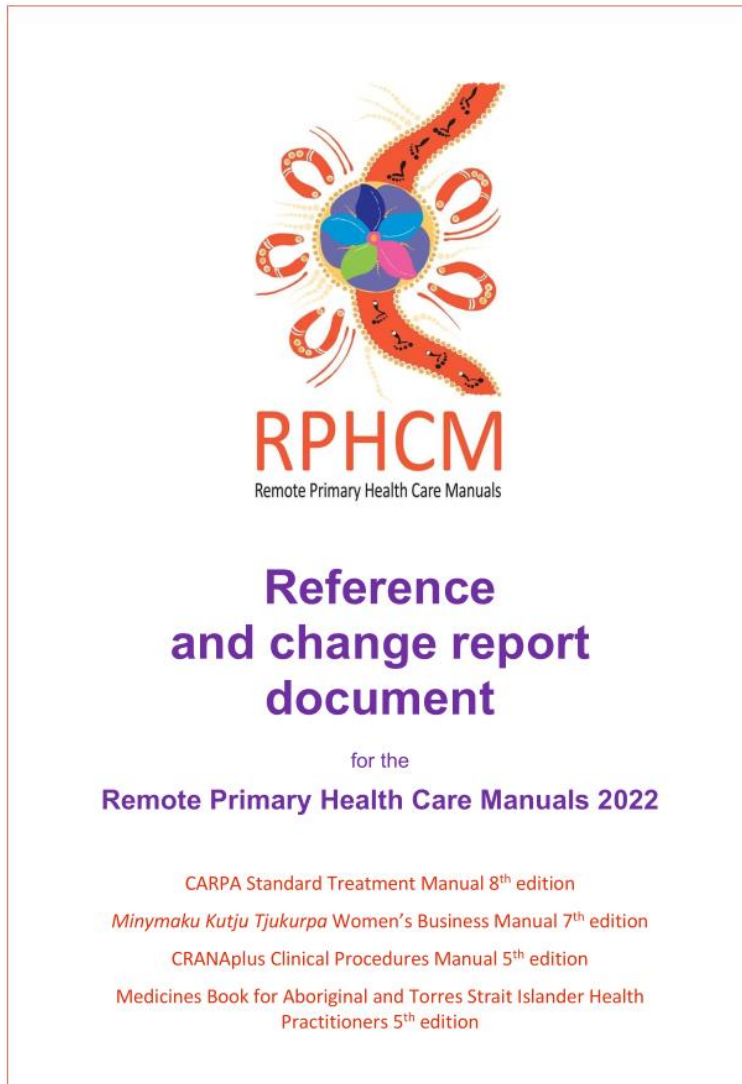


References and change report



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CARPA Standard Treatment Manual

Acute assessment (gateway) protocols

Early recognition of sepsis

Summary of changes

This protocol replaces the previous “early recognition of the sick and deteriorating patient” from the 7th edition (2017).

The Remote Early Warning Score (REWS) was introduced to the Standard Treatment Manual in the 7th edition (2017). This scoring system has been retained in the updated edition however **major changes have reflected the inclusion of sepsis pathways** that emphasise the **early administration of antibiotics**.

Change in obstetric REWS of the normal RR to 9-20.

Recommendations to follow local sepsis pathway, choice dictated by regional sensitivities.

Suggestion of antibiotics to give if undifferentiated or unknown sepsis: **gentamicin**, **flucloxacillin**, **ceftriaxone** first *AND* if available **vancomycin** as a single slow infusion — dose and infusion rate.

Addition of POC Test for WBC, troponin and electrolytes.

Addition of risk factor for sepsis and addition of appearance, work of breathing, circulation for paediatric assessment with updated flow chart to reflect above changes.

Change of flowchart to ensure that a medical consult is done asap without waiting POC tests results.

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2017) [Recognising and Responding to Acute Deterioration Standard](#), National Safety and Quality Health Service (NSQHS) Standards, accessed 29 March 2022.
- 2 Burch VC, Tarr G and Morrioni C (2008) 'Modified early warning score predicts the need for hospital admission and inhospital mortality', *Emergency Medicine Journal*, 25(10):674-8, doi:10.1136/emj.2007.057661
- 3 Chamberlain DJ, Willis E, Clark R and Brideson G (2015) 'Identification of the severe sepsis patient at triage: a prospective analysis of the Australasian Triage Scale', *Emergency Medicine Journal*, 32:690–697, doi:10.1136/emered-2014-203937
- 4 Hodgetts TJ, Kenward G, Vlachonikolis IG, Payne S and Castle N (2002) 'The identification of risk factors for cardiac arrest and formulation of activation criteria to alert a medical emergency team', *Resuscitation*, 54(2):125-31, doi:10.1016/s0300-9572(02)00100-4
- 5 Subbe CP, Davies RG, Williams E, Rutherford P and Gemmell L (2003) 'Effect of introducing the Modified Early Warning score on clinical outcomes, cardio-pulmonary arrests and intensive care utilisation in acute medical admissions', *Anaesthesia*, 58(8):797-802, doi:10.1046/j.1365-2044.2003.03258.x
- 6 Subbe CP, Kruger M, Rutherford P and Gemmel L (2001) 'Validation of a modified Early Warning Score in medical admissions', *QJM: Monthly Journal of the Association of Physicians*, 94(10):521-6, doi:10.1093/qjmed/94.10.521

Acute assessment of unwell child

Summary of changes

Following feedback on 7th edition of the Standard Treatment Manual (2017), the RPHCM Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct health care professionals in early assessment of criticality and differential diagnosis**.

Content from the 7th edition protocol “Babies under 2 months who are sick or have a fever” has been integrated into this protocol with assessment extended to include children up to 5 years of age and the **addition** of clinical observations and differential diagnoses.

Primary references

- 1 National Institute for Health and Care Excellence (2021) [Fever in under 5s: assessment and initial management \[NG143\]](#), NICE Clinical Guidelines, accessed 28 April 2022.

Acute assessment of new onset confusion (delirium)

Summary of changes

Following feedback on the 7th edition of the Standard Treatment Manual (2017), the Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct health care professionals on criticality and differential diagnosis**.

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2021) [Delirium](#), Clinical Care Standard, ACSQHC, Sydney accessed 11 January 2022.
- 2 National Institute for Health and Care Excellence (2019) [Delirium: prevention, diagnosis and management \[NG103\]](#), NICE Clinical Guideline, accessed 11 January 2022.
- 3 Royal Australian College of General Practitioners (2019, 2020) [RACGP aged care clinical guide \(Silver Book\), 5th Edition](#), RACGP, East Melbourne.

Acute assessment Headaches

Summary of changes

Following feedback on the 7th edition of the Standard Treatment Manual (2017), the Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct health care professionals on criticality and differential diagnosis**.

This protocol has been adapted from the protocol “headaches” with **addition** of differential diagnoses.

Primary references

- 1 KB Digre and KC Brennan (2012) 'Shedding light on photophobia', *Journal of Neuro-Ophthalmology*, 32(1):68-81, doi:10.1097/WNO.0b013e3182474548
- 2 Wootton RJ, Wippold II FJ and Whealy MA (2021) [Evaluation of headache in adults](#), UpToDate, accessed 28 April 2022.

Acute assessment of breathing problems in adults

Summary of changes

Following feedback on the 7th edition of the Standard Treatment Manual (2017), the Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct health care professionals on criticality and differential diagnosis**.

This protocol is an adapted format of the protocol "Breathing problems in adults".

Primary references

- 1 Hale ZE, Singhal A and Hsia RY (2018) 'Causes of Shortness of Breath in the Acute Patient: A National Study', *Academic Emergency Medicine*, 25(11):1227-1234, doi:10.1111/acem.13448
- 2 Levy ML, Fletcher M, Price DB, Hausen T, Halbert RJ and Yawn BP (2006) 'International Primary Care Respiratory Group (IPCRG) Guidelines: diagnosis of respiratory diseases in primary care', *Primary Care Respiratory Journal*, 15(1):20-34, doi:10.1016/j.pcrj.2005.10.004

Acute assessment of breathing problems in children

Summary of changes

Following feedback on the 7th edition of the Standard Treatment Manual (2017), the Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct HCPs on criticality and differential diagnosis**.

This gateway protocol is based on evidence supporting the protocols that link from this section:

- Chest infection — 2 months to 5 years
- Asthma in children
- Chronic suppurative lung disease and bronchiectasis in children

Primary references

- 1 Flori H, Dahmer MK, Sapru A and Quasney MW (2015) 'Comorbidities and assessment of severity of pediatric acute respiratory distress syndrome: proceedings from the Pediatric Acute Lung Injury Consensus Conference', *Pediatric Critical Care Medicine*, 16(5 Suppl 1):S41-50, doi:10.1097/PCC.0000000000000430
- 2 Lakhanpaul M, MacFaul R, Werneke U, Armon K, Hemingway P and Stephenson T (2009) 'An evidence-based guideline for children presenting with acute breathing difficulty', *Emergency Medicine Journal*, 26(12):850-3, doi:10.1136/emj.2008.064279

Acute assessment of chest pain

Summary of changes

Following feedback on the 7th edition of the Standard Treatment Manual (2017), the Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct health care professionals on criticality and differential diagnosis**.

This protocol has been adapted from the "chest pain" protocol and contains red flag indicators and differential diagnoses. Content relating to assessment and management of chest pain (including thrombolysis, acute coronary syndrome and arrhythmias) has been retained in the updated "chest pain" protocol in the emergencies chapter.

Primary references

- 1 Amsterdam EA, Wenger NK, Brindis RG, Casey Jr DE, Ganiats TG, Holmes Jr DR, Jaffe AS, Jneid H, Kelly RF, Kontos MC, Levine GN, Liebson PR, Mukherjee D, Peterson ED, Sabatine MS, Smalling RW and Zieman SJ (2014) 'American College of Cardiology (ACC) / American Heart Association (AHA) Guideline for the Management of Patients With Non–ST-Elevation Acute Coronary Syndromes', *Circulation*, 130(25):e344-426, doi:10.1161/CIR.000000000000134
- 2 National Institute for Health and Care Excellence (2020) [Acute coronary syndromes \[NG185\]](#), NICE Clinical Guideline, accessed 28 April 2022.
- 3 National Institute for Health and Care Excellence (2014) [Acute coronary syndromes in adults \[QS68\]](#), NICE Quality Standard, accessed 28 April 2022.

Indigenous/remote context references

- 1 National Heart Foundation of Australia (2014) 'A framework for overcoming disparities in management of acute coronary syndromes in the Australian Aboriginal and Torres Strait Islander population. A consensus statement from the National Heart Foundation of Australia', *Medical Journal of Australia*, 200(11):639-43, doi:10.5694/mja12.11175

Acute assessment of abdominal pain

Summary of changes

Following feedback on the 7th edition of the Standard Treatment Manual (2017), the RPHCM Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct health care professionals on criticality and differential diagnosis**.

This protocol was adapted from the "abdominal pain" protocol and contains red flag indicators and differential diagnoses. Content relating to detailed abdominal assessment and these diagnoses (per quadrant) has been retained in the "abdominal pain" protocol in the general topics chapter.

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 2 Horn AE and Ufberg JW (2011) 'Appendicitis, diverticulitis, and colitis', *Emergency Medicine of Clinics North America*, 29(2):347-68, doi:10.1016/j.emc.2011.01.002
- 3 Privette TW, Carlisle MC and Palma JK (2011) 'Emergencies of the liver, gallbladder, and pancreas', *Emergency Medicine of Clinics North America*, 29(2):293-317, doi:10.1016/j.emc.2011.01.008

Acute assessment of nausea and vomiting

Summary of changes

Following feedback on 7th edition of the Standard Treatment Manual (2017), the RPHCM Editorial Committee endorsed the addition of **gateway protocols for Acute Assessment protocols to direct health care professionals on criticality and differential diagnosis**.

This protocol was adapted from the "nausea and vomiting" protocol to provide red flag identifiers and differential diagnoses. Content relating to antiemetics has been retained in the "nausea and vomiting" protocol in the general topics chapter.

Primary references

- 1 Gill PJ, Thomas E and van den Bruel A (2021) 'Managing paediatric gastroenteritis in primary care: is there a role for ondansetron?', *British Journal of General Practice*, 71(711):440-441, doi:10.3399/bjgp21X717089
- 2 Pediatric Emergency Research Canada and Pediatric Emergency Care Applies Research Networks (2022) 'Oral Ondansetron Administration in Children Seeking Emergency Department Care for Acute Gastroenteritis: A Patient-Level Propensity-Matched Analysis', *Annals of Emergency Medicine*, 79(1):66-74, doi:10.1016/j.annemergmed.2021.06.003

Emergencies and assessments

Life support — DRS ABC

Summary of changes

Addition: Personal Protective Equipment in view of COVID pandemic

Deletion: recommendations on use of monophasic monitors with view that monitors in remote settings are usually biphasic

Medicines: Additional Amiodarone dose (infusion 2.5mg/kg) added for paediatric patient when normal rhythm is restored

Other

- changed compression per minute from 100 to 100-120
- Retained recommendation to use jaw thrust as a life saving measure if chin lift is not effective despite not being included in ARC guidelines. This continues to be a life saving alternative in the remote context when other assistance is not available
- Updated recommendations for clearing of airways and compressions to reflect updated ANZCOR guidelines

Primary references

- 1 American Heart Association (2020) 'Part 7: Systems of Care: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care', *Circulation*, 142(16 Suppl 2):S580-S604, doi:10.1161/CIR.0000000000000899
- 2 American Heart Association (2020) 'Part 5: Neonatal Resuscitation: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care', *Circulation*, 142(16 Suppl 2):S524-S550, doi:10.1161/CIR.0000000000000902
- 3 American Heart Association (2020) 'Part 4: Pediatric Basic and Advanced Life Support: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care', *Circulation*, 142(16 Suppl 2):S469–S523, doi:10.1161/CIR.0000000000000901
- 4 Australian and New Zealand Committee on Resuscitation (2018) [ANZCOR Guideline 11.2 – Protocols for Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.

- 5 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 12.3 - Flowchart for the Sequential Management of Life-Threatening Arrhythmias in Infants and Children](#), The ARC Guidelines, accessed 11 January 2022.
- 6 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 11.6 - Equipment and Techniques in Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 7 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 11.6.1 - Targeted Oxygen Therapy in Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 8 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 12.2 - Advanced Life Support for Infants and Children: Diagnosis and Initial Management](#), The ARC Guidelines, accessed 11 January 2022.
- 9 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 5 - Breathing](#), The ARC Guidelines, accessed 11 January 2022.
- 10 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 6 - Compressions](#), The ARC Guidelines, accessed 11 January 2022.
- 11 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 7 - Automated External Defibrillation in Basic Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 12 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 8 - Cardiopulmonary Resuscitation \(CPR\)](#), The ARC Guidelines, accessed 11 January 2022.

Resuscitation reference table

Summary of changes

This table has been **substantially changed** from the 2017 version by the primary reviewers. Updates to this table for paediatric recommendations are based on the Royal Children's Hospital (RCH) Melbourne guideline "acceptable ranges for physiological variables" and resuscitation guidelines.

Addition

- Values for defibrillator from Term to 6 months of age
- Maintenance rates added with addition that most unwell children should receive 2/3 maintenance rates and small correction made to reflect current RCH guideline formula
- O₂ sats included in table

Deletion

- Endotracheal tube (ETT) size has been deleted as ETTs are not routinely included in the resuscitation equipment of remote clinics and this practice is outside of remote clinicians (ETT's are carried by Retrievalists with specialist training in advanced airway management)
- Cuff volumes for LMAs have not been included. Remote clinics usually carry i-Gel LMAs which do not have an inflation port for the cuff

Medicines

- Paediatric doses of Adrenaline (cardiac arrest), Amiodarone and Atropine have been adjusted to reflect the RCH guidelines of accepted physiological parameters

- Paediatric glucose dose corrected to 2mLs/kg per RCH guidelines. Use of 50% glucose has been removed - it is only used with medical consultation for severe hypoglycaemia or hypokalaemia
- Column added for Midazolam intranasal (i.n) or buccal for seizures without IV access. Midazolam IV/IO - dose changed to 0.15mg/kg as per children's Australian Medicines Handbook and RCH guidelines
- Doses for adults 70kg+ have been standardised to assist in avoiding potential cumulative errors with repeated doses
- Standardisation of all doses to volumes (previously mix of volumes and strengths)

Other

- Age:weight based recommendations have been updated to reflect the RCH guidelines of accepted physiological parameters
- Greater emphasis placed on titrating oxygen administration to SpO₂ ≥ 94% with less emphasis on flow rates

Primary references

- 1 Australian Resuscitation Council (2016) [ANZCOR Guideline 11.5 – Medications in Adult Cardiac Arrest](#), The ARC Guidelines, accessed 11 January 2022.
- 2 Australian and New Zealand Committee on Resuscitation (2018) [ANZCOR Guideline 11.2 – Protocols for Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 3 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 12.5 – Management of Specific Dysrhythmias in Paediatric Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 4 King BR (2021) [Emergency rescue devices for difficult pediatric airway management](#), UpToDate, accessed 11 January 2022.
- 5 The Royal Children's Hospital Melbourne (2020) [Acceptable ranges for physiological variables](#), Clinical Practice Guidelines, accessed 16 September 2022.
- 6 The Royal Children's Hospital Melbourne (2020) [Afebrile seizures](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 7 The Royal Children's Hospital Melbourne (2021) [Anaphylaxis](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 8 The Royal Children's Hospital Melbourne (2020) [Intravenous fluids](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 9 The Royal Children's Hospital Melbourne (2017) [Oxygen delivery](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 10 The Royal Children's Hospital Melbourne (2021) [Emergency drug doses](#), Clinical Practice Guidelines, accessed 17 September 2022.

Anaphylaxis — severe allergic reaction

Summary of changes

Addition: Clarification for adrenalin administration (needle size, anaphylaxis kit, auto injector)

Medicines: Reformatting section on procaine benzylpenicillin reaction to add more clarity

Other: Updated symptoms and management to be in line with ASCIA anaphylaxis action plan and guideline

Primary references

- 1 Australasian Society of Clinical Immunology and Allergy (2021) [Action Plans and First Aid Plans for Anaphylaxis](#), accessed 11 January 2022.
- 2 Australasian Society of Clinical Immunology and Allergy (2021) [Acute management of anaphylaxis](#), ASCIA Guidelines, accessed 11 January 2022.
- 3 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 9.2.7 – First aid management of anaphylaxis](#), The ARC Guidelines, 2022 accessed 11 January.
- 4 Cardona V, Ansotegui IJ, Ebisawa M, El-Gamal Y, Fernandez Rivas M, Fineman S, Geller M, Gonzalez-Estrada A, Greenberger PA, Sanchez Borges M, Senna G, Sheikh A, Tanno LK, Thong BY, Turner PJ and Worm M (2020) 'World allergy organization anaphylaxis guidance 2020', *World Allergy Organization Journal*, 13(10):100472, doi:10.1016/j.waojou.2020.100472
- 5 Joint Task Force on Practice Parameters Reviewers (2020) 'Anaphylaxis-a 2020 practice parameter update, systematic review, and Grading of Recommendations, Assessment, Development and Evaluation (GRADE) analysis', *Journal of Allergy and Clinical Immunology*, 145(4):1082-1123, doi:10.1016/j.jaci.2020.01.017
- 6 National Institute for Health and Care Excellence (2020) [Anaphylaxis: assessment and referral after emergency treatment \[CG134\]](#), NICE Clinical Guidelines, accessed 11 January 2022.

Bites and stings — snake, spider, centipede and scorpion

Summary of changes

Medicines

- Antivenom added as an option for redback spider bites
- Deleted Oxycodon from pain in redback spider, recommend medical consult

Other

- Protocol reordered by order of urgency/severity

Primary references

- 1 Balit CR, Harvey MS, Waldock JM and Isbister GK (2004) 'Prospective study of centipede bites in Australia', *Journal of Toxicology: Clinical Toxicology*, 42(1):41-8, doi:10.1081/clt-120028743
- 2 Currie BJ (2004) 'Snakebite in Australia: the role of the Venom Detection Kit', *Emergency Medicine Australasia*, 16(5-6):384-6, doi:10.1111/j.1742-6723.2004.00640.x
- 3 Dart RC, Bogdan G, Heard K, Bucher Bartelson B, Garcia-Ubbelohde W, Bush S, Arnold T, Clark RC, Hendey GW, Holstege C and Spradley EA (2013) 'A randomized, double-blind, placebo-controlled trial of a highly purified equine F(ab)₂ antibody black widow spider antivenom', *Annals of Emergency Medicine*, 61(4):458-67, doi:10.1016/j.annemergmed.2012.10.008

- 4 Ellis RM, Sprivilis PC, Jelinek GA, Banham ND, Wood SV, Wilkes GJ, Siegmund A and Roberts BL (2005) 'A double-blind, randomized trial of intravenous versus intramuscular antivenom for red-back spider envenoming', *Emergency Medicine Australasia*, 17(2):152-6, doi:10.1111/j.1742-6723.2005.00720.x
- 5 Isbister GK and Bawaskar HS (2014) 'Scorpion envenomation', *New England Journal of Medicine*, 371(5):457-63, doi:10.1056/NEJMra1401108
- 6 Isbister GK, Brown SG, Page CB, McCoubrie DL, Greene SL and Buckley NA (2013) 'Snakebite in Australia: a practical approach to diagnosis and treatment', *Medical Journal of Australia*, 199(11):763-8, doi:10.5694/mja12.11172
- 7 Isbister GK, Maduwage K, Shahmy S, Mohamed F, Abeysinghe C, Karunathilake H, Ariaratnam CA and Buckley NA (2013) 'Diagnostic 20-min whole blood clotting test in Russell's viper envenoming delays antivenom administration', *QJM: Monthly Journal of the Association of Physicians*, 106(10):925-32, doi:10.1093/qjmed/hct102
- 8 Isbister GK, O'Leary M, Miller M, Brown SG, Ramasamy S, James R and Schneider JS (2008) 'A comparison of serum antivenom concentrations after intravenous and intramuscular administration of redback (widow) spider antivenom', *British Journal of Clinical Pharmacology*, 65(1):139-43, doi:10.1111/j.1365-2125.2007.03004.x
- 9 NSW Government Ministry of Health (2014) [Snakebite and Spiderbite Clinical Management Guidelines, 3rd Edition](#), accessed 11 January 2022.
- 10 RAVE Investigators (2014) 'Randomized controlled trial of intravenous antivenom versus placebo for latrodectism: the second Redback Antivenom Evaluation (RAVE-II) study', *Annals of Emergency Medicine*, 64(6):620-8.e2, doi:10.1016/j.annemergmed.2014.06.006

Bites, stings and poisonings — marine

Summary of changes

Addition

- Symptoms in some sections
- Pain relief for moderate box jellyfish sting
- Pressure immobilisation bandage in blue ring octopus bite

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2014) [ANZCOR Guideline 9.4.6 - Envenomation - Blue-ringed octopus and cone shell](#), The ARC Guidelines, accessed 22 September 2022.
- 2 Berling I and Isbister G (2015) 'Marine envenomations', *Australian Family Physician*, 44(1-2):28-32.
- 3 Expert Group for Toxicology and Toxinology, version 1 (2020) [Toxicology and Toxinology](#), Therapeutic Guidelines, accessed 3 October 2022.
- 4 Isbister GK, Palmer DJ, Weir RL and Currie BJ (2017) 'Hot water immersion v icepacks for treating the pain of Chironex fleckeri stings: a randomised controlled trial', *Medical Journal of Australia*, 206(6):258-261, doi:10.5694/mja16.00990
- 5 Isbister G (2020) [Marine envenomations from corals, sea urchins, fish, or stingrays](#), UpToDate, accessed 11 January 2022.

- 6 Li L, McGee RG, Isbister GK and Webster AC (2013) 'Interventions for the symptoms and signs resulting from jellyfish stings', *Cochrane Database of Systematic Reviews*, 12:CD009688, doi:10.1002/14651858.CD009688.pub2
- 7 Marcus E and Isbister G (2021) [Jellyfish stings](#), UpToDate, accessed 11 January 2022.
- 8 Murray L, Little M, Pascu O and Hoggett K (2015) *Toxicology Handbook, 3rd Edition*, Elsevier, Chatswood.

Burns

Summary of changes

- Simplification of fluid requirement using modified Parkland formula
- Changed children threshold to 16y
- Fluid replacement calculation method updated
- Indwelling catheter if burns to 10% of body (previously 15%)
- Palm areas used to estimate extent of burnt skin

Primary references

- 1 Central Adelaide Local Health Network and Royal Adelaide Hospital Burns Unit (2020) [First aid and emergency management of adult burns](#), accessed 3 October 2022.
- 2 Greenhalgh DG (2017) 'Sepsis in the burn patient: a different problem than sepsis in the general population', *Burns & Trauma*, 5:23, doi:10.1186/s41038-017-0089-5
- 3 South Australian Paediatric Clinical Practice Guidelines (2020) [Burns in Children](#), SA Paediatric Clinical Practice Guidelines, accessed 28 June 2021.
- 4 Women's and Children's Hospital (2020) [Paediatric Burns Service Guidelines](#), accessed 3 October 2022.

Chest pain

Summary of changes

Deletion: flowcharts, refer to local ACS flowcharts if available

Other

- Major restructure to clarify the management of the all types of chest pains
- Troponin test done first and using POC test
- Protocol divided into treatment for angina (nitrate therapy) and heart attack (thrombolysis)

Primary references

- 1 NHFA/CSANZ ACS Guideline 2016 Executive Working Group (2016) 'National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand: Australian Clinical Guidelines for the Management of Acute Coronary Syndromes 2016', *Heart Lung Circulation*, 25(9):895-951, doi:10.1016/j.hlc.2016.06.789
- 2 National Institute for Health and Care Excellence (2020) [Acute coronary syndromes \[NG185\]](#), NICE Clinical Guideline, accessed 28 April 2022.

Indigenous/remote context references

- 1 National Heart Foundation of Australia (2014) 'A framework for overcoming disparities in management of acute coronary syndromes in the Australian Aboriginal and Torres Strait

Islander population. A consensus statement from the National Heart Foundation of Australia', *Medical Journal of Australia*, 200(11):639-43, doi:10.5694/mja12.11175

Choking

Summary of changes

Addition: ANZCOR flowchart for adults, APLS flowchart for children

Primary references

- 1 Advanced Paediatric Life Support (2017) [The choking child](#), Algorithms, accessed 3 October 2022.
- 2 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 4 – Airway](#), The ARC Guidelines, accessed 11 January 2022.

Domestic and family violence

Summary of changes

Addition

- Definition of violence to include stalking and online/phone abuse
- Added to groups at higher risk: gender and sexually diverse people

Primary references

- 1 Blagg H, Bluett-Boyd N and Williams E (2015) [Innovative models in addressing violence against Indigenous women: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 2 Breckenridge J, Rees S, Valentine K and Murray S (2015) [Meta-evaluation of existing interagency partnerships, collaboration, coordination and/or integrated interventions and service responses to violence against women: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 3 Cox P (2015) [Sexual assault and domestic violence in the context of co-occurrence and re-victimisation: State of knowledge paper](#), ANROWS Landscapes, accessed 4 April 2022.
- 4 Holder R, Putt J and O'Leary C (2015) [Advocacy for safety and empowerment: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 5 Olsen A and Lovett R (2016) [Existing knowledge, practice and responses to violence against women in Australian Indigenous communities: Key findings and future directions](#), ANROWS Landscapes, accessed 4 April 2022.
- 6 On ML, Ayre J, Webster K and Moon L (2016) [Examination of the health outcomes of intimate partner violence against women: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 7 Phillips J and Vandenbroek P (2014) [Domestic, Family and sexual violence in Australia: an overview of the issues](#), Parliament of Australia Research Papers, accessed 4 April 2022.
- 8 Quadara A (2015) [Implementing trauma-informed systems of care in health settings: The WITH study](#), ANROWS Landscapes, accessed 29 March 2022.
- 9 Stanford Medicine (2022) [Domestic Abuse Info: Screening - How to Ask](#), Stanford Medicine Domestic Abuse, accessed 4 April 2022.

