpret BMI with caution in people aged ≥65 years, taking into account comorbidities, conditions that may affect functional capacity and the possible protective effect of having a slightly higher BMI when older.

Waist measurement

Waist measurement in adults with a raised BMI provides a more direct measure of central obesity.

Table 1. Waist size showing increased risk of chronic disease[6]

Gender	Increased risk	Greatly increased risk
Male	≥94 cm	≥102

Female	≥80 cm	≥88 cm

Weight stigma and shaming

Clinicians should be aware that patients living with overweight and obesity experience stigma in daily life and in healthcare settings. Consent should be sought sensitively and at appropriate consultations before engaging in anthropometric measurements. The clinical emphasis should be on health and functional gains as a result of weight reduction/improved body composition.

Extreme diets

Advise against following extreme eating patterns that do not follow healthy eating pattern guidance, as well as programs that focus on short-term weight reduction, because these have poor long-term outcomes.[5]

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Overweight and obesity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-1-lifestyle/overweight-and-obesity) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Specific populations

Overweight and obesity rates differ across Australia, being higher in regional and remote areas, and in low socioeconomic groups.[1]

Please refer to the Physical activity (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/metabolic/physical-activity) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/physical-activity) and Nutrition (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/metabolic/nutrition) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/metabolic/nutrition) chapters for relevant recommendations. This section will be reviewed when the updated Australian *Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia* (https://www.nhmrc.gov.au/about-us/publications/clinical-practice-guidelines-management-overweight-and-obesity) have been released.

Resources

To assist GPs and practice staff work with patients on the modifiable risk factors of smoking, nutrition, alcohol and physical activity:

Smoking, nutrition, alcohol, physical activity (SNAP) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap) | RACGP

For non-drug weight loss interventions:
Pre-meal water consumption for weight loss (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/nutrition/pre-meal-water-consumption-for-weight-loss) , *Handbook of non-drug interventions* (HANDI) | RACGP
Ten top tips for weight control (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/nutrition/ten-top-tips-for-weight-control) , *Handbook of non-drug interventions* (HANDI) | RACGP

A free digital tool to discuss physical activity and nutrition with patients and monitor their progress:
RACGP Healthy Habits (https://www.racgp.org.au/healthy-habits) app

References

1. 1. Australian Institute of Health and Welfare. (AIHW). Overweight and obesity. AIHW, 2023 (https://www.aihw.gov.au/reports/australias-health/overweight-and-obesity) [Accessed 21 March 2023].
2. 2. Canadian Task Force on Preventive Health Care. Obesity in adults. Canadian Task Force on Preventive Health Care, 2015 (https://canadiantaskforce.ca/guidelines/published-guidelines/obesity-in-adults/) [Accessed 31 January 2024].
3. 3. US Preventive Services Task Force (USPSTF). Obesity in children and adolescents: screening. 2017 (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/obesity-in-children-and-adolescents-screening) [Accessed 31 January 2024].
4. 4. Canadian Task Force on Preventive Health Care. Obesity in children. Canadian Task Force on Preventive Health Care, 2015 (https://canadiantaskforce.ca/guidelines/published-guidelines/obesity-in-children/)
5. 5. National Institute for Health and Care Excellence (NICE). Obesity: Identification, assessment and management. Clinical guideline (https://www.nice.org.uk/guidance/cg189) [CG189]. NICE, 2023 [Accessed 31 January 2024].
6. 6. Department of Health and Aged Care. Body mass index (BMI) and waist measurement. Australian Government, 2021 (https://www.health.gov.au/topics/overweight-and-obesity/bmi-and-waist) [Accessed 31 January 2024].

Physical activity

Metabolic | Physical activity

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

In 2020–21, 3 in 10 adults aged 18–64 years did not perform at least 150 minutes of physical activity per week, and 1 in 2 of those aged ≥65 years (47% of men and 52% of women) were insufficiently active, with little change over the previous decade.[1] In 2011–12, 83% of children aged 2–5 years, 88% of children aged 5–12 years were insufficiently active for their age.[1] In 2017–18, just over 1 in 10 (11%) of those aged 5–17 years were sufficiently active for their age, whereas just over 1 in 6 (16%) met the recommended muscle strengthening activity guidelines.[2] Insufficient physical activity contributes 2.5% of the total burden of disease due to death or disability.[1]

The message that any physical activity is better than none is important.[3] If a patient does not already engage in regular physical activity, they can be encouraged to start by doing some, and then gradually building up to the recommended amount.[3] Advice, written physical activity materials and referral should be tailored to age, disability and level of risk.

Table of recommendations

Screening

Recommendation	Grade	How often	References
General population: aged ≥18 years Ask questions about the frequency, duration and intensity of physical activity and sedentary behaviour.	**Recommended (strong)**	Every 2 years.	4,5
Children and adolescents: aged 3–18 years Ask questions about the frequency (in each week), duration and intensity of physical activity and muscle strengthening activities (see Further information).	**Recommended (strong)**	Every 2 years.	6,7

Preventive activities and advice

Recommendation	Grade	How often	References
General population: aged ≥18 years For substantial health benefits, it is recommended that adults should do: • at least 2.5–5 hours (150–300 minutes) of moderate-intensity aerobic physical activity, or • at least 1.25–2.5 hours (75–150 minutes) of vigorous-intensity aerobic physical activity, or • an equivalent combination of moderate- and vigorous-intensity activity throughout the week. For additional health benefits, it is recommended that adults should also: • do muscle strengthening activities at moderate or greater intensity that involve all major muscle groups on two or more days a week • limit the amount of time being sedentary; replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.	**Recommended (strong)**	N/A	3,8
People with disability, chronic conditions and people aged ≥65 years To enhance functional capacity and prevent falls, adults with disability, chronic conditions and older adults (aged ≥65 years) should: • do varied multicomponent physical activity that emphasises functional balance and progressive strength training at a moderate or greater intensity on three or more days a week.	**Recommended (strong)**	N/A	3

Children (from birth to 2 years) should: • be physically active, particularly supervised floor-based play in safe environments • not spend time in front of screens. **Toddlers and preschoolers (2–5 years) should:** • be physically active every day for at least three hours, spread throughout the day, • limit screen time to one hour per day.	**Practice point**	N/A	8
Children and adolescents (5–17 years), including those with disability where possible, should: • do at least an average of 1 hour (60 minutes) per day of moderate- to vigorous-intensity, mostly aerobic, physical activity across the week • do vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone (see Box 1) at least three days a week • limit sedentary time, particularly the amount of recreational screen time.	**Recommended (strong)**	N/A	3,8

Further information

Engaging in regular physical activity and avoiding long periods of sedentary behaviour can help maintain a healthy weight and avoid a range of chronic illnesses.

Where possible, people should incorporate a variety of intensities of physical activity, as defined below:[3,8]

- **Light:** Movement where people do not think about it (light gardening, getting dressed, stretching). The World Health Organization (WHO) defines light-intensity physical activity as between 1.5 and 3 metabolic equivalents of task (METs); that is, activities with an energy cost less than three times the energy expenditure at rest for that person. These activities can include slow walking, bathing or other incidental activities that do not result in a substantial increase in heart rate or breathing rate.[3]
- **Moderate:** Putting in effort, but not strenuous activity (gentle bike riding, brisk walk). According to the WHO definition, on an absolute scale, 'moderate intensity' refers to physical activity that is performed at an intensity between three and less than six times the intensity of rest. On a scale of 0–10 relative to an individual's personal capacity, moderate-intensity physical activity is usually rated a 5 or 6.[3]
- **Vigorous:** out of breath and sweating (jogging, star jumps, sit-ups). On an absolute scale, the WHO definition of vigorous-intensity activity as physical activity that is performed at ≥6.0 METS. On a scale of 0–10 relative to an individual's personal capacity, vigorous-intensity physical activity is usually rated a 7 or 8.[3]

Assessment of physical activity involves questions about minutes of activity and being sedentary each day, and on how many days per week. Brief advice about increasing physical activity can be given in the consultation with the support of:

- written materials (including an exercise prescription)
- tools such as the RACGP Healthy Habits conversation guide and app (https://healthyhabits.racgp.org.au/patient-pathway/getting-started/) and an activity tracker. The RACGP's *Handbook of non-drug interventions* (HANDI) provides further information on the use of pedometers for increasing physical activity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/device/pedometers-for-increasing-physical-activity) .

Assessment of physical activity should be supplemented by referral, especially for patients with risk factors or physical or social barriers to physical activity. This may include:

- telephone counselling
- local community-based programs
- individual exercise physiology.

The choice of referral should be based on individualised shared decision making with the patient.

Box 1. Muscle strengthening activities for children and young people[8]

- running
- climbing
- swinging on monkey bars
- push-ups
- sit-ups
- lifting weights
- yoga

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to Physical activity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-1-lifestyle/physical-activity) in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander peoples*.

Specific populations

Make sure to ask people with disability about their levels of physical activity.

For recommendations about physical activity during pregnancy, please refer to the First antenatal visit (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/first-antenatal-visit) and During pregnancy (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/reproductive-and-womens-health/during-pregnancy) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/during-pregnancy) chapters.

For recommendations about physical activity for falls prevention, please refer to the Falls (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/injury-prevention/falls) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/falls) chapter.

Resources

To assist GPs and practice staff work with patients on the modifiable risk factors of smoking, nutrition, alcohol and physical activity: *Smoking, nutrition, alcohol, physical activity (SNAP)* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/snap) | RACGP

A free digital tool to discuss physical activity and nutrition with patients and monitor their progress: RACGP Healthy Habits (https://www.racgp.org.au/healthy-habits) app

For exercise interventions to use with patients: *Handbook of non-drug interventions* (HANDI) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions)

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Thyroid

Metabolic | Thyroid

Prevalence and context of the condition

The prevalence of thyroid disease is approximately 10% in patients aged >50 years,[1] with an additional 3.6% with unrecognised thyroid dysfunction (abnormal thyroid-stimulating hormone [TSH]).[2] Autoimmune thyroid disease is the most common cause of thyroid dysfunction in Australia[3] and 10–15% of the population have thyroid antibodies (more common in women than men).

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for thyroid dysfunction in asymptomatic adults is not recommended.	**Not recommended (strong)**	N/A	4,5
Routine screening for thyroid dysfunction in pregnant women is not recommended because of insufficient evidence.	**Generally not recommended**	N/A	5

Case finding

Recommendation	Grade	How often	References

Testing for thyroid dysfunction is recommended in pregnant women with the following increased risks: • a history of thyroid dysfunction • symptoms or signs of thyroid dysfunction • a goitre • known thyroid antibody positivity • type 1 diabetes	**Practice point**	As early as possible after six weeks gestation.	[5,6]

Further information

Although early detection and treatment of people with thyroid disease may help prevent morbidity and mortality, screening and treatment of asymptomatic patients can result in harm due to overdiagnosis and overtreatment.

There is currently insufficient evidence to determine the benefits and harms of screening asymptomatic people for thyroid disease.[4] Thyroid imaging is only indicated if there is concern regarding structural abnormalities.

Although iodine deficiency was previously reported in Australia, iodised salt in bread became mandatory in Australia and New Zealand in 2009, and iodine deficiency is now very rare.[7]

Primary congenital hypothyroidism is screened as part of Australia's Newborn Bloodspot Screening program (https://www.health.gov.au/our-work/newborn-bloodspot-screening/what-is-screened-in-the-program) .

Considerations for Aboriginal and Torres Strait Islander peoples

There are no additional recommendations for Aboriginal and Torres Strait Islander people.

Specific populations

Case finding tests may be appropriate in these populations where there may be a higher prevalence of thyroid dysfunction:[4,8]

- people with associated conditions (type 1 diabetes, coeliac disease)
- Down syndrome
- family history of thyroid disease
- past history of thyroid disease
- symptoms or signs of thyroid dysfunction.

Resources

For GP and patient resources about thyroid tests (and information about subclinical hypothyroidism): *First do no harm: A guide to choosing wisely in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/first-do-no-harm/gp-resources/management-of-subclinical-hypothyroidism)* | RACGP

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Musculoskeletal disorders

Musculoskeletal disorders

Topics in this section

Hip dysplasia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/musculoskeletal/hip-dysplasia) Osteoporosis (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/musculoskeletal/osteoporosis) Scoliosis (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/musculoskeletal/scoliosis)

Hip dysplasia

Musculoskeletal disorders | Developmental dysplasia of the hip

Screening age bar

0-9*	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

*Newborn to 6 months underneath this age bar

Prevalence and context of the condition

Developmental dysplasia of the hip (DDH) includes a wide spectrum of anatomical and functional abnormalities of the hip joint.[1] This occurs when there is an incorrect relationship of the femoral head to the acetabulum, leading to poor development (dysplasia) of one or both, as well as the surrounding supporting structures of the hip joint leading to instability.[1] Global incidence is variable but estimated at 1–2/1000 live births.[1] There is an increased incidence in females, breech position, family history.[1,2]

DDH in infancy has no signs or symptoms, thus screening and surveillance are required for early diagnosis. Early diagnosis aims to avoid the more invasive treatments required in late diagnosis and the long-term sequelae of growth disturbance and avascular necrosis.[1,2] The aim of screening is to identify hip dislocation of the hip or DDH before age 6 months. Screening does not need to continue outside of hospital if the baby is being seen by a maternal child health service. GPs will generally see children for DDH concerns upon referral from a maternal child health check.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Routine newborn and postnatal checks should be performed to detect DDH. The assessment should include detection of limb length discrepancy, examination for asymmetric thigh or buttock (gluteal) creases, performing the Ortolani test for stability (performed gently, and which is usually negative after age 3 months), and observing for limited abduction (generally positive after age 3 months).	**Practice point**	At newborn and postnatal checks	1,2
Routine universal ultrasonography screening for DDH is not recommended. Ultrasound is only recommended for suspicion of DDH.	**Practice point**	N/A	1,2

Case finding

Recommendation	Grade	How often	References
There should be continuing periodic physical examination surveillance throughout infancy.	**Practice point**	Opportunistically.	1,2

Further information

Case finding should continue after the immediate postnatal period as dysplasia can progress over the first few months of life.

Screening for DDH should include assessing for leg length discrepancy, asymmetric gluteal folds, Ortolani test and asymmetrical hip abduction. The Ortolani test should only be performed if a clinician is confident in their technique and experienced at neonatal examination. Their utility is in the first 3 months of life. After the first 3 months a dislocated hip will be fixed, and unilateral limited hip abduction (<60 degrees) is the most sensitive examination finding. Asymmetric gluteal folds on their own are a ‘soft’ sign and should be considered in light of risk factors, other examination findings and concerns. Once a child is walking, DDH may present as an abnormal gait.

Imaging for investigation of abnormal examination or a high-risk infant up to 6 months of age should be ultrasound of the hip by an experienced paediatric ultrasonographer, and plain AP view pelvis X-ray in children over 6 months of age.

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations or advice for Aboriginal and Torres Strait Islander people.

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Osteoporosis

Musculoskeletal disorders | Osteoporosis

Screening age bar - women

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Osteoporosis is a disease characterised by low bone mass and microarchitectural deterioration of bone tissue, leading to bone fragility and increased fracture risk.[1] For information about preventing falls, see Falls (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/falls) .

Generally, osteoporosis is underdiagnosed. Because osteoporosis has no overt symptoms, it is often not diagnosed until a fracture occurs. It is therefore difficult to determine the true prevalence of the condition. Information about 'diagnosed cases' is likely to underestimate the actual prevalence of the condition. An estimated 924,000 Australians have osteoporosis, based on self-reported data from the Australian Bureau of Statistics (ABS) 2017–18 National Health Survey,[2] and 20% of people aged ≥75 years have osteoporosis.[3] The definition of osteoporosis given above includes people who were told by a doctor or nurse that they had osteoporosis or osteopenia.[3]

Osteoporosis is more common in women than in men, with 29% of women aged ≥75 years having osteoporosis in 2017–18 compared with 10% of men.[3] The proportion of women with osteoporosis increases with age, with those aged ≥75 years being most affected.

The goal of the prevention and treatment of osteoporosis is to reduce a person's overall fracture risk, not just to maintain bone density. Approximately 70% of fragility fractures occur in women,[4] and comprehensive treatment can halve (30–70%) the risk of subsequent fragility fracture.[5] The absolute risk reduction and value of treatment is highest in those at highest risk (eg those with a previous fragility fracture), but the majority remain untreated in general practice and hospital settings.[6,7]

Osteoporosis is diagnosed on the presence of a fragility fracture (a fracture from the equivalent of a fall from standing height or less, or a fracture that under normal circumstances would not be expected in a healthy young man or woman). For epidemiological and clinical purposes, osteoporosis is defined by bone mineral density (BMD) as a T-score of ≤−2.5. However, age, lifestyle factors, family history and some medications and diseases contribute to bone loss and an increased risk of fragility fractures. A presumptive diagnosis of osteoporosis can be made without BMD measurement if an individual has a fragility fracture not from another cause.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for osteoporosis with bone mineral density (BMD) measurement in the general population is not recommended at any age.	**Not recommended (Strong)**	N/A	8,9
Use FRAX® (https://fraxplus.org) to calculate absolute fracture risk in people aged ≥50 years with lifestyle and non-modifiable risk factors (eg parent with hip fracture). When the FRAX® risk for major osteoporotic fracture (MOF) is ≥10%, refer for dual energy X-ray absorptiometry (DXA). If the risk for MOF is <10%, DXA is not recommended. Refer for BMD assessment by DXA for people aged ≥50 years with diseases/chronic conditions/medications associated with increased fracture risk. Restratify risk with FRAX® after DXA using BMD reading and treat when: the BMD T-score is ≤−2.5, or when the BMD T-score is between −1.5 and −2.5 and the FRAX® risk for MOF is ≥20% and/or the hip fracture risk is ≥3%.	**Conditionally recommended**	Do not routinely repeat BMD + FRAX® within 2 years except in special circumstance.	9,10

Preventive activities and advice

Recommendation	Grade	How often	References
Encourage regular weight-bearing and resistance exercise for the prevention of falls, bone loss and fracture risk reduction. For additional advice on falls prevention refer to falls (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/injury-prevention/falls) .	**Recommended (Strong)**	N/A	11,12

Calcium and vitamin D supplements should not be used routinely in non-institutionalised elderly people. The absolute benefit of calcium and vitamin D supplements in terms of fracture reduction is low. There is evidence of significant benefit in people at risk of deficiency, particularly institutionalised individuals. Calcium and vitamin D supplements should be offered to people taking osteoporosis treatments if their dietary calcium intake is <1300 mg/day.* Vitamin D supplements should be recommended to correct low serum vitamin D concentrations (25-hydroxyvitamin D concentrations <50 nmol/L). *There is an average of 1300 mg calcium/day in an older adult's diet.[13] For more information on calcium intake and bone health in older adults, refer to the Healthy Bones Australia (https://healthybonesaustralia.org.au/your-bone-health/calcium/) website.	**Conditionally Recommended**	N/A	1,10
Encourage a healthy lifestyle (eg adequate protein intake, smoking cessation and limiting alcohol intake).	**Practice Point**	N/A	11,12

Further information

There have been three recent large population-based randomised control trials of screening in women for the prevention of osteoporotic fractures: Screening in the Community to Reduce Fractures in Older Women (SCOOP) in the UK,[14] Risk-stratified Osteoporosis Strategy Evaluation (ROSE) in Denmark[15] and SALT Osteoporosis Study (SOS) in the Netherlands.[16] The optimal thresholds of absolute fracture risk and implementation strategies are inadequately defined for the Australian context and there are no data on screening for men. Accordingly, there is currently insufficient evidence to support a population-based osteoporosis screening program in Australia.