- 10 Wendt S, Chung D, Elder A and Elder A (2015) [Seeking help for domestic violence: Exploring rural women's coping experiences: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.

Indigenous/remote context references

- 1 Willis M (2011) [Non-disclosure of violence in Australian Indigenous Communities](#), Trends & issues in crime and criminal justice (no. 405), Australian Institute of Criminology, accessed 29 March 2022.

Fits - seizures

Summary of changes

Addition: Acute management of seizures and Immediate follow-up after a seizure. ECG in ongoing care

Deletion: Remove advice to give paracetamol in person with fever

Medicines: Addition of levetiracetam as a 2nd line agent if person still fitting after 2 doses of midazolam

Other: Reorganisation of protocol for clarity

Primary references

- 1 Children's Health Queensland Hospital and Health Service (2019) [Status epilepticus - Emergency management in children](#), Queensland Paediatric Guidelines, accessed 22 July 2021.
- 2 Expert Group for Neurology, version 5 (2019) [Acute management of seizures and status epilepticus](#), Therapeutic Guidelines, accessed 11 January 2022.
- 3 Glauser T, Shinnar S, Gloss D, Alldredge B, Arya R, Bainbridge J, Bare M, Bleck T, Dodson WE, Garrity L, Jagoda A, Lowenstein D, Pellock J, Riviello J, Sloan E, Treiman DM. (2016) 'Evidence-Based Guideline: Treatment of Convulsive Status Epilepticus in Children and Adults: Report of the Guideline Committee of the American Epilepsy Society', *Epilepsy Currents*, 16(1):48-61, doi:10.5698/1535-7597-16.1.48
- 4 Neurological Emergencies Treatment Trials: Pediatric Emergency Care Applied Research Network investigators (2020) 'Efficacy of levetiracetam, fosphenytoin, and valproate for established status epilepticus by age group (ESETT): a double-blind, responsive-adaptive, randomised controlled trial', *The Lancet*, 395(10231):1217-1224, doi:10.1016/S0140-6736(20)30611-5
- 5 Paediatric Emergency Research in the United Kingdom & Ireland (PERUKI) collaborative (2019) 'Levetiracetam versus phenytoin for second-line treatment of paediatric convulsive status epilepticus (EclIPSE): a multicentre, open-label, randomised trial', *The Lancet*, 393(10186):2125-2134, doi:10.1016/S0140-6736(19)30724-X
- 6 Rosenbloom E, Finkelstein Y, Adams-Webber T and Kozer E (2013) 'Do antipyretics prevent the recurrence of febrile seizures in children? A systematic review of randomized controlled trials and meta-analysis', *European Journal of Paediatric Neurology*, 17(6):585-8, doi:10.1016/j.ejpn.2013.04.008
- 7 Steven C and Schachter MD (2021) [Evaluation and management of the first seizure in adults](#), UpToDate, accessed 11 January 2022.
- 8 The Royal Children's Hospital Melbourne (2019) [Febrile Seizures](#), Clinical Practice Guidelines, accessed 22 July 2021.

- 9 Zaccara G, Giannasi G, Oggioni R, Rosati E, Tramacere L and Palumbo P (2017) 'Challenges in the treatment of convulsive status epilepticus', *Seizure*, 47:17-24, doi:10.1016/j.seizure.2017.02.015

Hyperthermia (Heat illness)

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2020) [ANZCOR Guideline 9.3.4 - Heat Induced Illness \(Hyperthermia\)](#), The ARC Guidelines, accessed 4 November 2021.
- 2 Expert Groups for Antibiotic, version 16 (2020) [Empirical regimens for sepsis or septic shock](#), Therapeutic Guidelines, accessed 4 November 2021.
- 3 Mechem C (2019) [Severe nonexertional hyperthermia \(classic heat stroke\) in adults](#), UpToDate, accessed 7 June 2021.
- 4 O'Connor FG and Casa D (2020) [Exertional heat illness in adolescents and adults: Management and prevention](#), UpToDate, accessed 4 June 2021.

Hypothermia

Summary of changes

Deletion: Do not give Hartmanns

Primary references

- 1 Anshus JS, Endahl GL and Mottley JL (1985) 'Microwave heating of intravenous fluids', *American Journal of Emergency Medicine*, 3(4):316-9, doi:10.1016/0735-6757(85)90054-3
- 2 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 9.3.3 - First Aid Management of Hypothermia and Cold-Related Injuries](#), The ARC Guidelines, accessed 4 November 2021.
- 3 Ken Zafren K and Mechem C (2021) [Accidental hypothermia in adults](#), UpToDate, accessed 4 June 2021.

Injuries - abdominal and pelvic

Summary of changes

Addition

- IV/IO access
- Tranexamic acid (TXA) treatment added when evidence of shock
- Picture for correct placement of pelvic binders when splinting

Deletion

- Rectal examination
- Log-rolling

Medicines

- Changed antibiotic from ceftriaxone to cefazolin and metronidazole

- Added tranexamic acid if signs of shock

Primary references

- 1 Beno S, Ackery AD, Callum J and Rizoli S (2014) 'Tranexamic acid in pediatric trauma: why not?', *Critical Care*, 18(4):313, doi:10.1186/cc13965
- 2 CRASH-2 trial collaborators (2010) 'Effects of tranexamic acid on death, vascular occlusive events, and blood transfusion in trauma patients with significant haemorrhage (CRASH-2): a randomised, placebo-controlled trial', *The Lancet*, 376(9734):23-32, doi:10.1016/S0140-6736(10)60835-5
- 3 Diercks DB and O'Clarke S (2021) [Initial evaluation and management of blunt abdominal trauma in adults](#), UpToDate, accessed 10 November 2021.
- 4 Henning S, Norris R and Hill CE (2018) 'Pelvic binder placement in a regional trauma centre', *Journal of Paramedic Practice*, 10(11):463-467, doi:10.12968/jpar.2018.10.11.463
- 5 Leeds Teaching Hospitals NHS Trust (2019) [Tranexamic Acid in Trauma \(Adults and Children\)](#), Clinical Guideline, accessed 6 April 2022.

Injuries - bleeding

Summary of changes

Addition: POC blood test including INR

Medicines: Added tranexamic acid

Primary references

- 1 Advanced Paediatric Life Support (2017) [Blood and Fluid Therapy in Severe Haemorrhage after Trauma](#), Algorithms, accessed 3 October 2022.
- 2 Bedri H, Ayoub H, Engelbart JM, Lienthal M, Galet C and Skeete DA (2021) 'Tourniquet Application for Bleeding Control in a Rural Trauma System: Outcomes and Implications for Prehospital Providers', *Prehospital Emergency Care*, 26(2):246-254, doi:10.1080/10903127.2020.1868635
- 3 Colwell C (2021) [Initial management of moderate to severe haemorrhage in the adult trauma patient](#), Uptodate, accessed 8 November 2021.
- 4 Queensland Ambulance Service (2021) [Haemorrhage control](#), Clinical Practice Guidelines, accessed 8 November 2021.
- 5 Smith AA, Ochoa JE, Wong S, Beatty S, Elder J, Guidry C, McGrew P, McGinness C, Duchesne J and Schroll R (2019) 'Prehospital tourniquet use in penetrating extremity trauma: Decreased blood transfusions and limb complications', *Journal of Trauma and Acute Care Surgery*, 86(1):43-51, doi:10.1097/TA.0000000000002095
- 6 Spahn DR, Bouillon B, Cerny V, Duranteau J, Filipescu D, Hunt BJ, Komadina R, Maegele M, Nardi G, Riddez L, Samama CM, Vincent JL and Rossaint R (2019) 'The European guideline on management of major bleeding and coagulopathy following trauma: fifth edition', *Critical Care*, 23(1):98, doi:10.1186/s13054-019-2347-3
- 7 Texas Tourniquet Study Group (2018) 'Civilian Prehospital Tourniquet Use Is Associated with Improved Survival in Patients with Peripheral Vascular Injury', *Journal of the*

American College of Surgeons, 226(5):769-776.e1,
doi:10.1016/j.jamcollsurg.2018.01.047

- 8 Vulliamy P, Thaventhiran AJ and Davenport RA (2019) 'What's new for trauma haemorrhage management?', *British Journal of Hospital Medicine*, 80(5):268-273, doi:10.12968/hmed.2019.80.5.268

Injuries - chest

Summary of changes

Addition

- RR to danger signs, cardiac monitoring and ECG.
- IO access option included

Medicines

- For penetrating chest injury: antibiotic changed from ceftriaxone to cefazolin

Primary references

- 1 Ayoub F, Quirke M and Frith D (2019) 'Use of prophylactic antibiotic in preventing complications for blunt and penetrating chest trauma requiring chest drain insertion: a systematic review and meta-analysis', *Trauma Surgery & Acute Care Open*, 4(1):e000246, doi:10.1136/tsaco-2018-000246
- 2 Lee C, Revell M, Porter K and Steyn R (2007) 'The pre-hospital management of life-threatening chest injuries: A consensus statement from the Faculty of Pre-Hospital Care, Royal College of Surgeons of Edinburgh', *Emergency Medicine Journal*, 24(3):220-4, doi:10.1136/emj.2006.043687
- 3 Queensland Ambulance Service (2019) [Trauma/Chest injuries](#), Clinical Practice Guidelines, accessed 10 November 2021.
- 4 Trauma Victoria (2017) [Thoracic Trauma: Primary Survey](#), Major trauma guidelines and education, accessed 11 January 2022.

Injuries — head

Summary of changes

Addition: Hourly observations for at least four hours

Medicines: Infusion time for levetiracetam IV changed from 30mins to 15mins

Other: Protocol significantly reformatted

Primary references

- 1 Canadian CT Head and C-Spine Study Group (2001) 'The Canadian CT Head Rule Study for patients with minor head injury: rationale, objectives, and methodology for phase I (derivation)', *Annals of Emergency Medicine*, 38(2):160-9, doi:10.1067/mem.2001.116796
- 2 Evans RW and Schachter SC (2020) [Post-traumatic seizures and epilepsy](#), UpToDate, accessed 11 January 2022.
- 3 Guideline Working Group for the Paediatric Research in Emergency Departments International Collaborative (2021) 'Australian and New Zealand Guideline for Mild to

Moderate Head Injuries in Children', *Emergency Medicine Australasia*, 33(2):214-231, doi:10.1111/1742-6723.13722

- 4 Rajajee V (2021) [Management of acute moderate and severe traumatic brain injury](#), UpToDate, accessed 11 January 2022.
- 5 The Royal Children's Hospital Melbourne (2018) [Head injury](#), Clinical Practice Guidelines, accessed 11 January 2022.

Injuries — limbs

Summary of changes

Medicines: Additional antibiotics recommended for heavily contaminated injuries (metronidazole) or injuries immersed in water (ciprofloxacin), IO access if required

Other: For fractured major bones and if in shock: fluid boluses altered from 10mL/kg for child, 1L adults to adult 250mL, child 20mL/kg

Primary references

- 1 Advanced Trauma Life Support (2018) *Advanced Trauma Life Support Student Course Manual, 10th Edn*, American College of Surgeons, Chicago.
- 2 Chung KC and Yoneda H (2021) [Severe upper extremity injury in the adult patient](#), UpToDate, accessed 13 November 2021.
- 3 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 4 Gausche-Hill M, Hockberger RS and Walls RM (2017) *Rosen's Emergency Medicine: Concepts and Clinical Practice, 9th Edition*, Elsevier, El Salvador.
- 5 Rasmussen TE and Souza JM (2021) [Severe lower extremity injury in the adult patient](#), UpToDate, accessed 13 November 2021.
- 6 Tintinalli JE, Ma OJ, Yealy D, Meckler GD and Stapczynski JS (2019) *Tintinalli's emergency medicine: a comprehensive study guide, 9th edition*, McGraw-Hill Education/Medical, United States.

Injuries — soft tissue

Summary of changes

Addition: Sub-section on necrotising fasciitis

Medicines

- For mild contamination of soft tissue injury: changed antibiotic from amoxicillin-clavulanic acid or cefalexin to di/flucloxacillin or cefalexin. If allergy: changed antibiotic from rofloxacillin/clindamycin to trimethoprim-sulfamethoxazole
- For animal/human bites: changed antibiotic from amoxicillin-clavulanic acid or procaine benzylpenicillin IM, ciprofloxacin and clindamycin. If allergy: amoxicillin-clavulanic acid or cefazolin IV (with med consult), metronidazole and trimethoprim-sulfamethoxazole
- For spear and knife wounds and if shock or internal bleeding: added tranexamic acid
- For major wounds cefazolin and metronidazole IV added, clindamycin if allergic (with med consult)
- For minor wounds: recommended antibiotics are linked to the soft tissue protocol

Primary references

- 1 Children's Health Queensland Hospital and Health Service (2020) [Children's Health Queensland Paediatric Antibiocard: Empirical Antibiotic Guidelines](#), accessed 16 June 2021.
- 2 Children's Health Queensland Hospital and Health Service (2020) [Management of water-immersed wound infections in children](#), accessed 16 June 2021.
- 3 Children's Health Queensland Hospital and Health Service (2020) [Skeletal, soft tissue and skin infections](#), accessed 16 June 2021.
- 4 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 5 Queensland Health and the Royal Flying Doctor Service (Queensland Section) (2019) [Primary Care Manual Emergency, 10th edition](#), The Rural and Remote Clinical Support Unit, Torres and Cape Hospital and Health Service, accessed 11 January 2022.

Injuries — spinal

Summary of changes

- Sandbags/rolled up towels/IV fluid bags are prioritised as method of choice over semi-rigid collars

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2014) [ANZCOR Guideline 9.1.6 - Management of Suspected Spinal Injury](#), The ARC Guidelines, accessed 11 January 2022.
- 2 Hansebout RR and Kachur E (2018) [Acute traumatic spinal cord injury](#), UpToDate, accessed 13 April 2021.
- 3 Häske D, Schier L, Weerts JON, Groß B, Rittmann A, Grützner PA, Münzberg M and Kreinest M (2020) 'An explorative, biomechanical analysis of spine motion during out-of-hospital extrication procedures', *Injury*, 51(2):185-192, doi:10.1016/j.injury.2019.10.079
- 4 Saadeh YS, Smith BW, Joseph JR, Jaffer SY, Buckingham MJ, Oppenlander ME, Szerlip NJ and Park P (2017) 'The impact of blood pressure management after spinal cord injury: a systematic review of the literature', *Neurosurgical Focus*, 43(5):E20, doi:10.3171/2017.8.FOCUS17428
- 5 Saint John Ambulance Western Australia (2020) [Spinal Trauma](#), Clinical Practice Guidelines, accessed 6 April 2022.

Hypoglycaemia (low blood glucose)

Summary of changes

Addition

- Medical emergency if BGL less than 4mmol/L (previously different measurements used if under or over 10 years old)
- Change to BGL less than 4mmol/L for everyone (all age)

Other

- Glucose administered before thiamine (previously visa versa). Glucose administration should not be delayed pending administration of thiamine, which should be given as soon as possible

- Addition of the rule of 15:15 rule: give 15g of carbohydrates, check BGL in 15 minutes and give another 15g of carbohydrates if BGL still low

Primary references

- 1 Abraham MB, Jones TW, Naranjo D, Karges B, Oduwole A, Tauschmann M and Maahs DM (2018) 'ISPAD Clinical Practice Consensus Guidelines 2018: Assessment and management of hypoglycemia in children and adolescents with diabetes', *Pediatric Diabetes*, 19(Suppl 27):178-192, doi:10.1111/pedi.12698
- 2 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 9.2.9 – First aid Management of a Diabetic Emergency](#), The ARC Guidelines, accessed 3 October 2022.
- 3 National Institute for Health and Care Excellence (2016) [Diabetes in adults \[QS6\]](#), NICE Clinical Guidelines, accessed 3 October 2022.
- 4 Royal Australian College of General Practitioners (2020) [Management of type 2 diabetes: A handbook for general practice](#), RACGP, East Melbourne, Vic, accessed 3 October 2022.
- 5 Schabelman E and Kuo D (2012) 'Glucose before thiamine for Wernicke encephalopathy: a literature review', *Journal of Emergency Medicine*, 42(4):488-94, doi:10.1016/j.jemermed.2011.05.076
- 6 The Royal Children's Hospital Melbourne (2019) [Hypoglycaemia](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 7 Vella A (2021) [Hypoglycemia in adults without diabetes mellitus: Clinical manifestations, diagnosis, and causes](#), UpToDate, accessed 11 January 2022.

Mental health emergency

Summary of changes

- Protocol moved to emergency protocols group
- Protocol reordered for improved readability and clarity

Medicines

- Addition of droperidol as a sedative agent
- IM antipsychotics change from haloperidol and benztropine to haloperidol OR droperidol, benztropine, may be needed with haloperidol if side effects
- Remove systematic use of Benzatropine with haloperidol
- Use of benztropine recommended only if acute dystonia

Primary references

- 1 Boland R, Verduin ML and Ruiz P (2021) *Kaplan and Sadock's synopsis of psychiatry, 12th edition*, Wolters Kluwer Health, USA.
- 2 Khokhar MA and Rathbone J (2016) 'Droperidol for psychosis-induced aggression or agitation', *Cochrane Database of Systematic Reviews*, 12:CD002830, doi:10.1002/14651858.CD002830.pub3
- 3 Le Cong M, Finn E and Parsch CS (2015) 'Management of the acutely agitated patient in a remote location', *Medical Journal of Australia*, 202(4):182-183, doi:10.5694/mja14.01162

- 4 Moore G and Pfaff J (2020) [Assessment and emergency management of the acutely agitated or violent adult](#), UpToDate, accessed 21 July 2021.
- 5 Northern Territory Government of Australia (2020) [Mental Health and Related Services Act 1998](#), accessed 14 January 2022.

Meningitis

Summary of changes

Addition

- 4 symptoms for adults (headache, fever, stiff neck, altered mental status) when considering if meningitis
- POC test for WBC to blood cultures and throat swab
- Medical consult re dexamethasone if child under 2mths

Deletion

- Positive Kernig's sign

Medicines

- Changed ceftriaxone dose for child (from 4g to up to 2g)
- Expression of dexamethasone dose from dexamethasone IV single dose – 0.15mg/kg/dose to dexamethasone **IV** single dose – adult 10 mg, child: 0.15 mg/kg up to 10 mg
- Ceftriaxone dose from ceftriaxone IV single dose – adult 4g, child 100mg/kg/dose up to 4g to ceftriaxone IV single dose – adult **4g**, child 50mg/kg/dose up to 2g

Other

- Order to give antibiotics before steroids

Primary references

- 1 Attia J, Hatala R, Cook DJ and Wong JG (1999) 'The rational clinical examination. Does this adult patient have acute meningitis?', *Journal of the American Medical Association*, 282(2):175-81, doi:10.1001/jama.282.2.175
- 2 Beaman MH (2018) 'Community-acquired acute meningitis and encephalitis: a narrative review', *Medical Journal of Australia*, 209(10), doi:10.5694/mja17.01073
- 3 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 21 May 2021.
- 4 The Royal Children's Hospital Melbourne (2020) [Meningitis-Encephalitis](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 5 van de Beek D, de Gans J, Spanjaard L, Weisfelt M, Reitsma JB and Vermeulen M (2004) 'Clinical features and prognostic factors in adults with bacterial meningitis', *New England Journal of Medicine*, 351(18):1849-59, doi:10.1056/NEJMoa040845

Nose bleeds (epistaxis)

Summary of changes

Addition: POC INR and Hb in the check section and novel oral anticoagulan

Medicines

- Mandate amoxicillin only if the nose packing is going to be in for a long time (i.e. transfer delayed by >12 hours)
- Added tranexamic acid if transfer delayed: added amoxicillin

Primary references

- 1 Akkan S, Çorbacioğlu ŞK, Aytar H, Emektar E, Dağar S and Çevik Y (2019) 'Evaluating Effectiveness of Nasal Compression With Tranexamic Acid Compared With Simple Nasal Compression and Merocel Packing: A Randomized Controlled Trial', *Annals of Emergency Medicine*, 74(1):72-78, doi:10.1016/j.annemergmed.2019.03.030
- 2 Alter H (2021) [Approach to the adult with epistaxis](#), UpToDate, accessed 11 January 2022.
- 3 Pinder D (2020) [Epistaxis](#), British Medical Journal Best Practice, accessed 11 January 2022.
- 4 Tunkel DE, Anne S, Payne SC, Ishman SL, Rosenfeld RM, Abramson PJ, Alikhaani JD, Benoit MM, Bercovitz RS, Brown MD, Chernobilsky B, Feldstein DA, Hackell JM, Holbrook EH, Holdsworth SM, Lin KW, Lind MM, Poetker DM, Riley CA, Schneider JS, Seidman MD, Vadlamudi V, Valdez TA, Nnacheta LC and Monjur TM (2020) 'Clinical Practice Guideline: Nosebleed (Epistaxis)', *Otolaryngology–Head and Neck Surgery*, 162(1 Suppl):S1-S38, doi:10.1177/0194599819890327

Poisoning

Summary of changes

- Cross reference to Opioid protocol if hypoventilation opioid induced

Primary references

- 1 Armstrong J, Hoggett K and Pascu O (2015) *Toxicology Handbook, 3rd Edition*, Elsevier, United Kingdom.
- 2 Expert Group for Toxicology and Toxinology, version 1 (2020) [Toxicology and Toxinology](#), Therapeutic Guidelines, accessed 3 October 2022.

Pulmonary oedema

Summary of changes

Addition: monitor urine output - aim for 0.5mL/kg/hr

Deletion: Chronic heart failure section

Medicines: Changed glyceryl trinitrate – from 300-600microgram to 400microgram

Other

- Protocol renamed Pulmonary oedema (formerly heart failure)
- Treatment simplified

Primary references

- 1 Chew DP, Scott IA, Cullen L, French JK, Briffa TG, Tideman PA, Woodruffe S, Kerr A, Branagan M and Aylward PE (2016) 'National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand: Australian clinical guidelines for the management

- of acute coronary syndromes', *Medical Journal of Australia*, 205(3):128-133, doi:10.5694/mja16.00368
- 2 Driscoll A and Sindone A (2020) 'How to optimise therapy for heart failure with reduced ejection fraction', *Medicine Today*, 21(2):30-36.
 - 3 Expert Group for Cardiovascular, version 7 (2021) [Heart failure](#), Therapeutic Guidelines, accessed 11 January 2022.
 - 4 Heidenreich PA, Fonarow GC, Breathett K, Jurgens CY, Pisani BA, Pozehl BJ, Spertus JA, Taylor KG, Thibodeau JT, Yancy CW and Ziaeeian B (2020) '2020 ACC/AHA Clinical Performance and Quality Measures for Adults With Heart Failure: A Report of the American College of Cardiology/American Heart Association Task Force on Performance Measures', *Journal of the American College of Cardiology*, 76(21):2527-2564, doi:10.1016/j.jacc.2020.07.023
 - 5 Murphy SP, Ibrahim NE and Januzzi JL (2020) 'Heart Failure With Reduced Ejection Fraction: A Review', *Journal of the American Medical Association*, 324(5):488-504, doi:10.1001/jama.2020.10262
 - 6 NHFA CSANZ Heart Failure Guidelines Working Group, Atherton JJ, Sindone A, De Pasquale CG, Driscoll A, MacDonald PS, Hopper I, Kistler PM, Briffa T, Wong J, Abhayaratna W, Thomas L, Audehm R, Newton P, O'Loughlin J, Branagan M and Connell C (2018) 'Guidelines for the Prevention, Detection, and Management of Heart Failure in Australia 2018', *Heart Lung Circulation*, 27(10):1123-1208, doi:10.1016/j.hlc.2018.06.1042

Indigenous/remote context references

- 1 Mu M, Majoni SW, Iyngkaran P, Haste M and Kangaharan N (2019) 'Adherence to Treatment Guidelines in Heart Failure Patients in the Top End Region of Northern Territory', *Heart Lung Circulation*, 28(7):1042-1049, doi:10.1016/j.hlc.2018.06.1038

Child and youth health

Competency, consent and confidentiality

Summary of changes

The content from the previous Providing care for young people has been split across the child health and school aged and youth health check protocols. New protocols providing guidance on child and youth developmental and behavioural concerns have also been developed to provide better access to this information.

This reformatted protocol provides specific guidance on family partnership models of care, assessment of competency for a child/youth to provide consent for care and management of confidentiality.

Primary references

- 1 Noiseux J, Rich H, Bouchard N, Noronha C and Carnevale FA (2019) 'Children need privacy too: Respecting confidentiality in paediatric practice', *Paediatrics & Child Health*, 24(1):e8-e12, doi:10.1093/pch/pxy047
- 2 Rose J (2004) 'Protective Behaviours: safety, confidence and self-esteem', *Journal of Public Mental Health*, 3(1):25-29, doi:10.1108/17465729200400004
- 3 Royal Australian College of General Practitioners (2018) [Children and consent for medical treatment](#), News GP, accessed 6 April 2022.

- 4 Shaw M (2001) 'Competence and consent to treatment in children and adolescents', *Advances in Psychiatric Treatment*, 7(2):150-159, doi:10.1192/apt.7.2.150

Child health check (0-5 years)

Summary of changes

Addition

- Special considerations for preterm and low birth weight babies moved into this protocol from developmental concerns to reflect the wider considerations on growth, screening and introduction of solids
- Updated advice provided on safe co-sleeping, wellbeing, safety and protective behaviours

Other

- Protocol moved to Standard Treatment Manual and updated to reflect national and relevant jurisdictional programs
- Early postnatal checks cross-referenced back to postnatal protocols to encourage holistic care of both baby and mother

Primary references

- 1 Australian Government (2017) [Final Report Recommendations](#), Royal Commission into Institutional Responses to Child Sexual Abuse, accessed 4 October 2022.
- 2 Australian Institute of Health and Welfare (2019) [Child protection in Australia: 2017-18 \[Cat no. CWS 65\]](#), Child welfare series no. 70, AIHW, Canberra, accessed 16 December 2021.
- 3 Boat TF and Kelleher KJ (2020) 'Fostering Healthy Mental, Emotional, and Behavioral Development in Child Health Care', *Journal of the American Medical Association Pediatrics*, 174(8):745-746, doi:10.1001/jamapediatrics.2020.1485
- 4 Child Health Strategy, Women's and Children's Health Network (2018) [South Australian Safe Infant Sleeping Standards](#), Best Practice Indicators for SA Health, accessed 4 October 2021.
- 5 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2019) [Aboriginal and Torres Strait Islander health check- Infants and preschool children \(birth-5 years\)](#), accessed 17 December 2021.
- 6 Northern Territory Government (2018) [Healthy Under 5 Kids](#), accessed 16 December 2021.
- 7 Western Australia Country Health Service, Government of Western Australia (2021) [Enhanced Child Health Schedule Guideline](#), WACHS HealthPoint Policies, accessed 6 October 2022.
- 8 World Health Organization (2004) [The importance of caregiver-child interactions for the survival and healthy development of young children: A review](#), Child and Adolescent Health and Development, accessed 16 December 2021.

Indigenous/remote context references

- 1 Dossetor PJ, Thorburn K, Oscar J, Carter M, Fitzpatrick J, Bower C, Boulton J, Fitzpatrick E, Latimer J, Elliott EJ and Martiniuk ALC (2019) 'Review of Aboriginal child health services in remote Western Australia identifies challenges and informs solutions', *BMC Health Services Research*, 19:758, doi:10.1186/s12913-019-4605-0

- 2 Jervis-Bardy J, Sanchez L and Carney AS (2014) 'Otitis media in Indigenous Australian children: Review of epidemiology and risk factors', *Journal of Laryngology and Otology*, 128(Suppl 1):S16-27, doi:10.1017/S0022215113003083.

Child development concerns (0-5 years)

Summary of changes

- New protocol developed to provide guidance on timely assessment and referral of child development concerns
- Includes information on NDIS

Primary references

- 1 Bellman M, Byrne O and Sege R (2013) 'Developmental assessment of children', *The BMJ*, 346:e8687, doi:10.1136/bmj.e8687
- 2 Children's Health Queensland Hospital and Health Service, Child and Youth Community Health Service (July 2016) [Red Flags Early Identification Guide for children aged birth to five years, 2nd Edition](#), accessed 11 November 2022.
- 3 Vasquez E and Pitts K (2006) 'Red flags during home visitation: infants and toddlers', *Journal of Community Health Nursing*, 23(2):123-31, doi:10.1207/s15327655jchn2302_5

School-aged and young person's health check (6–17 years)

Summary of changes

Addition

- Eye examination added for 6 and 12 years then annually after 15 years
- Review of previous history expanded to include developmental, behavioural and learning issues and additional recommendations provided to discuss social, emotional and sexual health and protective behaviours
- Involvement of carers highlighted and improved cross-referencing to providing care for young people protocol
- Diabetes risk factor check for 10 years and over
- HEADDs interview

Other

- Age groups extended from 14 to 17 years
- Protocol was modified to align with the 0-5 years health check format

Primary references

- 1 Bem C and Small N (2020) 'An ecological framework for improving child and adolescent health', *Archives of Disease in Childhood*, 105(3):299-301, doi:10.1136/archdischild-2019-317518
- 2 Boynton-Jarrett R and Flacks J (2018) [Strength Based Approaches to Screening Families for Health-related Social Needs in the Healthcare Setting](#), MLPB, Washington, accessed 4 October 2022.
- 3 Michigan Quality Improvement Consortium (2020) [Adolescent and Young Adult Health Risk Behavior Assessment](#), Michigan Quality Improvement Consortium Guideline, accessed 17 December 2021.

- 4 Michigan Quality Improvement Consortium (2021) [Routine Preventive Services for Children and adolescents \(ages 2-21\)](#), Michigan Quality Improvement Consortium Guideline, accessed 17 December 2021.
- 5 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2019) [Aboriginal and Torres Strait Islander health check - Primary school age children \(5-12 years\)](#), accessed 18 December 2021.
- 6 O'Keeffe M and Macaulay C (2012) 'Diagnosis in developmental-behavioural paediatrics: the art of diagnostic formulation', *Journal of Paediatric and Child Health*, 48(2):E15-26, doi:10.1111/j.1440-1754.2011.02071.x
- 7 Oberklaid F (2014) 'Struggling at school: a practical approach to the child who is not coping', *Australian Family Physician*, 43:186-188.
- 8 Royal Australasian College of Physicians (2021) [Routine Adolescent and Young Adult Psychosocial and Health Assessment – Position Statement](#), accessed 17 December 2021.
- 9 Tomlinson M, Hunt X, Daelmans B, Rollins N, Ross D and Oberklaid F (2021) 'Optimising child and adolescent health and development through an integrated ecological life course approach', *The BMJ*, 372:m4784, doi:10.1136/bmj.m4784

Indigenous/remote context references

- 1 Australian Institute of Health and Welfare and Australian Institute of Family Studies (2012) [Education programs for Indigenous Australians about sexually transmitted infections and bloodborne viruses](#), Closing the Gap Clearinghouse, accessed 11 January 2022.
- 2 Kilian A and Williamson A (2018) 'What is known about pathways to mental health care for Australian Aboriginal young people?: a narrative review', *International Journal of Equity in Health*, 17(1):12, doi:10.1186/s12939-018-0727-y
- 3 McDonald H (2009) 'Australian Indigenous adolescents with chronic conditions: sociocultural context', *Journal of Paediatric and Child Health*, 45(11):629-32, doi:10.1111/j.1440-1754.2009.01584.x
- 4 Mohajer N, Bessarab D and Earnest J (2009) 'There should be more help out here! A qualitative study of the needs of Aboriginal adolescents in rural Australia', *Rural and Remote Health*, 9(2):1137, doi:10.22605/RRH1137
- 5 Thomas A, Cairney S, Gunthorpe W, Paradies Y and Sayers S (2010) 'Strong Souls: development and validation of a culturally appropriate tool for assessment of social and emotional well-being in Indigenous youth', *Australian and New Zealand Journal of Psychiatry*, 44(1):40-8, doi:10.3109/00048670903393589

School aged child and youth behaviour or development concerns

Summary of changes

- A new protocol providing consideration of the impact of trauma and adverse childhood experiences when assessing and working with children and youth with behavioural and developmental concerns
- Prompts early recognition of red flags and referral for specialised assessment and management

Primary references

- 1 Australian Institute of Health and Welfare (2013) [Trauma-informed services and trauma-specific care for Indigenous Australian children \(Resource sheet no. 21\)](#), Closing the gap clearinghouse, accessed 6 April 2022.
- 2 Chando S, Craig JC, Burgess L, Sherriff S, Purcell A, Gunasekera H, Banks S, Smith N, Banks E and Woolfenden S (2020) 'Developmental risk among Aboriginal children living in urban areas in Australia: the Study of Environment on Aboriginal Resilience and Child Health (SEARCH)', *BMC Pediatrics*, 20(1):13, doi:10.1186/s12887-019-1902-z
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Indigenous/remote context references

- 1 Tujague NA and Ryan KL (2021) 'Ticking the box of 'cultural safety' is not enough: why trauma informed practice is critical to Indigenous healing', *Rural and Remote Health*, 21(3):6411, doi:10.22605/RRH6411

Child neglect, abuse and cumulative harm

Summary of changes

Addition

- New subsection cumulative harm with brief explanation
- Note that it may be an obligation to share information with other agencies
- To inform parent/carer where possible that report is being undertaken

Other

- Defined recent (in recent sexual abuse) as 7 days post-assault

Primary references

- 1 Australian Institute of Health and Welfare (2021) [Australian Burden of Disease Study 2018: Child abuse and neglect](#), accessed 11 January 2022.
- 2 Child and Adolescent Health Service, Government of Western Australia (2020) [Guidelines for Protecting Children 2020](#), accessed 4 October 2022.
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- 7 The Royal Children's Hospital Melbourne (2021) [Recommended forensic evaluation of physical abuse](#), Victorian Forensic Paediatric Medical Service Guideline, accessed 4 October 2022.

Indigenous/remote context references

- 1 Royal Australian College of General Practitioners (2021) 'Aboriginal and Torres Strait Islander communities', in Royal Australian College of General Practitioners *Abuse and Violence: Working with our patients in general practice, 5th edn*, RACGP, Australia.

Infant and child nutrition

Summary of changes

Addition: Indications child ready for solids

Other

- Protocol was separated from infant and child growth, nutrition related to the immediate postnatal period moved and cross-referenced to the Women's Business Manual
- Increased guidance provided on developmental signs of readiness to commence solid foods and responsive feeding practices

Primary references

- 1 Borowitz SM (2021) 'First Bites - why, when and what solid foods to feed infants', *Frontiers in Pediatrics*, 26(9):654171, doi:10.3389/fped.2021.654171
- 2 National Health and Medical Research Council (2012) [Infant Feeding Guidelines: Information for health workers](#), NHMRC, Canberra, accessed 4 April 2022.

Indigenous/remote context references

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- 2 Brand A (2020) [Working at the cultural interface to meet the needs of remote Australian Aboriginal caregivers with children progressing through the nutritional period of weaning](#), Flinders University, College of Medicine and Public Health, accessed 20 October 2021.
- 3 Tonkin E, Kennedy D, Hanieh S, Biggs BA, Kearns T, Gondarra V, Dhurrkay R and Brimblecombe J (2020) 'Dietary intake of Aboriginal Australian children aged 6-36 months in a remote community: a cross-sectional study', *Nutrition Journal*, 19(1):34, doi:10.1186/s12937-020-00550-y

Infant, child, youth growth (0-15 years)

Summary of changes

Addition

- Small amount of nutrition content, directly pertaining to growth, has been retained with cross-references added to age-appropriate nutritional guidelines
- Protocol content extended to 15 years to include older children and youth
- BMI recommended for children aged 2 and over in line with WHO recommendations and waist for height ratio added to align with chronic disease screening recommendations in school aged children and youth health check
- Expected weight gain table reintroduced to facilitate assessment of progress of growth

Deletion

- Nutrition content removed from protocol and redeveloped into a new protocol

Medicines

- For growth faltering updated
- Zinc supplementation removed due to lack of evidence that children in remote areas of Australia are deficient in zinc, multivitamin supplement added and Vitamin A supplementation included for severe malnutrition

Other

- Protocol extended to include youth age group to 15 years
- Growth action plan refocused to early identification and referral of growth problems
- Growth action plan includes obesity in addition to growth faltering

Primary references

- 1 American Society for Parenteral and Enteral Nutrition Board of Directors (2013) 'Defining pediatric malnutrition: a paradigm shift toward etiology-related definitions', *Journal of Parenteral and Enteral Nutrition*, 37(4):460-81, doi:10.1177/0148607113479972
- 2 Hill SM (2017) 'Oral nutritional supplementation: a user's guide', *Paediatrics & Child Health*, 27(8):378-382, doi:10.1016/j.paed.2017.06.004
- 3 National Health and Medical Research Council (2012) [Literature Review: Infant Feeding Guidelines](#), NHMRC, Canberra, accessed 22 September 2022.
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- 5 Picot J, Hartwell D, Harris P, Mendes D, Clegg AJ and Takeda A (2012) 'The effectiveness of interventions to treat severe acute malnutrition in young children: a systematic review', *Health Technology Assessment*, 16(19):1-316, doi:10.3310/hta16190
- 6 The Royal Children's Hospital Melbourne (n.d) [Management of overweight and obesity](#), Weight Management Service, accessed 9 October 2022.
- 7 The Royal Children's Hospital Melbourne (2021) [Slow weight gain](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 8 The Royal Children's Hospital Melbourne (2013) [Child growth learning resource](#), Clinical Practice Guidelines, accessed 4 October 2022.
- 9 World Health Organization and the United Nations Children's Fund (2009) [WHO child growth standards and the identification of severe acute malnutrition in infants and children: A joint statement](#), accessed 4 October 2022.
- 10 World Health Organization (2013) [Updates of the management of severe acute malnutrition in infants and children](#), accessed 11 January 2022.

Indigenous/remote context references

- 1 Aquino D, Marley JV, Senior K, Leonard D, Helmer J, Joshua A, Huddleston A, Ferguson H, Hobson V and Hadgraft N (2013) [Early Childhood Nutrition and Anaemia Prevention Project: Summary Report](#), The Fred Hollows Foundation, Indigenous Australia Program, Darwin, accessed 4 October 2022.
- 2 Valery PC, Purdie DM, Torzillo PJ, Stewart PA, Boyce NC, Chang AB, White AV, Wheaton GR and Wakerman J (2005) 'Zinc and vitamin A supplementation in Australian Indigenous children with acute diarrhoea: a randomised controlled trial', *Medical Journal of Australia*, 182(10):530-5, doi:10.5694/j.1326-5377.2005.tb00021.x

Anaemia (weak blood) in children and youth

Summary of changes

Addition

- Protocol has been extended to provide guidance for identification and treatment of anaemia in school aged children and youth
- Clarity has been provided regarding directions what to do when treatment course has not been completed and treatment of acutely unwell children
- Non-invasive monitoring has been added to the protocol to reflect increased use in practice. Assessment of comparative data between venous, haemocue and non-invasive testing did not support a change to the previous diagnostic values

Medicines

- Oral iron supplementation (OIS) of high risk infants to prevent anaemia has continued to be included following an extensive review of the literature (available from RPHCM website). The prevention regime now aligns with the recommendation to provide OIS to preterm and small babies who are at high-risk of early onset anaemia, however has been extended to include other high risk infants (those with maternal iron deficiency or diabetes in pregnancy, twin/ multiple birth, immediate cord clamping, low or delayed intake of iron-rich foods and/or introduction of cow's milk as a drink before 12 months of age). Preventative OIS is continued to 12 months of age to increase likelihood of adequacy of dietary intake. Following assessment of the risk of iron toxicity for formula fed infants and formula feeding patterns in remote communities, the recommendation to provide preventative OIS has been extended to all high-risk infants, not just breastfed infants. Recommended doses have been aligned to current evidence with the option for supported intermittent dosing in the clinic or daily home dosing. OIS can be supported by community workers under the direct supervision of a qualified person
- Folic acid supplementation, a review of the literature did not support the addition of folic acid treatment in this protocol. Evidence indicates that combined folic acid-iron supplementation offers no additive benefits to standalone iron treatment
- Treatment doses of oral iron have been updated to align with weight based dosing recommended by major hospitals such as the Royal Children's Hospital. A quick dose table is provided in the protocol

Other

- Protocol has been restructured to allow better identification of prevention and treatment strategies

Primary references

- 1 Fishman SM, Christian P and West KP (2000) 'The role of vitamins in the prevention and control of anaemia', *Public Health Nutrition*, 3(2):125-50, doi:10.1017/s1368980000000173
- 2 Maynor L and Brophy DF (2007) 'Risk of infection with intravenous IV therapy', *Annals of Pharmacotherapy*, 41:1476-80, doi:10.1345/aph.1K187
- 3 National Blood Authority Australia (2016) [National Blood Authority Patient Management Guidelines: Module 6 Neonatal and Paediatrics](#), PBM Guidelines, accessed 11 January 2022.
- 4 Powers JM, Shamoun MP, Buchanan GR, McCavit TI, Adix L and Buchanan GR (2015) 'Efficacy and Safety of Intravenous Ferric Carboxymaltose in Children with Iron Deficiency Anemia Unresponsive to Oral Iron Therapy', *Blood*, 126(23):4552, doi:10.1182/blood.V126.23.4552.4552
- 5 The Royal Children's Hospital Melbourne (2019) [Iron Deficiency](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 6 Wetten A, Brand A and Anaemia Expert Advisory Group (Remote Primary Health Care Manuals) (2021) [Evidence Summary: Preventative Oral Iron Supplementation \(OIS\) of infants at risk of iron deficiency](#), Remote Primary Health Care Manuals Resources, accessed 20 October 2021.

Indigenous/remote context references

- 1 Aquino D, Marley JV, Senior K, Leonard D, Joshua A, Huddleston A, Ferguson H, Helmer J, Hadgraft N and Hobson V (2013) [Early Childhood Nutrition and Anaemia Prevention Project](#), The Fred Hollows Foundation, Indigenous Australia Program, Darwin, accessed 4 October 2022.
- 2 Brand A (2020) [Working at the cultural interface to meet the needs of remote Australian Aboriginal caregivers with children progressing through the nutritional period of weaning](#), Flinders University, College of Medicine and Public Health, accessed 20 October 2021.
- 3 Brimblecombe JK, Ferguson MM, Liberato SC and O'Dea K (2013) 'Characteristics of the community-level diet of Aboriginal people in remote northern Australia', *Medical Journal of Australia*, 198(7):380-4, doi:10.5694/mja12.11407
- 4 Tonkin E, Kennedy D, Hanieh S, Biggs BA, Kearns T, Gondarra V, Dhurrkay R and Brimblecombe J (2020) 'Dietary intake of Aboriginal Australian children aged 6-36 months in a remote community: a cross-sectional study', *Nutrition Journal*, 19(1):34, doi:10.1186/s12937-020-00550-y

Asthma in children

Summary of changes

Addition: Physical examination added to diagnosis

Medicines

- Added puffer and spacer option to treatment for severe asthma (as per Asthma Handbook)
- For infrequent intermittent asthma - added low dose inhaled corticosteroid treatment for wheeze for children under 6
- For frequent intermittent asthma - made low dose inhaled corticosteroid first line then montelukast (previously other way around)

Other

- Children over 12 directed to adult protocol
- Emphasis on lung function test if over 6 years

Primary references

- 1 British Thoracic Society, Scottish Intercollegiate Guidelines Network (2019) [British Thoracic Society, Scottish Intercollegiate Guidelines Network \(BTS/SIGN\) British Guideline on the management of asthma](#), Quality improvement, accessed 22 October 2021.
- 2 Cloutier MM, Dixon AE, Krishnan JA, Lemanske RF Jr, Pace W and Schatz M (2020) 'Managing Asthma in Adolescents and Adults: 2020 Asthma Guideline Update From the National Asthma Education and Prevention Program', *Journal of the American Medical Association*, 324(22):2301-2317, doi:10.1001/jama.2020.21974
- 3 Collaro AJ, Chang AB, Marchant JM, Masters IB, Rodwell LT, Takken AJ and McElrea MS (2020) 'Culturally Appropriate Outreach Specialist Respiratory Medical Care Improves the Lung Function of Children in Regional and Remote Queensland', *Lung*, 198(2):361-369, doi:10.1007/s00408-020-00332-7
- 4 Global Initiative for Asthma (2021) [Global strategy for asthma management and prevention](#), accessed 11 October 2021.
- 5 National Asthma Council Australia (2020) [Asthma in Aboriginal and Torres Strait Islander peoples](#), Australian Asthma Handbook, accessed 11 October 2021.
- 6 National Asthma Council Australia (2020) [Managing asthma in children](#), Australian Asthma Handbook, accessed 4 October 2022.

Chest infections — 2 months to 5 years

Summary of changes

Medicines

- Severe and moderate pneumonia — increased benzathine benzylpenicillin dose from 30mg/kg to 50mg/kg dose (up to 1.2g)
- Mild pneumonia — increased amoxicillin dose from from 25mg/kg to 40mg/kg dose (up to 1.5g)

Primary references

- 1 CHEST Expert Cough Panel (2017) 'Management of Children With Chronic Wet Cough and Protracted Bacterial Bronchitis: CHEST Guideline and Expert Panel Report', *Chest*, 151(4):884-890, doi:10.1016/j.chest.2017.01.025
- 2 Chang AB and Grimwood K (2020) 'Antibiotics for Childhood Pneumonia - Do We Really Know How Long to Treat?', *New England Journal of Medicine*, 383(1):77-79, doi:10.1056/NEJMe2016328
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- 4 Chang AB, Oppenheimer JJ, Weinberger M, Rubin BK and Irwin RS (2016) 'Children With Chronic Wet or Productive Cough -Treatment and Investigations: A Systematic Review', *Chest*, 149(1):120-42, doi:10.1378/chest.15-2065
- 5 National Institute for Health and Care Excellence (2021) [Bronchiolitis in children: diagnosis and management \[NG9\]](#), NICE Guidelines, accessed 11 January 2022.
- 6 World Health Organization (2017) [Antibiotic Dosing for Children: Draft expert Recommendations for the 2017 Essential Medicines List for Children \(EMLc\)](#), accessed 11 January 2022.

Indigenous/remote context references

- 1 McCallum GB, Chatfield MD, Morris PS and Chang AB (2016) 'Risk factors for adverse outcomes of Indigenous infants hospitalized with bronchiolitis', *Pediatric Pulmonology*, 51(6):613-23, doi:10.1002/ppul.23342

Chronic suppurative lung disease (CSLD) and bronchiectasis in children

Summary of changes

Medicines

- Antibiotics for acute episode
- If allergic to penicillin cefuroxime replaces cefaclor (cefuroxime is more effective against haemophilus influenza and strep pneumoniae)
- Azithromycin removed as alternative - not needed, not in guidelines and increasing macrolide resistance

Other

- Defined days (3) of increased cough for diagnosing exacerbation

Primary references

- 1 Chang AB, Bell SC, Torzillo PJ, King PT, Maguire GP, Byrnes CA, Holland AE, O'Mara P and Grimwood K (2015) 'Chronic suppurative lung disease and bronchiectasis in children and adults in Australia and New Zealand Thoracic Society of Australia and New Zealand guidelines', *Medical Journal of Australia*, 202(3):130, doi:10.5694/mjac14.00287
- 2 Chang AB, Bush A and Grimwood K (2018) 'Bronchiectasis in children: diagnosis and treatment', *The Lancet*, 392(10150):866-879, doi:10.1016/S0140-6736(18)31554-X
- 3 Chang AB, Fortescue R, Grimwood K, Alexopoulou E, Bell L, Boyd J, Bush A, Chalmers JD, Hill AT, Karadag B, Midulla F, McCallum GB, Powell Z, Snijders D, Song WJ, Tonia T, Wilson C, Zacharasiewicz A and Kantar A (2021) 'Task Force report: European Respiratory Society guidelines for the management of children and adolescents with bronchiectasis', *European Respiratory Journal*, 58(2):2002990, doi:10.1183/13993003.02990-2020
- 4 Goyal V, Grimwood K, Byrnes CA, Morris PS, Masters IB, Ware RS, McCallum GB, Binks MJ, Marchant JM, van Asperen P, O'Grady KF, Champion A, Buntain HM, Petsky H, Torzillo PJ and Chang AB (2018) 'Amoxicillin-clavulanate versus azithromycin for respiratory exacerbations in children with bronchiectasis (BEST-2): a multicentre, double-blind, non-inferiority, randomised controlled trial', *The Lancet*, 392(10154):1197-1206, doi:10.1016/S0140-6736(18)31723-9

- 5 McCallum GB and Binks MJ (2017) 'The Epidemiology of Chronic Suppurative Lung Disease and Bronchiectasis in Children and Adolescents', *Frontiers in Pediatrics*, 5:27, doi:10.3389/fped.2017.00027

Indigenous/remote context references

- 1 McCallum GB, Singleton RJ, Redding GJ, Grimwood K, Byrnes CA, Valery PC, Mobberley C, Oguoma VM, Eg KP, Morris PS and Chang AB (2020) 'A decade on: Follow-up findings of indigenous children with bronchiectasis', *Pediatric Pulmonology*, 55(4):975-985, doi:10.1002/ppul.24696
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Dental care — 6 months to 5 years

Summary of changes

Addition: New section on tooth eruption and teething pain

Other: Updated advice around using fluoride in infants

Primary references

- 1 Australian Research Centre for Population Oral Health (2020) 'Guidelines for use of fluorides in Australia: update 2019', *Australian Dental Journal*, 65(1):30-38, doi:10.1111/adj.12742
- 2 Expert Group for Oral and Dental, version 3 (2019) [Oral and Dental](#), Therapeutic Guidelines, accessed 11 January 2022.
- 3 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) [National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, 3rd edition](#), RACGP, East Melbourne, accessed 4 October 2022.

Diarrhoea

Summary of changes

Medicines

- Special situations - deleted azithromycin, added ceftriaxone if signs of sepsis (systemic *Shigella* or *Salmonella* infection)
- Deleted tinidazole option for Giardia

Other

- Context specific variation Zinc is recommended as an adjunct to oral rehydration therapy in children older than 6 months for children living in low-income settings or settings where malnutrition is of concern
- Consolidated all treatment recommendations into one of four categories

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2018) [Supportive management of acute gastroenteritis](#), Therapeutic Guidelines, accessed 3 April 2022.
- 2 Florez ID, Niño-Serna LF and Beltrán-Arroyave CP (2020) 'Acute Infectious Diarrhea and Gastroenteritis in Children', *Current Infectious Disease Reports*, 22(2):4, doi:10.1007/s11908-020-0713-6
- 3 Guarino A, Lo Vecchio A, Dias JA, Berkley JA, Boey C, Bruzzese D, Cohen MB, Cruchet S, Liguoro I, Salazar-Lindo E, Sandhu B, Sherman PM and Shimizu T (2018) 'Universal Recommendations for the Management of Acute Diarrhea in Nonmalnourished Children', *Journal of Pediatric Gastroenterology and Nutrition*, 67(5):586-593, doi:10.1097/MPG.0000000000002053
- 4 Lazzerini M and Wanzira H (2016) 'Oral zinc for treating diarrhoea in children', *Cochrane Database of Systematic Reviews*, 12(12):CD005436, doi:10.1002/14651858.CD005436.pub5
- 5 Liberato SC, Singh G and Mulholland K (2015) 'Zinc supplementation in young children: A review of the literature focusing on diarrhoea prevention and treatment', *Clinical Nutrition*, 34(2):181-8, doi:10.1016/j.clnu.2014.08.002
- 6 Niño-Serna LF, Acosta-Reyes J, Veroniki AA and Florez ID (2020) 'Antiemetics in Children With Acute Gastroenteritis: A Meta-analysis', *Pediatrics*, 145(4):e20193260, doi:10.1542/peds.2019-3260
- 7 The Royal Children's Hospital Melbourne (2020) [Gastroenteritis](#), Clinical Practice Guidelines, accessed 20 April 2022.
- 8 The Royal Children's Hospital Melbourne (2021) [Nasogastric Fluids](#), Clinical Practice Guidelines, accessed 3 February 2022.
- 9 Wu HL and Zhan X (2020) 'Effect of ondansetron on vomiting associated with acute gastroenteritis in a developing country: a meta-analysis', *European Journal of Pediatrics*, 179(8):1181-1189, doi:10.1007/s00431-020-03680-x

Urine problems — 2 months to 12 years

Summary of changes

Addition: Do medical consult before using urine test as an STI screen

Medicines: Cefalexin replaces amoxicillin-clavulanic for cystitis

Primary references

- 1 American Academy of Pediatrics Subcommittee on Urinary Tract Infection (2016) 'Reaffirmation of AAP Clinical Practice Guideline: The Diagnosis and Management of the Initial Urinary Tract Infection in Febrile Infants and Young Children 2-24 Months of Age', *Pediatrics*, 138(6):e20163026, doi:10.1542/peds.2016-3026
- 2 Herreros Fernández ML, González Merino N, Tagarro García A, Pérez Seoane B, de la Serna Martínez M, Contreras Abad MT and García-Pose A (2013) 'A new technique for fast and safe collection of urine in newborns', *Archives of Disease in Childhood*, 98(1):27-9, doi:10.1136/archdischild-2012-301872
- 3 National Institute for Health and Care Excellence (2013) [Urinary tract infection in infants, children and young people \[QS36\]](#), NICE Guidelines, accessed 11 January 2022.

- 4 Sharma AK, Metzger DL and Rodd CJ (2018) 'Prevalence and Severity of High Blood Pressure Among Children Based on the 2017 American Academy of Pediatrics Guidelines', *Journal of the American Medical Association Pediatrics*, 172(6):557-565, doi:10.1001/jamapediatrics.2018.0223
- 5 Subcommittee on screening and management of high blood pressure in children (2017) 'Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents', *Pediatrics*, 140(6):e20171904, doi:10.1542/peds.2017-3035
- 6 The Royal Children's Hospital Melbourne (2019) [Urinary Tract Infection](#), Clinical Practice Guidelines, accessed 11 January 2022.

Chronic conditions

Adult health check

Summary of changes

Deleted: Population check table removed and replaced with Ask, Check, Do format

Other

- Protocol moved back to STM and reformatted
- Age range changed from 15 years and over to 18 years and over

Primary references

- 1 Australasian Sexual Health Alliance (2018) [Australian STI management guidelines for use in primary care](#), accessed 21 February 2022.
- 2 Australian Indigenous Healthinfonet (2020) [Sexual disorders](#), Sexual health, accessed 21 February 2022.
- 3 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 4 Hammond I, Saville M and Cancer Council Australia Cervical Cancer Screening Guidelines Working Party (2021) [National Cervical Screening Program: Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding](#), accessed 1 April 2022.
- 5 National Aboriginal Community Controlled Health Organisation and Royal Australian College of General Physicians (2019) [Health Check Templates: Adults \(25-49years\) and Older People \(50+ years\)](#), accessed 21 February 2022.
- 6 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) [National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, 3rd edition](#), RACGP, East Melbourne, accessed 4 October 2022.
- 7 Parkin CJ, Bell SW and Mirbagheri N (2018) 'Colorectal cancer screening in Australia: An update', *Australian Journal of General Practice*, 47(12):859-863, doi:10.31128/AJGP-01-18-4472
- 8 Peña AS, Curran JA, Fuery M, George C, Jefferies CA, Lobley K, Ludwig K, Maguire AM, Papadimos E, Peters A, Sellars F, Speight J, Titmuss A, Wilson D, Wong J, Worth C and Dahiya R (2020) 'Screening, assessment and management of type 2 diabetes

- mellitus in children and adolescents: Australasian Paediatric Endocrine Group guidelines', *Medical Journal of Australia*, 213(1):30-43, doi:10.5694/mja2.50666
- 9 Ratsch AM, Mason A, Rive L, Bogossian FE and Steadman KJ (2017) 'The Pituri Learning Circle: central Australian Aboriginal women's knowledge and practices around the use of *Nicotiana* spp. as a chewing tobacco', *Rural and Remote Health*, 17(3):4044, doi:10.22605/RRH4044
 - 10 Royal Australian College of General Practitioners (2016) [Guidelines for preventive activities in general practice, 9th edition](#), RACGP, East Melbourne, accessed 21 February 2022.
 - 11 Royal Australian College of General Practitioners (2019) [RACGP aged care clinical guide \(Silver Book\), 5th edition. Part A. Urinary incontinence](#), accessed 21 February 2022.