Two of the most widely validated methods to estimate absolute fracture risk for osteoporotic fractures relevant to the Australian population are the Garvan bone fracture risk calculator (https://www.garvan.org.au/promotions/bone-fracture-risk/calculator/) and the Fracture Risk Assessment tool (FRAX®). (https://fraxplus.org) These calculators can be used with and without BMD measurement, although the Garvan bone fracture risk calculator has not been validated in an external cohort when BMD has not been used in the calculator.[17] Risk estimation is imperfect, with the tools being modest predictors of fracture risk.[18,19] Risk factors (eg falls, glucocorticoid use) not included in one or the other risk algorithm require clinical judgement to modify the risk estimate.

If BMD is indicated, then it should be measured by bone density (DXA) scanning performed on two sites, preferably anteroposterior spine and hip. Without bone-losing medical conditions (eg hypogonadism, antigonadal therapy or corticosteroid use), BMD is unlikely to change significantly in <2 years. The average decrease in T-score is usually approximately 0.1/year if there are no specific bone-losing medical conditions.

Although there appears to be little or no effect of increased protein in healthy adults, for institutionalised older adults a recent Australian study of the effectiveness of increasing calcium and protein intake (<1 g/kg body weight protein per day) by providing residents with additional milk, yoghurt and cheese showed a 11% reduction in the risk of falls, a 48% reduction in hip fractures and a 30% reduction in all fractures.[10]

Considerations for Aboriginal and Torres Strait Islander peoples

There is insufficient evidence to recommend a different screening or treatment approach in Aboriginal and Torres Strait Islander peoples.

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Scoliosis

Musculoskeletal disorders | Scoliosis

Prevalence and context of the condition

Scoliosis is a common paediatric condition with a prevalence of up to 5%.[1] True scoliosis is three-dimensional, with rotation evident at the apex of the curve, and a Cobb angle (https://www.physio-pedia.com/Cobb_Angle) >10°. Lateral curvature, from issues such as poor posture, muscle spasm or leg length discrepancy, can masquerade as scoliosis.[2] The cause of structural scoliosis, where rotation is present, is idiopathic in 75% of cases, neuromuscular (eg cerebral palsy, spina bifida, muscular dystrophy) in 10% of cases, congenital (eg failure of formation or segmentation) in another 10% of cases and due to many other rare causes in 5% of cases.[2]

Idiopathic scoliosis most commonly occurs between the ages of 10 and 18 years. A typical adolescent idiopathic scoliosis patient is female with a convex right thoracic curve or convex left lumbar curve, right shoulder elevated, right rib prominence, no neurological deficits and no significant pain.[2] Although boys and girls are equally affected with small curves, curves >40° are sevenfold more frequent in girls.[1] Concerning curves include early onset scoliosis, premenarchal scoliosis with a curve >25° and skeletally mature patients with curves >50°.[2]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for adolescent idiopathic scoliosis in children and adolescents aged 10-18 years is not recommended because of insufficient evidence.	**Not recommended (Strong)**	N/A	[3]

Further information

In 2018, the US Preventive Services Task Force (USPSTF) found no direct evidence on screening for adolescent idiopathic scoliosis and health outcomes.[3] There was also inadequate evidence on the association between reduction in spinal curvature in adolescence and long-term health outcomes in adulthood.[3]

Further information on scoliosis assessment and management can be found in the article *Paediatric scoliosis: Update on assessment and treatment (https://www1.racgp.org.au/ajgp/2020/december/paediatric-scoliosis)* .

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations and advice for Aboriginal and Torres Strait Islander people.

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Reproductive and women's health

Reproductive and women's health

Topics in this section

Preconception (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/preconception) First antenatal visit (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/first-antenatal-visit) During pregnancy (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/during-pregnancy) Interconception (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/interconception) Perinatal mental health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/perinatal-depression) Postmenopause (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/postmenopause) Breast cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/breast-cancer) Cervical cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/cervical-cancer) Ovarian cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/ovarian-cancer)

Preconception

Reproductive and women's health | Preconception

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Approximately 10% of reproductive-age (15–44 years) women get pregnant each year in Australia.[1] Estimates are that 40% of these pregnancies are unintended (a pregnancy that occurs when no children or no more children are desired, which is defined as unwanted, or a pregnancy that occurs earlier than desired, which is defined as mistimed).[2] The current birth rate is 56 pre 1000 women of reproductive age. Some 20% of births are from the lowest socioeconomic areas and 4.9% are Aboriginal and/or Torres Strait Islander people.[3] In 2020, the average age of all women who gave birth was 30.9 years, with 26% of women giving birth aged over 35 years and 12% being aged under 25 years.[3] Although almost 1 in 10 (9.2%) mothers who gave birth in 2020 smoked at some time during their pregnancy, 22% of pregnant women who smoke quit smoking during the pregnancy.[3] In addition, 27% of mothers were overweight and 22% were obese.[3] It is estimated that one in two (49%) women drank alcohol before they knew they were pregnant, with one in four (25%) drinking after they knew they were pregnant.[4] Carriers of cystic fibrosis (CF), spinal muscular atrophy (SMA) and fragile X syndrome (FXS) are common in the Australian population.5 Approximately 1 in 20 people are carriers of one or more of these conditions. Most carriers do not have a family history of relatives affected by the disorder and are unaware that they are carriers.

Table of recommendations

Screening

Recommendation	Grade	How often	References

Reproductive carrier screening Reproductive carrier screening (including screening for CF, SMA and FXS*) is recommended to anyone planning pregnancy. Refer to the Genetics (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/genetics) chapter for further information. * MBS items (https://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=73451&qt=item&criteria=73451) are available for carrier screening for cystic fibrosis, SMA and fragile X syndrome.	**Practice point**	Before pregnancy	6

Case finding

Recommendation	Grade	How often	References
Prepregnancy genetic counselling Prepregnancy genetic counselling is recommended for couples at increased risk of a heritable disorder (see Preconception Box 1) based on the family history or ethnic background. Prepregnancy genetic counselling helps determine a couple's risk of an affected child and provides information about options for carrier screening, preimplantation genetic diagnosis, prenatal diagnosis and postnatal management. Refer to the Genetics (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/genetics) chapter for further information.	**Practice point**	Before pregnancy	6

Preventive activities and advice

Recommendation	Grade	References

Assessment and stabilisation of pre-existing medical and mental health conditions Assess and stabilise pre-existing medical and mental health conditions prior to pregnancy to optimise pregnancy outcomes. Discuss how these pre-existing conditions may affect, or be affected by, a pregnancy.	**Practice point**	6
Review current medication for potential for teratogenicity in women and their partners This should include prescribed and over-the-counter medication, vitamins and other supplements. Switch to and stabilise on safe pregnancy alternatives where required. Any cessation should balance the benefits and risks and may require referral to a specialist for further consideration.	**Practice point**	7
Vaccination Check vaccination history and update vaccinations for severe acute respiratory syndrome coronavirus 2 (SARSCoV-2), measles, mumps, rubella, varicella zoster, diphtheria, tetanus and pertussis, as per recommendations published in the *Australian immunisation handbook*. (https://immunisationhandbook.health.gov.au/) Consider hepatitis B, rubella and varicella immunisation for women with incomplete immunity.	**Practice point**	6
Optimising weight and nutrition All women, especially those who have become pregnant in adolescence or have closely spaced pregnancies (ie interpregnancy interval less than six months) require nutritional assessment and appropriate intervention (dietary modification, exercise and other therapies) in the preconception period with an emphasis on optimising maternal body mass index (BMI) and micronutrient reserves.	**Practice point**	6

Folic acid and iodine supplementation Folic acid supplementation, at least 0.4 mg daily, should be taken, for a minimum of one (1) month before conception and for the first three (3) months of pregnancy. Where there is an increased risk of neural tube defect (anticonvulsant medication, prepregnancy diabetes, previous child with or family history of neural tube defect, BMI >30 kg/m2), a 5-mg daily dose of folic acid should be used. Dietary supplementation of 150 mcg iodine should be started prior to a planned pregnancy, or as soon as possible after a woman finds out she is pregnant.	**Practice point**	6
Alcohol consumption and substance use Provide advice that to prevent harm from alcohol to their unborn child, women who are pregnant or planning a pregnancy should not drink alcohol. Counselling and pharmacotherapy for alcohol and/or substance use should be considered for either or both parents.	**Practice point**	6
Effects of age on fertility and risk of chromosomal abnormality Educate women and their partners that despite advances in assisted reproductive technology, the chance of conception decreases and the risks of chromosomal abnormalities and miscarriage increase with maternal age.	**Practice point**	8
Fertility awareness and optimising conception Offer women and their partners advice regarding fertility awareness and how to optimise the chance of conception.	**Practice point**	9
Interpregnancy intervals Women should be advised to avoid interpregnancy intervals shorter than six months and counselled about the risks of repeat pregnancy sooner than 18 months, especially after a caesarean section. Refer to the Interconception chapter for further information.	**Conditionally recommended**	10

First antenatal visit Encourage an early (ideally before 10 weeks) first antenatal appointment, if and when pregnancy occurs.	**Practice point**	7
Smoking cessation Identifying women and their partners who smoke, or have recently stopped smoking, at their first contact with a healthcare service, ideally in the preconception setting, is strongly recommended. Enquire about smoking history and current smoking patterns, including exposure to second-hand smoke. This information should be recorded so that it is available for the remainder of the pregnancy.	**Recommended (strong)**	7,11

Further information

Due to high rates of unplanned pregnancy, every woman of reproductive age should be considered for preconception care (interventions that aim to identify and modify biomedical, behavioural and social risks to a woman's health or pregnancy outcome through prevention and management).

Due to high rates of unplanned pregnancy, every woman of reproductive age should be considered for preconception care (interventions that aim to identify and modify biomedical, behavioural and social risks to a woman's health or pregnancy outcome through prevention and management). A strategy worth considering is the 'One Key Question' (OKQ) approach,[12] where practitioners routinely ask women of reproductive age, 'Would you like to become pregnant in the next year?' The clinician documents one of four patient responses: 'Yes'; 'I'm OK either way'; 'I'm not sure'; or 'No'. Depending on the answer, the clinician can then follow up with preconception care or an offer to discuss contraceptive methods and reproductive life planning. The latter involves discussion as to whether the woman wants to have children and, if so, the number, spacing and timing of them. The provision of effective contraception to enable the implementation of this plan and reduce the risk of an unplanned pregnancy can then occur. The use of this kind of questioning in general practice is acceptable to people of reproductive age.[8,13]

Preconception Box 1. Common heritable and chromosomal disorders in Australia5,14

- Cystic fibrosis (CF)
- Down syndrome
- Fragile X syndrome
- Haemoglobinopathies and thalassaemias
- Breast and ovarian cancer
- Colon cancer
- Familial hypercholesterolaemia (FH)
- Hereditary haemochromatosis (HHC)
- Spinal muscular atrophy (SMA)

Consideration may need to be given to environmental risks and risks associated with travel.

Considerations for Aboriginal and Torres Strait Islander peoples

The new topic of Preconception care will be included in the new edition of the National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, released mid-2024. Antenatal care (http://ttps://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-2-antenatal-care) | National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people Fetal alcohol spectrum disorder (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-3-child-health/fetal-alcohol-spectrum-disorder) | National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people

Specific populations

GPs should be aware of the disparities in risk and outcomes in the populations they care for, but there is no current evidence to suggest that variation in care by race or ethnicity can improve outcomes.[10] Younger women, women of colour, women of culturally and linguistically diverse and migrant backgrounds and those of low socioeconomic status are at risk of adverse pregnancy and overall poor health outcomes.[15] These women may be least likely to receive prepregnancy care despite their disproportionate need.[16]

Resources

Further information on carrier screening and when to refer: Reproductive carrier screening (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genetic-tests-and-technologies/reproductive-carrier-screening) , *Genomics in general practice* | RACGP Information on fetal alcohol spectrum disorder (FASD), including considerations for women planning pregnancy: FASD Hub Australia (https://www.fasdhub.org.au/) Fetal alcohol spectrum disorder (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-3-child-health/fetal-alcohol-spectrum-disorder) | *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people* Advice and support for GPs helping patients to quit smoking: *Supporting smoking cessation: A guide for health professionals (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/supporting-smoking-cessation)* | RACGP National public education program with patient information on understanding fertility: Fertility Coalition (https://www.yourfertility.org.au/about-us) The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) best practice position statement with advice on the counselling of women prior to pregnancy: *Pre-pregnancy counselling (https://ranzcog.edu.au/wp-content/uploads/2022/05/Pre-pregnancy-Counselling-C-Obs-3a-Board-approved_March-2022.pdf)* | RANZCOG

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First antenatal visit

Reproductive and women's health | First antenatal visit

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

Where possible, pregnant women should have their first antenatal visit within the first 10 weeks of pregnancy.[1] Regular antenatal care that commences in the first trimester in pregnancy has been associated with better maternal health, fewer interventions in late pregnancy, and positive child health outcomes.[1–3]

Most Australian women (79%) have antenatal care in their first trimester.[2] Mothers less likely to have an antenatal visit in their first trimester include women with four or more children, women aged <20 years, and women who smoke during pregnancy, use illicit substances or who live in remote and very remote areas.[2]

Table of recommendations

Screening			
Recommendation	Grade	How often	References

With consent, undertake the following blood tests: • full blood count to look for anaemia and haemoglobin disorders • check blood group and antibodies • hepatitis B virus, as effective postnatal intervention can reduce the risk of mother-to-child transmission • hepatitis C • human immunodeficiency virus (HIV), as effective interventions are available to reduce the risk of mother-to-child transmission • syphilis	**Recommended (strong)**	At the first antenatal visit.	1
• rubella immunity to identify women at risk of contracting rubella and enable postnatal vaccination to protect future pregnancies.	**Conditionally recommended**		
With consent, test for: • **asymptomatic bacteriuria** using urine culture testing wherever possible (as it is the most accurate means of detecting asymptomatic bacteriuria early in pregnancy) as treatment is effective and reduces the risk of pyelonephritis,	**Recommended (strong)**	At the first antenatal visit	1,4,5
• proteinuria	**Practice point**		
• chlamydia in pregnant women aged <30 years, using urine samples or self-collected vaginal samples.			
All pregnant women (ie regardless of age, ethnicity, family history) should be provided with information about prenatal screening tests (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genetic-tests-and-technologies/prenatal-testing) for chromosomal conditions such as Down syndrome and for autosomal and X-linked conditions. Screening options should be discussed in the first trimester whenever possible.			

Assess/screen all women at the first antenatal visit for: • **depression**, using the Edinburgh Postnatal Depression Scale (EPDS) (https://www.cope.org.au/health-professionals/health-professionals-3/calculating-score-epds/) , as early as practical in pregnancy and repeat at least once later in pregnancy • **smoking status and exposure to passive smoking**, and give the patient and her partner information about the risks to the unborn baby associated with maternal and passive smoking. If the patient smokes, emphasise the benefits of quitting as early as possible in the pregnancy and discuss any concerns she or her family may have about stopping smoking • **intimate partner violence** – explain to all women that asking about family violence is a routine part of antenatal care. Ask about family violence only when alone with the patient, using specific questions or validated screening tools (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/resources-1/useful-tools)	**Recommended (strong)**	At the first antenatal visit (repeat screening for depression at least once later in pregnancy; consider screening for intimate partner violence more than once)	1
• **blood pressure to identify existing high blood pressure** • **clinical risk factors for pre-eclampsia** ◦ a history of pre-eclampsia ◦ chronic hypertension ◦ pre-existing diabetes ◦ autoimmune disease, such as systemic lupus erythematosus ◦ antiphospholipid syndrome ◦ nulliparity ◦ BMI >30 ◦ pre-existing kidney disease. (Note: for pregnant women who are unsure of their conception date, offer an **ultrasound scan** to determine gestational age, detect multiple pregnancies and accurately time fetal anomaly testing.)	**Conditionally recommended**	At the first antenatal visit.	1

• **alcohol use** – provide advice not to consume alcohol during pregnancy, or around the time of conception, to prevent potential harm to the developing baby
• **use of illicit substances and misuse of pharmaceuticals**, and offer advice and support regarding cessation
• **current medication** – review for potential for teratogenicity in women and their partners, including prescribed and over-the-counter medication and vitamins and other supplements. Switch to and stabilise on safe pregnancy alternatives where required
• **risk of hyperglycaemia**, including patient's:
  ◦ age
  ◦ body mass index (BMI)
  ◦ previous gestational diabetes or high birth weight baby
  ◦ family history of diabetes
  ◦ presence of polycystic ovarian syndrome and whether she is from an ethnic group with high prevalence of diabetes, such as Aboriginal and Torres Strait Islander peoples
• **problems with previous pregnancies,** such as:
  ◦ infant death
  ◦ fetal loss
  ◦ birth defects (particularly neural tube defects)
  ◦ low birth weight
  ◦ preterm birth
  ◦ gestational diabetes and any ongoing risks that could lead to a recurrence in this pregnancy or future pregnancies
• **risk of nutritional deficiencies** (eg vegan diet, lactose intolerance, and calcium, iron or vitamin D deficiency due to lack of sun exposure)
• **with consent, weight and height** – calculate BMI and give patient advice about the benefits of meeting the recommended healthy weight gain during pregnancy. Please refer to the Australian *Pregnancy*
	Practice point	At the first antenatal visit.	1

care guidelines, Table D3: IOM recommendations for weight gain in pregnancy (https://app.magicapp.org/#/guideline/jm83RE/rec/EKeXzy) for calculations for recommended weight gain according to individual pre-pregnancy BMI.			