Combined checks for chronic diseases

Summary of changes

Addition

- GP management plan, patient priorities and self-management plan to align with Medicare

Deletion

- X-ray, O2 sats, spirometry, echocardiogram
- From pathology - TSH, BGL

Other

- Separated pathology from other checks, updated recall times
- Pathology tables reformatted to improve application to practice

Primary references

- 1 Black LJ, Dunlop E, Lucas RM, Pearson G, Farrant B and Shepherd CCJ (2021) 'Prevalence and predictors of vitamin D deficiency in a nationally representative sample of Australian Aboriginal and Torres Strait Islander adults', *British Journal of Nutrition*, 126(1):101-109, doi:10.1017/S0007114520003931
- 2 Harrison M, Davidson J, Lu Z, Morris H, Schneider H and Glendenning P (2019) [Use and Interpretation of Vitamin D testing](#), accessed 21 February 2022.
- 3 Kidney Health Australia (2020) [Chronic Kidney Disease \(CKD\) Management in Primary Care](#), Kidney Health Australia, Melbourne, Australia, accessed 21 February 2022.
- 4 Lung Foundation Australia (2019) [COPD-X Concise Guide](#), accessed 21 February 2022.
- 5 NHFA CSANZ Heart Failure Guidelines Working Group, Atherton JJ, Sindone A, De Pasquale CG, Driscoll A, MacDonald PS, Hopper I, Kistler PM, Briffa T, Wong J, Abhayaratna W, Thomas L, Audehm R, Newton P, O'Loughlin J, Branagan M and Connell C (2018) 'Guidelines for the Prevention, Detection, and Management of Heart Failure in Australia 2018', *Heart Lung Circulation*, 27(10):1123-1208, doi:10.1016/j.hlc.2018.06.1042
- 6 Royal Australian College of General Practitioners (2020) [Management of type 2 diabetes: A handbook for general practice](#), The Royal Australian College of General Practitioners, East Melbourne, Vic, accessed 11 January 2022.

- 7 Women's and Children's Health Network, South Australia Government (2020) [Antipsychotic Medication – Monitoring Adverse Effects when Prescribed for Children / Adolescents](#), Clinical procedure, accessed 21 February 2022.

Assessing and reducing cardiovascular risk

Summary of changes

Addition: To high CVR: CKD with eGFR less than 45 or urine ACR more than 25 in males or more than 35 in females

Other: Age group for protocol updated to 18 years and over (from 20 years and over)

Primary references

- 1 Agostino JW, Wong D, Paige E, Wade V, Connell C, Davey ME, Peiris DP, Fitzsimmons D, Burgess CP, Mahoney R, Lonsdale E, Fernando P, Malamoo L, Eades S, Brown A, Jennings G, Lovett RW and Banks E (2020) 'Cardiovascular disease risk assessment for Aboriginal and Torres Strait Islander adults aged under 35 years: a consensus statement', *Medical Journal of Australia*, 9:422-427, doi:10.5694/mja2.50529
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- 8 Zhao Y, Jeyaraman K, Burgess P, Connors C, Guthridge S, Maple-Brown L and Falhammar H (2020) 'All-cause mortality following low-dose aspirin treatment for patients with high cardiovascular risk in remote Australian Aboriginal communities: an observational study', *British Medical Journal Open*, 1:e030034, doi:10.1136/bmjopen-2019-030034

Coronary artery disease

Summary of changes

Medicines

- Ivabradine added to management choices
- For recurrent angina under risk of/past heart attack: added second line ticagrelor
- For chest pain: glyceryl trinitrate tablet deleted, spray retained

Other

- Separation of acute and chronic chest pain – moved acute chest pain to chest pain protocol

Primary references

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- 3 European Society of Cardiology Scientific Document Group (2020) 'Guidelines for the diagnosis and management of chronic coronary syndromes', *European Heart Journal*, 41(3):407-477, doi:10.1093/eurheartj/ehz425
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Indigenous/remote context references

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- 2 Brown A (2010) 'Acute coronary syndromes in indigenous Australians: opportunities for improving outcomes across the continuum of care', *Heart Lung Circulation*, 19(5-6):325-36, doi:10.1016/j.hlc.2010.02.011

Chronic kidney disease

Summary of changes

- Updated to include KDIGO nomenclature for prognosis of CKD by GFR and albuminuria
- BP targets updated from 130/80 to 120/80

Primary references

- 1 Cheung AK, Chang TI, Cushman WC, Furth SL, Hou FF, Ix JH, Knoll GA, Muntner P, Pecoits-Filho R, Sarnak MJ, Tobe SW, Tomson CRV, Lytvyn L, Craig JC, Tunnicliffe DJ, Howell M, Tonelli M, Cheung M, Earley A and Mann JFE (2021) 'Executive summary of the Kidney Disease: Improving Global Outcomes (KDIGO) 2021 Clinical Practice Guideline for the Management of Blood Pressure in Chronic Kidney Disease', *Kidney International*, 99(3):559-569, doi:10.1016/j.kint.2020.10.026
- 2 Kidney Disease Improving Global Outcomes (KDIGO) Blood Pressure Work Group (2021) 'Kidney Disease: Improving Global Outcomes (KDIGO) 2021 Clinical Practice Guideline for the Management of Blood Pressure in Chronic Kidney Disease', *Kidney International*, 99(3 Suppl):S1-S87, doi:10.1016/j.kint.2020.11.003

- 3 Kidney Health Australia (2020) [Chronic Kidney Disease \(CKD\) management in Primary Care, 4th edition](#), Kidney Health Australia, Melbourne, accessed 25 June 2021.
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- 5 Majoni SW, Dole K, Hughes JT and Pain C (2021) 'Review of current pathways to wait-listing for kidney transplantation for Aboriginal and Torres Strait Islander peoples with end-stage kidney disease in the Top End of Northern Australia', *Australian Health Review*, 45(2):185-193, doi:10.1071/AH20011
- 6 Majoni SW, Lawton PD, Rathnayake G, Barzi F, Hughes JT and Cass A (2021) 'Narrative Review of Hyperferritinemia, Iron Deficiency, and the Challenges of Managing Anemia in Aboriginal and Torres Strait Islander Australians With CKD', *Kidney International Reports*, 6(2):501-512, doi:10.1186/s12882-020-02185-x

Diabetes

Summary of changes

Addition

- Check ketones if unwell and taking a SGLT-2 inhibitor in Check section
- Lower HbA1c cut off value (5.7 to 6.4%)
- Addition of HbA1c target for young people: 48 mmol/mol (6.5%) if less than 18 years
- BGL self monitoring recommended to person on insulin
- Update of steps for medicines for type 2 diabetes to reflect 2021 Australian type 2 diabetes management algorithm
- Addition of caveat "diabetes educator/medical/nurse practitioner consult required for all insulin initiation and adjustments" and consider specialist input

Deletion

- Remove "or less" in OR if severe CAD, elderly person- HbA1C 8% or less due to unnecessary risk of hypos. Removal of "**Do not** use HbA1c if under 18 years"
- Removal of recommendation to start metformin/insulin for children, linkage to <https://diabeteslifecourse.org.au/youth-diabetes/health-professional-resources> and added to consider starting insulin if under 18 years with type 2 diabetes and HbA1c more than 8.5%

Medicines

- Deleted pioglitazone and glimepiride. Added gliclazide. Glargine insulin starting dose changed from 12 units to 10 units if BMI 25 or less
- Foot problems amended for clarification and linked to soft tissue injuries for antibiotic guidance
- Update of oral medicines for type 2 medicines to reflect treatments availability and drug profiles

Other

- Change to BGL 2h after meal 5-10mmol/L to be consistent with RACGP guidelines
- Check ketones if high BP and/or taking a SGLT-2 inhibitor and unwell
- HbA1c target for under 18yrs (48mmol/mol or 6.5%)
- Doctor, nurse practitioner or diabetes educator consult if adjusting insulin dose

Primary references

- 1 Northern Territory Diabetes Clinical Network (2019) [Youth Diabetes – Health Professional Resources](#), accessed 18 October 2022.
- 2 American Diabetes Association (2019) 'Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes', *Diabetes Care*, 42(Suppl 1):S13-S28, doi:10.2337/dc19-S002
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- 4 Australian Diabetes Society (2020) [Living Evidence Guidelines in Diabetes](#), accessed 11 January 2022.
- 5 Barr ELM, Barzi F, Rohit A, Cunningham J, Tatipata S, McDermott R, Hoy WE, Wang Z, Bradshaw PJ, Dimer L, Thompson PL, Brimblecombe J, O'Dea K, Connors C, Burgess P, Guthridge S, Brown A, Cass A, Shaw JE and Maple-Brown L (2020) 'Performance of cardiovascular risk prediction equations in Indigenous Australians', *Heart*, 106(16):1252-1260, doi:10.1136/heartjnl-2019-315889
- 6 Bell K, Shaw JE, Maple-Brown L, Ferris W, Gray S, Murfet G, Flavel R, Maynard B, Rylie H, Pritchard B, Freeman R and Gordon BA (2020) 'A position statement on screening and management of prediabetes in adults in primary care in Australia', *Diabetes Research and Clinical Practice*, 164:108188, doi:10.1016/j.diabres.2020.108188
- 7 Buse JB, Wexler DJ, Tsapas A, Rossing P, Mingrone G, Mathieu C, D'Alessio DA and Davies MJ (2020) '2019 Update to: Management of Hyperglycemia in Type 2 Diabetes, 2018. A Consensus Report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD)', *Diabetes Care*, 43(2):487-493, doi:10.2337/dci19-0066
- 8 Dhataria KK, Glaser NS, Codner E and Umpierrez GE (2020) 'Diabetic ketoacidosis', *Nature Reviews Disease Primers*, 6(1):40, doi:10.1038/s41572-020-0165-1
- 9 Diabetes Australia (2016) [Position Statement, A new language for diabetes, Improving communications with and about people with diabetes, Australian Diabetes Society](#), accessed 11 January 2022.
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- 11 International Diabetes Federation Clinical Guidelines Task Force (2017) [Global guideline for type 2 diabetes](#), accessed 28 June 2020.
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- 13 Rosenstock J and Ferrannini E (2015) 'Euglycemic Diabetic Ketoacidosis: A Predictable, Detectable, and Preventable Safety Concern With SGLT2 Inhibitors', *Diabetes Care*, 38(9):1638-42, doi:10.2337/dc15-1380
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- 16 Zhao Y, Jeyaraman K, Burgess P, Connors C, Guthridge S, Maple-Brown L and Falhammar H (2020) 'All-cause mortality following low-dose aspirin treatment for patients with high cardiovascular risk in remote Australian Aboriginal communities: an observational study', *British Medical Journal Open*, 10(1):e030034, doi:10.1136/bmjopen-2019-030034

High BP (hypertension)

Summary of changes

Addition: Tests for TFTs and CMP

Medicines: Decrease starting dose of Ramipril from 5mg to 2.5mg

Primary references

- 1 European Society of Cardiology Scientific Document Group (2018) '2018 European Society of Cardiology/European Society of Hypertension (ESC/ESH) Guidelines for the management of arterial hypertension', *European Heart Journal*, 39(33):3021-3104, doi:10.1093/eurheartj/ehy339
- 2 Flack JM, Calhoun D and Schiffrin EL (2018) 'The New ACC/AHA Hypertension Guidelines for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults', *American Journal of Hypertension*, 31(2):133-135, doi:10.1093/ajh/hpx207
- 3 National Heart Foundation of Australia (2016) 'Guideline for the diagnosis and management of hypertension in Australia – 2016', *Medical Journal of Australia*, 205(2):85-89, doi:10.5694/mja16.00526
- 4 Unger T, Borghi C, Charchar F, Khan NA, Poulter NR, Prabhakaran D, Ramirez A, Schlaich M, Stergiou GS, Tomaszewski M, Wainford RD, Williams B and Schutte AE (2020) '2020 International Society of Hypertension Global Hypertension Practice Guidelines', *Journal of Hypertension*, 30(6):1334–1357, doi:10.1161/HYPERTENSIONAHA.120.15026

Obesity

Summary of changes

- A new protocol developed in response to increasing prevalence of obesity and incidence of bariatric surgery for people living in remote communities
- Provides guidance on initiation of very low calorie diets, follow-up of bariatric surgery and considerations when caring for larger people

Primary references

- 1 Australian Government (2009) [Manual handling risks associated with the care, treatment and transportation of bariatric \(severely obese\) patients and clients in Australia](#), accessed 6 April 2022.
- 2 Lee PC and Dixon J (2017) 'Bariatric-metabolic surgery: A guide for the primary care physician', *Australian Family Physician*, 46(7):465-471.

- 3 National Health and Medical Research Council (2013) [Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia](#), accessed 28 May 2021.
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Mental health and drug problems

Mental health assessment

Summary of changes

- Minor changes for clarity

Primary references

- 1 Andrews G, Dean K, Genderson M, Hunt C, Mitchell P, Sachdev P and Trollor J (2014) *Management of Mental Disorders*, Createspace, United States.
- 2 Boland R, Verduin ML and Ruiz P (2021) *Kaplan and Sadock's synopsis of psychiatry, 12th edition*, Wolters Kluwer Health, USA.

Indigenous/remote context references

- 1 Westerman T (2021) 'Culture-bound syndromes in Aboriginal Australian populations', *Clinical Psychologist*, 25(2):1-17, doi:10.1080/13284207.2020.1843967

Anxiety

Summary of changes

- Minor changes for clarity

Primary references

- 1 American Psychiatric Association (2013) *Diagnostic and statistical manual of mental disorders, 5th edition*, American Psychiatric Association, Washington.
- 2 Cox RC and Olatunji BO (2020) 'Sleep in the anxiety-related disorders: A meta-analysis of subjective and objective research', *Sleep Medicine Reviews*, 51:101282, doi:10.1016/j.smrv.2020.101282
- 3 National Institute for Health and Care Excellence (2014) [Anxiety disorders \[QS53\]](#), NICE Guidelines, accessed 19 April 2022.

Depression

Summary of changes

Addition

- Hb, HbA1c, B12, Folate, HIV, syphilis added to tests
- Lifestyle considerations and education

- Addition of suicide risk assessment
- Addition of healthy life style benefits

Deletion

- List of non-SSRI/SNRIs
- Fasting lipids, Ca, ECG, waist circumference

Other

- Time taken for antidepressants to take effect adjusted from 2 weeks to 4 weeks
- Clarification for cultural explanation
- Rationalisation of checks and tests

Primary references

- 1 Brown AD, Mentha R, Rowley KG, Skinner T, Davy C and O'Dea K (2013) 'Depression in Aboriginal men in central Australia: adaptation of the Patient Health Questionnaire 9', *BMC Psychiatry*, 13:271, doi:10.1186/1471-244X-13-271
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- 5 Westerman T and Sheridan L (2020) 'Whole of community suicide prevention forums for Aboriginal Australians', *Australian Psychologist*, 55:363-374, doi:10.1111/ap.12470
- 6 Westerman T (2021) 'Culture-bound syndromes in Aboriginal Australian populations', *Clinical Psychologist*, 25(2):1-17, doi:10.1080/13284207.2020.1843967

Psychosis

Summary of changes

Medicines: Antipsychotic medicines side effect ordered by importance of seriousness

Primary references

- 1 Galletly C, Castle D, Dark F, Humberstone V, Jablensky A, Killackey E, Kulkarni J, McGorry P, Nielssen O and Tran N (2016) 'Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the management of schizophrenia and related disorders', *Australian and New Zealand Journal of Psychiatry*, 50(5):410-72, doi:10.1177/0004867416641195
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- 3 Marder S (2021) [Psychosis in adults: Initial management](#), UpToDate, accessed 11 January 2022.

Alcohol withdrawal

Summary of changes

Medicines

- Clarification on benzodiazepines doses
- Diazepam tapered over 3 days (was 2-3 days)
- IV/IM thiamine dose adjusted to daily for first 3 days and increased from 200mg to 300mg

Other

- Red fag box moved upfront
- The final section of CIWA on orientation has been modified to be more appropriate for people from remote communities

Primary references

- 1 Expert Groups for Psychotropic, version 7 (2013) [Alcohol and other drug problems](#), Therapeutic Guidelines, accessed 11 January 2022.
- 2 Saunders JB, Conigrave KM, Latt NC, Nutt DJ, Marshall J, Ling W, and Higuchi S (2016) *Addiction medicine, 2nd edition*, Oxford Specialist handbooks, UK.
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- 4 South Australian Health, Government of South Australia (2016) [Clinical Guideline Management of patients at risk of alcohol withdrawal in acute hospitals](#), Clinical Guideline, accessed 24 April 2022.
- 5 Sullivan JT, Sykora K, Schneiderman J, Naranjo CA and Sellers EM (1989) 'Assessment of alcohol withdrawal: the revised clinical institute withdrawal assessment for alcohol scale (CIWA-Ar)', *British Journal of Addiction*, 84(11):1353-7, doi:10.1111/j.1360-0443.1989.tb00737.x

Amphetamines and other stimulants

Summary of changes

Deletion: amphetamine withdrawal assessment scale

Primary references

- 1 Drug and Alcohol Services South Australia (2017) [Management of patients presenting with acute methamphetamine related problems: evidence summary](#), accessed 11 January 2022.
- 2 Expert Group for Psychotropic, version 8 (2021) [Approach to managing acute behavioural disturbance](#), Therapeutic Guidelines, accessed 11 January 2022.
- 3 Jenne L, Spain D, Whyte I, Baker A, Carr VJ and Crilly J (2006) [Management of patients with psychostimulant toxicity: Guidelines for emergency departments](#), Australian Government Department of Health and Ageing, Canberra, accessed 11 January 2022.

Cannabis

Summary of changes

Addition

- Cannabis hyperemesis syndrome
- Warning re using diazepam for more than one week

Medicines

- Added antiemetic
- Olanzapine recommended if agitation not settled by diazepam

Other

- Cross reference to nausea and vomiting protocol

Primary references

- 1 Lee KS, Conigrave KM, Patton GC and Clough AR (2009) 'Cannabis use in remote Indigenous communities in Australia: endemic yet neglected', *Medical Journal of Australia*, 190(5):228-9, doi:10.5694/j.1326-5377.2009.tb02379.x
- 2 Lubman DI and Baker A (2010) 'Cannabis and mental health - management in primary care', *Australian Family Physician*, 39(8):554-7.
- 3 National Cannabis Prevention and Information Centre (2009) [Management of cannabis use disorder and related issues: a clinician's guide](#), University of New South Wales, Sydney, accessed 5 October 2022.

Kava

Summary of changes

- Minor change for clarity

Primary references

- 1 Rychetnik L and Madronio CM (2011) 'The health and social effects of drinking water-based infusions of kava: a review of the evidence', *Drug and Alcohol Review*, 30(1):74-83, doi:10.1111/j.1465-3362.2010.00184.x
- 2 Sarris J, LaPorte E and Schweitzer I (2011) 'Kava: a comprehensive review of efficacy, safety, and psychopharmacology', *Australian and New Zealand Journal of Psychiatry*, 45(1):27-35, doi:10.3109/00048674.2010.522554

Indigenous/remote context references

- 1 Butt J (2013) *Kava usage in Aboriginal and Pacific Islander communities in Australia*, Western Australia National Drug Research Institute, Perth.
- 2 Clough AR, Wang Z, Bailie RS, Burns CB and Currie BJ (2004) 'Case-control study of the association between kava use and ischaemic heart disease in Aboriginal communities in eastern Arnhem Land (Northern Territory) Australia', *Journal of Epidemiology and Community Health*, 58(2):140-1, doi:10.1136/jech.58.2.140
- 3 Fuller T (2013) 'Kava in the Northern Territory: a unique situation', *Australian Police Journal*, 67(1):18-25.

Opioids

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australia Government Department of Health (2014) National guidelines for medication-assisted treatment of opioid dependence, accessed 5 October 2022.

- 2 Northern Territory Department of Health (2018) [Schedule 8 substances: Code of Practice; Volume 1: Issuing Prescriptions, supplying schedule 8 substances](#), accessed 5 October 2022.
- 3 Pain and Analgesia Expert Group (2020) [Opioids in pain management](#), Therapeutic Guidelines, accessed 5 April 2022.

Tobacco

Summary of changes

Addition: NRT initial dosage cessation guideline flowchart

Medicines: Addition of nicotine spray

Primary references

- 1 Australian Government Department of Health and Ageing (2012) [Medicines to help Aboriginal and Torres Strait Islander people stop smoking: a guide for health workers](#), accessed 5 October 2022.
- 2 Cancer Council Victoria (2020) [Tobacco in Australia: Facts and issues](#), Cancer Council Victoria, Melbourne, accessed 5 October 2022.
- 3 National Health and Medical Research Council (2017) [2017 CEO Statement on Electronic cigarettes](#), accessed 11 January 2022.
- 4 Royal Australian College of General Practitioners (2014) [Supporting smoking cessation: a guide for health professionals](#), accessed 1 July 2021.

Indigenous/remote context references

- 1 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) [National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, 3rd edition](#), RACGP, East Melbourne, accessed 4 October 2022.
- 2 Ratsch AM, Mason A, Rive L, Bogossian FE and Steadman KJ (2017) 'The Pituri Learning Circle: central Australian Aboriginal women's knowledge and practices around the use of Nicotiana spp. as a chewing tobacco', *Rural and Remote Health*, 17(3):4044, doi:10.22605/RRH4044
- 3 Tackling Indigenous Smoking National Best Practice Unit (n.d) [Key Facts about Bush Tobacco](#), accessed 5 October 2022.
- 4 Thomas DP and Panaretto KS (2022) 'Predictors and reasons for quitting smoking in remote Aboriginal and Torres Strait Islander communities', *Health Promotion Journal of Australia*, 33(1):261-271, doi:10.1002/hpja.485

Volatile substance misuse

Summary of changes

- Medical consult for children's doses of diazepam and olanzapine (children not included previously)

Primary references

- 1 Northern Territory Government Department of Health (2020) [Volatile Substance Use Assessment Guideline](#), accessed 5 October 2022.

Sexual health

STI checks for young people

Summary of changes

Addition: Information regarding consent and health intimate relationships, and protective behaviours

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 American Sexual Health Association (n.d.) [Understanding consent](#), accessed 22 September 2022.
- 3 British Association for Sexual Health and HIV (2021) [British Association for Sexual Health and HIV Guidelines](#), BASHH guidelines, accessed 4 April 2022.
- 4 Family Planning NSW, Local Health District HARP Units and Northern Sydney Local Health District Youth Health Promotion Team, NSW STI Programs Unit and Yfoundations (n.d.) [Talking about sexual health: A tool for youth workers](#), NSW Health STI programs unit, accessed 19 January 2022.
- 5 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 6 NSW Kids and Families (2014) [Youth Health Resource Kit: An Essential Guide for Workers](#), NSW Health: Youth health and wellbeing, accessed 11 January 2022.
- 7 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

STI checks for men

Summary of changes

Addition

- An information textbox for POC testing for STIs was added and POC tests were included in the Standard and Full STI check
- Consideration for medical consult was added for PrEP if behavioural risk factors for HIV

Deletion

- 'First void' from urine collection

Other

- Protocol was updated to focus on age groups most at risk
- Changed highest risk group from sexually active under 19 to under 25

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.

- 2 British Association for Sexual Health and HIV (2021) [British Association for Sexual Health and HIV Guidelines](#), BASHH guidelines, accessed 4 April 2022.
- 3 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 4 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

STI management

Summary of changes

Addition

- Mycoplasma to list of conditions
- New section on mycoplasma genitalia as now tested for in limited circumstances - advised medical consult

Medicines

- For Chlamydia: added to give doxycycline oral for anal infections
- For gonorrhoea: separated oral from anal (azithromycin oral 2g, anal 1g)
- For chlamydia and gonorrhoea – separate treatment for uncomplicated genital or pharyngeal infections and anorectal infection
- Valaciclovir replaces acyclovir for genital herpes if pregnant; deleted imiquimod as option for treatment of genital wart

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 3 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

Indigenous/remote context references

- 1 Martin DH (2021) [Mycoplasma genitalium infection in males and females](#), UpToDate, accessed 18 January 2022.
- 2 Melbourne Sexual Health Centre (2021) [Mycoplasma genitalium treatment guidelines](#), Treatment Guidelines, accessed 20 May 2022.

Genital ulcers and lumps

Summary of changes

Addition

- Mycoplasma to list of conditions

- New section on mycoplasma genitalia as now tested for in limited circumstances - advised medical consult

Medicines

- For chlamydia: added to give doxycycline oral for anal infections
- For gonorrhoea: separated oral from anal (azithromycin oral 2g, anal 1g)
- For chlamydia and gonorrhoea – separate treatment for uncomplicated genital or pharyngeal infections and anorectal infection
- Valaciclovir replaces acyclovir for genital herpes if pregnant; deleted imiquimod as option for treatment of genital wart

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 3 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

Indigenous/remote context references

- 1 Martin DH (2021) [Mycoplasma genitalium infection in males and females](#), UpToDate, accessed 18 January 2022.
- 2 Melbourne Sexual Health Centre (2021) [Mycoplasma genitalium treatment guidelines](#), Treatment Guidelines, accessed 20 May 2022.

Discharge from penis and dysuria (pain passing urine)

Summary of changes

Addition

- New section 'Follow-up if ongoing symptoms' - with 3 subtitles: Symptoms caused by another STI, Persistent or recurrent gonorrhoea or chlamydia, and Symptoms not caused by another STI
- Added to beginning of new section to do medical consult about NAAT test for mycoplasma genitalium

Medicines

- Symptoms caused by another STI - added to give **doxycycline** (additional to metronidazole if trichomonas result unknown)
- Symptoms caused by persistent or recurrent gonorrhoea or chlamydia - added to give **azithromycin** (additional to ceftriaxone mixed with lidocaine) (Rationale for second dose of azithromycin: The resistance is likely to be to the amoxicillin rather than the azithromycin and the amox is replaced with ceftriaxone. The azithromycin is to treat chlamydia, the amox/ceftriaxone for gonorrhoea. The administration of the azithromycin again is OK as it ensures that the appropriate full cover for people in a penicillin resistant area is given. Technically the azithromycin may not need to be given again, but does cover in case there are questions about whether the dose was taken or if reinfection may

have occurred. If there is laboratory sensitivities, this can guide Tx anyway but as the issue is cases of ongoing symptoms a repeat dose would cover for potentially untreated chlamydia.)

- If resistance and amoxicillin given for initial treatment: give azithromycin and ceftriaxone

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 British Association for Sexual Health and HIV (2021) [British Association for Sexual Health and HIV Guidelines](#), BASHH guidelines, accessed 4 April 2022.
- 3 Expert Groups for Antibiotics, Arthroplasty device infections and Sore throat and Acute rheumatic fever (2019) [Principles of sexually transmitted infection management](#), Therapeutic Guidelines, accessed 29 March 2022.
- 4 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 5 Martin DH (2021) [Mycoplasma genitalium infection in males and females](#), UpToDate, accessed 18 January 2022.
- 6 Melbourne Sexual Health Centre (2021) [Mycoplasma genitalium treatment guidelines](#), Treatment Guidelines, accessed 20 May 2022.
- 7 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

General topics

Pain management (acute)

Summary of changes

Addition: Side effects of opioid administration

Deletion: Types of pain table, and sub-sections on nerve pain and chronic pain

Medicines: For moderate pain: added combined paracetamol and ibuprofen, and oxycodone

Other: Focus changed from general pain conditions to acute pain

Primary references

- 1 Expert Group for Pain and Analgesia, version 7 (2020) [Pain and Analgesia](#), Therapeutic Guidelines, accessed 5 October 2022.
- 2 Working Group of the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine (2020) [Acute Pain Management: Scientific Evidence 5th edition](#), ANZCA & FPM, Melbourne, accessed 5 October 2022.