Case Finding

Recommendation	Grade	How often	References
Ferritin testing and haemoglobin electrophoresis In high-risk populations (refer to Specific populations), consider offering ferritin testing and haemoglobin electrophoresis.	**Practice point**	At the first antenatal visit.	1
Proteinuria Test for proteinuria at each antenatal visit in women with risk factors, or clinical indications of pre-eclampsia, in particular raised blood pressure.	**Practice point**	At each antenatal visit.	1
Thyroid At first antenatal visit, assess for risk of thyroid disease (refer to Box 1) and undertake thyroid-stimulating hormone test if risk is present.	**Practice point**	At first antenatal visit.	1

Preventive activities and advice

For up-to-date immunisation recommendations during pregnancy, including COVID, influenza and pertussis, please refer to *Australian immunisation handbook* – Vaccination for women who are planning pregnancy, pregnant or breastfeeding (https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-women-who-are-planning-pregnancy-pregnant-or-breastfeeding) and Immunisation recommendations for Non-Indigenous Australians without risk factors for vaccine-preventable diseases (https://ncirs.org.au/sites/default/files/2023-11/NCIRS_Immunisation%20schedule_non-Indigenous%20people_November%202023.pdf) .

Recommendation	Grade	How often	References

Supplementation: **Folic acid supplementation** Recommend dietary supplementation of 400 µg per day folic acid, ideally from 1 month before conception and throughout the first 3 months of pregnancy to reduce the risk of neural tube defects. Where there is an increased risk of neural tube defect (anti-convulsant medication, pre-pregnancy diabetes mellitus, previous child or family history of neural tube defects, BMI >30), a 5 mg daily dose should be used. **Calcium supplementation** Advise women at high risk of developing or pre-eclampsia that calcium supplementation (at least 1000 mg daily) is beneficial if dietary intake is low.	**Recommended (strong)**	N/A	1,6
Calcium supplementation Advise pregnant women at risk of hypertension to take a calcium supplement (at least 1000 mg daily).	**Conditionally recommended**	N/A	
Iodine supplementation Consider iodine supplementation 150 µg per day throughout pregnancy* as requirements increase during pregnancy.	**Practice point**	N/A	
Vitamin A, C and E supplementation Do not take high-dose supplements of vitamin A, C or E as they are of no benefit in pregnancy, and in the absence of an identified deficiency, may cause harm.	**Not recommended (strong)**	N/A	
Exercise, nutrition and weight management: **Aerobic and strength conditioning exercise** Advise pregnant women without contraindications that they should participate in regular aerobic and strength conditioning exercise during pregnancy. Exercise prescription for the pregnant woman (https://www.health.gov.au/sites/default/files/documents/2021/05/evidence-based-physical-activity-guidelines-for-pregnant-women.pdf) requires appropriate consideration of the frequency, intensity, duration and mode of exercise; and that exercise prescription should consider the patient's baseline fitness level. **Pelvic floor exercises** All pregnant women are advised to do pelvic floor exercises during and after pregnancy.	**Conditionally recommended**	N/A	7,8

Nutrition and weight management Advise on the benefits of a healthy diet and regular physical activity in preventing adverse outcomes, including excessive weight gain. Discuss weight management and caution against being overweight or underweight. Recommend regular, moderate-intensity exercise.	**Practice point**	N/A	[1]
Other preventive advice: **Oral health** Advise women to have oral health checks and treatment, if required, as good oral health is important to a patient's health and treatment can be safely provided during pregnancy. **Low-dose aspirin** Advise women at moderate–high risk of pre-eclampsia that low-dose aspirin from early pregnancy may be of benefit in its prevention. Where appropriate, commence low-dose aspirin.	**Conditionally recommended**	N/A	[1]
*Except for women with Grave's disease			

Further information

The following has been adapted from the Australian *Pregnancy care guidelines*, 5.2 Antenatal visits (https://app.magicapp.org/?language=en#/guideline/jm83RE) .

The first antenatal visit provides an opportunity to undertake important screening tests, vaccinations and preventive activities. It is also an opportunity to discuss the patient's wishes and plans and any factors that may affect the pregnancy or birth. Given the volume of important screening, preventive activities and information that needs to be conveyed, the first antenatal visit should be longer than later antenatal visits.[1] Another appointment can be arranged to cover other 'first visit' activities if there is insufficient time at the first consultation.[1]

Provide patient-centred care

The first antenatal visit provides an opportunity to discuss patient expectations and preferences for ongoing antenatal care and options for birth. GPs should also provide information and advice (verbally, written, or other) on diet, exercise and local pregnancy care services, and discuss the recommended tests and screens.

Ideally, the patient should be seen alone during the first antenatal visit (or at least once during pregnancy) to provide an opportunity to disclose possible domestic violence, discuss the involvement of their partner and/or family, and other aspects of the patient's personal history.[1]

Health professionals should support women to take an active role in shared decision making about their physical activity/exercise during and after pregnancy. All health professionals who provide care during pregnancy should be familiar with contraindications, signs and symptoms that suggest physical activity/exercise should be modified or avoided.[1]

Undertake a comprehensive history

A comprehensive history should include:[1]

- current pregnancy (planned, unplanned, wishes to proceed with or terminate the pregnancy)
- medical (history, medicines, family history [high blood pressure, diabetes, genetic conditions], cervical smears, immunisation, breast surgery),
- obstetric (previous experience of pregnancy and birth)
- infant feeding experiences
- nutrition and physical activity
- smoking, alcohol and other substance misuse
- expectations, partner/family involvement, cultural and spiritual issues, concerns, knowledge, pregnancy, birth, breastfeeding and infant feeding options
- factors that may affect the pregnancy or birth (eg female genital mutilation/cutting)
- psychosocial factors affecting the patient's emotional health and wellbeing
- the patient's support networks and information needs.

Provide a clinical assessment[1]

- Discuss conception and date of last menstrual period, and offer ultrasound scan for gestational age assessment (carried out between 8 and 14 weeks of pregnancy).
- Measure height and weight and calculate BMI and provide advice on appropriate weight gain.
- Measure blood pressure.
- Test for proteinuria.
- Delay auscultation of fetal heart until after 12 weeks' gestation if using a Doppler and 28 weeks' gestation if using Doppler or a Pinard stethoscope.
- Assess risk of pre-eclampsia and advise women at risk that low-dose aspirin from early pregnancy may be helpful in its prevention,
- Assess risk of preterm birth and provide advice on risk and protective factors.
- Administer the Edinburgh Postnatal Depression Scale (EPDS) at this visit or as early as practical in pregnancy.
- Ask questions about psychosocial factors that affect mental health.

Undertake maternal health testing

Maternal health testing should be undertaken as per recommendations above.

Undertake an assessment

Assessment should include estimated date of birth/gestational age, any physical, social or emotional risk factors, need for referrals, investigations, treatments or preventive care.

Further advice and actions

Provide:

- advice on options for antenatal care and place of birth
- general advice (also for the partner/family), including pregnancy symptoms
- if required, access to counselling and termination.

Structured exercise interventions

Advise women that structured lifestyle interventions improve maternal and infant outcomes and are effective in preventing excessive weight gain (treadmill, stationary cycling, walking, dance, circuit training, swimming), and recommend muscle strengthening exercises (including pelvic floor exercises) for around 60 minutes, three times a week at an intensity of 60–80% of maximum heart rate or 12–14 on the Borg scale and continued to 36–39 weeks of pregnancy.[1]

Pelvic floor

Pelvic floor muscle exercises appear to reduce the risk of urinary incontinence in late pregnancy (odds ratio [OR] 0.38; 95% confidence interval [CI]: 0.20, 0.72; six studies; n = 624; low quality) and at 3–6 months postpartum (OR 0.71; 95% CI: 0.54, 0.95; five studies; n = 673; moderate quality) but do not appear to affect the risk of faecal incontinence (OR 0.61; 95% CI: 0.30, 1.25; two studies; n = 867; moderate quality).[1]

Foods to be consumed with caution during pregnancy

- Due to the risk of listeriosis, pre-prepared or pre-packaged cut fruit or vegetables should be cooked. Pre-prepared salad vegetables (eg from salad bars, including fruit salads and cut melon) should be avoided.
- Raw or undercooked meat, chilled pre-cooked meats, and pâté and meat spreads should be avoided during pregnancy due to risk of listeriosis.
- Care needs to be taken with consumption of some fish species (eg shark/flake, marlin or broadbill/swordfish, orange roughy and catfish) due to the potentially higher mercury content.
- Foods containing raw eggs should be avoided due to the risk of salmonella.
- Unpasteurised dairy products and soft, semi-soft and surface-ripened cheese should be avoided due to the risk of listeriosis.
- Sugar-sweetened drinks are associated with dental conditions, such as caries.
- Food Standards Australia and New Zealand suggests limiting intake during pregnancy to 200 mg/day of caffeine FSANZ 2019, noting that caffeine is present in coffee (145 mg/50 mL

espresso; 80 mg/250 mL instant coffee), tea (50 mg/220 mL), colas (36 mg/375 mL), energy drinks (80 mg/250 mL) and chocolate (10 mg/50g).

If a patient has a low dietary calcium intake, advise her to increase her intake of calcium-rich foods (https://www.eatforhealth.gov.au/nutrient-reference-values/nutrients/calcium) .

Box 1. First antenatal visit: Identifying women at high risk of thyroid dysfunction

While this is an evolving area of practice, the American Thyroid Association considers women with the following to be at high risk of thyroid disease:[1,9]

- history of thyroid dysfunction
- symptoms or signs of thyroid dysfunction
- presence of a goitre
- known thyroid antibody positivity.

Other risk factors for thyroid disease include:[1,9]

- age >30 years
- history of type 1 diabetes or other autoimmune disorders
- history of pregnancy loss, preterm birth or infertility
- history of head or neck radiation or prior thyroid surgery
- family history of autoimmune thyroid disease or thyroid dysfunction
- BMI ≥40 kg/m2
- use of amiodarone, lithium or recent administration of iodinated radiologic contrast
- two or more prior pregnancies
- residing in area of moderate to severe iodine deficiency.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter 2: Antenatal care (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-2-antenatal-care) . (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-2-antenatal-care)

Specific populations

It is recommended that in areas with an ongoing syphilis outbreak, pregnant women should be tested for syphilis at:[1]

- the first antenatal visit
- 28 weeks
- 36 weeks
- time of birth
- six weeks after birth.

Additional time may be required at the first antenatal visit for women who have:[1]

- limited experience or understanding of the health system
- limited understanding of English
- hearing impairment requiring the use of Auslan
- past experiences that affect their trust in authorities or health professionals
- psychosocial circumstances that require more intensive support
- other conditions that require additional care (below).

Groups of women who may require additional care in pregnancy include those with:[1]

- existing conditions (eg overweight, underweight, cardiovascular disease, mental health, disability, female genital mutilation/cutting)
- adverse experiences in previous pregnancies
- previous major surgery (including cardiac, gastrointestinal, bariatric and gynaecological)
- history of alcohol misuse or recreational drug use
- psychosocial factors including developmental delay, vulnerability or lack of social support or previous experience of violence or social dislocation.

High-risk population groups for haemoglobin disorders include people from any of the following ethnic backgrounds: [1] Southern European, African, Middle Eastern, Chinese, Indian subcontinent, Central and South-east Asian, Pacific Islander, New Zealand Māori, South American, Caribbean, and some northern Western Australian and Northern Territory Aboriginal and Torres Strait Islander communities.

Resources

Information on prenatal screening and when to refer: Prenatal screening (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genetic-tests-and-technologies/prenatal-testing) , (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genetic-tests-and-technologies/prenatal-testing) *Genomics in general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/genomics-in-general-practice/genetic-tests-and-technologies/prenatal-testing) | RACGP

Information on gestational diabetes, including diagnosis, management and follow-up: Gestational diabetes mellitus (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/gestational-diabetes) , *Management of type 2 diabetes: A handbook for general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/gestational-diabetes) | RACGP

Identifying, responding and supporting patients experiencing abuse and violence: *Abuse and violence: Working with our patients in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/preamble)* | RACGP

Information on investigations, treatments and outcomes for nausea, vomiting and hyperemesis gravidarium: Guideline for the management of nausea and vomiting in pregnancy and hyperemesis gravidarium (http://www.somanz.org/content/uploads/2020/07/NVP-GUIDELINE-1.2.20-1.pdf) | The Society for Obstetric Medicine of Australia and New Zealand (SOMANZ)

The Safer Baby Bundle consists of five elements designed to reduce stillbirth rates after 28 weeks' gestation: Safer Baby Bundle (http://stillbirthcre.org.au/safer-baby-bundle/) | Stillbirth Centre of Research Excellence

Patient brochures with advice for eating well and staying active in pregnancy: Your Healthy Pregnancy (https://www.health.gov.au/your-healthy-pregnancy) | Department of Health and Aged Care

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During pregnancy

Reproductive and women's health | During pregnancy

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

In 2020 in Australia, 295,976 babies were born to 291,712 mothers.[1] There has been an increase in Australia of the average age of first-time mothers (28.3 years in 2010 to 29.6 years in 2020).[1] It is important that antenatal visits during pregnancy are flexible, patient-centred and planned collaboratively according to the specific needs and wishes of the patient.[2] Each antenatal visit provides an opportunity to ask the patient about any issues or concerns they have, including any psychosocial support and mental health issues.[2] GPs should also offer information and education in preparation of labour and breastfeeding.

Table of recommendations

Screening

For recommendations on cell-free DNA (cfDNA)-based screening (also called Non-invasive prenatal testing (NIPT) and carrier screening, see Genetics (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/genetics) .
For recommendations on screening for depression – see Depression (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/depression) (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/depression) and Perinatal mental health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/perinatal-depression) .

Recommendation	Grade	How often	References

Undertake the following blood tests: • fasting plasma glucose or plasma glucose 1 hour and 2 hours after 75 g glucose loading (glucose tolerance test) for testing for gestational diabetes (Note: glycated haemoglobin (HbA1c) is not recommended as a test for gestational diabetes due to a lack of sensitivity.)	**Practice point**	Between 24–28 weeks' gestation	2,3
• Haemoglobin concentration (full blood count)		At 28 weeks' gestation	2
• Consider an antibody screen at 28 weeks in those that are rhesus (Rh D) negative.			4
Repeat testing for syphilis is recommended for women at high risk of infection or reinfection.*	**Recommended (strong)**	At 28–32 weeks' gestation and at the time of birth	2
Alcohol and substance use Asking about substance use at subsequent visits is important as some women are more likely to report sensitive information only after a trusting relationship has been established.	**Practice point**	Every antenatal visit.	2
Intimate partner violence Routine screening for intimate partner violence is strongly recommended. Explain to all women that asking about family violence is a routine part of antenatal care. Ask about family violence only when alone with the patient, using specific questions or validated screening tools (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/resources-1/useful-tools) used in your state/territory.	**Recommended (strong)**	Consider more than once.	5
Fetal development and anatomy Ultrasound screening to assess fetal development, anatomy and cervical length at 18–20 weeks' gestation is recommended.	**Conditionally recommended**	At 18–20 weeks' gestation	2,6

Weight At every antenatal visit, offer women the opportunity to be weighed so that low or high gestational weight gain is identified, and risk of associated adverse outcomes monitored. Obesity is a major risk factor for poor maternal and fetal outcomes.	**Practice point**	Every antenatal visit.	1,2
Blood pressure Routinely measure blood pressure to identify new onset hypertension.	**Practice point**	At every antenatal visit.	1,2
Fundal height At each antenatal visit from 24 weeks, measure fundal height in centimetres.	**Practice point**	At every antenatal visit from 24 weeks.	2

*Due to changing disease patterns, please consult local guidelines.

Case finding

Recommendation	Grade	How often	References
Proteinuria In women with risk factors for or clinical indications of pre-eclampsia – in particular, raised blood pressure – test for proteinuria at each antenatal visit.	**Practice point**	Every antenatal visit.	2

Preventive activities and advice

For up-to-date immunisation recommendations in pregnancy, including COVID, influenza and pertussis, please refer to the *Australian immunisation handbook* – Vaccination for women who are planning pregnancy, pregnant or breastfeeding (http://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-women-who-are-planning-pregnancy-pregnant-or-breastfeeding) and Immunisation recommendations for non-Indigenous Australians without risk factors for vaccine-preventable diseases (https://ncirs.org.au/sites/default/files/2023-11/NCIRS_Immunisation%20schedule_non-Indigenous%20people_November%202023.pdf) .

Recommendation	Grade	How often	References

Supplementation • **Vitamin A, C and E supplementation:** Do not take high-dose supplements of vitamins A, C or E as they are of no benefit in pregnancy, and in the absence of an identified deficiency, may cause harm.	**Not recommended (strong)**	N/A	2
• **Omega-3:** Supplementation with omega-3 long-chain polyunsaturated fatty acids (800 mg docosahexaenoic acid [DHA] and 100 mg eicosapentaenoic acid [EPA] per day) may reduce their risk of preterm birth, if they are low in omega-3 (omega-3 fatty acids are found predominantly in oily fish such as mackerel, herrings, sardines, salmon and tuna).*	**Conditionally recommended**	N/A	2
• **Iodine:** Suggest that pregnant women take an iodine supplement of 150 µg each day. Women with pre-existing thyroid conditions should seek advice from their medical practitioner before taking an iodine supplement.	**Practice point**	N/A	2
• **Calcium**: Advise women at high risk of developing pre-eclampsia that calcium supplementation is beneficial if dietary intake is low. Refer to Box 1.	**Recommended (strong)**	N/A	2
Nutrition and exercise • **Nutrition:** Advise women that healthy dietary patterns are characterised by high intake of fruits, vegetables, legumes, wholegrains, fish, seafood, unprocessed meats, dairy foods and water. Diets with high intake of sweetened foods and drinks, foods high in saturated fats (eg fried foods), processed meats and refined grains are associated with poorer outcomes.	**Practice point**	N/A	2

• **Physical activity:** Regular aerobic and strength conditioning exercise is recommended for pregnant women without contraindications.	**Conditionally recommended**	N/A	7,8
• **Pelvic floor exercises:** All pregnant women are advised to do pelvic floor exercises during and after pregnancy.	**Practice point**	N/A	
Other preventive activities and advice • **Medications:** Advise women that use of prescription and over-the-counter medicines should be limited to circumstances where the benefit outweighs the risk as few medicines have been established as safe to use in pregnancy. Cessation should be in consultation.	**Practice point**	N/A	2
• **Low-dose aspirin:** Low-dose aspirin (50–150 mg) is recommended for women of moderate to high risk of developing pre-eclampsia. Refer to the Australian *Pregnancy care guidelines* – Identifying women with risk factors for pre-eclampsia (https://app.magicapp.org/#/guideline/jm83RE/rec/jXxzzN) . • **Oral health:** Advise women to have oral health checks and treatment, if required, as good oral health is important to a woman's health and treatment can be safely provided during pregnancy. • **Seat belts:** Inform pregnant women about the correct use of seat belts; that is, three-point seat belts 'above and below the bump, not over it'. • **Sexual activity:** Advise pregnant women without complications that safe sexual activity in pregnancy is not known to be associated with any adverse outcomes.	**Conditionally recommended**	N/A	2
• **Side sleeping:** Advise side sleeping from 28 weeks' pregnancy for prevention of stillbirth.	**Practice point**	N/A	9,10

Further information

In addition to screening and preventive activities, each antenatal visit provides an opportunity to review care plan, identify women who require additional support and care, and for the patient to ask questions and discuss any issues.[2]

Physical activity Reassure the patient that physical activity/exercise during pregnancy and the postpartum period is safe, has health benefits for the woman and her unborn child, and reduces the risks of some pregnancy-related complications.[7,8]

Healthy environments Repeated exposure to hazardous toxins in the household and workplace environment can affect fertility and increase the risk of miscarriage and birth defects.

- **Discuss the avoidance of TORCH infections**: Toxoplasmosis, Other (eg syphilis, varicella, mumps, parvovirus and human immunodeficiency virus [HIV], listeriosis), Rubella, Cytomegalovirus and Herpes simplex.
- **Toxoplasmosis**: Avoid cat litter, garden soil, raw/undercooked meat and unpasteurised milk products; wash all fruit and vegetables.
- **Cytomegalovirus, parvovirus B19 (fifth disease):** Discuss the importance of frequent hand washing. Those who work with children or in the healthcare sector can further reduce risk by using gloves when changing nappies.

Nutrition Pregnancy and lactation pose nutrition risks due to increased nutrient demands. Maternal nutritional status significantly influences the nutritional wellbeing of both the fetus and the infant.[11]

Refer to Further information in 'First antenatal visit (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/reproductive-and-womens-health/first-antenatal-visit)' for information on foods to be consumed with caution during pregnancy.

Moderate/high risk of pre-eclampsia

Moderate risk of pre-eclampsia includes any of the following:[12]

- nulliparity
- age ≥40 years
- pregnancy interval >10 years
- body mass index (BMI) ≥35 kg/m^2 at first visit
- family history of pre-eclampsia
- multi-fetal pregnancy.

High risk of pre-eclampsia includes any of the following:[12]

- hypertensive disease during a previous pregnancy
- chronic kidney disease
- autoimmune disease such as systemic lupus erythematosus or antiphospholipid syndrome
- type 1 or type 2 diabetes
- chronic hypertension.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter 2: Antenatal care (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-2-antenatal-care) .

Specific populations

Pregnant women who live in an area affected by an ongoing syphilis outbreak should be tested at each of the following:[2]

- the first antenatal visit
- 28 weeks
- 36 weeks
- time of birth
- six weeks after the birth.

The Australian *Pregnancy care guidelines* have a list of targeted tests (https://app.magicapp.org/#/guideline/jm83RE/rec/Lrvd1l) to consider for women identified at increased risk.

Populations that may require extra or differing support services for pregnancy include:

- Aboriginal and Torres Strait Islander people[2,13,14]
- migrant and refugee women[2]
- women with severe mental illness[2]
- women aged <20 years[2,14]
- women in rural and remote areas[2]
- women with disability[15]
- women in a low socioeconomic environment and/or experiencing homelessness[16–18]
- single women[16]
- LGBTIQA+ people[19]

Resources

Identifying, responding and supporting patients experiencing abuse and violence: *Abuse and violence – Working with our patients in general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/preamble) (White Book) | RACGP

Information on gestational diabetes, including diagnosis, management and follow-up: Gestational diabetes mellitus (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/gestational-diabetes) , *Management of type 2 diabetes: A handbook for general practice* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/gestational-diabetes) | RACGP

Further information on Omega-3 long chain polyunsaturated fatty acid (LCPUFA) supplementation in pregnancy: Omega-3 fatty acid addition in pregnancy to reduce the risk of preterm birth, *Handbook of non-drug interventions (HANDI)* (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/nutrition/omega-3-fatty-acid-addition-in-pregnancy-to-reduce) | RACGP

Information on investigations, treatments and outcomes for nausea, vomiting, and hyperemesis gravidarium: *Guideline for the management of nausea and vomiting in pregnancy and hyperemesis gravidarium (https://www.somanz.org/content/uploads/2020/07/NVP-GUIDELINE-1.2.20-1.pdf)* | The Society for Obstetric Medicine of Australia and New Zealand (SOMANZ)

The Safer Baby Bundle, consisting of five elements designed to reduce stillbirth rates after 28 weeks' gestation: Safer Baby Bundle (https://stillbirthcre.org.au/safer-baby-bundle/) | Stillbirth Centre of Research Excellence

Current advice for healthcare professionals and hospitals undertaking obstetric care with anaesthesia and analgesia services, to assist with safe and appropriate care for women during pregnancy and labour: Joint RANZCOG/ANZCA/RACGP position statement on obstetric anaesthesia and analgesia services (https://ranzcog.edu.au/wp-content/uploads/2022/05/Joint-RANZCOG-ANZCA-Position-Statement-on-the-provision-of-Obstetric-Anaesthesia-and-Analgesia-Services.pdf) | Royal Australian and New Zealand College of Obstetricians and Gynaecologists and Australian and New Zealand College of Anaesthetists

For up-to-date information on immunisation recommendations: Vaccination for women who are planning pregnancy, pregnant or breastfeeding, (https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-women-who-are-planning-pregnancy-pregnant-or-breastfeeding) *The Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-women-who-are-planning-pregnancy-pregnant-or-breastfeeding)* | Australian Government Department of Health and Aged Care

Information about breastfeeding: *Infant feeding guidelines: Information for health workers (https://www.nhmrc.gov.au/about-us/publications/infant-feeding-guidelines-information-health-workers)* | National Health and Medical Research Council

Information for GPs and patients about alcohol in pregnancy: Every moment matters (https://everymomentmatters.org.au/) | Foundation for Alcohol, Research and Education (FARE)

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Interconception

Reproduction and women's health | Interconception

Case finding age bar

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

Prevalence and context

Interconception, or interpregnancy care, can be defined as the care provided to women and their partners between pregnancies in order to improve outcomes for both women and infants.[1,2] The interconception period presents an opportunity to address medical issues (both physical and mental, including intimate partner violence) that have arisen in the preceding pregnancy/pregnancies or postpartum period (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/reproductive-and-womens-health/perinatal-depression) , provide education regarding optimal pregnancy spacing, provide contraception and consider and address lifestyle risk factors.[2] Implementation of this in reality can be challenging due to the competing priorities brought about by new parenthood.

Given the potential risk of adverse outcomes in both the mother and child, interpregnancy interval is a modifiable risk factor.[2] Interconception care is particularly important given the increasing rates of chronic disease in people of childbearing age.[2] GPs can prepare for interconception care during pregnancy by developing a postpartum plan that includes the patient's wishes for future pregnancies.[1]

The following recommendations should be considered alongside those provided in Preconception care (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/preconception) .

Table of recommendations

Case finding

Recommendation	Grade	How often	References

Future fertility intentions Ask women about their future fertility intentions and provide contraception and/or preconception care planning accordingly.	**Practice point**	Antenatally and after childbirth. Opportunistically at other times.	1, 3
Eligibility for contraception Review patient factors and existing medical conditions (including those that developed during pregnancy), in relation to medical eligibility for contraception is recommended. For guidance on the possible methods of contraception, see Further information.	**Conditionally recommended**	After childbirth.	3
Conditions during pregnancy Review whether the woman: • developed any conditions during a previous pregnancy (e.g. gestational diabetes, postpartum depression, hypertension) or • had any event occur during her labour or delivery (e.g. postpartum haemorrhage, traumatic birth) • experienced any other pregnancy or fetal outcome (e.g. small for gestational age or preterm labour) that could impact on a future pregnancy or her future health or wellbeing and manage that condition to prevent future adverse outcomes.	**Practice point**	After childbirth.	1

Preventive activities and advice

Recommendation	Grade	How often	References
Contraception Additional contraceptive precaution is not required if contraception is initiated immediately or within 21 days after childbirth.	**Practice point**	N/A	3

Timing of commencement of contraception • Initiating effective contraception as soon as possible after childbirth for both breastfeeding and non-breastfeeding women is recommended. Sexual activity and ovulation may resume very soon after delivery. • Women should be advised that although contraception is not required in the first 21 days after childbirth, most methods can be safely initiated immediately, with the exception of combined hormonal contraception (CHC). **Timing of Long Acting Reversible Contraception (LARC) insertion after delivery** • Advising patients that intrauterine contraception (IUC) and progestogen-only implant (IMP) can be inserted immediately after delivery is recommended.	**Conditionally recommended**	N/A	3
Interpregnancy intervals Advise women to avoid interpregnancy intervals shorter than 6 months. See Further information for risks of short interpregnancy intervals.	**Conditionally recommended**	N/A	4,5,6

Further information

Research has shown that many women are unaware of the risks of short interpregnancy intervals, and this should be discussed with the woman as part of reproductive planning and/or postpartum care.[2]

Potential adverse outcomes due to a shorter (six months) interpregnancy interval

Women with shorter interpregnancy intervals are more likely to experience:[2,7–9]

- placental abruption
- placenta praevia
- uterine rupture (for women who previously had a caesarean section)
- gestational diabetes.

Potential adverse outcomes for neonates include:[2,10–12]

- increased risk of stillbirth
- small size for gestational age
- preterm delivery
- neonatal death.

The *UK medical eligibility criteria for contraceptive use* (https://www.fsrh.org/documents/ukmec-2016/) provides guidance on the possible methods of contraception that can be used by patients with specific health conditions or characteristics.

GPs should be aware that contraceptive implant soon after childbirth or the insertion of IUC at the time of either vaginal or caesarean delivery is convenient and highly acceptable to women. This has been associated with high continuation rates and a reduced risk of unintended pregnancy.[3] An intrauterine device (IUD) can be safely inserted at time of delivery, or within 10 minutes of delivery of the placenta, or within the first 48 hours after uncomplicated caesarean section or vaginal birth. After 48 hours, insertion should be delayed until 28 days after childbirth.[3]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific interconception recommendations for Aboriginal and Torres Strait Islander peoples.

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Perinatal mental health

Reproductive and women's health | Perinatal mental health

Screening age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	≥80

Prevalence and context of the condition

The perinatal period (the time from conception to 12 months after birth) is a time of significant change for parents. Subsequently, it can be a high-risk time for the onset and relapse of mental health conditions.[1] It is estimated that perinatal depression and anxiety affects 1 in 5 mothers and 1 in 10 fathers/partners.[1,2]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Assess psychosocial risk factors as early as practical in pregnancy and again after the birth using the Antenatal Risk Questionnaire (ANRQ) (https://www.cope.org.au/health-professionals/clinical-tools-health-professionals/) .	**Recommended (strong)**	As early as practical in pregnancy, again after birth.	1

Screening women for a possible depressive or anxiety disorder using the Edinburgh Postnatal Depression Scale (EPDS) (https://www.cope.org.au/health-professionals/clinical-tools-health-professionals/) is recommended.	**Recommended (strong) for depression** **Practice point for anxiety**	Complete the first postnatal screening 6–12 weeks after birth and repeat screening at least once in the first postnatal year.	1
Routinely screen for intimate partner violence. Explain to all women that asking about family violence is routine part of postnatal care. Ask about family violence only when alone with the woman, using validated screening tools (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/resources-1/useful-tools) .	**Recommended (strong)**	Consider more than once.	3,4

Further information

Perinatal depression

Common symptoms of perinatal depression:[5]

- Loss of interest or pleasure in everyday life
- Physical symptoms (eg lethargy, numbness)
- Cognitive symptoms (eg negative thinking)
- Behavioural symptoms (eg withdrawal)
- Emotional symptoms (eg tearfulness)

Depression in the perinatal period is identified by the presence of a number of symptoms experienced over a period of time, typically two weeks or more. Moderate to severe perinatal depression can also affect a parent's ability to care for their baby and/or other children in their care.[5] Any discussion of suicide should be taken seriously, with treatment from a mental health professional or other appropriate person immediately sought.[6]

Perinatal anxiety

Although pregnancy and the arrival of a new baby can be very exciting, most women experience some worries about things like having a healthy pregnancy, delivering the baby, keeping their baby safe and potential impacts on their relationship, career or finances. For some people, those worries can become overwhelming and unmanageable.[6]

Common symptoms of perinatal anxiety:[7]

- Anxiety or fear that interrupts thoughts and interferes with daily tasks
- Panic attacks: outbursts of extreme fear and panic that are overwhelming and feel difficult to bring under control
- Anxiety and worries that keep coming into the woman's mind and are difficult to stop or control
- Constantly feeling irritable, restless or 'on edge'
- Having tense muscles, a 'tight' chest and heart palpitations
- Finding it difficult to relax and/or taking a long time to fall asleep at night
- Anxiety or fear that stops the woman going out with her baby
- Anxiety or fear that leads the woman to check on her baby constantly

Information on key considerations before screening and psychosocial assessment (https://www.health.gov.au/resources/pregnancy-care-guidelines/part-e-social-and-emotional-screening) is available at the *Pregnancy care guidelines*.

Be aware that anxiety disorders are very common in the perinatal period and should be considered in the broader clinical assessment.

Non-birthing partners

Information on assessing perinatal mental health in non-birthing partners (https://www.cope.org.au/health-professionals/health-professionals-3/review-of-new-perinatal-mental-health-guidelines/) is available in Part B – Screening and psychosocial assessment of the Centre of Perinatal Excellence's (COPE) *Mental health care in the perinatal period Australian clinical practice guideline*.

Considerations for Aboriginal and Torres Strait Islander peoples

When screening Aboriginal and/or Torres Strait Islander women, consider language and the cultural appropriateness of the tool.[1,4] It is important to note that EPDS scores among Aboriginal and Torres Strait Islander women may be influenced by factors such as understanding of the language used, mistrust of mainstream services or fear of consequences of depression being identified (ie involvement of child protection services).[1] If use of the EPDS is considered inappropriate, involvement of an Aboriginal Health Worker may facilitate assessment of symptoms of depressive or anxiety disorders.[1]

The Kimberley Mum's Mood Scale (KMMS) (https://kahpf.org.au/kmms) has been developed for use in Aboriginal and Torres Strait Islander populations; however, it has only been validated for use in the Kimberley region and may not be applicable for Aboriginal and Torres Strait Islander women in other areas.[1]

Where possible, seek guidance/support from an Aboriginal and/or Torres Strait Islander worker or professional worker or professional when screening Aboriginal and/or Torres Strait Islander woman for depression and anxiety.[1]

For further information, refer to the Prevention of depression (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-17-mental-health/prevention-of-depression) section in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Specific populations

Perinatal depression and anxiety are more commonly reported among the following population subgroups:[1,2]

- people with a prior history of mental illness
- Aboriginal and Torres Strait Islander peoples
- migrant women (including refugees, asylum seekers)
- women living in rural and remote areas
- women experiencing pregnancy in adolescence
- women experiencing intimate partner violence
- LGBTIQA+ parents
- women who experienced birth trauma.