Abdominal pain

Summary of changes

Addition: Sepsis consideration for complicated gall bladder disease and general peritonitis

Medicines: Ceftriaxone removed in general peritonitis and bowel obstruction - medical consult instead and cross reference to the sepsis protocol

Other: Major restructure with separation of causes of abdominal pain requiring and not requiring hospitalisation keeping the respective common "check" and "do" section in order to avoid repetition in each causes of abdominal pain

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 2 Horn AE and Ufberg JW (2011) 'Appendicitis, diverticulitis, and colitis', *Emergency Medicine of Clinics North America*, 29(2):347-68, doi:10.1016/j.emc.2011.01.002
- 3 Privette TW, Carlisle MC and Palma JK (2011) 'Emergencies of the liver, gallbladder, and pancreas', *Emergency Medicine of Clinics North America*, 29(2):293-317, doi:10.1016/j.emc.2011.01.008

Acute rheumatic fever (ARF) and rheumatic heart disease (RHD)

Summary of changes

Addition

- Table for how long to use Bicillin L-A
- Added more detail regarding pain management - including use of NSAIDs once diagnosed

Medicines

- Injection - include option of adding lidocaine to reduce pain and noted that ventrogluteal is preferred site
- Updated (simplified) preventive antibiotics for infective endocarditis, removed men's business, burns, abscess from procedures

Other

- Clarification of age groups and level of risk
- Added major and minor criteria for diagnosis

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 21 May 2021.
- 2 Rheumatic Heart Disease Australia (ARF/RHD writing group) (2020) [The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease, 3rd edition](#), accessed 11 January 2022.

Anaemia (weak blood) in adults

Summary of changes

Addition: Slow push for IV iron

Medicines: Lower iron dose and alternative day dosing option

Primary references

- 1 Firkin F and Rush B (1997) 'Interpretation of biochemical tests for iron deficiency: diagnostic difficulties related to limitations of individual tests', *Australian Prescriber*, 20:74-76, doi:10.18773/austprescr.1997.063
- 2 NPS MedicineWise (2014) [Ferric carboxymaltose \(Ferinject\) for iron-deficiency anaemia: An alternative IV preparation for iron-deficiency anaemia](#), RADAR, accessed 1 April 2022.
- 3 Therapeutic Guidelines Expert Group (2016) [Iron Deficiency](#), Therapeutic Guidelines, accessed 11 January 2022.

Dementia

Summary of changes

Addition

- Pathology: ERS, CRP, Mg, lipid profile
- Follow-up Geriatrician
- Hearing and vision

Primary references

- 1 Cognitive Decline Partnership Centre Guideline Adaptation Committee (2016) [Clinical practice guidelines and principles of care for people with dementia](#), NHMRC Partnership Centre for Dealing with Cognitive and Related Functional Decline in Older People, Sydney, accessed 3 February 2022.

Indigenous/remote context references

- 1 Dementia Collaborative Research Centre Assessment and Better Care (2012) [Guidelines for diagnosis and care of Aboriginal people with dementia in remote communities](#), accessed 3 February 2022.
- 2 National Aboriginal Community Controlled Health Organisation and the Royal Australian College of General Practitioners (2018) *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, 3rd edition*, RACGP, East Melbourne.
- 3 National Ageing Research Institute (2013) [Kimberley Healthy Adults Project: Guides for Clinicians](#), accessed 5 October 2022.

Dental and oral problems

Summary of changes

Addition

- New temporary filling materials (chewing gum and blu tak)

Medicines

- Updated pain management for adults and children
- For children: can combine paracetamol and ibuprofen
- For periodontal abscess: antibiotics changed from amoxicillin or phenoxymethylpenicillin to amoxicillin+clavulanic acid or clindamycin if allergic

Other

- Updated time for an unhealed ulcer to be considered a potential tumour changed from 3 weeks back to 2 weeks and added treatment with corticosteroids

- Terminology to describe facial swelling due to infection updated
- First line antibiotic choices for peridontal abscess, facial swelling and knocked out tooth sections

Primary references

- 1 Expert Group for Oral and Dental, version 3 (2019) [Oral and Dental](#), Therapeutic Guidelines, accessed 11 January 2022.
- 2 International Association of Dental Traumatology (2020) [International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries](#), Dental Traumatology, accessed 7 October 2022.
- 3 Rushworth B and Kanatas A (2020) *Oxford Handbook of Clinical Dentistry, 7th Edition*, Oxford University Press, United Kingdom.

Ear and hearing problems

Summary of changes

Addition

- Warning signs prompting further referral
- Note that problems are often asymptomatic
- Tympanometry

Medicines

- Azithromycin given as option to amoxicillin if compliance an issue
- For AMOwop: amoxicillin then amoxicillin–clavulanic acid NOW azithromycin or amoxicillin (trimethoprim-sulfamethoxazole if allergic) then amoxicillin–clavulanic
- Amoxicillin then amoxicillin–clavulanic acid NOW azithromycin or amoxicillin (trimethoprim-sulfamethoxazole if allergic) then amoxicillin–clavulanic
- AOMwip was amoxicillin with ciprofloxacin ear drops then amoxicillin–clavulanic acid with ciprofloxacin ear drops NOW azithromycin or high dose amoxicillin plus ciprofloxacin or if on high dose amoxicillin

Other

- Protocol restructured to align with current OM guidelines as relevant to remote practice

Primary references

- 1 Armengol CE (2021) [Acute otitis media](#), BMJ Best Practice, accessed 23 March 2022.
- 2 Leach AJ, Morris PS, Coates HL, Nelson S, O'Leary SJ, Richmond PC, Gunasekera H, Harkus S, Kong K, Brennan-Jones CG, Brophy-Williams S, Currie K, Das SK, Isaacs D, Jarosz K, Lehmann D, Pak J, Patel H, Perry C, Reath JS, Sommer J and Torzillo PJ (2021) 'Otitis media guidelines for Australian Aboriginal and Torres Strait Islander children: summary of recommendations', *Medical Journal of Australia*, 214(5):228-233, doi:10.5694/mja2.50953
- 3 Levi J and O'Reilly RC (2022) [Chronic suppurative otitis media \(CSOM\): Treatment, complications, and prevention](#), UpToDate, accessed 24 April 2022.
- 4 Pelton SI and Marom T (2022) [Otitis media with effusion \(serous otitis media\) in children: Management](#), UpToDate, accessed 23 March 2022.

- 5 Pelton SI and Tähtinen P (2022) [Acute otitis media in children: Treatment](#), UpToDate, accessed 23 March 2022.

Indigenous/remote context references

- 1 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) [National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, 3rd edition](#), RACGP, East Melbourne, accessed 4 October 2022.

Hepatitis

Summary of changes

Addition: Instructions for all Indigenous persons to be checked for Hepatitis once in their lives

Other: Altered pathology tests for Hepatitis B

Primary references

- 1 Allard NL, MacLachlan JH, Tran L, Yussf N and Cowie BC (2021) 'Time for universal hepatitis B screening for Australian adults', *Medical Journal of Australia*, 215(3):103-105.e1, doi:10.5694/mja2.51114
- 2 Centre for Disease Control, Northern Territory Government (2013) [Northern Territory Hepatitis B vaccination and public health guidelines](#), accessed 3 April 2022.
- 3 European Association for Study of Liver (2014) 'European Association for Study of Liver (EASL) Clinical Practice Guidelines: management of hepatitis C virus infection', *Journal of Hepatology*, 60(2):392-420, doi:10.1016/j.jhep.2013.11.003
- 4 European Association for Study of Liver (2012) 'European Association for Study of Liver (EASL) Clinical practice guidelines: management of chronic hepatitis B virus infection', *Journal of Hepatology*, 57(1):167-185, doi:10.1016/j.jhep.2012.02.010

Indigenous/remote context references

- 1 Davies J, Littlejohn M, Locarnini SA, Whiting S, Hajkovicz K, Cowie BC, Bowden DS, Tong SY and Davis JS (2013) 'Molecular epidemiology of hepatitis B in the Indigenous people of northern Australia', *Journal of Gastroenterology and Hepatology*, 28(7):1234-41, doi:10.1111/jgh.12177
- 2 Hosking K, Stewart G, Mobsby M, Skov S, Zhao Y, Su JY, Tong S, Nihill P, Davis J, Connors C and Davies J (2020) 'Data linkage and computerised algorithmic coding to enhance individual clinical care for Aboriginal people living with chronic hepatitis B in the Northern Territory of Australia - Is it feasible?', *PLOS One*, 15(4):e0232207, doi:10.1371/journal.pone.0232207

Human T Cell Leukaemia Virus type 1 (HTLV-1)

Summary of changes

- New protocol set up to guide HCP actions to do something they would not currently do (such as test, refer and provide prevention activities, or swap antibiotic treatments)

Primary references

- 1 Einsiedel LJ, Pham H, Woodman RJ, Pepperill C and Taylor KA (2016) 'The prevalence and clinical associations of HTLV-1 infection in a remote Indigenous community', *Medical Journal of Australia*, 205(7):305-9, doi:10.5694/mja16.00285.

Melioidosis

Summary of changes

Medicines

- First line antibiotic from **ceftriaxone** to **ceftazidime** (if available)
- Note from Prof Bart Currie: 'We give ceftriaxone one dose only until patient gets to hospital where they commence ceftazidime if it is confirmed melioidosis. We don't ever continue ceftriaxone for confirmed melioidosis but it does have activity against the bacterium so is useful while awaiting evacuation or transfer if no ceftazidime available.'

Primary references

- 1 Chaowagul W, Simpson AJ, Suputtamongkol Y and White NJ (1999) 'Empirical cephalosporin treatment of melioidosis', *Clinical Infectious Diseases*, 28(6):1328, doi:10.1086/517787
- 2 Currie BJ (2015) 'Melioidosis: evolving concepts in epidemiology, pathogenesis, and treatment', *Seminars in Respiratory and Critical Care Medicine*, 36(1):111-25, doi:10.1055/s-0034-1398389
- 3 Dance D (2014) 'Treatment and prophylaxis of melioidosis', *International Journal of Antimicrobial Agents*, 43(4):310-8, doi:10.1016/j.ijantimicag.2014.01.005
- 4 Expert Groups for Antibiotic, version 16 (2019) [Melioidosis](#), Therapeutic Guidelines, accessed 24 April 2022.
- 5 McLeod C, Morris PS, Bauert PA, Kilburn CJ, Ward LM, Baird RW, and Currie BJ (2015) 'Clinical presentation and medical management of melioidosis in children: a 24-year prospective study in the Northern Territory of Australia and review of the literature', *Clinical Infectious Diseases*, 60(1):21-6, doi:10.1093/cid/ciu733
- 6 Sullivan RP, Marshall CS, Anstey NM, Ward L and Currie BJ (2020) '2020 Review and revision of the 2015 Darwin melioidosis treatment guideline; paradigm drift not shift', *PLOS Neglected Tropical Diseases*, 14(9):e0008659, doi:10.1371/journal.pntd.0008659
- 7 Wiersinga WJ, Virk HS, Torres AG, Currie BJ, Peacock SJ, Dance DAB and Limmathurotsakul D (2018) 'Melioidosis', *Nature Reviews Disease Primers*, 4:17107, doi:10.1038/nrdp.2017.107

Nausea and vomiting

Summary of changes

- Minor changes for clarity

Primary references

- 1 Gill PJ, Thomas E and van den Bruel A (2021) 'Managing paediatric gastroenteritis in primary care: is there a role for ondansetron?', *British Journal of General Practice*, 71(711):440-441, doi:10.3399/bjgp21X717089
- 2 Pediatric Emergency Research Canada and Pediatric Emergency Care Applies Research Networks (2022) 'Oral Ondansetron Administration in Children Seeking Emergency Department Care for Acute Gastroenteritis: A Patient-Level Propensity-Matched Analysis', *Annals of Emergency Medicine*, 79(1):66-74, doi:10.1016/j.annemergmed.2021.06.003

Sore throat

Summary of changes

Medicines

- Regarding benzathine benzylpenicillin dose added that if dose for RHD given in previous 7 days to do a medical consult. National RHD guidelines note that: 'Individuals already receiving BPG secondary prophylaxis still need active treatment of sore throats or skin sores. This is necessary because the level of penicillin achieved by BPG wanes by about 7 days to reach a prophylactic level which is lower than a required treatment level. If the last BPG dose was ≥ 7 days ago, provide antibiotic dosing in accordance with Table 5.2 for sore throat or Table 5.3 for skin sores.'

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 21 May 2021.
- 2 National Health and Medical Research Council (2013) [Staying Healthy Preventing infectious diseases in early childhood education and care services, 5th edition](#), accessed 5 October 2022.
- 3 Rheumatic Heart Disease Australia (ARF/RHD writing group) (2020) [The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease, 3rd edition](#), accessed 11 January 2022.

Testicular pain

Summary of changes

Addition: More information on children

Primary references

- 1 Australasian Sexual Health Alliance (2020) [Australian STI management guidelines for use in primary care](#), accessed 11 January 2022.
- 2 Brenner JS and Ojo A (2021) [Causes of scrotal pain in children and adolescents](#), UpToDate, accessed 11 January 2022.
- 3 Sobel JD and Mitchell C (2021) [Trichomoniasis](#), UpToDate, accessed 11 January 2022.
- 4 The Royal Children's Hospital Melbourne (2020) [Acute scrotal pain or swelling](#), Clinical Practice Guidelines, accessed 5 October 2022.

Indigenous/remote context references

- 1 Australian Government Department of Health (2018) [National Aboriginal and Torres Strait Islander blood-borne viruses and sexually transmissible infections strategy 2018-2022](#), accessed 5 October 2022.
- 2 Silver BJ, Guy RJ, Wand H, Ward J, Rumbold AR, Fairley CK, Donovan B, Maher L, Dyda A, Garton L, Hengel B, Knox J, McGregor S, Taylor-Thomson D and Kaldor JM (2015) 'Incidence of curable sexually transmissible infections among adolescents and young adults in remote Australian Aboriginal communities: analysis of longitudinal clinical service data', *Sexually Transmitted Infections*, 91(2):135-41, doi:10.1136/sextrans-2014-051617

Urine problems — over 12 years

Summary of changes

Deletion

- Trimethoprim due to resistance patterns

Medicines

- For possible cystitis in males: antibiotics removed
- For females: trimethoprim or cefalexin replaced with trimethoprim or nitrofurantoin
- For mild kidney infection: trimethoprim or cefalexin replaced with amoxicillin + clavulanic acid

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2019) [Antibiotic](#), Therapeutic Guidelines, accessed 11 January 2022.
- 2 Hooton TM and Gupta K (2021) [Acute complicated urinary tract infection \(including pyelonephritis\) in adults](#), UpToDate, accessed 8 April 2022.
- 3 Hooton TM and Gupta K (2021) [Acute uncomplicated cystitis and pyelonephritis in women](#), UpToDate, accessed 8 April 2022.
- 4 Hooton TM (2021) [Acute uncomplicated cystitis and pyelonephritis in men](#), UpToDate, accessed 8 April 2022.
- 5 Perazella MA and O'Leary MP (2021) [Etiology and evaluation of hematuria in adults](#), UpToDate, accessed 8 April 2022.

Warfarin

Summary of changes

Addition

- POC test for INR
- Advice on medications and adjusting warfarin

Deletion

- Tables stating doses and dose adjustments for target range of 2.0–3.0 and 2.5–3.5

Other

- Protocol shortened to key principles

Primary references

- 1 Ageno W, Gallus AS, Wittkowsky A, Crowther M, Hylek EM and Palareti G (2012) 'Oral anticoagulant therapy: Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines', *Chest*, 141(2 Suppl):e44S-e88S, doi:10.1378/chest.11-2292
- 2 Australasian Society of Thrombosis and Haemostasis (2013) 'An update of consensus guidelines for warfarin reversal', *Medical Journal of Australia*, 198(4):198-9, doi:10.5694/mja12.10614
- 3 Expert Group for Toxicology and Toxinology, version 1 (2020) [Warfarin poisoning](#), Therapeutic Guidelines, accessed 5 October 2022.

- 4 Queensland Health and the Royal Flying Doctor Service (Queensland Section) (2016) [Guidelines for Warfarin Management in the Community](#), accessed 5 October 2022.
- 5 Schulman S, Parpia S, Stewart C, Rudd-Scott L, Julian JA and Levine M (2011) 'Warfarin dose assessment every 4 weeks versus every 12 weeks in patients with stable international normalized ratios: a randomized trial', *Annals of Internal Medicine*, 155(10):653-9, doi:10.7326/0003-4819-155-10-201111150-00003
- 6 Tideman PA, Tirimacco R, John AS and Roberts GW (2015) 'How to manage warfarin therapy', *Australian Prescriber*, 38(2):44-8, doi:10.18773/austprescr.2015.016

Indigenous/remote context references

- 1 Rheumatic Heart Disease Australia (ARF/RHD writing group) (2020) [The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease, 3rd edition](#), accessed 11 January 2022.

Worms

Summary of changes

Addition

- Asymptomatic eosinophilia advice and treatment
- Repeat doses of pyrantel after 2 weeks for hookworm and threadworm
- Repeat dose of praziquantel for dwarf tapeworm if heavy infection
- People with weakened immune system may need 4 or more doses of ivermectin/extended treatment

Deletion

- Strongyloides serology for eosinophilia

Medicines

- Albendazole advice - do not give to females who are in first trimester of pregnancy (previously do not give if pregnant)
- For hookworm and threadworm: repeat doses of pyrantel after 2 weeks
- For dwarf tapeworm: repeat dose of praziquantel if heavy infection
- For people with weakened immune system: may need 4 or more doses of ivermectin/extended treatment

Other

- **Remote context** — This protocol focuses on aggressive management using 3 monthly ivermectin if immune compromised, as cannot rely on serology which may be negative despite heavy infection. Hansen (2020) shows that people who are seropositive in communities have no increased illness and supports the included aggressive management to prevent serious complications of strongyloides
- **Comment from Specialist reviewer re advice on taking albendazole and ivermectin together (asymptomatic eosinophilia) with milk/fatty food:** If giving single dose of ivermectin important to emphasise that it is taken with full cream milk/fatty food as it doubles bioavailability. But with albendazole you want with water on empty stomach for hookworm, whipworm as more stays in gut, but when using for internal parasites better with food as more is absorbed. So pragmatic here is OK if the albendazole is with food. In ideal world first dose albendazole at same time as ivermectin with food then days 2 and 3 with water on empty stomach!!

Primary references

- 1 Barda B (2022) 'Ivermectin and albendazole against *Trichuris trichiura*: a long and winding road', *The Lancet Infectious Diseases*, 22(1):10-12, doi:10.1016/S1473-3099(21)00498-9
- 2 Buonfrate D, Salas-Coronas J, Muñoz J, Maruri BT, Rodari P, Castelli F, Zammarchi L, Bianchi L, Gobbi F, Cabezas-Fernández T, Requena-Mendez A, Godbole G, Silva R, Romero M, Chiodini PL and Bisoffi Z (2019) 'Multiple-dose versus single-dose ivermectin for *Strongyloides stercoralis* infection (Strong Treat 1 to 4): a multicentre, open-label, phase 3, randomised controlled superiority trial', *The Lancet Infectious Disease*, 19(11):1181-1190, doi:10.1016/S1473-3099(19)30289-0
- 3 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 4 Hansen M, Bowden E, Currie BJ, Ward L, Andrews RM, Dhurrkay RG, Gurruwiwi GG and Kearns T (2020) '*Strongyloides stercoralis* seropositivity is not associated with increased symptoms in a remote Aboriginal community', *Internal Medicine Journal*, 51(8):1286-1291, doi:10.1111/imj.14884
- 5 Hürlimann E, Keller L, Patel C, Welsche S, Hattendorf J, Ali SM, Ame SM, Sayasone S, Coulibaly JT and Keiser J (2022) 'Efficacy and safety of co-administered ivermectin and albendazole in school-aged children and adults infected with *Trichuris trichiura* in Côte d'Ivoire, Laos, and Pemba Island, Tanzania: a double-blind, parallel-group, phase 3, randomised controlled trial', *The Lancet Infectious Diseases*, 22(1):123-135, doi:10.1016/S1473-3099(21)00421-7
- 6 Kimberley Aboriginal Medical Services and WA Country Health Services Kimberley (2020) [Parasitic Worms](#), Kimberley Clinical Protocols, accessed 5 October 2022.
- 7 The Royal Children's Hospital Melbourne (2013) [Intestinal Parasites](#), Immigrant Health Service, accessed 5 October 2022.
- 8 Walia B, Kmush BL, Lane SD, Endy T, Montresor A and Larsen DA (2021) 'Routine deworming during antenatal care decreases risk of neonatal mortality and low birthweight: A retrospective cohort of survey data', *PLOS Neglected Tropical Disease*, 15(4):e0009282, doi:10.1371/journal.pntd.0009282
- 9 World Health Organization (2017) [Preventive chemotherapy to control soil-transmitted helminth infections in at-risk population groups](#), World Health Organization, Geneva, accessed 5 October 2022.

Bone and joint problems

Bone infection

Summary of changes

- Duration of presence of pus or cellulitis to indicate bone infection changed from 7–14 days to 14 days

Primary references

- 1 Berbari EF, Kanj SS, Kowalski TJ, Darouiche RO, Widmer AF, Schmitt SK, Hendershot EF, Holtom PD, Huddleston PM, Petermann GW and Osmon DR (2015) '2015 Infectious Diseases Society of America (IDSA) Clinical Practice Guidelines for the Diagnosis and Treatment of Native Vertebral Osteomyelitis in Adults', *Clinical Infectious Diseases*, 61(6):e26–e46, doi:10.1093/cid/civ482

- 2 Brischetto A, Leung G, Marshall CS and Bowen AC (2016) 'A Retrospective Case-Series of Children With Bone and Joint Infection From Northern Australia', *Medicine (Baltimore)*, 95(8):e2885, doi:10.1097/MD.0000000000002885
- 3 Chong BSW, Brereton CJ, Gordon A and Davis JS (2018) 'Epidemiology, Microbiological Diagnosis, and Clinical Outcomes in Pyogenic Vertebral Osteomyelitis: A 10-year Retrospective Cohort Study', *Open Forum Infectious Disease*, 5(3):ofy037, doi:10.1093/ofid/ofy037
- 4 Duration of Treatment for Spondylodiscitis (DTS) study group (2015) 'Antibiotic treatment for 6 weeks versus 12 weeks in patients with pyogenic vertebral osteomyelitis: an open-label, non-inferiority, randomised, controlled trial', *The Lancet*, 385(9971):875-82, doi:10.1016/S0140-6736(14)61233-2
- 5 Lin SY, Lin CL, Tseng CH, Chang YJ, Wang IK, Yeh HC and Kao CH (2015) 'Association Between Chronic Osteomyelitis and Risk of End-Stage Renal Disease: A Nationwide Population-Based Cohort Study', *Medicine (Baltimore)*, 94(27):e1141, doi:10.1097/MD.0000000000001141
- 6 Shetty RP, Mathew M, Smith J, Morse LP, Mehta JA and Currie BJ (2015) 'Management of melioidosis osteomyelitis and septic arthritis', *The Bone & Joint Journal*, 97-B(2):277-82, doi:10.1302/0301-620X.97B2.34799

Joint problems

Summary of changes

Addition

- Anti-CCP added to blood test for rheumatoid arthritis
- 2010 ACR/EULAR classification criteria for diagnosis

Medicines

- For gout: added option of ibuprofen

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2019) [Septic arthritis](#), Therapeutic Guidelines, accessed 5 October 2022.
- 2 Finch A and Kubler P (2016) 'The management of gout', *Australian Prescriber*, 39(4):119-122, doi:10.18773/austprescr.2016.047
- 3 Royal Australian College of General Practitioners (2018) [Guideline for the management of knee and hip osteoarthritis, 2nd edition](#), RACGP, East Melbourne, accessed 30 January 2022.

Sprains and strains

Summary of changes

- Name changed to include strains
- Minor changes for clarity

Primary references

- 1 Brukner P and Khan K (2016) *Brukner & Khan's Clinical Sports Medicine*, McGraw-Hill Education, Sydney.

- 2 Coleman N (2021) *Common Pediatric Knee Injuries: Best Practices in Evaluation and Management*, Springer, doi:10.1007/978-3-030-55870-3_1
- 3 Jones P, Lamdin R and Dalziel SR (2020) 'Oral non-steroidal anti-inflammatory drugs versus other oral analgesic agents for acute soft tissue injury', *Cochrane Database of Systematic Reviews*, 8:CD007789, doi:10.1002/14651858.CD007789.pub3

Eyes

Eye assessment

Summary of changes

- Minor changes for clarity

Primary references

- 1 Elliott DB (2020) *Clinical Procedures in Primary Eye Care, 5th edition*, Elsevier Health Sciences, Netherlands.

Eye problems

Summary of changes

Addition

- New section on styes and chalazion
- Colour images

Other

- Simplified treatment of acute glaucoma

Primary references

- 1 Centre for Disease Control, Northern Territory Government (2005) [Guidelines for the control of Gonococcal Conjunctivitis in the Northern Territory](#), accessed 5 October 2022.
- 2 Communicable Diseases Network Australia (2014) [Trachoma - CDNA National Guidelines for Public Health Units](#), Series of National Guidelines (SoNGs), accessed 5 October 2022.
- 3 Dupuis P, Prokopich CL, Hynes A and Kim H (2020) 'A contemporary look at allergic conjunctivitis', *Allergy, Asthma and Clinical Immunology*, 16:5, doi:10.1186/s13223-020-0403-9
- 4 Gervasio K and Peck T (2021) *The Wills Eye Manual: Office and emergency room diagnosis and treatment of eye disease, 8th edition*, Wolters Kluwer Health, United States.
- 5 Pucker AD, Ng SM and Nichols JJ (2016) 'Over the counter (OTC) artificial tear drops for dry eye syndrome', *Cochrane Database of Systematic Reviews*, 2:CD009729, doi:10.1002/14651858.CD009729.pub2
- 6 The Royal Children's Hospital Melbourne (2021) [Periorbital and orbital cellulitis](#), Clinical Practice Guidelines, accessed 30 January 2022.

Eye injuries

Summary of changes

- Minor changes for clarity

Primary references

- 1 Gervasio K and Peck T (2021) *The Wills Eye Manual: Office and emergency room diagnosis and treatment of eye disease, 8th edition*, Wolters Kluwer Health, United States.
- 2 Koefman A (2019) [Ultraviolet Keratitis](#), Medscape Emedicine, accessed 30 January 2022.
- 3 Lim CH, Turner A and Lim BX (2016) 'Patching for corneal abrasion', *Cochrane Database of Systematic Reviews*, 7:CD004764, doi:10.1002/14651858.CD004764.pub3
- 4 Murchison AP (2020) [Eye Trauma](#), MSD Manual Professional version, accessed 30 January 2022.
- 5 Ventocilla M (2022) [Ophthalmologic approach to chemical burns](#), Medscape Emedicine, accessed 30 January 2022.

Respiratory diseases

Asthma in adults

Summary of changes

Addition

- Warning regarding nebulisers (regarding infection control)

Medicines

- For severe asthma: added to also consider magnesium sulfate IV and to give adrenaline if unresponsive
- For moderate asthma: add magnesium sulfate IV
- For ongoing asthma: updated medications for including new combinations and progression

Other

- Updates to medications for severe attacks — added option of using puffer and spacer for delivery, and addition of prednisolone and magnesium sulphate
- Updates to medications for moderate asthma — order of administration, addition of magnesium sulphate
- Updates to medications for ongoing asthma including new combinations and progression

Primary references

- 1 Cates CJ, Welsh EJ and Rowe BH (2016) 'Holding chambers (spacers) versus nebulisers for beta-agonist treatment of acute asthma', *Cochrane Database of Systematic Reviews*, 9:CD000052, doi:10.1002/14651858.CD000052.pub3
- 2 National Asthma Council Australia (2020) [Australian Asthma Handbook](#), accessed 5 November 2021.