For screening in women from a culturally and linguistically diverse (CALD) background, use appropriately translated versions of the EPDS with culturally relevant cut-off scores. Consider language and the cultural appropriateness of the tool.[1]

Resources

Further information on the identification and management of abuse and violence: *Abuse and violence – working with our patients in general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/abuse-and-violence/preamble)* | RACGP Guideline for the early identification of mental health conditions in the perinatal period for women and/or their partners *Mental health care in the perinatal period: Australian clinical practice guideline (https://www.cope.org.au/health-professionals/health-professionals-3/review-of-new-perinatal-mental-health-guidelines/)* | COPE Guidelines on all aspects of pregnancy care, including social and emotional screening: *Pregnancy care guidelines* (https://www.health.gov.au/resources/pregnancy-care-guidelines) | Department of Health and Aged Care A broad collection of resources for GPs to help patients with mental health illness: Resources for GPs (https://gpmhsc.org.au/ResourceSection/Index/aa96bb9f-b39c-4c90-821f-5a9be3a42d20) | GPMHSC

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Postmenopause

Reproductive and women's health| Postmenopause

Prevalence and context of the condition

Postmenopause begins 12 months after a woman's final menstrual period, with the average age of natural menopause occurring at 51 years.[1] Postmenopausal women can experience changes in physiology and mental health.[1–3] This time in a woman's life provides an opportunity for the GP to undertake preventive health checks and to communicate the risks of developing osteoporosis, cardiovascular disease, and dementia associated with ageing.[1,4] Refer to other relevant chapters in the Red Book:

- Breast cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/breast-cancer)
- Cardiovascular disease (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cardiovascular/cardiovascular-disease-cvd-risk)
- Cervical cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/cervical-cancer)
- Dementia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/dementia)
- Depression (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/mental-health/depression)
- Frailty (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/frailty)
- Osteoporosis (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/musculoskeletal/osteoporosis)
- Urinary incontinence (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/urinary-incontinence)

Table of recommendations

Preventive activities and advice

Recommendation	Grade	How often	References
The onset of menopause is an opportunity for a routine health assessment, education and primary prevention in regard to general health and wellbeing, including cardiovascular, bone and mental health.	**Practice point**	N/A	1
Using menopausal hormone therapy (MHT), combined estrogen and progestin or estrogen alone for the primary prevention of cardiovascular disease (CVD) or other chronic conditions* is generally not recommended. Refer to further information. *Coronary heart disease, breast cancer, fractures, diabetes, colorectal cancer, thromboembolic events, stroke, dementia, gallbladder disease, urinary incontinence all-cause mortality.	**Generally not recommended**	N/A	1,4,5

Further information

CVD disease risk

It is unclear if the CVD risk that is associated with the age of menopause is independent of other factors such as blood pressure or lipid profiles.[6] However, the menopause appointment provides an opportunity to explain the elevated risk of CVD associated with early menopause, the need for increased monitoring and the importance of leading a healthy lifestyle.[6]

Hormone therapy as a preventive activity

While MHT has no net benefit for the primary prevention of chronic conditions, it has been found to increase bone density and reduce fracture risk.[1] However, prevention of osteoporosis or fracture is not a primary indication for MHT use, and it should be prescribed after the individual risk–benefits have been considered.[5] Quality of life issues should be discussed and assessed together with the risks of developing osteoporosis, cardiovascular disease, thromboembolism, and dementia associated with ageing often coinciding with the menopause.[1,7]

Early and premature menopause

Menopause before age 45 years is regarded as 'early' and before age 40 years as 'premature'.[1]

Blood tests for diagnosis of menopause are typically not required; however, if early or premature menopause is suspected, blood tests to exclude other causes of oligomenorrhoea or amenorrhoea are appropriate.[2]

In addition to an increased risk of CVD[6], women with premature menopause may also be at higher risk of developing anxiety and or depressive disorders during menopause.[1]

For osteoporosis screening, case finding and prevention recommendations, please refer to the Osteoporosis chapter or the RACGP and Osteoporosis Australia's *Osteoporosis prevention, diagnosis and management in postmenopausal women and men over 50 years of age (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/osteoporosis)* .

Considerations for Aboriginal and Torres Strait Islander peoples

There are no additional recommendations for this population group.

Resources

Guideline for the prevention, assessment, diagnosis, treatment and management of osteoporosis in Australia:
Osteoporosis prevention, diagnosis and management in postmenopausal women and men over 50 years of age (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/osteoporosis) | RACGP (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/osteoporosis) and Osteoporosis Australia

The following includes a flowchart to assess if the patient is pre-/peri-/postmenopausal:
A practitioner's toolkit for the management of the menopause (https://www.menopause.org.au/images/stories/documents/management-menopause-toolkit.pdf) | Monash University (https://www.menopause.org.au/images/stories/documents/management-menopause-toolkit.pdf) School of Public Health and Preventive Medicine

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Breast cancer

Cancer | Breast cancer

Screening and case finding age bar

0–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44*	45–49*	50–54	55–59	60–64	65-69	70–74	75–79	≥80

*Case finding

Prevalence and context of the condition

Breast cancer is the most common cancer in women and the second most common cause of cancer deaths in women in Australia. In 2022, it was estimated that 20,640 new cases of breast cancer would be diagnosed in Australia (20,428 in women, 212 in men). The risk of being diagnosed with breast cancer by the age of 85 years is currently estimated as 1 in 8 (or 13%) for women and 1 in 668 (or 0.15%) for men.[1]

An assessment should be undertaken to understand a patient's individual degree of risk (see Table 1) in order to provide evidence-based guidance for preventive activities. Breast cancer risk is not normally distributed: most women have a low (<4%) lifetime risk.[2]

Table 1. Risk of breast cancer[3]

Risk level	Average or slightly higher	Moderately increased (<4% of the female population)	Potentially high risk[A] or carrying mutation (<1% of the female population)
Risk in relation to the population average	Approximately 1.5 times the population average	Approximately 1.5–3 times the population average	More than threefold times the population average Individual risk may be higher or lower if genetic test results are known
Lifetime prevalence of breast cancer up to age 75 years	Between 9% and 12.5%	Between 12% and 25%	Between 25% and 50%

Relevant history	• No confirmed family history of breast cancer • One first-degree relative diagnosed with breast cancer at age ≥50 years • One second-degree relative diagnosed with breast cancer at any age • Two second-degree relatives on the same side of the family diagnosed with breast cancer at age ≥50 years • Two first- or second-degree relatives diagnosed with breast cancer at age ≥50 years, but on different sides (ie on each side)	• One first-degree relative diagnosed with breast cancer at age <50 years (without the additional features of the potentially high-risk group) • Two first-degree relatives, on the same side of the family, diagnosed with breast cancer (without the additional features of the potentially high-risk group) • Two second-degree relatives, on the same side of the family, diagnosed with breast cancer, at least one at age <50 years (without the additional features of the potentially high risk group)	• Two first- or second-degree relatives on one side of the family diagnosed with breast or ovarian cancer, **plus** one or more of the following features on the same side of the family: ◦ additional relative(s) with breast or ovarian cancer ◦ breast cancer diagnosed before age 40 years ◦ bilateral breast cancer ◦ breast and ovarian cancer in the same woman ◦ Ashkenazi Jewish ancestry ◦ breast cancer in a male relative • One first- or second-degree relative diagnosed with breast cancer at age <45 years **plus** another first- or second-degree relative on the same side of the family with sarcoma (bone/soft tissue) at age <45 years • Member of a family in which the presence of a high-risk breast cancer gene mutation (eg *BRCA1*, *BRCA2*) has been established

	of the family		

There are multiple risk factors for breast cancer (genetic, hormonal, lifestyle and environmental).[3] However, BreastScreen, Australia's national breast cancer screening program, focuses on age, inviting all Australian women aged between 50 and 74 years for biennial mammographic screening. Women are able to self-refer for biennial mammographic screening in BreastScreen from the age of 40 years.

Clinicians have an important role in identifying people with a strong family history of breast cancer, as well as other cancers, associated with high-risk genetic variants (eg in *BRCA1* and *BRCA2*) and offering referral to a familial cancer service. The Genetics (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/genetics/genetic-screening) chapter provides further information on family history and the use of the family history questionnaire.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Women at average risk or slightly higher than average risk of breast cancer should participate in mammographic screening from ages 50 to 74 years as part of the national BreastScreen program.	**Conditionally recommended**	Every 2 years	2
Screening by mammography is not recommended in women aged ≥75 years due to insufficient evidence to assess the balance of benefits and harms.	**Generally not recommended**	N/A	4
Clinical breast examination for breast cancer screening of average risk women in general practice is not recommended.	**Generally not recommended**	N/A	5
Do not use magnetic resonance imaging (MRI) as a stand-alone screening test for women at average risk of breast cancer.	**Not recommended (strong)**	N/A	6

Do not use thermography in breast cancer screening or as an adjunctive tool to mammography.	**Not recommended (strong)**	N/A	7 8 9

Case finding

Recommendation	Grade	How often	References
Undertake mammographic screening from ages 40 to 74 years for women at moderately increased risk.	**Conditionally recommended**	At least every 2 years	5

Preventive activities and advice

Recommendation	Grade	How often	References
Counsel all women that the following are associated with lower breast cancer risk: • physical activity • maintaining a normal body mass index (for postmenopausal breast cancer) • minimising alcohol consumption • having children • breastfeeding	**Practice point**	N/A	3
It is recommended that all women, whether or not they undergo mammographic screening, are aware of how their breasts normally look and feel, and promptly report any new or unusual changes (such as a lump, nipple changes, nipple discharge, change in skin colour, skin texture, pain in a breast) to their GP. No one method for women to use when checking their breasts is recommended over another.	**Practice point**	N/A	5

Further information

Screening

For asymptomatic, average-risk women, BreastScreen Australia recommends screening mammograms every two years for women aged 50–74 years and actively recalls women in this age bracket.[2] However women at average risk may choose to commence mammography through BreastScreen from the age of 40 years.

For women at moderate risk, annual mammograms from age 40 years may be recommended. Annual mammograms are not recommended for women with a single relative diagnosed at age >50 years, because there is no clear evidence of benefit.[10]

Ongoing surveillance strategies for women at high risk of breast cancer may include imaging with MRI.

A Medicare rebate (https://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=63464&qt=item) is available for MRI scans for asymptomatic patients aged <60 years at high risk of breast cancer.[11]

Reviews of evidence from randomised controlled trials of mammography estimate rates of overdiagnosis of breast cancer of between 11% and 19%.[12] More recent modelling data from the US estimate that biennial screening from ages 40 to 74 years would result in 14 overdiagnosed cases of breast cancer per 1000 women screened over the lifetime of screening (estimated range 4–37 overdiagnosed cases).[13] Screening mammography in women aged 40–49 years reduces the risk of dying of breast cancer, but the number of deaths averted is much smaller than in older women, and the number of false-positive tests and unnecessary biopsies is larger.[13]

There is controversy on how to screen women with dense breasts. The current evidence is insufficient to assess the balance of benefits and harms of supplemental screening for breast cancer using breast ultrasound or MRI in women identified to have dense breasts on an otherwise negative screening mammogram.[4]

Thermography is associated with high false-positive and false-negative rates and is not recommended as a screening modality. Polygenic risk scores to determine breast cancer risk may have a role in the future, but are not currently recommended in general practice.

A single nucleotide polymorphism (SNP)-based breast cancer risk assessment test should only be undertaken after an in-depth discussion led by a clinical professional familiar with the implications of genetic risk assessment and testing, including the potential insurance implications. Genetic testing should be offered only with pre- and post-test counselling to discuss the limitations, potential benefits and possible consequences.[14]

Estimated risks for factors for which there is sufficiently strong evidence of an association with risk of breast cancer (ie factors for which the body of evidence was classified as either ‘Convincing’ or ‘Probable’, are summarised in table 5.2 of the 2018 Cancer Australia publication *Risk factors for breast cancer: A review of the evidence*.[15]

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the Prevention and early detection of breast cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-15-prevention-and-early-detection-of-cance/prevention-and-early-detection-of-breast-cancer) chapter in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*.

Specific populations

For women at potentially high risk or carrying a mutation, offer referral to a familial cancer clinic for risk assessment, possible genetic testing and a risk reduction management plan.

Individualised surveillance and risk reduction plan, including consideration of associated risks for other cancers (eg ovarian), may include:

- regular clinical breast examination and annual breast imaging with mammography, MRI or ultrasound
- chemoprevention with selective oestrogen receptor modulators (SERMs; eg tamoxifen or raloxifene) or aromatase inhibitors (eg exemestane and anastrozole)[16]
- mastectomy and/or salpingo-oophorectomy.

Resources

iPrevent (https://www.petermac.org/iprevent) is a validated tool to help in the assessment of breast cancer risk.

References

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Cervical cancer

Cancer | Cervical cancer

Screening age bar

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

Prevalence and context of the condition

In 2021, cervical cancer was estimated to be the 13th most commonly diagnosed cancer recorded among females, with 913 new cases of cervical cancer diagnosed in Australia.[1] Aboriginal and Torres Strait Islander women have a higher incidence of cervical cancer.

Under-screened women remain the most likely to develop cervical cancer. The main burden of cervical cancer is in developing countries without screening programs or human papillomavirus (HPV) vaccination.

The introduction of HPV vaccination in Australia has been instrumental in reducing HPV infection and has placed Australia on track to reach the elimination of cervical cancer targets of 90:70:90 (vaccination: 90% of girls fully vaccinated with the HPV vaccine by age 15 years; screening: 70% of women screened using a high-performance test by age 35 years, and again by age 45 years; treatment: 90% of women identified with cervical disease receive treatment) by 2030.[2] GPs play an important role in achieving these targets by providing vaccination and encouraging participation in the cervical cancer screening program to ensure early detection. Population level targets are beyond the scope of the Red Book, which focuses on recommendations that can be implemented in practice.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Cervical screening is not recommended in women under the age of 25 years.	**Screening not recommended (strong)**	N/A	[3]

Evidence does not support screening for women aged less than 25, even when they have experienced early sexual activity. However, for those who experience their first sexual activity at a young age (<14 years) and who had not received the HPV vaccine before sexual debut, a single HPV test between 20 and 24 years of age could be considered on an individual basis but is not required.	**Practice point**	N/A	3
Women and people with a cervix who have ever had sexual contact aged between 25-74 years of age and are eligible for screening should have a HPV screening test for cervical cancer. This can be on a self-collected vaginal sample or on a clinician-collected sample.	**Recommended (strong)**	Every five years.	3
Women with a negative oncogenic HPV screen between the ages of 70–74 no longer require ongoing routine screening.	**Practice point**	N/A	3
Women who are 75 years or older who have never had a cervical screening test or have not had one in the previous five years, may request a test and can be screened. The sample can be clinician-collected or self-collected, according to the woman's choice.	**Practice point**	N/A	3

Preventive activities and advice

Recommendations	Grade	How often	References
Administer one dose of the 9vHPV vaccine in immunocompetent adolescents and young adults from nine years of age and ensure catch up vaccination up to 26 years. For more information, refer to the *Australian immunisation handbook (https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/human-papillomavirus-hpv)* .	**Recommended (strong)**	From age 9 to 26 years	4

Administering the HPV vaccine in adults aged ≥26 years is generally not recommended. However, some adults may benefit from HPV vaccination. When deciding whether to vaccinate adults, consider: • the likelihood of previous exposure to HPV • the future risks of HPV exposure.	**Generally not recommended**	N/A	[4]

Further information

- A short course of topical oestrogen therapy could be considered in postmenopausal women, people experiencing vaginal dryness, or trans men, prior to collecting the sample – for example, daily for at least 2 weeks, ceasing 1–2 days prior to the appointment. The reason for this should be explained (to reduce discomfort from the speculum and to improve the diagnostic accuracy of any associated liquid-based cytology [LBC]).[3]
- When deciding whether to choose self-collection or clinician collection, people must be given clear information by the supervising healthcare professional about the likelihood that HPV may be detected and, if so, what follow-up will be required. If a person chooses self-collection, the healthcare professional should provide information about how to collect the sample and how they will receive the test results.[3]
- Cervical screening on a self-collected vaginal sample needs to be ordered and overseen by a healthcare professional.* For details of self-collection, refer to the section on self-collected vaginal samples in the National Cervical Screening Program: *Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding (https://www.cancer.org.au/clinical-guidelines/cervical-cancer/cervical-cancer-screening/management-of-oncogenic-hpv-test-results/self-collected-vaginal-samples)* .[3]
- When follow-up HPV testing is required after an initial positive oncogenic HPV test result, the sample may be self-collected or collected by a clinician. The woman's healthcare professional should advise the woman of the follow-up that will be recommended if HPV is detected and explain that a clinician-collected sample allows for reflex LBC to be performed on the same sample. This potentially avoids the need for an additional visit to collect a cervical sample for LBC. HPV testing is not repeated on the clinician-collected sample in this circumstance.[3]
- Among those attending for a routine screening test, approximately 2% have HPV16/18 detected and approximately 6% have HPV (not 16/18) detected, although the latter varies by age.[3]

*Only doctors and nurse practitioners can sign the pathology request for tests under current Medicare Benefits Schedule (MBS) rules.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, Chapter

15: Prevention and early detection of cervical cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-15-prevention-and-early-detection-of-cance/prevention-and-early-detection-of-cervical-cancer) .

Specific populations

Screening in pregnancy[5]

- Routine antenatal and postpartum care should include a review of the woman's cervical screening history. Women who are due or overdue for screening should be screened.
- A woman can be safely screened at any time during pregnancy, provided that the correct sampling equipment is used. An endocervical brush should not be inserted into the cervical canal because of the risk of associated bleeding, which may distress women.
- All women who are due for cervical screening during pregnancy may be offered the option of self-collection of a vaginal swab for HPV testing, after counselling by a healthcare professional about the small risk of bleeding. Women testing positive for HPV (not 16/18) on a self-collected sample should be advised to return so that a cervical sample for LBC can be collected by the healthcare provider.
- For other specific populations, refer to the National Cervical Screening Program: *Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding* (https://www.cancer.org.au/clinical-guidelines/cervical-cancer/cervical-cancer-screening) .

Resources

National Cervical Screening Program: *Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding* (https://www.cancer.org.au/clinical-guidelines/cervical-cancer/cervical-cancer-screening) .

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Ovarian cancer

Cancer | Ovarian cancer

Prevalence and context of the condition

It is estimated that more than 1200 people were diagnosed with ovarian cancer in 2023 in Australia.[1]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for ovarian cancer in asymptomatic women is not recommended.	**Not recommended (Strong)**	N/A	[2]

Further information

In 2019, Cancer Australia found that there is currently no evidence available that screening for ovarian cancer results in reduced mortality for women.[2]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no specific recommendations for Aboriginal and Torres Strait Islander people.