Breathing related sleep disorders

Summary of changes

Addition: Cardiovascular disease as a risk factor

Primary references

- 1 Douglas JA, Chai-Coetzer CL, McEvoy D, Naughton MT, Neill AM, Rochford P, Wheatley J and Worsnop C (2017) 'Guidelines for sleep studies in adults - a position statement of the Australasian Sleep Association', *Sleep Medicine*, 36(Suppl 1):S2-S22, doi:10.1016/j.sleep.2017.03.019
- 2 Mansfield DR and McEvoy RD (2013) 'Sleep disorders: a practical guide for Australian health care practitioners', *Medical Journal of Australia (Supplement)*, 199(8):S1-S40.

Chest infections — over 5 years

Summary of changes

Medicines

- Severe pneumonia - now giving ceftriaxone AND azithromycin AND gentamicin (previously ceftriaxone AND gentamicin only). If IV not possible — give ceftriaxone and gentamicin IM, azithromycin orally
- Mild or moderate pneumonia - added doxycycline to procaine benzylpenicillin; changed alternative if allergic to penicillin from roxithromycin to moxifloxacin (?)
- Sinusitis - removed antibiotics and replaced with medical consult and ENT specialist review if ongoing or chronic infection

Primary references

- 1 Expert Group for Respiratory, version 6 (2020) [Respiratory](#), Therapeutic Guidelines, accessed 30 April 2022.
- 2 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 21 May 2021.

Chronic obstructive pulmonary disease (COPD) and bronchiectasis in adults

Summary of changes

Addition

- Added physical examination to test for diagnosis
- Added calcium and Vit D supplements if using oral corticosteroids for more than 2 weeks
- Treat rather than test for strongyloidiasis if ongoing immunosuppression
- Updated section on Spirometry in order to align with COPD-X study and spirometry training tool instruction

Other

- Renamed COPD and bronchiectasis in adults

Primary references

- 1 Chang AB, Bell SC, Torzillo PJ, King PT, Maguire GP, Byrnes CA, Holland AE, O'Mara P and Grimwood K (2015) 'Chronic suppurative lung disease and bronchiectasis in children and adults in Australia and New Zealand Thoracic Society of Australia and New Zealand guidelines', *Medical Journal of Australia*, 202(3):130, doi:10.5694/mjac14.00287
- 2 Expert Group for Respiratory, version 6 (2020) [Bronchiectasis](#), Therapeutic Guidelines, accessed 15 April 2022.

- 3 McMullin MF (2016) 'Investigation and Management of Erythrocytosis', *Current Hematologic Malignancy Reports*, 11(5):342-7, doi:10.1007/s11899-016-0334-1
- 4 National Asthma Council Australia (2020) [The Spirometry Handbook for primary care](#), National Asthma Council Australia, Melbourne, accessed 15 April 2021.
- 5 Yang IA, Dabscheck E, George J, Jenkins S, McDonald CF, McDonald V, Smith B and Zwar N (2021) [The COPD-X Plan: Australian and New Zealand Guidelines for the management of Chronic Obstructive Pulmonary Disease](#), Full COPD-X guidelines, accessed 4 April 2022.

Indigenous/remote context references

- 1 Benn E, Wirth H, Short T, Howarth T and Heraganahally SS (2021) 'The Top End Sleepiness Scale (TESS): A New Tool to Assess Subjective Daytime Sleepiness Among Indigenous Australian Adults', *Nature and Science of Sleep*, 13:315-328, doi:10.2147/NSS.S298409
- 2 Heraganahally SS, Howarth T, White E, Sorger L, Biancardi E and Ben Saad H (2021) 'Lung function parameters among Australian Aboriginal 'apparently healthy' adults: an Australian Caucasian and Global Lung Function Initiative (GLI-2012) various ethnic norms comparative study', *Expert Review of Respiratory Medicine*, 15(6):833-843, doi:10.1080/17476348.2021.1847649
- 3 Mehra S, Chang AB, Lam CK, Campbell S, Mingi JJ, Thomas I, Harwood S, Maguire G and Heraganahally S (2021) 'Bronchiectasis among Australian Aboriginal and non-Aboriginal patients in the regional and remote population of the Northern Territory of Australia', *Rural and Remote Health*, 21(2):6390, doi:10.22605/RRH6390

Tuberculosis

Summary of changes

- Changed duration of cough (symptom) from 3 weeks to 2 weeks
- Changed BCG information: no longer recommended for newborns or adults in NT, consideration maybe given to newborns and children in high risk areas or as directed by TB unit

Primary references

- 1 New South Wales Health (2016) [Instructions for collecting sputum for tuberculosis](#), accessed 11 January 2022.
- 2 World Health Organization (2018) [Latent TB Infection : Updated and consolidated guidelines for programmatic management](#), accessed 11 January 2022.
- 3 World Health Organization (2020) [WHO Consolidated Guidelines on Tuberculosis: Module 4: Treatment - Drug-Resistant Tuberculosis Treatment](#), accessed 11 January 2022.
- 4 World Health Organization (2021) [WHO consolidated guidelines on tuberculosis: Module 1: prevention – tuberculosis preventive treatment](#), accessed 11 January 2022.
- 5 World Health Organization (2021) [WHO consolidated guidelines on tuberculosis: Module 2: screening – systematic screening for tuberculosis disease](#), accessed 11 January 2022.

Skin conditions

Skin infections

Summary of changes

Addition

- Added common concurrent skin conditions
- Defined boil, carbuncle, abscess

Medicines

- For boils: antibiotic only for severe or other specified conditions
- For cellulitis: trimethoprim-sulfamethoxazole added as first line antibiotic, removed phenoxymethylpenicillin
- For severe cellulitis: added probenecid to cefazolin. Added re benzathine benzylpenicillin dose that if dose for RHD given in previous 7 days to do a medical consult
- Regarding benzathine benzylpenicillin dose added that if dose for RHD given in previous 7 days a medical consult is required. National RHD guidelines note that: 'Individuals already receiving BPG secondary prophylaxis still need active treatment of sore throats or skin sores. This is necessary because the level of penicillin achieved by BPG wanes by about 7 days to reach a prophylactic level which is lower than a required treatment level
- If the last BPG dose was 7 or more days ago, provide antibiotic dosing in accordance with Table for sore throat or Table for skin sores

Other

- Boils — added drainage as first line treatment, antibiotic only for severe or other specified conditions

Primary references

- 1 Bowen AC, Carapetis JR, Currie BJ, Fowler V Jr, Chambers HF and Tong SYC (2017) 'Sulfamethoxazole-Trimethoprim (Cotrimoxazole) for Skin and Soft Tissue Infections Including Impetigo, Cellulitis, and Abscess', *Open Forum Infectious Diseases*, 4(4):ofx232, doi:10.1093/ofid/ofx232
- 2 Bowen AC, Tong SY, Andrews RM, O'Meara IM, McDonald MI, Chatfield MD, Currie BJ and Carapetis JR (2014) 'Short-course oral co-trimoxazole versus intramuscular benzathine benzylpenicillin for impetigo in a highly endemic region: an open-label, randomised, controlled, non-inferiority trial', *Lancet*, 384(9960):2132-40, doi:10.1016/S0140-6736(14)60841-2
- 3 Everts RJ, Begg R, Gardiner SJ, Zhang M, Turnidge J, Chambers ST and Begg EJ (2020) 'Probenecid and food effects on flucloxacillin pharmacokinetics and pharmacodynamics in healthy volunteers', *Journal of Infection*, 80(1):42-53, doi:10.1016/j.jinf.2019.09.004
- 4 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 5 Expert Groups for Antibiotic, version 16 (2022) [Impetigo](#), Therapeutic Guidelines, accessed 12 November 2022.

- 6 Hartantyo SHP, Chau ML and Fillon L (2018) 'Sick pets as potential reservoirs of antibiotic-resistant bacteria in Singapore', *Antimicrobial Resistance and Infection Control*, 7:106, doi:10.1186/s13756-018-0399-9
- 7 Kassiri H, Fahdani AE and Cheraghian B (2021) 'Comparative efficacy of permethrin 1%, lindane 1%, and dimeticone 4% for the treatment of head louse infestation in Iran', *Environment Science and Pollution Research International*, 28(3):3506-3514, doi:10.1007/s11356-020-10686-3
- 8 Miller LG, Eells SJ, David MZ, Ortiz N, Taylor AR, Kumar N, Cruz D, Boyle-Vavra S and Daum RS (2015) 'Staphylococcus aureus skin infection recurrences among household members: an examination of host, behavioral, and pathogen-level predictors', *Clinical Infectious Diseases*, 60(5):753-63, doi:10.1093/cid/ciu943
- 9 Mumcuoglu KY, Pollack RJ, Reed DL, Barker SC, Gordon S, Toloza AC, Picollo MI, Taylan-Ozkan A, Chosidow O, Habedank B, Ibarra J, Meinking TL and Vander Stichele RH (2021) 'International recommendations for an effective control of head louse infestations', *International Journal of Dermatology*, 60(3):272-280, doi:10.1111/ijd.15096
- 10 Rawla P, Padala SA and Ludhwani D (2021) *Poststreptococcal Glomerulonephritis*, StatPearls Publishing, Treasure Island.

Indigenous/remote context references

- 1 Australian Healthy Skin Consortium (2018) [National Healthy Skin Guideline for the Prevention, Treatment and Public Health Control of Impetigo, Scabies, Crusted Scabies and Tinea for Indigenous Populations and Communities in Australia \(1st edition\)](#), accessed 5 October 2022.

Water related skin infections

Summary of changes

Medicines

- For moderate infection (fresh water): ceftriaxone changed to trimethoprim-sulfamethoxazole
- For if soil or sewerage contaminated: added metronidazole
- For moderate infection (salt water):
 - low MRSA risk: ciprofloxacin and ceftriaxone (changing from ceft to cefalexin if improvement after 24 hrs)
 - High MRSA risk: ciprofloxacin and trimethoprim-sulfamethoxazole

Other

- Moderate infections (salt water) divided into high or low MRSA risk

Primary references

- 1 Diaz JH and Lopez FA (2015) 'Skin, soft tissue and systemic bacterial infections following aquatic injuries and exposures', *American Journal of Medical Sciences*, 349(3):269-75, doi:10.1097/MAJ.0000000000000366
- 2 Expert Groups for Antibiotic, version 16 (2021) [Water-immersed wound infections](#), Therapeutic Guidelines, accessed 11 January 2022.
- 3 McAuliffe GN, Hennessy J and Baird RW (2015) 'Relative frequency, characteristics, and antimicrobial susceptibility patterns of *Vibrio* spp., *Aeromonas* spp., *Chromobacterium violaceum*, and *Shewanella* spp. in the northern territory of Australia, 2000-2013',

American Journal of Tropical Medicine and Hygiene, 92(3):605-10,
doi:10.4269/ajtmh.14-0715

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- 5 Wong KC, Brown AM, Luscombe GM, Wong SJ and Mendis K (2015) 'Antibiotic use for Vibrio infections: important insights from surveillance data', *BMC Infectious Diseases*, 15:226, doi:10.1186/s12879-015-0959-z

Chicken pox and shingles

Summary of changes

Addition

- Warning regarding immunocompromised people and vaccine
- Take viral swab of skin lesion for PCR
- Examining for signs of Herpes Zoster Ophthalmicus and Herpes Zoster Oticus
- Information about Herpes Zoster vaccine

Medicines

- Removed famciclovir as antiviral option

Other

- Changed time since exposure to virus and varicella zoster immunoglobulin (VZIG) effectiveness extended from 4 days to 10 days

Primary references

- 1 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 2 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 3 Expert Groups for Antibiotic, version 16 (2019) [Chickenpox](#), Therapeutic Guidelines, accessed 5 October 2022.
- 4 Levin MJ, Duchon JM, Swamy GK and Gershon AA (2019) 'Varicella zoster immune globulin (VARIZIG) administration up to 10 days after varicella exposure in pregnant women, immunocompromised participants, and infants: Varicella outcomes and safety results from a large, open-label, expanded-access program', *PLOS One*, 14(7):e0217749, doi:10.1371/journal.pone.0217749
- 5 Pain and Analgesia Expert Group (2020) [Local anaesthetics for acute pain management](#), Therapeutic Guidelines, accessed 5 October 2022.
- 6 Riley LE (2019) [Varicella-zoster virus infection in pregnancy](#), UpToDate, accessed 11 January 2022.

Rashes

Summary of changes

Medicines: Nappy rash — added trimethoprim-sulfamethoxazole as an alternative to procaine penicillin

Other: Clarification of rash types and descriptions

Primary references

- 1 Communicable Diseases Network Australia (2019) [Measles – CDNA National Guidelines for Public Health Units](#), Series of National Guidelines (SoNGs), accessed 5 October 2022.
- 2 Expert Group for Dermatology, version 4 (2021) [Dermatology](#), Therapeutic Guidelines, accessed 11 January 2022.
- 3 King Edward Memorial Hospital and Perth Children's Hospital Neonatology (2019) [Miconazole](#), Neonatal Medication Protocols, accessed 5 October 2022.
- 4 The Royal Children's Hospital Melbourne (2021) [Petechiae and purpura](#), Clinical Practice Guidelines, accessed 5 October 2022.

Indigenous/remote context references

- 1 Australian Healthy Skin Consortium (2018) [National Healthy Skin Guideline for the Prevention, Treatment and Public Health Control of Impetigo, Scabies, Crusted Scabies and Tinea for Indigenous Populations and Communities in Australia \(1st edition\)](#), accessed 5 October 2022.

Scabies

Summary of changes

Addition: Consideration of ivermectin-based mass drug administration (MDA) program for communities where scabies prevalence is assessed as being 10% or more

Medicines

- Oral ivermectin added as first option for scabies treatment
- Removed option of benzyl benzoate 25% lotion mixed with tea tree oil for difficult case or treatment failure in scabies, and for crusted scabies grade 1

Primary references

- 1 Chandler DJ and Fuller LC (2019) 'A Review of Scabies: An Infestation More than Skin Deep', *Dermatology*, 235(2):79-90, doi:10.1159/000495290
- 2 Engelman D, Yoshizumi J, Hay RJ, Osti M, Micali G, Norton S, Walton S, Boralevi F, Bernigaud C, Bowen AC, Chang AY, Chosidow O, Estrada-Chavez G, Feldmeier H, Ishii N, Lacarrubba F, Mahé A, Maurer T, Mahdi MMA, Murdoch ME, Pariser D, Nair PA, Rehmus W, Romani L, Tilakaratne D, Tuicakau M, Walker SL, Wanat KA, Whitfeld MJ, Yotsu RR, Steer AC and Fuller LC (2020) 'The 2020 International Alliance for the Control of Scabies Consensus Criteria for the Diagnosis of Scabies', *British Journal of Dermatology*, 183(5):808-820, doi:10.1111/bjd.18943
- 3 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 4 Groupe de Recherche de la Société Française de Dermatologie Pédiatrique (2020) 'Ivermectin safety in infants and children under 15 kg treated for scabies: a multicentric observational study', *British Journal of Dermatology*, 182(4):1003-1006, doi:10.1111/bjd.18369
- 5 Gwee A, Duffull S, Zhu X, Tong SYC, Cranswick N, McWhinney B, Ungerer J, Francis J and Steer AC (2020) 'Population pharmacokinetics of ivermectin for the treatment of scabies in Indigenous Australian children', *PLOS Neglected Tropical Diseases*, 14(12):e0008886, doi:10.1371/journal.pntd.0008886

- 6 May PJ, Tong SYC, Steer AC, Currie BJ, Andrews RM, Carapetis JR and Bowen AC (2019) 'Treatment, prevention and public health management of impetigo, scabies, crusted scabies and fungal skin infections in endemic populations: a systematic review', *Tropical Medicine & International Health*, 24(3):280-293, doi:10.1111/tmi.13198

Indigenous/remote context references

- 1 Every Voice Counts and One Disease (2017) [Managing crusted scabies in remote Aboriginal communities, 2nd edition](#), Clinical Resources, accessed 5 October 2022.
- 2 Lokuge B, Kopczynski A, Woltmann A, Alvoen F, Connors C, Guyula T, Mulholland E, Cran S, Foster T, Lokuge K, Burke T and Prince S (2014) 'Crusted scabies in remote Australia, a new way forward: lessons and outcomes from the East Arnhem Scabies Control Program', *Medical Journal of Australia*, 200(11):644-8, doi:10.5694/mja14.00172

Tinea

Summary of changes

Addition: Medicated shampoo to treatment of tinea capitis

Other: Clarified advice for monitoring terbinafine

Primary references

- 1 Ameen M, Lear JT, Madan V, Mohd Mustapa MF and Richardson M (2014) 'British Association of Dermatologists' guidelines for the management of onychomycosis', *British Journal of Dermatology*, 171(5):937-58, doi:10.1111/bjd.13358
- 2 Bennassar A and Grimalt R (2010) 'Management of tinea capitis in childhood', *Clinical, Cosmetic and Investigational Dermatology*, 3:89-98, doi:10.2147/ccid.s7992
- 3 Ely JW, Rosenfeld S and Seabury Stone M (2014) 'Diagnosis and management of tinea infections', *American Family Physician*, 90(10):702-10.
- 4 Expert Group for Dermatology, version 4 (2021) [Dermatology](#), Therapeutic Guidelines, accessed 11 January 2022.
- 5 Fuller LC, Barton RC, Mohd Mustapa MF, Proudfoot LE, Punjabi SP and Higgins EM (2014) 'British Association of Dermatologists' guidelines for the management of tinea capitis', *British Journal of Dermatology*, 171(3):454-63, doi:10.1111/bjd.13196
- 6 Kramer ON and Albrecht J (2017) 'Clinical presentation of terbinafine-induced severe liver injury and the value of laboratory monitoring: a Critically Appraised Topic', *British Journal of Dermatology*, 177(5):1279-1284, doi:10.1111/bjd.15854
- 7 The Royal Women's Hospital (2020) [Terbinafine](#), Pregnancy and Breastfeeding Medicines Guide, accessed 11 January 2022.
- 8 Treat JR (2020) [Tinea capitis](#), UpToDate, accessed 11 January 2022.

Reference section

Clinical observations

Summary of changes

- Separated adult and children BMI and weight/growth measurements for clarity
- All measurements for children <2y should be separate - BMI is not used in this age group
- Removal of z-scores
- Added section on waist for height
- Use of RCH physiological values for heart rate, BP and RR

Primary references

- 1 American Heart Association (2015) 'Part 12: Pediatric Advanced Life Support: 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care', *Circulation*, 132(18 Suppl 2):S526–S542, doi:10.1161/CIR.0000000000000266
- 2 Ataş Berksoy E, Bağ Ö, Yazici S and Çelik T (2018) 'Use of noncontact infrared thermography to measure temperature in children in a triage room', *Medicine (Baltimore)*, 97(5):e9737, doi:10.1097/MD.00000000000009737
- 3 Australian Commission on Safety and Quality in Health Care (2020) [Recognising and Responding to Acute Deterioration Standard](#), accessed 11 January 2022.
- 4 Australian Institute of Health and Welfare (2020) [Overweight and obesity: an interactive insight](#), AIHW, Canberra, accessed 11 January 2022.
- 5 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 9.2.7 – First aid management of anaphylaxis](#), The ARC Guidelines, 2022 accessed 11 January.
- 6 Bharti P, Chauhan M and Ahmed K (2017) 'Comparison of rectal, infra red tympanic and infra red skin temperature in term neonates', *International Archives of Integrated Medicine*, 3:43-49.
- 7 Cole TJ and Lobstein T (2012) 'Extended international (IOTF) body mass index cut-offs for thinness, overweight and obesity', *Pediatric Obesity*, 7(4):284-294, doi:10.1111/j.2047-6310.2012.00064.x
- 8 Foster M (2019) Weight estimation guidelines – Part 1, Don't Forget the Bubbles, accessed 18 September 2022 doi:10.31440/DFTB.18165
- 9 Lobar Cancelier AC, Trevisol D and Schuelter-Trevisol F (2018) 'Waist-To-Height Ratio as a Screening Tool for Childhood Obesity: A Systematic Literature Review', *Annals of Pediatrics and Child Health*, 6(1):1141.
- 10 Mogensen CB, Wittenhoff L, Fruerhøj G and Hansen S (2018) 'Forehead or ear temperature measurement cannot replace rectal measurements, except for screening purposes', *BMC Pediatrics*, 18(1):15, doi:10.1186/s12887-018-0994-1
- 11 National Health and Medical Research Council (2013) [Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia](#), accessed 18 January 2022.
- 12 Paes BF, Vermeulen K, Brohet RM, van der Ploeg T and de Winter JP (2010) 'Accuracy of tympanic and infrared skin thermometers in children', *Archives of Disease in Childhood*, 95(12):974-8, doi:10.1136/adc.2010.185801
- 13 Safer Care Victoria (2018) [Blood pressure disorders](#), Neonatal eHandbook, accessed 22 September 2022.
- 14 The Royal Children's Hospital Melbourne (2020) [Acceptable ranges for physiological variables](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 15 The Royal Children's Hospital Melbourne (2017) [Hypertension](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 16 van den Bruel A, Verbakel J, Wang K, Fleming S, Holtman G, Glogowska M, Morris E, Edwards G, Abakar Ismail F, Curtis K, Goetz J, Barnes G, Slivkova R, Nesbitt C, Aslam

S, Swift E, Williams H and Hayward G (2020) 'Non-contact infrared thermometers compared with current approaches in primary care for children aged 5 years and under: a method comparison study', *Health Technology Assessment*, 24(53):1-28, doi:10.3310/hta24530

Antibiotic and other medicines doses tables

Summary of changes

- Estimated weight used for calculation are from AMH and Children's Dosing Companion
- Background to the values AMH has in its table:
 - The estimates are derived from two growth charts – the World Health Organization (WHO) 2006 for children aged 0–5 years, and the US Centers for Disease Control and Prevention (CDC) 2000 for children >5 years
 - Many tables have separate values for boys and girls; as we wanted a simple table, we took an average of those values for any given age rather than having a value for both sexes – remember this is just an estimate anyway
 - The US CDC has adopted WHO for children 0–2 years but use their own 2000 charts for 2–20 years (WHO are based on more data points in the early months as opposed to a smoothing of the curve by the CDC, so it's believed WHO is more accurate)
 - As AMH was using the WHO charts for younger ages, we used their chart for the whole 0–5 years age group for which they had data, and switched to the CDC for those >5 years

Primary references

- 1 Buckley N (Editor) (2021) *Australian Medicines Handbook*, AMH Pty Ltd, Adelaide.
- 2 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 21 May 2021.
- 3 Society of Hospital Pharmacists of Australia (2020) *Australian Injectable Drugs Handbook, 8th Edition*, Society of Hospital Pharmacists of Australia, Collingwood.

WOMEN'S BUSINESS MANUAL

Emergencies

Resuscitation

Birth and resuscitation equipment

Summary of changes

Addition: Include umbilical vein catheter along with IV/IO access

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.1 – Introduction to resuscitation of the newborn](#), The ARC Guidelines, accessed 1 April 2022.
- 2 Barss V (2021) [Precipitous birth not occurring on a labor and delivery unit](#), UpToDate, accessed 1 April 2022.

Indigenous/remote context references

- 1 Lowell A, Kildea S, Liddle M, Cox B and Paterson B (2015) 'Supporting aboriginal knowledge and practice in health care: lessons from a qualitative evaluation of the strong women, strong babies, strong culture program', *BMC Pregnancy and Childbirth*, 15:19, doi:10.1186/s12884-015-0433-3

Resuscitation reference table

Summary of changes

This table has been **substantially changed** from the 2017 version by the primary reviewers. Updates to this table for paediatric recommendations are based on the Royal Children's Hospital (RCH) Melbourne guideline "acceptable ranges for physiological variables" and resuscitation guidelines.

Addition

- Values for defibrillator from Term to 6 months of age
- Maintenance rates added with addition that most unwell children should receive 2/3 maintenance rates and small correction made to reflect current RCH guideline formula
- O₂ sats included in table

Deletion

- Endotracheal tube (ETT) size has been deleted as ETTs are not routinely included in the resuscitation equipment of remote clinics and this practice is outside of remote clinicians (ETT's are carried by Retrievalists with specialist training in advanced airway management)
- Cuff volumes for LMAs have not been included. Remote clinics usually carry i-Gel LMAs which do not have an inflation port for the cuff

Medicines

- Paediatric doses of Adrenaline (cardiac arrest), Amiodarone and Atropine have been adjusted to reflect the RCH guidelines of accepted physiological parameters
- Paediatric glucose dose corrected to 2mLs/kg per RCH guidelines. Use of 50% glucose has been removed - it is only used with medical consultation for severe hypoglycaemia or hypokalaemia

- Column added for Midazolam intranasal (i.n) or buccal for seizures without IV access. Midazolam IV/IO - dose changed to 0.15mg/kg as per children's Australian Medicines Handbook and RCH guidelines
- Doses for adults 70kg+ have been standardised to assist in avoiding potential cumulative errors with repeated doses
- Standardisation of all doses to volumes (previously mix of volumes and strengths)

Other

- Age:weight based recommendations have been updated to reflect the RCH guidelines of accepted physiological parameters
- Greater emphasis placed on titrating oxygen administration to SpO₂ ≥ 94% with less emphasis on flow rates

Primary references

- 1 Australian Resuscitation Council (2016) [ANZCOR Guideline 11.5 – Medications in Adult Cardiac Arrest](#), The ARC Guidelines, accessed 11 January 2022.
- 2 Australian and New Zealand Committee on Resuscitation (2018) [ANZCOR Guideline 11.2 – Protocols for Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 3 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 12.5 – Management of Specific Dysrhythmias in Paediatric Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 4 King BR (2021) [Emergency rescue devices for difficult pediatric airway management](#), UpToDate, accessed 11 January 2022.
- 5 The Royal Children's Hospital Melbourne (2020) [Acceptable ranges for physiological variables](#), Clinical Practice Guidelines, accessed 16 September 2022.
- 6 The Royal Children's Hospital Melbourne (2020) [Afebrile seizures](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 7 The Royal Children's Hospital Melbourne (2021) [Anaphylaxis](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 8 The Royal Children's Hospital Melbourne (2020) [Intravenous fluids](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 9 The Royal Children's Hospital Melbourne (2017) [Oxygen delivery](#), Clinical Practice Guidelines, accessed 17 September 2022.
- 10 The Royal Children's Hospital Melbourne (2021) [Emergency drug doses](#), Clinical Practice Guidelines, accessed 17 September 2022.

Newborn resuscitation

Summary of changes

Addition

- Repeat adrenaline and flush every 3-5 minutes if heart rate less than 60

Other

- Orogastric to nasogastric tube for ventilation
- Put O₂ sats probe on baby's right hand or wrist (previously arm not wrist)

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.3 - Assessment of the newborn infant](#), The ARC Guidelines, accessed 4 April 2022.
- 2 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.4 - Airway management and mask ventilation of the newborn infant](#), Neonatal Guidelines, accessed 20 May 2022.
- 3 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.6 - Chest compressions during resuscitation of the newborn infant](#), Neonatal Guidelines, accessed 20 May 2022.
- 4 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.7 - Medications or fluids for the resuscitation of the newborn infant](#), Neonatal Guidelines, accessed 20 May 2022.
- 5 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.9 - After the resuscitation of a newborn infant](#), Neonatal Guidelines, accessed 20 May 2022.
- 6 Australian and New Zealand Committee on Resuscitation (2021) [Australian and New Zealand Committee on Resuscitation \(ANZCOR\) Neonatal Flowchart](#), accessed 20 May 2022.

Newborn resuscitation flowchart

Summary of changes

- Replaced with ARC Newborn life support flowchart

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2021) [Australian and New Zealand Committee on Resuscitation \(ANZCOR\) Neonatal Flowchart](#), accessed 20 May 2022.

General emergencies

Early recognition of sepsis

Summary of changes

This protocol replaces the previous “early recognition of the sick and deteriorating patient” from the 7th edition (2017).

The Remote Early Warning Score (REWS) was introduced to the Standard Treatment Manual in the 7th edition (2017). This scoring system has been retained in the updated edition however **major changes have reflected the inclusion of sepsis pathways** that emphasise the **early administration of antibiotics**.

Change in obstetric REWS of the normal RR to 9-20.

Recommendations to follow local sepsis pathway, choice dictated by regional sensitivities.

Suggestion of antibiotics to give if undifferentiated or unknown sepsis: **gentamicin, flucloxacillin, ceftriaxone** first **AND** if available **vancomycin** as a single slow infusion — dose and infusion rate.

Addition of POC Test for WBC, troponin and electrolytes.

Addition of risk factor for sepsis and addition of appearance, work of breathing, circulation for paediatric assessment with updated flow chart to reflect above changes.

Change of flowchart to ensure that a medical consult is done asap without waiting POC tests results.

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2017) [Recognising and Responding to Acute Deterioration Standard](#), National Safety and Quality Health Service (NSQHS) Standards, accessed 29 March 2022.
- 2 Burch VC, Tarr G and Morrioni C (2008) 'Modified early warning score predicts the need for hospital admission and inhospital mortality', *Emergency Medicine Journal*, 25(10):674-8, doi:10.1136/emj.2007.057661
- 3 Chamberlain DJ, Willis E, Clark R and Brideson G (2015) 'Identification of the severe sepsis patient at triage: a prospective analysis of the Australasian Triage Scale', *Emergency Medicine Journal*, 32:690–697, doi:10.1136/emered-2014-203937
- 4 Hodgetts TJ, Kenward G, Vlachonikolis IG, Payne S and Castle N (2002) 'The identification of risk factors for cardiac arrest and formulation of activation criteria to alert a medical emergency team', *Resuscitation*, 54(2):125-31, doi:10.1016/s0300-9572(02)00100-4
- 5 Subbe CP, Davies RG, Williams E, Rutherford P and Gemmell L (2003) 'Effect of introducing the Modified Early Warning score on clinical outcomes, cardio-pulmonary arrests and intensive care utilisation in acute medical admissions', *Anaesthesia*, 58(8):797-802, doi:10.1046/j.1365-2044.2003.03258.x
- 6 Subbe CP, Kruger M, Rutherford P and Gemmel L (2001) 'Validation of a modified Early Warning Score in medical admissions', *QJM: Monthly Journal of the Association of Physicians*, 94(10):521-6, doi:10.1093/qjmed/94.10.521

Vaginal bleeding

Summary of changes

- Name changed from 'Heavy vaginal bleeding'

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2017) [Heavy Menstrual Bleeding Clinical Care Standard](#), Clinical Care Standards, Australian Commission on Safety and Quality in Health Care, Sydney, accessed 17 September 2022.

Domestic and family violence

Summary of changes

Addition

- Definition of violence to include stalking and online/phone abuse
- Added to groups at higher risk: gender and sexually diverse people

Primary references

- 1 Blagg H, Bluett-Boyd N and Williams E (2015) [Innovative models in addressing violence against Indigenous women: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 2 Breckenridge J, Rees S, Valentine K and Murray S (2015) [Meta-evaluation of existing interagency partnerships, collaboration, coordination and/or integrated interventions and service responses to violence against women: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 3 Cox P (2015) [Sexual assault and domestic violence in the context of co-occurrence and re-victimisation: State of knowledge paper](#), ANROWS Landscapes, accessed 4 April 2022.
- 4 Holder R, Putt J and O'Leary C (2015) [Advocacy for safety and empowerment: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 5 Olsen A and Lovett R (2016) [Existing knowledge, practice and responses to violence against women in Australian Indigenous communities: Key findings and future directions](#), ANROWS Landscapes, accessed 4 April 2022.
- 6 On ML, Ayre J, Webster K and Moon L (2016) [Examination of the health outcomes of intimate partner violence against women: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.
- 7 Phillips J and Vandenbroek P (2014) [Domestic, Family and sexual violence in Australia: an overview of the issues](#), Parliament of Australia Research Papers, accessed 4 April 2022.
- 8 Quadara A (2015) [Implementing trauma-informed systems of care in health settings: The WITH study](#), ANROWS Landscapes, accessed 29 March 2022.
- 9 Stanford Medicine (2022) [Domestic Abuse Info: Screening - How to Ask](#), Stanford Medicine Domestic Abuse, accessed 4 April 2022.
- 10 Wendt S, Chung D, Elder A and Elder A (2015) [Seeking help for domestic violence: Exploring rural women's coping experiences: State of knowledge paper](#), ANROWS Landscapes, accessed 29 March 2022.

Indigenous/remote context references

- 1 Willis M (2011) [Non-disclosure of violence in Australian Indigenous Communities](#), Trends & issues in crime and criminal justice (no. 405), Australian Institute of Criminology, accessed 29 March 2022.

Sexual assault in adults

Summary of changes

Addition

- Strangulation given more prominence
- Emphasis on following advice of sexual assault service and separating their role from the police
- Advice about Preliminary Forensic Kits (PFK)

Primary references

- 1 Australian Institute of Health and Welfare (2020) [Sexual assault in Australia](#), AIHW, Canberra, accessed 18 September 2022.

- 2 Borumandnia N, Khadembashi N, Tabatabaei M and Alavi Majd H (2020) 'The prevalence rate of sexual violence worldwide: a trend analysis', *BMC Public Health*, 20(1):1835, doi:10.1186/s12889-020-09926-5
- 3 Cannon LM, Bailey JM, Ernst SD, St Ivany A, Bevilacqua KG, Scheiman L and Munro-Kramer ML (2020) 'Examining trends in non-fatal strangulation among sexual assault survivors seeking Sexual Assault Nurse Examiner care from 2002 to 2017', *International Journal of Gynecology & Obstetrics*, 149(1):106-107, doi:10.1002/ijgo.13058
- 4 Freedman E (2020) 'Clinical management of patients presenting following a sexual assault', *Australian Journal of General Practice*, 49(7):406-411, doi:10.31128/AJGP-01-20-5199
- 5 MacDonald Z, Eagles D, Yadav K, Muldoon K and Sampsel K (2021) 'Surviving strangulation: evaluation of non-fatal strangulation in patients presenting to a tertiary care sexual assault and partner abuse care program', *Canadian Journal of Emergency Medicine*, 23(6):762-766, doi:10.1007/s43678-021-00176-x
- 6 NSW Health Education Centre Against Violence (2013) [When a man is raped: A survival guide, 3rd Edition](#), NSW Health Education Centre Against Violence, Sydney, accessed 18 September 2022.
- 7 Rowse J, Cunningham N and Parkin JA (2021) 'Sexual assault examination and COVID-19: risk reduction strategies in conducting forensic medical examinations of a suspected or confirmed COVID-19 positive patient in Melbourne hospital hot zones', *Forensic Science, Medicine and Pathology*, 17(2):216-222, doi:10.1007/s12024-020-00319-z
- 8 Stark M (2020) *A physicians guide to clinical forensic medicine*, Springer International Publishing, Germany.

Indigenous/remote context references

- 1 Taylor N and Putt J (2007) [Adult sexual violence in Indigenous and culturally and linguistically diverse communities in Australia](#), Trends and issues in crime and criminal justice no. 345, Australian Institute of Criminology, Canberra, accessed 18 September 2022.
- 2 Walker N, Mackean T, Longbottom M, Coombes J, Bennett-Brook K, Clapham K, Ivers R, Hackett M, Redfern J and Cullen P (2020) 'Responses to the primary health care needs of Aboriginal and Torres Strait Islander women experiencing violence: A scoping review of policy and practice guidelines', *Health Promotion Journal of Australia*, 32(2):40-53, doi:10.1002/hpja.417

Pregnancy related

Bleeding in pregnancy

Summary of changes

- Updated risk factors for ectopic pregnancy and miscarriage

Primary references

- 1 The Royal Women's Hospital (2020) [Pain and Bleeding in Early Pregnancy](#), Clinical Guidelines, accessed 1 April 2022.

Injuries in pregnancy

Summary of changes

Addition

- Actions in circulation section (IV cannula or IO, POC Hb)
- Put in IV cannula, if shock run fluids

Deletion

- Checking for foetal heart rate
- Assessment of abdomen, uterus and baby, vulva and perineum, urine

Primary references

- 1 Huls CK and Detlefs C (2018) 'Trauma in pregnancy', *Seminars in Perinatology*, 42(1):13-20, doi:10.1053/j.semperi.2017.11.004
- 2 Maternal Fetal Medicine Committee (2015) 'Guidelines for the Management of a Pregnant Trauma Patient', *Journal of Obstetrics and Gynaecology Canada*, 37(6):553-74, doi:10.1016/s1701-2163(15)30232-2
- 3 Queensland Clinical Guidelines (2019) [Trauma in pregnancy](#), Maternal and Neonatal Clinical Guideline, accessed 21 April 2022.
- 4 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2019) [Abdominal Pain and Trauma in Pregnancy](#), SA Perinatal Practice Guidelines, accessed 21 April 2022.
- 5 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2016) [Anti-D prophylaxis](#), SA Perinatal Practice Guidelines, accessed 21 April 2022.

Preeclampsia

Summary of changes

Addition: Low BP medicines

Medicines

- Adjustment of hydralazine dose to 5-10mg
- Addition of caveat regarding IR nifedipine shortage
- Antihypertensive drug table added

Primary references

- 1 American College of Obstetricians and Gynecologists (2020) [Gestational Hypertension and Preeclampsia](#), Practice Bulletin No. 222, accessed 18 September 2022.
- 2 Australian Medicines Handbook Pty Ltd (2021) *Magnesium-sulfate (obstetric)*, Australian Medicines Handbook Pty Ltd, Adelaide.
- 3 Norwitz ER and Funai EF (2021) [Preeclampsia with severe features: Expectant management remote from term](#), accessed 11 January 2022.
- 4 Queensland Clinical Guidelines (2021) [Hypertension and pregnancy](#), Maternity and Neonatal Clinical Guidelines, accessed 17 September 2022.
- 5 Society of Obstetric Medicine of Australia and New Zealand (2015) [Guideline for the management of hypertensive disorders of pregnancy](#), accessed 18 September 2022.
- 6 The Royal Women's Hospital (2020) [Pre-eclampsia management](#), Clinical Guidelines, accessed 5 April 2022.

Fits in the second half of pregnancy

Summary of changes

Medicines: Aligned MgSO₄ administration recommendation with severe eclampsia (now preeclampsia) protocol

Primary references

- 1 National Institute for Health and Care Excellence (2019) [Hypertension in pregnancy: diagnosis and management](#), NICE Clinical Guidelines, accessed 5 April 2022.
- 2 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2014) [Seizures in pregnancy](#), SA Perinatal Practice Guidelines, accessed 5 April 2022.
- 3 The Royal Women's Hospital (2020) [Pre-eclampsia management](#), Clinical Guidelines, accessed 5 April 2022.
- 4 The Royal Women's Hospital (2020) [Magnesium Sulphate - Management of Hypertensive Disorders of Pregnancy](#), Clinical Guidelines, accessed 5 April 2022.

Premature rupture of membranes

Summary of changes

Deletion: Checking foetal heart rate

Medicines

- Aligned antibiotics with current guidelines except for PPRM
- Antibiotics for chorioamnionitis same (amoxi/ampicillin + gentamicin + metronidazole) but removed follow up of amoxi/ampicillin and metronidazole

Primary references

- 1 Duff P (2020) [Preterm prelabor rupture of membranes: Clinical manifestations and diagnosis](#), UpToDate, accessed 11 January 2022.
- 2 Duff P (2020) [Preterm prelabor rupture of membranes: Management and outcome](#), UpToDate, accessed 11 January 2022.
- 3 Expert Groups for Antibiotic, version 16 (2019) [Intra-amniotic infection \(chorioamnionitis\)](#), Therapeutic Guidelines, accessed 11 January 2022.
- 4 Expert Groups for Antibiotic, version 16 (2019) [Prophylaxis for preterm prelabour rupture of membranes](#), Therapeutic Guidelines, accessed 11 January 2022.
- 5 National Institute for Health and Care Excellence (2019) [Preterm labour and birth \[NG25\]](#), NICE Clinical Guidelines, accessed 11 January 2022.
- 6 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2020) [Prelabour Rupture of Membranes \(PROM\) ≥ 37 weeks](#), SA Perinatal Practice Guidelines, accessed 11 January 2022.
- 7 Thevenet A (2021) [Intraamniotic infection \(clinical chorioamnionitis or triple I\)](#), UpToDate, accessed 11 January 2022.

Preterm labour

Summary of changes

- This protocol has incorporated 'Stopping labour (tocolysis)' and 'preventing preterm birth' protocols from the previous edition

Addition

- Check for and section on cervical stitch, includes tocolysis and section on preterm labour with cerclage

Medicines

- Clarification re use nifedipine IR only and administration regimen
- Further nifedipine IR dose every 3-6 hours up to 48 hours (was every 6 hours for 24 hours)

Primary references

- 1 Berghella V, Ciardulli A, Rust OA, To M, Otsuki K, Althuisius S, Nicolaides KH, Roman A and Saccone G (2017) 'Cerclage for sonographic short cervix in singleton gestations without prior spontaneous preterm birth: systematic review and meta-analysis of randomized controlled trials using individual patient-level data', *Ultrasound in Obstetrics & Gynecology*, 50(5):569-577, doi:10.1002/uog.17457
- 2 Buckley N (Editor) (2021) [Nifedipine \(obstetric\)](#), Australian Medicines Handbook, AMH Pty Ltd, Adelaide, accessed 11 July 2021.
- 3 Flenady V, Wojcieszek AM, Papatsonis DN, Stock OM, Murray L, Jardine LA and Carbone B (2014) 'Calcium channel blockers for inhibiting preterm labour and birth', *Cochrane Database of Systemic Reviews*, 5(6):CD002255, doi:10.1002/14651858.CD002255.pub2
- 4 National Institute for Health and Care Excellence (2019) [Preterm labour and birth \[NG25\]](#), NICE Clinical Guidelines, accessed 11 January 2022.
- 5 Queensland Clinical Guidelines (2020) [Preterm labour and birth](#), Maternal and Neonatal Clinical Guideline, accessed 18 September 2022.
- 6 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2017) [Measurement of cervical length in pregnancy for prediction of preterm birth \(Statement C-Obs 27\)](#), accessed 18 September 2022.
- 7 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2017) [Progesterone: Use in the Second and Third Trimester of Pregnancy for the Prevention of Preterm Birth \(Statement C-Obs 29\)](#), accessed 18 September 2022.
- 8 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2021) [Preterm Labour & Birth, Prevention, Diagnosis & Management](#), SA Perinatal Practice Guidelines, accessed 18 September 2022.

Birth related

Quick guide to helping with a birth

Summary of changes

Addition: Instructions to delay clamping the cord for at least 1 min

Medicines: Oxytocin to be given following birth

Primary references

- 1 Queensland Clinical Guidelines (2018) [Normal birth](#), Maternity and Neonatal Clinical Guideline, accessed 4 April 2022.

- 2 Royal Australian and New Zealand College of Obstetricians and Gynaecologists Women's Health Committee (2017) [Provision of routine intrapartum care in the absence of pregnancy complications](#), accessed 4 April 2022.

Breech birth

Summary of changes

- Minor changes for clarity

Primary references

- 1 Hofmeyr GJ (2021) [Delivery of the singleton fetus in breech presentation](#), UpToDate, accessed 30 November 2021.
- 2 Impey LWM, Murphy DJ, Griffiths M and Penna LK (2017) 'Management of Breech Presentation (Green-top Guideline No. 20b)', *British Journal of Obstetrics and Gynaecology*, 124(7):e151-e177, doi:10.1111/1471-0528.14465
- 3 The Royal Women's Hospital (2020) [Breech – Management of](#), Clinical Guidelines, accessed 30 March 2022.

Cord prolapse

Summary of changes

- Minor changes for clarity
- **Note:** Green-top Guideline states for optimal management in community settings during emergency ambulance transfer, the knee–chest position is potentially unsafe and the exaggerated Sims position (left lateral with pillow under hip) should be used

Primary references

- 1 Bush M, Eddleman K and Belogolovkin V (2020) [Umbilical cord prolapse](#), UpToDate, accessed 4 April 2022.
- 2 Royal College of Obstetricians and Gynaecologists (2014) [Umbilical Cord Prolapse \(Green-top Guideline No. 50\)](#), accessed 4 April 2022.

Stuck shoulder (shoulder dystocia)

Summary of changes

- Description of traction on baby's head to align with rest of protocol
- Direction of traction on baby's head from downwards to in direction of baby's spine (axial) in Steps 1, 3, 4, and 5 and corresponding figures

Primary references

- 1 Royal College of Obstetricians and Gynaecologists (2017) [Shoulder Dystocia \(Green-top Guideline No. 42\)](#), accessed 11 January 2022.
- 2 The Royal Women's Hospital (2020) [Shoulder dystocia](#), Clinical Guidelines, accessed 11 January 2022.

Birth of twins

Summary of changes

- Minor changes for clarity

Primary references

- 1 National Institute for Health and Care Excellence (2017) [Intrapartum care for healthy women and babies \(CG190\)](#), NICE Clinical Guidelines, accessed 1 April 2022.
- 2 The Royal Women's Hospital (2020) [Third Stage of Labour - Management](#), Clinical Guidelines, accessed 1 April 2022.

After the birth

Retained placenta

Summary of changes

Addition

- Instruction on what to do if cord snaps before delivery
- Instructions for ongoing monitoring of blood loss and check REWS

Medicines

- Delivery route of oxytocin from IM to IV
- TXA added for if bleeding persists

Primary references

- 1 National Institute for Health and Care Excellence (2017) [Intrapartum care for healthy women and babies \(CG190\)](#), NICE Clinical Guidelines, accessed 1 April 2022.
- 2 Patrick HS, Mitra A, Rosen T, Ananth CV and Schuster M (2020) 'Pharmacologic intervention for the management of retained placenta: a systematic review and meta-analysis of randomized trials', *American Journal of Obstetrics and Gynecology*, 223(3):447.e1-447.e19, doi:10.1016/j.ajog.2020.06.044

Postpartum haemorrhage

Summary of changes

Addition

- POCT Hb, Chem8/CG4 and INR 4
- Non-pneumatic anti-shock garment added if available
- Medical consult re administration of IV fluid to minimise risks of dilutional coagulopathy

Deleted

- Delayed breastfeeding — as it is not a cause of atonic uterus
- The most common physiological cause is an overdistended uterus: long labour, multiple pregnancy, also previous post-partum haemorrhage

Medicines

- Tranexamic acid IV administration added to flow chart

Primary references

- 1 Belfort MA (2021) [Overview of postpartum hemorrhage](#), UpToDate, accessed 1 April 2022.
- 2 Belfort MA (2021) [Postpartum hemorrhage: medical and minimally invasive management](#), UpToDate, accessed 1 April 2022.

- 3 Queensland Clinical Guidelines (2021) [Primary postpartum haemorrhage](#), Maternity and Neonatal Clinical Guideline, accessed 11 January 2022.
- 4 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2020) *PROMPT – Practical Obstetric Multi-Professional Training: course manual, Australian and New Zealand edition*, Cambridge University Press, Cambridge.
- 5 Royal College of Obstetricians and Gynaecologists (2017) 'Prevention and management of postpartum haemorrhage (Green-top Guideline No. 52)', *British Journal of Obstetrics and Gynaecology*, 124(5):e106-e149, doi:10.1111/1471-0528.14178
- 6 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2021) [Blood Transfusion and Massive Blood Transfusion \(Perinatal\)](#), SA Perinatal Practice Guidelines, accessed 11 January 2022.
- 7 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2013) [Postpartum Haemorrhage](#), SA Perinatal Practice Guidelines, accessed 11 January 2022.
- 8 WOMAN Trial Collaborators (2017) 'Effect of early tranexamic acid administration on mortality, hysterectomy, and other morbidities in women with post-partum haemorrhage (WOMAN): an international, randomised, double-blind, placebo-controlled trial', *The Lancet*, 389(10084):2105-2116, doi:10.1016/S0140-6736(17)30638-4
- 9 World Health Organization (2021) [WHO Model List of Essential Medicines, Version 22](#), World Health Organisation, Geneva, accessed 30 January 2022.

Secondary postpartum haemorrhage

Summary of changes

Addition: Take blood for serum beta hCG

Primary references

- 1 Belfort MA (2021) [Overview of postpartum hemorrhage](#), UpToDate, accessed 1 April 2022.
- 2 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2012) [Secondary Postpartum Haemorrhage](#), SA Perinatal Practice Guidelines, accessed 11 January 2022.

Uterine inversion

Summary of changes

Addition: Cross link to postpartum haemorrhage

Deletion: POC Hb test

Medicines

- Added 'over 4 hours' to oxytocin infusion
- Deleted hydrostatic replacement

Primary references

- 1 Queensland Clinical Guidelines (2021) [Primary postpartum haemorrhage](#), Maternity and Neonatal Clinical Guideline, accessed 11 January 2022.

- 2 Royal College of Obstetricians and Gynaecologists (2017) 'Prevention and management of postpartum haemorrhage (Green-top Guideline No. 52)', *British Journal of Obstetrics and Gynaecology*, 124(5):e106-e149, doi:10.1111/1471-0528.14178
- 3 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2014) [Uterine inversion](#), SA Perinatal Practice Guidelines, accessed 11 January 2022.

Bimanual and aortic compression

Summary of changes

- Minor changes for clarity

Primary references

- 1 Althabe F, Therrien MNS, Pingray V, Hermida J, Gülmezoglu AM, Armbruster D, Singh N, Guha M, Garg LF, Souza JP, Smith JM, Winikoff B, Thapa K, Hébert E, Liljestrand J, Downe S, Garcia Elorrio E, Arulkumaran S, Byaruhanga EK, Lissauer DM, Oguttu M, Dumont A, Escobar MF, Fuchtner C, Lumbiganon P, Burke TF and Miller S (2019) 'Postpartum hemorrhage care bundles to improve adherence to guidelines: A WHO technical consultation', *International Journal of Gynecology & Obstetrics*, 148(3):290-299, doi:10.1002/ijgo.13028
- 2 Belfort MA (2021) [Overview of postpartum hemorrhage](#), UpToDate, accessed 1 April 2022.
- 3 Belfort MA (2021) [Postpartum hemorrhage: medical and minimally invasive management](#), UpToDate, accessed 1 April 2022.
- 4 Paterson-Brown S and Howe C (2017) *Managing obstetric emergencies and trauma: the MOET course manual, 3rd Edition*, RCOG Press, London.
- 5 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2020) *PROMPT – Practical Obstetric Multi-Professional Training: course manual, Australian and New Zealand edition*, Cambridge University Press, Cambridge.
- 6 Royal College of Obstetricians and Gynaecologists (2017) 'Prevention and management of postpartum haemorrhage (Green-top Guideline No. 52)', *British Journal of Obstetrics and Gynaecology*, 124(5):e106-e149, doi:10.1111/1471-0528.14178
- 7 Symonds IM and Arulkumaran S (2019) *Essential Obstetrics and Gynaecology, 6th edition*, Elsevier, Netherlands.

Infections after childbirth

Summary of changes

- Minor changes for clarity

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 2 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2019) [Antibiotics in the Peripartum Period](#), SA Perinatal Practice Guideline, accessed 30 March 2022.
- 3 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2020) [Sepsis in pregnancy](#), SA Perinatal Practice Guideline, accessed 30 March 2022.

Pregnancy

Preconception care

Summary of changes

Addition

- Folic acid supplementation
- Offer genetic counselling to every pregnant women

Primary references

- 1 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 2 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2019) [Genetic carrier screening \(C-Obs 63\)](#), accessed 27 October 2021.
- 3 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2019) [Pre-pregnancy and pregnancy vaccinations \(C-Obs 44\)](#), accessed 27 October 2021.
- 4 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2017) [Pre-pregnancy counselling \(C-Obs 03a\)](#), accessed 27 October 2021.
- 5 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2019) [Vitamin and mineral supplementation in pregnancy \(C-Obs 25\)](#), accessed 27 October 2021.

Indigenous/remote context references

- 1 Griffiths E, Marley JV and Atkinson D (2020) 'Preconception Care in a Remote Aboriginal Community Context: What, When and by Whom?', *International Journal of Environmental Research and Public Health*, 17(10):3702, doi:10.3390/ijerph17103702

Pregnancy testing

Summary of changes

- Minor changes for clarity

Primary references

- 1 Family Planning New South Wales (2020) [Reproductive and sexual health: an Australian clinical practice handbook](#), Family Planning NSW, Sydney, accessed 11 January 2022.
- 2 NSW Health Sexual Health Services (2018) [Laboratory procedures, including point-of-care tests](#), Standard Operating Procedures Manual: Clinical Procedures, accessed 11 January 2022.

Unplanned pregnancy

Summary of changes

- Minor changes for clarity

Primary references

- 1 Bracken H, Lohr PA, Taylor J, Morroni C and Winikoff B (2014) 'RU OK? The acceptability and feasibility of remote technologies for follow-up after early medical abortion', *Contraception*, 90(1):29-35, doi:10.1016/j.contraception.2014.03.016

- 2 Chambers DG and Mulligan EC (2009) 'Treatment of suction termination of pregnancy-retained products with misoprostol markedly reduces the repeat operation rate', *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 49(5):551-3, doi:10.1111/j.1479-828X.2009.01043.x
- 3 Raymond EG, Grossman D, Weaver MA, Toti S and Winikoff B (2014) 'Mortality of induced abortion, other outpatient surgical procedures and common activities in the United States', *Contraception*, 90(5):476-9, doi:10.1016/j.contraception.2014.07.012
- 4 Royal College of Obstetricians and Gynaecologists (2011) [The care of women requesting induced abortion \(Evidence-based Clinical Guideline Number 7\)](#), accessed 2 June 2021.
- 5 South Australia Health (n.d.) [Health statistics: Pregnancy outcome statistics](#), accessed 29 June 2021.
- 6 Therapeutic Goods Administration (2014) [Australian Public Assessment Report \(AusPAR\): Misoprostol / mifepristone](#), Australian Public Assessment Report, accessed 29 June 2021.

Antenatal checklist

Summary of changes

Addition

- Iron studies at 36 weeks due to number of remote and Indigenous communities being high prevalence areas of anaemia
- BMI to allow for early identification of underweight or obesity and for management of gestational weight gain

Other

- Timing of pertussis vaccine to single dose after 20 weeks of pregnancy
- STI screening 5 times throughout pregnancy/postnatal period highlighted
- Clarification provided on timing of genetic testing

Primary references

- 1 Australian Red Cross (2020) [Haemoglobin assessment and optimisation in maternity](#), accessed 1 April 2022.
- 2 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 3 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 4 Hammond I, Saville M and Cancer Council Australia Cervical Cancer Screening Guidelines Working Party (2021) [National Cervical Screening Program: Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding](#), accessed 1 April 2022.
- 5 Queensland Clinical Guidelines (2021) [Obesity and pregnancy \(including post bariatric surgery\)](#), Maternal and Neonatal Clinical Guideline, accessed 1 April 2022.
- 6 Sexual Health and Blood Borne Virus Unit, Centre for Disease Control (2019) [NT Guidelines for the Management of Sexually Transmitted Infections in the Primary Health](#)

[Care Setting](#), Public Health Unit: Disease Control resources and publications, accessed 1 April 2022.

- 7 Women's and Children's Hospital (2021) [South Australian Maternal Serum Antenatal Screening Program](#), accessed 1 April 2022.

Antenatal care

Summary of changes

Addition

- Protocol shortened and restructured to improve readability and linkage to antenatal checklist protocol
- Normal ranges added to management of results table
- Calculation of BMI at first visit added to improve management of gestational weight gain and pre-existing underweight or obesity

Medicines

- Folic acid recommendation for high risk women updated to 5mg/d

Primary references

- 1 Australian Government Department of Health (2020) [National Immunisation Program Schedule 1 July 2020: For all Indigenous people](#), accessed 1 April 2022.
- 2 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 3 Hammond I, Saville M and Cancer Council Australia Cervical Cancer Screening Guidelines Working Party (2021) [National Cervical Screening Program: Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding](#), accessed 1 April 2022.
- 4 Rudland VL, Price SAL, Hughes R, Barrett HL, Lagstrom J, Porter C, Britten FL, Glastras S, Fulcher I, Wein P, Simmons D, McIntyre HD and Callaway L (2020) 'Australasian Diabetes In Pregnancy Society 2020 guideline for pre-existing diabetes and pregnancy', *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 60(6):E18-E52, doi:10.1111/ajo.13265
- 5 Sexual Health and Blood Borne Virus Unit, Centre for Disease Control (2019) [NT Guidelines for the Management of Sexually Transmitted Infections in the Primary Health Care Setting](#), Public Health Unit: Disease Control resources and publications, accessed 1 April 2022.