References

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Miscellaneous

Miscellaneous

Topics in this section

Frailty (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/frailty) Hearing (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/hearing) Sleep and sleep-related disorders (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/sleep-and-sleep-related-disorders) Oral health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/oral-health) Urinary incontinence (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/urinary-incontinence) Vision (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/miscellaneous/vision)

Frailty

Miscellaneous | Frailty

Screening and case-finding age bar

0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

Prevalence and context of the condition

Frailty generally occurs later in life and results in physiological decline. It is estimated that more than 20% of Australians will become frail as they age,[1] with declines in multiple domains, including physical function (eg weakness, slow walking speed, unintentional weight loss), cognition and nutritional status (eg appetite loss).[2] Older people who are frail are vulnerable to adverse health outcomes, including procedural complications, falls, institutionalisation, disability and death.[3,4] Frailty is on a spectrum, with older people with mild frailty (becoming 'slow' and losing muscle strength) at increased risk of becoming severely frail (resulting in loss of independence, and need for care in residential aged care home).

Frailty can also occur in younger adults, particularly vulnerable people with disability or onset of illness;[5] however, more research is needed in this area.[6]

Table of recommendations

Screening

Recommendation	Grade	How often	References
Consider screening for frailty as part of an assessment of elderly patients (aged ≥75 years) using a validated rapid frailty instrument suitable to the specific setting or context (refer to Further information).	**Practice point**	Every 12 months.	[2]

Case finding

Recommendation	Grade	How often	References

Consider screening for frailty as part of an assessment of patients (aged 65–74 **and** who have factors associated with frailty) using a validated rapid frailty instrument suitable to the specific setting or context (refer to Further information).	**Practice point**	Every 1–3 years.	2

Preventive activities and advice

Recommendation	Grade	How often	References
To slow or reverse the progression of frailty: • offer a multi-component progressive physical activity program, including resistance and aerobic exercise; consider early involvement of a physiotherapist or exercise physiologist if possible • encourage optimised nutrition • provide medication management • encourage enhanced social connectedness.	**Practice point**	N/A	2

Further information

Risk factors for frailty

There are a number of factors associated with increased risk of frailty. These include:[4]

- older age
- current smoker
- lower educational level
- current use of postmenopausal therapy
- not being married
- depression
- intellectual disability
- being of Aboriginal and Torres Strait Islander descent
- sedentary lifestyle
- undernutrition
- chronic disease
- multimorbidity
- polypharmacy
- obesity.

Screening for frailty

A health assessment for people aged ≥75 years (https://www1.health.gov.au/internet/main/publishing.nsf/Content/mbsprimarycare_mbsitem_75andolder) provides a good opportunity for GPs to case-find people who are frail or pre-frail.

Screening for frailty helps to identify functional decline. Commonly used frailty scoring tools include the following.[4]

- Frailty indicators (https://academic.oup.com/biomedgerontology/article/56/3/M146/545770?login=false) – ask about and score:
    - unintentional weight loss (≥4 kg in the past year)
    - self-reported exhaustion
    - weakness (reduced grip strength)
    - slow gait speed
    - low physical activity.

Frailty = ≥3 of the above; pre-frailty = 1–2 of the above; not frail = none of the above.[7]

- Frailty index (https://academic.oup.com/biomedgerontology/article/62/7/722/581897?login=false) – based on the accumulation of illnesses, functional deficits, cognitive decline and social circumstances, it involves answering >20 medical and functional questions.[8]
- Clinical Frailty Scale (http://www.managingmds.com/content/Clinical_Frailty_Scale.pdf) – helpful scale that takes very little time.
- Edmonton Frail Scale (https://www.bgs.org.uk/sites/default/files/content/attachment/2018-07-05/efs.pdf) – scale that rates frailty from 0 to 17.[9]
- Frail Scale Risk Assessment (https://www.materresearch.org.au/News/Unlisted/Frail-Scale/Frail-Scale-and-Decision-Tool_Qld.pdf) – scale that assesses fatigue, resistance, ambulation, illness, and loss of weight.
- Other useful simple tests with variable specificity and sensitivity:[10]
    - slow walking speed (>5 seconds to walk 4 metres)
    - Timed Up & Go test (https://www.cdc.gov/steadi/pdf/TUG_Test-print.pdf) (>10 seconds to stand from a chair, walk 3 metres, turn around, walk back to the chair and sit down again).

The screening tool may include a number of components, such as assessing:[2,4]

- slow gait speed
- unintentional weight loss
- mood
- accumulation of illnesses
- social circumstances
- cognitive difficulties
- polypharmacy
- weakness
- exhaustion.

Pathophysiology of frailty

For information on the pathophysiology of frailty, including further detail about the immune, endocrine, stress and energy response systems changes that contribute to the development of frailty, please refer to the 'Frailty' chapter (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/silver-book/part-a/frailty) in the *RACGP aged care clinical guide (Silver Book)* – Part A.

Considerations for Aboriginal and Torres Strait Islander peoples

There are no additional recommendations for Aboriginal and Torres Strait Islander people.

Resources

Further information about frailty in an aged care setting: Frailty (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/silver-book/part-a/frailty) | *RACGP aged care clinical guide (Silver book)* – Part A | RACGP

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Hearing

Miscellaneous | Hearing

Prevalence and context of the condition

It is estimated that 3.6 million Australians have some level of hearing loss (somewhat higher in men than women[1]), with 1.3 million Australians living with a hearing condition that could have been prevented.[2] Although the prevalence of hearing loss tends to increase with age, it can affect people of all ages, with significant consequences on the physical, functional and mental health of the individual.

Causes of hearing loss are varied and include:[2–4]

- age-related hearing loss
- exposure to loud environments, including occupational environments (eg construction sites, concert venues, bars, nightclubs)
- congenital or early onset childhood hearing loss
- complications from diseases such as measles, meningitis, rubella and mumps
- genetics
- ototoxic drugs that damage the inner ear
- smoking.

GPs are well placed to detect, diagnose and provide advice to help prevent hearing loss.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for hearing loss is not recommended in asymptomatic adults aged ≥50 years.	**Generally not recommended**	N/A	5

Case finding

Recommendation	Grade	How often	References

Assess hearing in patients who present with conditions that may be associated with hearing loss, such as: • speech and behavioural concerns, chronic ear infections and glue ear in children • questions, concerns or perceived hearing loss in adults. Refer to Further information.	**Practice point**	Opportunistically.	5,6

Preventive activities and advice

Recommendation	Grade	How often	References
Advise the following to help prevent hearing damage: • avoid loud or sustained excessive noise • use hearing protection in high-noise environments • use volume controls for personal devices as necessary • avoid exposure to cigarette smoke in children.	**Practice point**	N/A	7
The following vaccinations may reduce incidence of acute otitis media and/or acquired hearing loss: • annual influenza vaccination (inactivated virus) is recommended in any person aged ≥6 months, • rubella, measles, Haemophilus influenzae type b, meningococcus in children younger than 15 years, • pneumococcal conjugate vaccination (13vPCV) during infancy.	**Practice point**	N/A	8
Preventive activities for pregnant women Offer testing for rubella immunity and syphilis serology to prevent infections that may lead to congenital hearing loss.	**Practice point**	N/A	8

Further information

Newborn screening

Each Australian state has an infant hearing screening program, which includes a test that is typically completed in hospital after the baby is born.

Ensure parents of newborn infants are aware of the universal neonatal hearing screening program in their relevant state and territory and have had their newborn screened for congenital hearing impairment.[8] For further information, please refer to the chapter Developmental delay and autism (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/development-and-behaviour/autism) .

Hearing assessment

It is important to assess hearing in patients who present with conditions that may be associated with hearing loss, such as speech or behavioural concerns in children, or perceived hearing loss in adults.[6] Audiometry is best practice for a thorough assessment. However, hearing loss can also be assessed through:[5]

- single-question screening, asking 'Do you have difficulty with your hearing?'
- longer patient questionnaires, for example the Hearing handicap inventory – screening (HHIE-S) (https://www.uspreventiveservicestaskforce.org/home/getfilebytoken/YbRBU___FZQZ32wgbLdrEU) questionnaire for the elderly.

Hearing assessments such as whispered voice and finger rub are no longer recommended. This is because the results can be variable, as they are user-dependent.[5]

Considerations for Aboriginal and Torres Strait Islander peoples

High rates of persistent otitis media in infancy and childhood are associated with hearing loss across the life course for Aboriginal and Torres Strait Islander people.

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to Hearing loss (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-7-hearing-loss) in the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people.*

Specific populations

People at greater risk of hearing loss include:[2,5,8-13]

- older people (presbycusis)
- people who work in loud environments, such as construction sites, farms, factories, hospitality, concert venues
- people who listen to loud music and use headphones for music or gaming
- Aboriginal and Torres Strait Islander children (refer to Chapter 7: Hearing loss (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-7-hearing-loss) in the National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people for hearing recommendations in this population)
- people with a family history of hearing loss
- people from refugee-like backgrounds. In Australia, rates of chronic suppurative otitis media and cholesteatoma are much higher in the adult refugee population than in the broader Australian population.[11] In addition, refugee children and adolescents may have missed screening for hearing problems.

Resources

Guidelines on the prevention, diagnosis and management of all forms of otitis media for Aboriginal and Torres Strait Islander children (RACGP-endorsed clinical guideline): *Otitis media guidelines (https://otitismediaguidelines.com/)* (app) for Aboriginal and Torres Strait Islander children | Menzies Health

Screening questionnaire for the elderly: Hearing handicap inventory – screening (HHIE-S) (https://www.uspreventiveservicestaskforce.org/home/getfilebytoken/YbRBU___FZQZ32wgbLdrEU) questionnaire

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Sleep and sleep-related disorders

Miscellaneous | Sleep and sleep-related disorders

Prevalence and context of the condition

Sufficient and good-quality sleep is essential for health and wellbeing. In prevalence studies, nearly half (48%) of all Australian adults report at least two sleep-related problems, such as inadequate sleep or sleep disorders.[1] Sleep-related problems can be due to a number of predisposing, precipitating and perpetuating factors[2] and conditions, such as obstructive sleep apnoea (OSA) or insomnia. OSA and insomnia can co-exist. Sleep-related problems are also associated with an increased risk of type 2 diabetes, cardiovascular disease, coronary heart disease, anxiety, depression and stroke.[1,3,4] GPs can advise patients on the importance of practising good sleep hygiene.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for OSA in the general population is not recommended because of insufficient evidence to assess the balance of benefits and harms.	**Generally not recommended**	N/A	[5]
Screening for insomnia in the general population is not recommended because there is no evidence.	**Generally not recommended**	N/A	[2]

Case finding

Recommendation	Grade	How often	References

Case finding for OSA is recommended in people with symptoms (eg daytime sleepiness, fatigue, snoring, disrupted sleep) and in people with common risk factors (age >50 years, overweight or obesity, excessive alcohol intake). Commercial drivers and pilots are a priority group for case finding. Questionnaires that can be used to identify patients who may have **OSA** include the: • Epworth Sleepiness Scale (https://www.sleepprimarycareresources.org.au/questionnaires/ess) • OSA50 (https://www.sleepprimarycareresources.org.au/questionnaires/osa50) questionnaire • STOP-Bang Questionnaire (https://www.sleepprimarycareresources.org.au/questionnaires/stop-bang) . Questionnaires that can be used to identify symptoms of **insomnia disorder** include the: • Sleep Condition Indicator (https://www.sleepprimarycareresources.org.au/questionnaires/sci) (SCI) • Insomnia Severity Index (https://www.sleepprimarycareresources.org.au/questionnaires/isi) (ISI) • Dysfunctional beliefs and attitudes about sleep (DBAS) scale (https://d1tjqcfmshvvz2.cloudfront.net/staging/DBAS-16.pdf) • Daytime insomnia symptom scale (DISS) (https://d1tjqcfmshvvz2.cloudfront.net/staging/DISS.pdf) • Flinders Fatigue Scale (https://d1tjqcfmshvvz2.cloudfront.net/staging/Flinders-Fatigue-Scale_2021-11-11-225634_ffzc.pdf)	**Practice point**	Opportunistically.	2

Preventive activities and advice

Recommendation	Grade	How often	References

Advise behaviour modifications for patients with **OSA risk factors**, including: • limiting alcohol and certain common sedatives and antianxiety/ antidepressant medications (eg benzodiazepines) • a 5–15% weight reduction for overweight or (morbidly) obese patients.	**Practice point**	N/A	2, 6, 7

Advise patients to practice good sleep habits to help prevent sleep problems: • Maintain a regular wake up time, regardless of a poor night sleep • When sleep is of insufficient duration during the week (or work days), catch-up sleep on weekends (or non-work days) is important for health • Resolve concerns or worries before bedtime • Avoid going to bed until you are drowsy and ready to sleep • Try not to force sleep • Avoid daytime naps, especially if they are longer than 20–30 minutes or occur late in the day • Reserve the bedroom for sleep and intimacy and adjust the bedroom environment as needed to decrease stimuli (eg reduce ambient light, turn off the television or radio) • Avoid bright light immediately before bed or while in bed, including television and mobile phone use • Avoid visual access to a clock throughout the night • Allow sufficient time in bed to gain an adequate amount of sleep • Avoid caffeinated beverages after lunch • Avoid alcohol in the late afternoon and evening • Avoid large meals immediately before bed • Avoid smoking or other nicotine intake, particularly during the evening • Avoid pets sleeping in the bedroom • Exercise regularly for at least 20 minutes, preferably more than 1–2 hours prior to bedtime • Do not stay in bed if you do not fall asleep quickly (stimulus control therapy) and encourage relaxing activities before bedtime	**Practice point**	N/A	2, 8, 9

Further information

Obstructive sleep apnoea

OSA is among the most common sleep disorders found in the general population worldwide.[1] The prevalence of undiagnosed OSA is high,[10] and it is associated with considerable morbidity.

The symptoms of OSA are varied, but can include[2,5]:

- excessive daytime sleepiness, fatigue or falling asleep during the day, despite length of sleep
- snoring (which may be loud or irregular)
- choking or gasping during sleep
- witnessed breathing cessation
- sleep disruption and frequent awakenings
- nocturia
- difficulty with concentration, memory and other executive functions
- depressed mood
- decreased work performance.

Untreated OSA can have significant impacts, including:[3,11]

- cardiovascular morbidity and mortality (including hypertension, coronary artery disease, stroke, atrial fibrillation, congestive heart failure)
- increased risk of motor vehicle accidents
- increased risk of occupational accidents
- cognitive impairment
- diabetes
- lost work days
- decreased quality of life
- mortality.

Some of the common risk factors for OSA include:[1,2]

- male sex
- age >50 years
- modifiable risk factors such as smoking, overweight and obesity and alcohol use
- postmenopause (women).

There is currently insufficient evidence to screen the asymptomatic general population for OSA. Instead, initial assessment for symptomatic patients should encompass patient history, questionnaires and physical examination.

Insomnia

Insomnia causes problems falling or staying asleep, and can be categorised as acute (less than three months in duration) or chronic (more than three months duration). There are several predisposing, precipitating and perpetuating factors (https://www.sleepprimarycareresources.org.au/insomnia/summary) that may contribute to the development of insomnia disorder.[2] Insomnia can greatly impact a person's quality of life and overall health.

Acute insomnia generally occurs due to a psychological or physiological stressor, and typically resolves once the stressor has been removed or the patient has adapted to the stressor.[2] It is important to reassure the patient that acute insomnia does not develop into chronic insomnia most of the time, and to manage the stressor that is causing the sleep difficulties.[2]

Women experiencing menopause and perimenopause may experience insomnia.[12]

Chronic insomnia is present for at least three nights per week for three or more months, occurs despite adequate opportunity for sleep and causes significant distress or impairment in daytime functioning.[2]

The assessment of insomnia disorder is based on patient-reported sleep history (https://www.sleepprimarycareresources.org.au/insomnia/assessment-sleep-history) and questionnaires (https://www.sleepprimarycareresources.org.au/insomnia/assessment-questionnaires) .

Please see the Resources tab for more information on behavioural therapies for insomnia.

Considerations for Aboriginal and Torres Strait Islander peoples

The new topic of **Sleep** will be included in the new edition of the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*, released mid-2024.

Specific populations

The prevalence of OSA is increased in patients:[2]

- with type 2 diabetes
- with hypertension and cardiovascular disease
- prescribed sedative medications.

Case finding for OSA may be beneficial in commercial vehicle drivers and pilots.[2]

In addition to factors that may increase the risk of insomnia, a report to the Sleep Health Foundation found several factors associated with the highest prevalence rates of insomnia in the Australian population,[13] including:

- lower income
- financial stress

- unemployment
- retirement
- being unable to work due to disability.

The Sleep Primary Care Resources include a comprehensive list of risk factors that contribute to the development of:

- obstructive sleep apnoea (https://www.sleepprimarycareresources.org.au/osa/presentation-and-risk-factors)
- insomnia disorder (https://www.sleepprimarycareresources.org.au/insomnia/steps-in-assessment-and-management/risk-factors-and-development) .

Resources

Evidence-based resources and information to assess and manage adult patients with OSA and insomnia: Sleep Health Primary Care Resources (https://www.sleepprimarycareresources.org.au/) | Australasian Sleep Association

Non-drug behavioural interventions for patients experiencing insomnia and sleep problems: Cognitive behavioural therapy for chronic insomnia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/cogntive-and-behavioural-therapies/cognitive-behavioural-therapy-for-chronic-insomnia) in *Handbook of non-drug interventions (HANDI)* | RACGP Brief behavioural therapy: Insomnia in adults (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/cogntive-and-behavioural-therapies/brief-behavioural-therapy-insomnia-in-adults) in *Handbook of non-drug interventions (HANDI)* | RACGP Behavioural intervention: Infant sleep problems and maternal mood (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/handi-interventions/cogntive-and-behavioural-therapies/behavioural-intervention-infant-sleep-problems-and) in *Handbook of non-drug interventions (HANDI)* | RACGP

Guidance on sleep hygiene, stimulus control, sleep restriction therapy, relaxation and cognitive therapies: GP guide to behavioural therapy for insomnia (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/drugs-of-dependence/part-b/resources/resource-g-gp-guide-to-behavioural-therapy-for-ins) | RACGP

Evidence-based guidance on the use of benzodiazepines: *Prescribing drugs of dependence in general practice, Part B: Benzodiazepines (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/drugs-of-dependence/part-b/)* | RACGP (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/drugs-of-dependence/part-b/)

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Oral health

Miscellaneous | Oral health

Prevalence and context of the condition

Good oral health is important for a person's physical health and wellbeing,[1] with the adverse effects of poor oral health extending beyond the teeth and gums of the individual. While tooth decay, periodontal disease and tooth loss[1,2] are the most common oral health diseases, poor oral health can cause pain, infection, difficulties with speech and eating, is associated with chronic disease and contributes poor mental health and wellbeing.[1,3] Additionally, poor oral health and decay in early childhood is also associated with impaired growth, decreased weight gain, poor school performance and future dental caries.[4] Significant barriers to dental care remain in Australia, which also contributes to poor dental health.

Table of recommendations

Screening

Recommendation	Grade	How often	References
Screening for oral cancer in the general population is not recommended, because of insufficient evidence. Please refer to the Oral cancer (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/cancer/oral-cancer) chapter for further information.	**Generally not recommended**	N/A	5
Routine screening for dental caries performed by GPs and their teams in children aged <5 years is not recommended, because of insufficient evidence.	**Generally not recommended**	N/A	4
Routine screening examinations for dental caries performed by GPs and their teams in the general population is not recommended.	**Generally not recommended**	N/A	6

Case finding

Recommendation	Grade	How often	References
Examination of the mouth and lips in smokers aged >50 years, heavy drinkers or patients that chew tobacco or betel nut. This should include: • visual inspection of the face, neck, lips, labial mucosa, buccal mucosa, gingiva, floor of the mouth, tongue and palate • palpating the regional lymph nodes, tongue and floor of the mouth. Refer to an appropriate specialist or dentist where issues or concerns are suspected.	**Practice point**	Opportunistically.	5

Preventive activities and advice

Recommendation	Grade	How often	References
Encourage patients to undertake the following preventive activities to avoid tooth decay and periodontal disease: • have a good oral hygiene routine (brushing teeth twice a day with a fluoridated toothpaste, with daily flossing) • limit sugary food in diet • limit soft drinks, sports drinks and alcoholic drinks • quit smoking • undertake regular dental check-ups • use mouth guards for any contact sports. Assess whether patients are exposed to fluoride in their drinking water. Additional fluoride therapies might be suitable depending on risk – refer to the Guidelines for the use of fluorides in Australia: Update 2019 (https://onlinelibrary.wiley.com/doi/full/10.1111/adj.12742) .	**Practice point**	N/A	3,5,7,8,9

Avoid putting babies and children to bed with a bottle.	**Practice point**	N/A	[9]

Further information

Conditions that may require extra preventive care include[3]:

- medications and conditions that are known to cause xerostomia (or dry mouth)
- human immunodeficiency virus (HIV) infection
- patient belonging to other special populations (listed below).

For guidance on the use of fluoridated toothpaste and fluoridated products for children, please refer to the Guidelines for the use of fluorides in Australia: Update 2019 (https://onlinelibrary.wiley.com/doi/full/10.1111/adj.12742) .

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people: Chapter 8: Oral and dental health (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-8-oral-and-dental-health)* .

Specific populations

Advise pregnant women to visit a dentist for treatment of all active dental decay and periodontal disease. For recommendations, refer to the During pregnancy (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/preventive-activities-in-general-practice/reproductive-and-womens-health/during-pregnancy) chapter.

Australia's National Oral Health Plan 2015–2024 (https://www.health.gov.au/resources/publications/healthy-mouths-healthy-lives-australias-national-oral-health-plan-2015-2024?language=en) highlights several priority populations, which are the groups that experience the most significant barriers to accessing oral healthcare and the greatest burden of oral disease. They are:[1]

- people who are socially disadvantaged or on low incomes, which includes
    - low income and/or receiving some form of government income assistance
    - refugees
    - homeless people
    - some people from culturally and linguistically diverse backgrounds
    - people in institutions or correctional facilities
- Aboriginal and Torres Strait Islander peoples
- people living in regional and remote Australia
- people with additional and/or specialised healthcare needs, including

- people living with mental illness
- people with physical, intellectual and developmental disabilities
- people with complex medical needs
- frail older people.

Some populations experience significant financial and access barriers to preventive dental care and treatment in Australia. GPs have the opportunity to identify people who may require extra preventive care, support and education

Resources

Guidelines on the self-use of fluoride products in Australia: Guidelines for the use of fluorides in Australia: Update 2019 (https://onlinelibrary.wiley.com/doi/full/10.1111/adj.12742) | LG Do, Australian Research Centre for Population Oral Health (https://onlinelibrary.wiley.com/doi/full/10.1111/adj.12742)

Resources

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Urinary incontinence

Miscellaneous | Urinary incontinence

Prevalence and context of the condition

Urinary incontinence is defined as the involuntary loss of urine. It can have a considerable impact on health and the overall quality of life.[1] Urinary incontinence is more common in women than in men.[1] The Continence Foundation of Australia estimates that 80% of those with urinary incontinence in the community are women.[2]

Although bedwetting (enuresis) is common in children, the prevalence and severity of urinary incontinence tends to increase with age. It is estimated that severe urinary incontinence affects approximately 5% of people aged 65–84 years, and this increases by more than fivefold for those aged ≥85 years (28%).[3,4] However, these numbers are likely to be underestimated, because urinary incontinence tends to be under-reported and undertreated.[3]

Table of recommendations

Screening

Recommendation	Grade	How
Routine urinary incontinence screening in the general population has insufficient evidence.	**Practice point**	N/A

Case finding

Recommendation	Grade	How

Ask about the occurrence of urinary incontinence in women and people who are at higher risk (see Specific populations).

The 3 Incontinence Questions (3IQ)

1. **During the last three months, have you leaked urine (even a small amount)?**

☐ Yes
☐ No – questionnaire completed

2. **During the last three months, did you leak urine (check all that apply):**

☐ a. When you were performing some physical activity, such as coughing, sneezing, lifting, or exercise?
☐ b. When you had the urge or feeling that you needed to empty your bladder, but you could not get the toilet fast enough?
☐ c. Without physical activity and without a sense of urgency?

3. **During the last three months, did you leak urine most often (check only one):**

☐ a. When you are performing some physical activities, such as coughing, sneezing, lifting, or exercise?
☐ b. When you had the urge or feeling that you needed to empty your bladder, but you could not get to the toilet fast enough?
☐ c. Without physical activity or a sense of urgency?
☐ d. About as equally as often with physical activities as with a sense of urgency?

Definitions of the type of urinary incontinence are based on responses to Question 3:

Response to Question 3	Type of incontinence
a. Most often with physical activity.	Stress only or stress predominant.
b. Most often with the urge to empty the bladder.	Urge only or urge predominant.
c. Without physical activity or sense of urgency.	Other cause only or other cause predominant.
d. About equally with physical activity and sense of urgency.	Mixed.

Conditionally recommended

Oppo

Further information

Types of urinary incontinence

There are four common types of urinary incontinence. When diagnosing a patient with incontinence, it is important to distinguish between urge incontinence and stress incontinence because treatment and management differ.[7]

- **Stress incontinence** is the leaking of urine that may occur during exercise, coughing, sneezing, laughing, walking, lifting or playing sport. This is more common in women, although it also occurs in men, especially after prostate surgery. Pregnancy, childbirth and menopause are the main contributors to stress incontinence.
- **Urge incontinence** is a sudden and strong need to urinate. It is often associated with frequency and nocturia, and is often due to having an overactive or unstable bladder, neurological condition, constipation, enlarged prostate or a history of poor bladder habits.
- **Mixed incontinence** is a combination of stress and urge incontinence and is most common in older women.
- **Overflow incontinence** results from bladder outflow obstruction or injury. Its symptoms may be confused with those of stress incontinence.

Case finding

Although there is no evidence to screen for urinary incontinence in the general, asymptomatic population, GPs should take a proactive approach by asking about urinary symptoms in at-risk groups during routine appointments. This is because many patients can be embarrassed by urinary incontinence and not raise the issue with their GP.[1] Some patients may also see it as a 'normal part of ageing' and not realise that treatments are available.[1]

A list of people who may be at risk of urinary incontinence is given in Specific populations.

It is important to approach the topic with sensitivity. Consider probing statements, such as 'Other people with [state conditions of higher risk here] have had problems with their waterworks [bladder control]…'

Prevention of urinary incontinence

Changes that patients can make in order to prevent urinary incontinence can include:[8]

- losing weight
- quitting smoking
- reducing caffeine and alcohol intake
- addressing constipation by eating plenty of fibre, fruits and vegetables
- exercising for 30 minutes most days
- practising good toilet habits.

It is important that people at risk drink plenty of water, because reducing water intake can worsen bladder control issues.

There is some evidence to suggest that pelvic floor exercises may reduce the prevalence of urinary incontinence in antenatal women in late pregnancy and postpartum.[10] However, the evidence is insufficient to determine whether pelvic floor exercises are an effective preventive activity to prevent urinary incontinence more than one year after birth.[9] People with urinary incontinence can be at risk of falls,[3,10] mental health[3,4] and skin conditions.[11]

Considerations for Aboriginal and Torres Strait Islander peoples

There are no additional recommendations for this specific population.

Specific populations

People at higher risk of urinary incontinence include:[3,4,6]

- Women, in particular, women who:
  - are prenatal and postnatal,
  - have had children vaginally, had an assisted delivery or delivered a large baby
  - are overweight or obese
  - have had a hysterectomy
  - report constipation
- Men who have had prostate surgery
- Those with respiratory conditions, diabetes, stroke, heart conditions, recent surgery, neurological disorders, disability and multimorbidity
- Those on polypharmacy and on medications that may aggravate urinary incontinence
- Frail elderly people or long-term residents of care facilities.

Evidence is limited about the prevalence of incontinence among culturally and linguistically diverse and sex and gender diverse communities.[4]

Resources

Guidance about urinary incontinence in the setting of supported accommodation: Urinary incontinence (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/silver-book/part-a/urinary-incontinence) , *RACGP aged care clinical guide (Silver Book) – Part A*

GP resource about pelvic floor muscle training for women with stress, urge or mixed urinary incontinence: Pelvic floor muscle training: urinary incontinence (https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/conditions/musculoskeletal/pelvic-floor-muscle-training-urinary-incontinence) , *Handbook of non-drug interventions* (HANDI) | RACGP

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Vision

Miscellaneous | Vision

Screening age bar

0-9*	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	≥80

*Between 3 and 5 years.

Prevalence and context of the condition

It is estimated that over 13 million Australians had one or more chronic (long-term) eye conditions in 2017–18, with chronic eye conditions affecting 93% of people aged ≥65 years.[1] Conditions such as cataracts, macular degeneration, glaucoma and diabetic retinopathy can lead to blindness if left untreated.[1] Declining vision impacts the everyday quality of life of the patient[2] and contributes to injury and morbidity.[3] Open-angle glaucoma prevalence increases with age after age 40 years and is more common in people of Caucasian, Asian and African ethnicity.

Aboriginal and Torres Strait Islander peoples aged >40 years have nearly three times the rate of vision loss of other Australians.[4,5]

Table of recommendations

Screening

Recommendation	Grade	How often	References

Vision screening in children to detect amblyopia, or its risk factors, is recommended. Risk factors include: • strabismus • uncorrected refractive errors (eg myopia, hyperopia and astigmatism) • anisometropia • media opacity. Additional risk factors include: • family history in a first-degree relative • prematurity • low birth weight • maternal substance abuse • maternal smoking during pregnancy • low levels of parental education.	**Conditionally recommended**	Once, between the ages of 3 and 5 years	6
Visual acuity screening in the general population is not recommended, because of insufficient evidence.	**Generally not recommended**	N/A	7,8
Glaucoma screening in the general population (without increased risk factors) is not recommended, because of insufficient evidence.	**Generally not recommended**	N/A	9
Vision screening in children aged <3 years is not recommended, because of insufficient evidence.	**Generally not recommended**	N/A	6
Screening for primary open-angle glaucoma in the general population aged ≥40 years is not recommended, because of insufficient evidence.	**Generally not recommended**	N/A	7

Case finding

Recommendation	Grade	How often	References

Identify people aged >50 years at high risk of glaucoma and refer to an optometrist/ ophthalmologist for further assessment. People at higher risk of glaucoma include patients aged >50 years with: • diabetes • myopia • long-term steroid use • migraine and peripheral vasospasm • abnormal blood pressure • history of eye trauma.	**Conditionally recommended**	Frequency of follow up determined by the individual patient's eye assessment.	9,10

Preventive activities and advice

Recommendation	Grade	How often	References
Advise good eye care to help prevent eye strain and vision problems: • reduce ocular exposure to ultraviolet B light to reduce risk of cataracts (e.g., wearing a hat and sunglasses when outdoors), • wear any prescribed glasses or contact lenses, • wearing eye protection (particularly for people with occupations or hobbies who may be at risk of getting objects or chemicals in their eyes), • rest eyes if using screens for long periods of time to reduce eye strain, • quit smoking, • eat plenty of fruits and vegetables.	**Practice point**	N/A	11

Further information

Vision screening: Children aged <3 years

Newborn vision screening in Australia is typically undertaken in hospitals, soon after the baby is born. However, there is insufficient evidence to recommend routine vision screening in primary care in children aged <3 years. Children aged <3 years are often unable to cooperate with some of the clinical screening tests performed in general practice, such as visual acuity testing, and therefore may lead to false positive results.[6]

Vision screening: Children aged 3–5 years

The purpose of vision screening between the ages of 3 and 5 years is to detect any vision problems, but primarily to detect amblyopia. Amblyopia is more commonly known as 'lazy eye'. It typically only occurs in one eye, but occasionally occurs in both.

Optometry Australia guidelines (https://www.optometry.org.au/wp-content/uploads/Professional_support/Guidelines/optometry_australia_paediatric_eye_health_and_vision_care_guidelines_-_august_2016.pdf) recommend the following techniques to measure acuity in children aged 3–5 years. The Broken Wheel Test is a possible alternative if the below tests cannot be conducted:[12]

- **Patti Pics or Lea Chart at 3 metres or 6 metres**
- **Snellen chart at 6 metres** – use multiple-line presentation or crowding bars to increase sensitivity of detection of amblyopia. Single-line presentations with crowding bars can also be considered.

Glaucoma

Glaucomas are a group of relatively common optic neuropathies in which there is pathological loss of retinal ganglion cells, progressive loss of sight and associated alteration in the retinal nerve fibre layer and optic nerve head. While there is no evidence for population screening for primary open-angle glaucoma,[9] GPs have an important role in identifying those at increased risk for glaucoma and advising them to attend regular, fully comprehensive eye examinations with an optometrist. Open-angle glaucoma can be identified with optimal coherence tonography (high sensitivity), automated visual field testing (high sensitivity), tonometry (lower sensitivity) and visualisation of the optic disc (lower sensitivity). Management to reduce intraoccular pressure slows progression of glaucoma. However, there are currently no tools available that can identify patients' individual risk, or for whom screening may be more beneficial.[9]

Assessing fitness to drive

The Austroads Assessing Fitness to Drive guidelines include a subsection on Vision and eye disorders (https://austroads.com.au/publications/assessing-fitness-to-drive/ap-g56/vision-and-eye-disorders/medical-standards-for-licensing-11) . This provides information on the effects of vision and eye disorders

on driving, assessment and management guidelines, and medical standards for licensing.

Considerations for Aboriginal and Torres Strait Islander peoples

For specific recommendations for Aboriginal and Torres Strait Islander people, please refer to the following sections from Chapter 6: Eye health of the *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people*:

- Visual acuity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-6-eye-health/visual-acuity)
- Trachoma and trichiasis (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-6-eye-health/trachoma-and-trichiasis)

Specific populations

People at greater risk of visual impairment and loss include:[8]

- older people
- people with diabetes
- people with family history of vision impairment
- smokers (current or previous).

Older people

It should be determined whether the patient is wearing up-to-date prescription spectacles. Also assess whether there is a possibility of falls, or if the patient is no longer capable of managing a bifocal, trifocal or multifocal prescription.

Resources

Guidelines for screening and preventive care in Aboriginal and Torres Strait Islander people:
Visual acuity (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-6-eye-health/visual-acuity) , *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-6-eye-health/visual-acuity)* | RACGP
Trachoma and trichiasis (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-6-eye-health/trachoma-and-trichiasis) , *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide/chapter-6-eye-health/trachoma-and-trichiasis)* | RACGP

Screening guidelines for diabetes-related eye disease, such as diabetic retinopathy: Microvascular complications: Diabetes-related eye disease (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/chronic-disease/diabetes/microvascular-complications-diabetes-related-eye-d) , *Management of type 2 diabetes: A handbook for general practice (https://www.racgp.org.au/clinical-resources/clinical-guidelines/guidelines-by-topic/view-all-guidelines-by-topic/chronic-disease/diabetes/microvascular-complications-diabetes-related-eye-d)* | RACGP Guidelines for assessing fitness to drive: Assessing fitness to drive (https://austroads.com.au/publications/assessing-fitness-to-drive/ap-g56/about-this-publication) | Austroads (https://austroads.com.au/publications/assessing-fitness-to-drive/ap-g56/about-this-publication) The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) referral pathways for age-related macular degeneration, diabetic retinopathy and glaucoma management: Collaborative care (https://ranzco.edu/home/health-professionals/collaborative-care-2/) | RANZCO (https://ranzco.edu/home/health-professionals/collaborative-care-2/)

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Supplementary material

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Conflict of interests

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Appendices

Appendices

Appendix 1 - Methods report (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/appendices/appendix-1-methods-report)

Appendix 1 - Methods report

Background

GRADE methods

GRADE is an internationally recognised systematic and transparent approach for developing and presenting summaries of evidence and deriving evidence-based recommendations. GRADE methods are used by many international organisations, including the World Health Organization and the Cochrane Collaboration. The NHMRC also recommends GRADE for the development of Australian guidelines.

GRADE methods were developed with the aim of standardising summaries of evidence, and the development and presentation of clinical practice guidelines around the world. The approach leads to the generation of evidence-based recommendations that are graded in terms of strength (strong or conditional) and direction (for or against).

Using GRADE principles for developing the Red book 10th edition

Although the robustness of the full GRADE approach is not in question, adopting a full GRADE approach is time and resource intensive, and challenging for the breath of screening and prevention topics covered by the Red book. (For example, it is estimated that adopting a full GRADE approach to develop recommendations de novo across the 64 topics proposed for the Red Book would take more than two years and cost in excess of $1 million.) GRADE is designed to assess prespecified outcomes that are based on an underlying clinical question (usually developed in the PICO [population, intervention, comparator/control and outcomes] format). The development of guidance in the Red Book has not been framed in this way, and the Red Book instead relies on specification of the **topics** to be covered. Based on the above, the RACGP decided to adopt a pragmatic approach for the development of the Red Book 10th edition, reflecting option six for the published criteria for using GRADE: *The strength of recommendations should be assessed using two categories (For or Against an option) and definitions for each category such as strong and conditional that are consistent with the definitions used by the GRADE Working Group (although different terminology may be used).*[1,2] Details of the approach (methods and process) for using GRADE principles in a pragmatic meta-guideline approach to update the Red Book 10th edition are described below.

Approach for the development of the Red book 10th edition

The approach for developing the recommendations in the Red Book 10th edition consisted of the following steps:

1. Scoping the topics to be covered by Red Book 10th edition
2. Identifying and assessing source guidelines (for recency, relevance and quality)
3. Extracting potentially suitable source recommendations (only those relevant to prevention and screening)
4. Assessing potentially suitable source recommendations with consideration of:
    - applicability to the Australian general practice context
    - the feasibility of implementing the recommendations
    - a comparison with recommendations and practice points in the Red Book 9th edition
    - consistency with recommendations in other guidelines on the same topic
    - the evidence base underpinning the recommendations
5. Adopting, adapting or discarding selected source recommendations through a considered judgement process involving the chapter leads, topic working groups and/or the Red Book Executive Committee

Where no source recommendations were available, advice was sought from chapter leads about possible landmark studies, or whether any trials were underway, and targeted literature searches may have been undertaken where necessary. Where evidence was identified, it was assessed and de novo recommendations were developed if appropriate.

Scoping the topics to be covered

The list of topics to be covered in Red Book 10th edition was developed by reviewing the existing coverage in the Red Book 9th edition, and through deliberation and consensus of the Executive Committee. Consideration was given to areas that were not covered in the Red Book 9th edition, with a total of 20 new topics addressed in the Red Book 10th edition (see "What's New in the 10th edition of the Red book (https://www.racgp.org.au/wip-sites/preventive-activities-in-general-practice/what-s-new-in-the-10th-ed-red-book) ").

Selecting source guidelines

In identifying prevention and screening recommendations contained within relevant evidence-based guidelines developed by others (referred to as 'source guidelines'), preference was given to high-quality Australian guidelines, followed by high-quality international guidelines that were judged to be applicable to Australian general practice. This approach avoided duplicating existing syntheses of the research literature and avoided the need to critically appraise primary research that had already been assessed

using reliable processes and tailored to the Australian setting. Australian and international evidence-based guideline repositories were systematically searched. These repositories included websites of the following organisations:

- Australian NHMRC
- Australian Government Department of Health and Aged Care
- UK National Institute for Health and Care Excellence (NICE)
- New Zealand Guidance Group (NZGG)
- Scottish Intercollegiate Guidelines Network (SIGN)
- USPSTF
- Canadian Task Force on Preventive Health Care (CTFPHC)

The criteria for assessing the suitability and quality of source guidelines following their identification are detailed in the table below.

Source Guideline Selection Criteria

Publication type (i.e., a clinical practice guideline developed using a recognised, evidence-based approach such as GRADE, NICE methods, NHMRC FORM etc.)
Relevance to the clinical area that is in scope
Guidance applicable to a general practice setting
Published since 1 January 2016

Data extraction from accepted source guidelines

Following acceptance of a guideline as a source guideline (either Australian or international), the following key information about the recommendation was entered into the data extraction template:

- the recommendation (including its strength and grade)
- the year of publication and date of evidence search
- the method used to identify and appraise evidence underpinning the recommendation
- the quality of the body of evidence/level of evidence (where reported by the source guideline).

Recommendations from multiple source guidelines were extracted where available.

Topics with no source guidelines

For **existing** Red Book 9th edition topics with no new recommendations from source guidelines, targeted literature searches were conducted for landmark randomised controlled trials (RCTs) published since 2016. For **new** topics with no new source recommendations, targeted literature searches were conducted for high-quality systematic reviews published since 2010. For existing Red Book 9th edition topics, the findings from the targeted literature searches were used to supplement the

existing recommendation, and were mapped to a GRADE-like recommendation for the Red Book 10th edition. For topics where no source guideline was identified, targeted searches of systematic reviews of evidence were conducted and consensus guidance (ie practice points) was developed where appropriate.

Selecting source recommendations and practice points

Extracted source recommendations were compared with existing recommendations and practice points from the Red Book 9th edition. Judgements regarding the suitability of new source recommendations were made in the context of any existing Red Book guidance. Key considerations in selecting the final list of source recommendations were that:

- source recommendations were applicable for Australian general practice
- source recommendations from different source guidelines were consistent with each other (ie advised actions in the same direction)
- differences between existing guidance and new source recommendations were highlighted and underlying reasons for the differences identified
- any aspects of care for that topic that were not addressed by the source recommendations (ie topic gaps) were identified.

In situations where inconsistencies across possible source recommendations could be resolved by the chapter lead and topic working group, the matter was raised with the Red Book Executive Committee for discussion and resolution. In making the final selection of source recommendations for the chapter, the chapter lead and the Red Book Executive Committee actively considered whether any apparent changes in the **direction** of guidance since the Red Book 9th edition was reasonable. Changes were highlighted and documented; for example, the publication of new primary studies may have changed a recommendation from being neutral to being in favour of the use of an intervention. Another example of changes to recommendations may have been related to changes to public funding of preventative or screening activities since the publication of the Red Book 9th edition.

Process of developing Red book 10th edition recommendations

The relevant chapter lead and the Red Book Executive Committee met virtually throughout 2022 and 2023 to consider the existing recommendations and potential source recommendations, and to review the suitability of adopting or adapting or discarding source recommendations. At these meetings, the underlying grade of recommendations and the level of evidence supporting the recommendation were key parts of the review. Feedback on individual chapters was provided by the Red Book Executive Committee.

Mapping adopted or adapted source recommendations to GRADE-like recommendations

Each adopted/adapted source recommendation was mapped to a GRADE-like strength using a defined set of Red Book GRADE-like decision rules (see Grading conventions for recommendations in the Red Book 10th edition). At times, developers of source guidelines used transparent methods to develop evidence-based recommendations but relied on the wording of each recommendation to convey strength rather than assigning a formal grade (typical in NICE guidelines from the UK). In these situations, the strength of the source recommendation was inferred, and this was used as the basis of the mapping for that recommendation. Examples of mapping ungraded source recommendations to Red Book 10th edition GRADE-like recommendations are detailed below. Assessing the suitability of potential recommendations from source guidelines and transitioning to GRADE-like recommendations occurred through a considered judgement process by chapter leads in collaboration with the Red Book Executive Committee for all chapters in the Red Book 10th edition.

Grading conventions for recommendations in the Red book 10th edition

Although the GRADE working group advises that the strength of recommendations should be assessed using two categories (for or against an option) and definitions for each category, such as 'strong' and 'conditional', for improved implementation across general practice settings, that terminology has been slightly modified for the Red Book 10th edition. 'Recommended (Strong)' or 'Not recommended (Strong)' was used in Red Book 10th edition for strong recommendations, and 'Conditionally recommended' or 'Generally not recommended' was used for conditional recommendations, where there may be uncertainty over the balance of benefits (eg when the evidence quality was low or very low or when personal preferences or costs were expected to impact the decision). **Strong recommendations** are those for which the RACGP is very confident that the desirable effects of an intervention outweigh its undesirable effects (strong recommendation for an intervention) or that the undesirable effects of an intervention outweigh its desirable effects (strong recommendation against an intervention). A strong recommendation implies that most people will be best served by the recommended course of action. Strong recommendations are typically based on high-certainty evidence (ie high confidence in the estimate of the effect of an intervention). Strong recommendations may recommend in favour of an intervention (when there is high confidence of net benefit) or against an intervention (when there is high confidence of net harm). However, there are circumstances in which a strong recommendation could have been made based on low- or very low-certainty evidence or when there is absence of evidence. **Conditional recommendations** are those for which the RACGP regards the desirable effects to probably outweigh the undesirable effects (conditional recommendation in favour of an intervention), or undesirable effects to probably outweigh the desirable effects (conditional recommendation against an intervention), but appreciable uncertainty exists. Conditional recommendations (termed 'Conditionally recommended' or 'Generally not recommended' in the Red Book 10th edition) are made when the certainty of evidence is lower, when the margin between desirable and undesirable consequences is small and the balance depends on patient values and preferences, or when there is high variability in the values and preferences of patients. In certain cases

where a conditional recommendation for an intervention is made, clinicians are encouraged to engage in shared decision making to recognise that different choices will be appropriate for individual patients and to help each person arrive at a management decision consistent with their values and preferences. Practice points have been provided to address important aspects of care that are not addressed by relevant source guidelines, or where evidence was lacking.

GRADE-like decision rules for Red book 10th edition

The Red book GRADE-like decision rules for consistently mapping grading across various source guidelines are described below.

Mapping grading from source recommendations developed using GRADE methods to Red book 10th edition GRADE-like recommendations

The tables below describe the mapping of source recommendations developed using the GRADE approach to GRADE-like recommendation grading in the Red Book 10th edition. The key domains from the GRADE evidence-to-decision table of the source guideline were explicitly considered (ie values and preferences of people receiving preventive care; equity considerations; acceptability; feasibility of implementation; resource use/cost implications). Modifications to the wording of source recommendations may have been proposed by chapter leads or the Red Book Executive Committee to reflect such considerations. If the wording of the source recommendation is changed but the intention of the recommendation is not, then it is likely that the same strength will apply to the recommendation in the Red Book 10th edition. Where there were concerns regarding the directness of the source recommendation (eg it is from an international guideline and reflects a different health setting), the Red Book 10th edition recommendation may have been mapped to a lower strength than the source recommendation. Any downgrading of the strength of recommendations is clearly documented. The following table details the transition of GRADE source recommendations to Red Book 10th edition GRADE-like conventions:

Source recommendation (GRADE) strength and direction	Recommendation in Red book 10th edition strength and direction
Strong in favour	**Recommended (Strong)**
Conditional in favour	**Conditionally recommended**
Conditional against	**Generally not recommended**
Strong against	**Not recommended (Strong)**

Mapping grading from source recommendations developed using NHMRC FORM methods to Red book 10th edition GRADE-like recommendations

The table below describes the mapping of source recommendations developed using NHMRC FORM methods to GRADE-like recommendation grading in the Red Book 10th edition. As for mapping from GRADE source recommendations to the Red Book 10th edition GRADE recommendations (see above), when mapping a source recommendation from FORM, consideration was given to the directness/ applicability of the source recommendation to Australian general practice.

Source recommendation (FORM) strength and direction	Recommendation in Red book 10th edition strength and direction
A (in favour)	**Recommended (Strong)**
B (in favour)	**Conditionally recommended**
C (in favour)	**Conditionally recommended**
D (in favour)	**Conditionally recommended**
D (against)	**Generally not recommended**
C (against)	**Generally not recommended**
B (against)	**Generally not recommended**
A (against)	**Not recommended (Strong)**

Mapping ungraded source recommendations to Red book 10th edition GRADE-like recommendations

The table below describes the mapping of source recommendations that are ungraded to GRADE-like recommendation grading in the Red Book 10th edition. Some examples of the types of phrasing that can be used to convey the strength of recommendations in source guidelines are given below. Sometimes 'recommendations' are actually evidence statements (eg 'There is insufficient evidence to recommend for or against xxx …'). If a source recommendation was phrased in this way, it was transformed into an active voice during the mapping process. The phrasing used across different source guidelines was inconsistent at times and some degree of interrogation of the source guideline

was required to gain a sense of the underlying evidence base and the intention of the authors with their choice of wording. The following table details the transition of ungraded recommendations to Red Book 10th edition GRADE-like conventions:

Source recommendation (ungraded) strength and direction	Recommendation in Red book 10th edition strength and direction
'It is recommended that xxx should be done …' 'Do xxx …'	**Recommended (Strong)**
'Consider doing xxx …'	**Conditionally recommended**
'Xxx may or may not be done …'	**Generally not recommended**
'Xxx is not recommended …'	**Generally not recommended**
'Xxx should not be done…' 'Do not do xxx …'	**Not recommended (Strong)**

Mapping grading from source recommendations developed using U.S. Preventive Services Task Force methods to Red book 10th edition GRADE-like recommendations

The USPSTF has a four-tiered grading system (Grades A–D) and an 'insufficient evidence' category. When mapping USPSTF to GRADE-like recommendations in the Red Book 10th edition, consideration was given to the directness/applicability of the source recommendation to Australian general practice. The following table details the transition of grading of USPSTF recommendations to Red Book 10th edition GRADE-like conventions:

Source recommendation (USPSTF) strength and direction	Recommendation in Red book 10th edition strength and direction
A (in favour)	**Recommended (Strong)**
B (in favour)	**Conditionally recommended**
C (in favour)	**Conditionally recommended**
D (in favour)	**Conditionally recommended**
D (against)	**Generally not recommended**
C (against)	**Generally not recommended**

B (against)	**Generally not recommended**
A (against)	**Not recommended (Strong)**
I (insufficient evidence)	**Not recommended (Strong)**

Mapping from the Canadian Task Force on Preventive Health Care recommendations to Red book 10th editionth edition GRADE recommendations

The Canadian Task Force on Preventive Health Care (CTFPHC) recommendations are graded according to GRADE. Whether a recommendation is strong or conditional is based on considerations such as certainty in the effects of an intervention, including magnitude, as well as estimates of how patients value and prioritise outcomes, the variability of these estimates and the wise use of resources.

The CTFPHC previously used the term 'weak recommendation', but has replaced this with the term 'conditional recommendation' to improve understanding and facilitate implementation of guidance, based on feedback from clinician knowledge users. One reason for this change was the value that the CTFPHC places on shared decision making, together with a need to better clarify when implementation of a recommendation depends on circumstances such as patient values, resource availability or other contextual considerations. Conditional recommendations based on patient values and preferences require clinicians to recognise that different choices will be appropriate for different patients and that those decisions must be consistent with each patient's values and preferences.

When mapping the CTFPHC recommendations to the Red Book 10th edition grading convention, consideration was given to the directness/applicability of the source recommendation to Australian general practice. The following table details the transition of grading of CTFPHC GRADE recommendations to Red Book 10th edition GRADE-like conventions:

Source recommendation (CTFPHC) strength and direction	Recommendation in Red book 10th edition strength and direction
Strong recommendation	**Recommended (Strong)**
Strong recommendation (against)	**Not recommended (Strong)**
Conditional recommendation	**Conditionally recommended**
Conditional recommendation (against)	**Generally not recommended**

Mapping from the Medical Services Advisory Committee

evidence-based policy advice to Redbook 10th edition GRADE recommendations

The Medical Services Advisory Committee (MSAC (http://www.msac.gov.au/)) is a national health technology assessment committee and, as such, does not produce clinical practice guidelines. However, evidence assessments undertaken for the committee typically follow Cochrane and/or GRADE methods for review and appraisal of primary evidence. MSAC is responsible for providing advice to government on public funding of some preventive activities, notably regarding national screening programs, such as those for cervical cancer. The funding recommendations by MSAC are essentially binary: accept or reject. If the most recent recommendation available from MSAC is 'Defer', it is proposed that such recommendations are handled as if they are a rejection. The following table details the transition of grading of MSAC funding decisions to Red Book 10th edition GRADE-like conventions:

Source recommendation (MSAC) strength and direction	Recommendation in Red book 10th edition strength and direction
Accept	**Recommended**
Reject	**Not recommended (Strong)**
Deferred with no final recommendation available yet	**Not recommended (Strong)**

Mapping from the American Diabetes Association recommendations to Red book 10th edition GRADE recommendations

The American Diabetes Association (ADA) has a four-tiered grading system (Grades A–C and Grade E, expert opinion category). Recommendations are assigned ratings of A, B or C depending on the quality of evidence. Expert opinion (E) is a separate category for recommendations for which there is no evidence from clinical trials, for which clinical trials may be impractical or for which there is conflicting evidence. Recommendations with an 'A' rating are based on large, well-designed clinical trials or well-done meta-analyses. Recommendations with lower levels of evidence may be equally important but are not as well supported. The level of evidence supporting a given recommendation is noted either as a heading for a group of recommendations or in parentheses after a given recommendation. The following table details the transition of ADA grading to Red Book 10th edition GRADE-like conventions:

Source recommendation (ADA) strength and direction	Recommendation in Red book 10th edition strength and direction
A	**Recommended (Strong)**

B	**Conditionally recommended**
C	**Conditionally recommended**
A (against)	**Not recommended (Strong)**
B (against)	**Generally not recommended**
C (against)	**Generally not recommended**
E (expert consensus or clinical experience)	**Practice point**

Handling different strengths within a Red book recommendation

In certain instances, different elements of a Red Book recommendation were derived from different source recommendations. Different elements of a Red Book recommendation have different colour coding to reflect the different sources, with practice points specifically called out.

References

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