Antenatal care in twin pregnancy

Summary of changes

- Protocol shorted with **greater focus** on early referral to obstetrician, shared care and transfer to a major birthing centre for deliver
- Risks to mother and baby separated and highlighted
- Detail added to timing of ultrasounds

Primary references

- 1 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.

- 2 Monni G, Iuculano A and Zoppi MA (2014) 'Screening and Invasive Testing in Twins', *Journal of Clinical Medicine*, 3(3):865-882, doi:10.3390/jcm3030865
- 3 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2018) [Twin pregnancy](#), SA Perinatal Practice Guidelines, accessed 1 April 2022.

Weight gain in pregnancy

Summary of changes

- A new protocol developed to provide guidance on pre-pregnancy counselling and management of under and over weight during pregnancy and birth

Primary references

- 1 Australian Institute of Health and Welfare (2020) [Australia's mothers and babies 2018: in brief](#), Perinatal statistics series no.36 Cat. no. PER 108, AIHW, Canberra, accessed 18 January 2022.
- 2 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
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- 4 McIntyre HD, Gibbons KS, Flenady VJ and Callaway LK (2012) 'Overweight and obesity in Australian mothers: epidemic or endemic?', *Medical Journal of Australia*, 196(3):184-8, doi:10.5694/mja11.11120
- 5 Northern Territory Department of Health (2019) [Obesity in Pregnancy](#), accessed 1 July 2020.
- 6 Queensland Clinical Guidelines (2021) [Obesity and pregnancy \(including post bariatric surgery\)](#), Maternal and Neonatal Clinical Guideline, accessed 1 April 2022.
- 7 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2022) [Management of obesity in pregnancy](#), Best Practice Statement, accessed 11 April 2022.
- 8 Santos S, Voerman E, Amiano P, Barros H, Beilin LJ, Bergström A, Charles MA, Chatzi L, Chevrier C, Chrousos GP, Corpeleijn E, Costa O, Costet N, Crozier S, Devereux G, Doyon M, Eggesbø M, Fantini MP, Farchi S, Forastiere F, Georgiu V, Godfrey KM, Gori D, Grote V, Hanke W, Hertz-Picciotto I, Heude B, Hivert MF, Hryhorczuk D, Huang RC, Inskip H, Karvonen AM, Kenny LC, Koletzko B, Küpers LK, Lagström H, Lehmann I, Magnus P, Majewska R, Mäkelä J, Manios Y, McAuliffe FM, McDonald SW, Mehegan J, Melén E, Mommers M, Morgen CS, Moschonis G, Murray D, Ní Chaoimh C, Nohr EA, Nybo Andersen AM, Oken E, Oostvogels A, Pac A, Papadopoulou E, Pekkanen J, Pizzi C, Polanska K, Porta D, Richiardi L, Rifas-Shiman SL, Roeleveld N, Ronfani L, Santos AC, Standl M, Stigum H, Stoltenberg C, Thiering E, Thijs C, Torrent M, Tough SC, Trnovec T, Turner S; van Gelder M, van Rossem L, von Berg A, Vrijheid M, Vrijkotte T, West J, Wijga AH, Wright J, Zvinchuk O, Sørensen T, Lawlor DA, Gaillard R and Jaddoe V (2019) 'Impact of maternal body mass index and gestational weight gain on pregnancy complications: an individual participant data meta-analysis of European, North American and Australian cohorts', *BJOG: An International Journal of Obstetrics & Gynaecology*, 126(8):984-995, doi:10.1111/1471-0528.15661

Unborn baby's growth

Summary of changes

Deletion

- Content relating to palpation of the pregnant uterus and foetal heart rate monitoring deleted as these procedures should not be undertaken if untrained. Emphasis provided to only undertaking procedures skilled/trained in
- Inaccurate estimates of finger measurements for height of fundus deleted and replaced with centimetre measurements

Primary references

- 1 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 2 National Institute for Health and Care Excellence (2017) [Intrapartum care for healthy women and babies \(CG190\)](#), NICE Clinical Guidelines, accessed 1 April 2022.

Antenatal genetic and ultrasound tests for the baby

Summary of changes

- Treatment actions (obstetric review, testing and planning for ongoing care) have been made generic to all conditions rather than specific conditions to align with knowledge and referral expectations of remote practice

Primary references

- 1 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 2 Human Genetics Society of Australasia and The Royal Australian and New Zealand College of Obstetricians and Gynaecologists Joint Committee on Prenatal Diagnosis and Screening (2018) [Prenatal screening and diagnostic testing for fetal chromosomal and genetic conditions](#), accessed 1 April 2022.

Antenatal parent education

Summary of changes

Addition

- Red flags developed to highlight when woman needs to come to clinic for check-up
- Content on sleep positions and added supporting resources

Other

- Content refined to pregnancy specific education

Primary references

- 1 Cronin RS, Li M, Thompson JMD, Gordon A, Raynes-Greenow CH, Heazell AEP, Stacey T, Culling VM, Bowring V, Anderson NH, O'Brien LM, Mitchell EA, Askie LM and McCowan LME (2019) 'An Individual Participant Data Meta-analysis of Maternal Going-to-Sleep Position, Interactions with Fetal Vulnerability, and the Risk of Late Stillbirth', *eClinicalMedicine*, 10:49-57, doi:10.1016/j.eclinm.2019.03.014

- 2 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 3 Guidelines Committee of the Royal College of Obstetricians and Gynaecologists (2011) [Reduced Fetal Movements \(Green-top Guideline No. 57\)](#), accessed 1 April 2022.
- 4 Silver RM (2019) 'Maternal Going to Sleep Position and Late Stillbirth: Time to Act but With Care', *eClinicalMedicine*, 10:6-7, doi:10.1016/j.eclinm.2019.04.002

Indigenous/remote context references

- 1 Griffiths E, Atkinson D, Friello D and Marley JV (2019) 'Pregnancy intentions in a group of remote-dwelling Australian Aboriginal women: a qualitative exploration of formation, expression and implications for clinical practice', *BMC Public Health*, 19(1):568, doi:10.1186/s12889-019-6925-8

Perinatal depression and anxiety

Summary of changes

Addition

- Screening questions about needing help, thoughts of harming baby, anxiety, pregnancy, attitude towards baby
- Warning about possible risk to baby if suicide risk

Primary references

- 1 Austin M-P, Highet N and the Expert Working Group (2017) [Mental Health Care in the Perinatal Period: Australian Clinical Practice Guideline](#), Centre of Perinatal Excellence, Melbourne, accessed 23 May 2022.
- 2 Centre of Perinatal Excellence (2017) [Assessing Suicide Risk](#), Screening and Assessment Tools for Health Professionals, accessed 11 January 2022.
- 3 Centre of Perinatal Excellence (2017) [Pathways to Care: A Guide to the Management of Depression and Anxiety \(Flowchart\)](#), accessed 11 January 2022.
- 4 Kimberley Aboriginal Health (2018) [Kimberley Mums Mood Scale](#), accessed 16 August 2021.
- 5 Mann R, Adamson J and Gilbody SM (2012) 'Diagnostic accuracy of case-finding questions to identify perinatal depression', *Canadian Medical Association Journal*, 184(8):E424-30, doi:10.1503/cmaj.111213
- 6 National Institute for Health and Care Excellence (2014) [Antenatal and postnatal mental health: clinical management and service guidance \[CG192\]](#), NICE Clinical Guidelines, accessed 11 January 2022.
- 7 Parent-Infant Research Institute (PIRI), Mercy Women's Hospital and Austin Health perinatal (2019) [Perinatal mental health and psychosocial assessment: Practice resource manual for Victorian maternal and child health nurses](#), Victorian Government, Melbourne, accessed 21 September 2022.
- 8 Registered Nurses' Association of Ontario (2018) *Assessment and Interventions for Perinatal Depression, 2nd edition*, Registered Nurses' Association of Ontario, Ontario.
- 9 Royal College of Psychiatrists (2017) *Modern Management of Perinatal Psychiatric Disorders (Second edition)*, Royal College of Psychiatrists Publications, doi:10.7748/ns.31.51.33.s37

Indigenous/remote context references

- 1 Carlin E, Spry E, Atkinson D and Marley J (2020) 'Why validation is not enough: Setting the scene for the implementation of the Kimberley Mum's Mood Scale', *PLOS One*, 15(6):e0234346, doi:10.1371/journal.pone.0234346

Common discomforts of pregnancy

Summary of changes

Medicines

- Pyridoxine deleted as a recommended treatment for nausea and vomiting due to limited evidence to support its use and concerns about possible toxicity
- Clarity provided about use of laxatives in constipation

Other

- Protocol content reduced to conditions specific to pregnancy and referred to in National Pregnancy Care Guidelines

Primary references

- 1 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 2 Kahrilas PJ (2020) [Medical management of gastroesophageal reflux disease in adults](#), UpToDate, accessed 4 April 2022.
- 3 Matthews A, Haas DM, O'Mathúna DP and Dowswell T (2015) 'Interventions for nausea and vomiting in early pregnancy', *Cochrane Database of Systematic Reviews*, 9:CD007575, doi:10.1002/14651858.CD007575.pub4
- 4 Smith JA, Fox KA and Clark SM (2021) [Nausea and vomiting of pregnancy: clinical findings and evaluation](#), UpToDate, accessed 30 March 2022.

Medical problems

Anaemia in pregnancy

Summary of changes

Addition

- Flowchart for clarity

Medicines

- Dosage of IV iron has been simplified to reflect current guidelines (NBA, KMPH and NT) and required of infusion pump removed
- Daily dose for oral iron reduced to more than 60mg when Hb normal but low ferritin

Other

- Changed risk factors

Primary references

- 1 Australian Medicines Handbook Pty Ltd (2021) [Ferinject Product information](#), Australian Medicine Handbook, accessed 1 April 2022.
- 2 Australian Red Cross (2020) [Haemoglobin assessment and optimisation in maternity](#), accessed 1 April 2022.

- 3 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 4 King Edward Memorial Hospital (2017) [Anaemia and iron deficiency: Management in pregnancy and postpartum](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 1 April 2022.
- 5 NPS MedicineWise (2014) [Ferric carboxymaltose \(Ferinject\) for iron-deficiency anaemia: An alternative IV preparation for iron-deficiency anaemia](#), RADAR, accessed 1 April 2022.
- 6 National Blood Authority Australia (2015) [Patient Blood Management Guidelines: Module 5 Obstetrics and Maternity](#), Best Practice, accessed 1 April 2022.
- 7 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2016) [Anaemia in pregnancy](#), SA Perinatal Practice Guidelines, accessed 1 April 2022.

Diabetes in pregnancy

Summary of changes

Addition

- HbA1c set as a routine test in antenatal screening
- Tabulation of sections to improve clarity (eg complication)
- Preconception counselling woman if HbA1c to delay conception over 9%
- Specific HbA1c target
- Flowchart on screening pathway
- BMI and BP in antenatal checks and recommendation to seek ophthalmology advice if retinopathy
- For pre-existing diabetes recommendation to add aspirin and Ca to prevent preeclampsia

Medicines

- Added aspirin and calcium to help prevent preeclampsia if pre-existing diabetes

Primary references

- 1 Australasian Diabetes in Pregnancy Society (2014) [Australasian Diabetes in Pregnancy Society \(ADIPS\) Consensus guidelines for the testing and diagnosis of hyperglycaemia in pregnancy in Australia and New Zealand](#), accessed 4 April 2022.
- 2 Jamieson EL, Spry EP, Kirke AB, Griffiths E, Porter C, Roxburgh C, Singleton S, Sterry K, Atkinson DN and Marley JV (2021) 'Prediabetes and pregnancy: Early pregnancy HbA1c identifies Australian Aboriginal women with high-risk of gestational diabetes mellitus and adverse perinatal outcomes', *Diabetes Research and Clinical Practice*, 176:108868, doi:10.1016/j.diabres.2021.108868
- 3 Kirke AB, Atkinson D, Moore S, Sterry K, Singleton S, Roxburgh C, Parrish K, Porter C and Marley JV (2019) 'Diabetes screening in pregnancy failing women in rural Western Australia: An audit of oral glucose tolerance test completion rates', *Australian Journal of Rural Health*, 27(1):64-69, doi:10.1111/ajr.12465
- 4 Klein J, Boyle JA, Kirkham R, Connors C, Whitbread C, Oats J, Barzi F, McIntyre D, Lee I, Luey M, Shaw J, Brown ADH and Maple-Brown LJ (2017) 'Preconception care for women with type 2 diabetes mellitus: A mixed-methods study of provider knowledge and

- practice', *Diabetes Research and Clinical Practice*, 129:105-115, doi:10.1016/j.diabres.2017.03.035
- 5 Longmore DK, Barr ELM, Lee IL, Barzi F, Kirkwood M, Whitbread C, Hampton V, Graham S, Van Dokkum P, Connors C, Boyle JA, Catalano P, Brown ADH, O'Dea K, Oats J, McIntyre HD, Shaw JE, Maple-Brown LJ and PANDORA study research team (2019) 'Maternal body mass index, excess gestational weight gain, and diabetes are positively associated with neonatal adiposity in the Pregnancy and Neonatal Diabetes Outcomes in Remote Australia (PANDORA) study', *Pediatric Obesity*, 14(4):e12490, doi:10.1111/ijpo.12490
 - 6 Lucas IM, Barr ELM, Barzi F, Longmore DK, Lee IL, Kirkwood M, Whitbread C, Connors C, Boyle JA, Simon D, Goodrem A, Brown ADH, Oats J, McIntyre HD, Shaw JE, Maple-Brown L and PANDORA study research team (2021) 'Gestational diabetes is associated with postpartum hemorrhage in Indigenous Australian women in the PANDORA study: A prospective cohort', *International Journal of Gynaecology and Obstetrics*, 155(2):296-304, doi:10.1002/ijgo.13846
 - 7 Maple-Brown L, Lee IL, Longmore D, Barzi F, Connors C, Boyle JA, Moore E, Whitbread C, Kirkwood M, Graham S, Hampton V, Simmonds A, Van Dokkum P, Kelaart J, Thomas S, Chitturi S, Eades S, Corpus S, Lynch M, Lu ZX, O'Dea K, Zimmet P, Oats J, McIntyre HD, Brown ADH, Shaw JE and PANDORA Study research team (2019) 'Pregnancy And Neonatal Diabetes Outcomes in Remote Australia: the PANDORA study-an observational birth cohort', *International Journal of Epidemiology*, 48(1):307-318, doi:10.1093/ije/dyy245
 - 8 Queensland Clinical Guidelines (2021) [Gestational Diabetes Mellitus \(GDM\)](#), Maternity and Neonatal Clinical Guideline, accessed 4 April 2022.
 - 9 Rohit A, Roulston T, Henderson T, Lee IL, Webster V, McIntyre HD, Connors C, Brown A, Shaw JE, Maple-Brown LJ and Barr ELM (2021) 'Screening rates for diabetic retinopathy among Aboriginal and Torres Strait Islander women with hyperglycaemia in pregnancy: The PANDORA cohort study', *Clinical Experimental Ophthalmology*, 49(7):765-767, doi:10.1111/ceo.13985
 - 10 Rudland VL, Price SAL and Callaway L (2020) 'Australasian Diabetes in Pregnancy Society (ADIPS) position paper on pre-existing diabetes and pregnancy', *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 60(6):831-839, doi:10.1111/ajo.13266
 - 11 Rudland VL, Price SAL, Hughes R, Barrett HL, Lagstrom J, Porter C, Britten FL, Glastras S, Fulcher I, Wein P, Simmons D, McIntyre HD and Callaway L (2020) 'Australasian Diabetes In Pregnancy Society 2020 guideline for pre-existing diabetes and pregnancy', *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 60(6):E18-E52, doi:10.1111/ajo.13265

Epilepsy in pregnancy

Summary of changes

Medicines

- Removed oral vitamin K for last 4 weeks of pregnancy. If taking enzyme-inducing antiepileptics — give vitamin K oral once a day for last 4 weeks of pregnancy (from 36 weeks) – 20mg as no evidence for Vitamin K use
- Lamotrigine and levetiracetam recommended as safest antiepileptic medicine
- eTG recommends 5mg folic acid 3months before and after conception

Primary references

- 1 Ahmed R, Apen K and Edean C (2014) 'Epilepsy in pregnancy – a collaborative team effort of obstetricians, neurologists and primary care physicians for a successful outcome', *Australian Family Physician*, 43(3):112-116.
- 2 American Academy of Neurology (2016) 'Appendix C: AAN Summary of Evidence-Based Guideline for Clinicians: Management Issues for Women With Epilepsy-Focus on Pregnancy: Vitamin K, Folic Acid, Blood Levels, and Breastfeeding', *Continuum (Minneapolis)*, 22(1 Epilepsy):285-6, doi:10.1212/01.CON.0000480843.89012.5b
- 3 Guidelines Committee of the Royal College of Obstetricians and Gynaecologists (2018) [Epilepsy in Pregnancy \(Green-top Guideline No. 68\)](#), accessed 5 April 2022.
- 4 Pennell PB and McElrath T (2021) [Management of epilepsy during preconception, pregnancy, and the postpartum period](#), UpToDate, accessed 1 August 2021.
- 5 Pennell PB and McElrath T (2021) [Risks associated with epilepsy during pregnancy and postpartum period](#), UpToDate, accessed 1 August 2021.
- 6 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2019) [Epilepsy and pregnancy management](#), SA Perinatal Practice Guidelines, accessed 4 April 2022.

Group B Streptococcus infection

Summary of changes

Medicines: Change is GBS urine positive antibiotic dose: amoxicillin 500mg Q8H for 5 days (was 250mg 3 times a day for 3 days); in labour second 4 hourly dose of benzylpenicillin increased from 1.2g to 1.8g

Primary references

- 1 Australian Government Department of Health (2020) [Pregnancy Care](#), Clinical Practice Guidelines, Australian Government Department of Health, Canberra, accessed 5 April 2022.
- 2 Northern Territory Health (2020) Group B Streptococcal Colonisation RDPH Maternity Guideline, NTG Health, Darwin, accessed 22 July 2021.
- 3 Royal Australian and New Zealand College of Obstetricians and Gynaecologists Women's Health Committee (2019) [Maternal Group B Streptococcus \(GBS\) in Pregnancy: Screening and Management](#), accessed 5 April 2022.
- 4 Royal College of Obstetricians and Gynaecologists (2017) 'Prevention of Early-onset Neonatal Group B Streptococcal Disease (Green-top Guideline No. 36)', *British Journal of Obstetrics and Gynaecology*, 124(12):e280–e305, doi:10.1111/1471-0528.14821
- 5 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2019) [Antibiotics in the Peripartum Period](#), SA Perinatal Practice Guideline, accessed 30 March 2022.

Hepatitis in pregnancy

Summary of changes

- Update Hepatitis B viral load threshold to 200,000IU/mL
- Update breastfeed recommendation

Primary references

- 1 Australasian Society for Infectious Diseases (2014) [Management of Perinatal Infections](#), Clinical Guidelines, accessed 5 April 2022.
- 2 Davies J, Bukulatjpi S, Sharma S, Davis J and Johnston V (2014) 'Only your blood can tell the story', *BMC Public Health*, 14:1233, doi:10.1186/1471-2458-14-1233
- 3 Royal Australian and New Zealand College of Obstetricians and Gynaecologists Womens Health Committee (2020) [Management of Hepatitis C in Pregnancy](#), Clinical Statement, accessed 5 April 2022.
- 4 Sarkar M, Brady CW, Fleckenstein J, Forde KA, Khungar V, Molleston JP, Afshar Y and Terrault NA (2021) 'Reproductive Health and Liver Disease: Practice Guidance by the American Association for the Study of Liver Diseases', *Hepatology*, 73(1):318-365, doi:10.1002/hep.31559

Hypertension (high BP) in pregnancy

Summary of changes

Addition: Risk factor for preeclampsia: new partner/paternity

Medicines

- Offer women at high risk calcium supplements and low dose Aspirin
- Addition of clonidine to manage high BP
- Added for first antenatal visit (chronic hypertension) - stop ACE or ARB add methyldopa or clonidine and aspirin and calcium (includes doses)

Primary references

- 1 Galaviz-Hernandez C, Sosa-Macias M, Teran E, Garcia-Ortiz JE and Lazalde-Ramos BP (2019) 'Paternal Determinants in Preeclampsia', *Frontiers in Physiology*, 9:1870, doi:10.3389/fphys.2018.01870
- 2 Society of Obstetric Medicine of Australia and New Zealand (2015) [Guideline for the management of hypertensive disorders of pregnancy](#), accessed 18 September 2022.
- 3 The Royal Women's Hospital (2020) [Hypertension - Management of Acute](#), Clinical Guidelines, accessed 14 April 2022.

Rheumatic heart disease in pregnancy

Summary of changes

Medicines: Removed prophylaxis antibiotics for miscarriage and PROM

Primary references

- 1 Expert Group for Rheumatology, version 3 (2021) [Rheumatoid arthritis](#), Therapeutic Guidelines, accessed 15 December 2021.
- 2 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 24 April 2022.
- 3 Mazza D, Harrison C, Taft A, Brijnath B, Britt H, Hobbs M, Stewart K and Hussainy S (2012) 'Current contraceptive management in Australian general practice: an analysis of BEACH data', *Medical Journal of Australia*, 2:110-114, doi:10.5694/mja11.11599

- 4 Rheumatic Heart Disease Australia (ARF/RHD writing group) (2020) [The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease, 3rd edition](#), accessed 11 January 2022.

Indigenous/remote context references

- 1 Sullivan EA, Vaughan G, Li Z, Peek MJ, Carapetis JR, Walsh W, Frawley J, Rémond M, Remenyi B, Jackson Pulver L, Kruske S, Belton S and McLintock C (2020) 'The high prevalence and impact of rheumatic heart disease in pregnancy in First Nations populations in a high-income setting: a prospective cohort study.', *British Journal of Obstetrics and Gynaecology*, 127(1):47-56, doi:10.1111/1471-0528.15938

Thromboembolism (blood clots) in pregnancy and postnatal

Summary of changes

- Minor changes for clarity

Primary references

- 1 Bauer KA (2020) [Use of anticoagulants during pregnancy and postpartum](#), UpToDate, accessed 11 January 2022.
- 2 Malhotra A and Weinberger SE (2020) [Deep vein thrombosis in pregnancy: Epidemiology, pathogenesis, and diagnosis](#), UpToDate, accessed 11 January 2022.
- 3 Tapson VF and Weinberg AS (2021) [Treatment, prognosis, and follow-up of acute pulmonary embolism in adults](#), UpToDate, accessed 11 January 2022.

Urine infections in pregnancy

Summary of changes

Medicines

- Nitrofurantoin first line over cefalexin (was vice versa)
- Nitrofurantoin 4 times a day (was 2)
- If lower UTI amoxicillin 500mg 3 times a day for 5 days (was 250mg 3 times a day for 3 days)

Primary references

- 1 Expert Groups for Antibiotic, version 16 (2019) [Antibiotic](#), Therapeutic Guidelines, accessed 11 January 2022.
- 2 Hooton TM and Gupta K (2021) [Urinary tract infections and asymptomatic bacteriuria in pregnancy](#), UpToDate, accessed 8 April 2022.

Labour and birth

Labour and birth

Summary of changes

Deletion

- Advice to listen for baby heart beat
- Advice to decipher strength of contractions

Medicines

- IV delivery of oxytocin
- Added betamethasone or dexamethasone if less than 37 weeks pregnant

Primary references

- 1 King Edward Memorial Hospital (2019) [Labour: First stage](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 21 April 2022.
- 2 King Edward Memorial Hospital (2021) [Labour: Third stage](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 21 April 2022.
- 3 National Institute for Health and Care Excellence (2017) [Intrapartum care for healthy women and babies \(CG190\)](#), NICE Clinical Guidelines, accessed 1 April 2022.
- 4 Oladapo OT, Okusanya BO, Abalos E, Gallos ID and Papadopoulou A (2020) 'Intravenous versus intramuscular prophylactic oxytocin for the third stage of labour', *Cochrane Database of Systematic Reviews*, 11:CD009332, doi:10.1002/14651858.CD009332.pub4
- 5 Queensland Clinical Guidelines (2019) [Intrapartum fetal surveillance \(IFS\)](#), Maternity and Neonatal Clinical Guideline, accessed 21 April 2022.
- 6 Queensland Clinical Guidelines (2018) [Normal birth](#), Maternity and Neonatal Clinical Guideline, accessed 4 April 2022.
- 7 World Health Organization (2020) [WHO recommendation on routes of oxytocin administration for the prevention of postpartum haemorrhage after vaginal birth](#), World Health Organization, Geneva, accessed 21 April 2022.

Checking the placenta

Summary of changes

- Minor changes for clarity

Primary references

- 1 Queensland Clinical Guidelines (2018) [Normal birth](#), Maternity and Neonatal Clinical Guideline, accessed 4 April 2022.
- 2 Roberts DJ (2021) [Gross examination of the placenta](#), UpToDate, accessed 4 April 2022.
- 3 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2019) [Histopathology management of the placenta](#), SA Perinatal Practice Guideline, accessed 4 April 2022.

Immediate postnatal care of mother

Care of mother — first 24 hours after birth

Summary of changes

- Minor changes for clarity

Primary references

- 1 King Edward Memorial Hospital (2016) [Postnatal Care: Maternal - Quick Reference Guide](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 30 March 2022.
- 2 King Edward Memorial Hospital (2016) [Postnatal: Immediate maternal care in labour and birth suite following birth](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 4 April 2022.

- 3 National Institute for Health and Care Excellence (2021) [Postnatal care \[NG194\]](#), NICE Clinical Guidelines, accessed 4 April 2022.
- 4 Queensland Clinical Guidelines (2018) [Normal birth](#), Maternity and Neonatal Clinical Guideline, accessed 4 April 2022.
- 5 Royal Australian and New Zealand College of Obstetricians and Gynaecologists and the National Blood Authority (2021) [Prophylactic use of Rh D immunoglobulin in pregnancy care](#), National Blood Authority, Canberra, accessed 4 April 2022.

Tears of the birth canal

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2021) [Third and fourth degree perineal tears](#), Clinical care standard, Australian Commission on Safety and Quality in Health Care, Sydney, accessed 30 January 2022.
- 2 Toglia MR (2020) [Repair of episiotomy and perineal lacerations associated with childbirth](#), UpToDate, accessed 30 January 2022.

Repairing tear or episiotomy

Summary of changes

Addition: Follow up discussion points

Medicines: Coloxyl to stop straining with using bowel, analgesic delivery by suppository, indwelling catheter when evacuating big tears, rectal examination following suturing, use of glue for small tears

Primary references

- 1 National Institute for Health and Care Excellence (2017) [Intrapartum care for healthy women and babies \(CG190\)](#), NICE Clinical Guidelines, accessed 1 April 2022.
- 2 Queensland Clinical Guidelines (2020) [Perineal care](#), Maternity and Neonatal Clinical Guidelines, accessed 30 April 2022.
- 3 The Royal Women's Hospital (2020) [Perineal Trauma Assessment, Repair and Safe Practice](#), Clinical Guidelines, accessed 30 January 2022.

Immediate postnatal care of baby

Newborn care

Summary of changes

- Combined with 'newborn needing special care' protocol
- Minor changes for clarity

Primary references

- 1 Australasian Society for Infectious Diseases (2014) [Management of Perinatal Infections](#), Australasian Society for Infectious Diseases Inc, Sydney, accessed 4 April 2022.

- 2 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 3 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.1 – Introduction to resuscitation of the newborn](#), The ARC Guidelines, accessed 1 April 2022.
- 4 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.2 – Planning for Neonatal Resuscitation and Identification of the Newborn at Risk](#), The ARC Guidelines, accessed 4 April 2022.
- 5 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 13.3 - Assessment of the newborn infant](#), The ARC Guidelines, accessed 4 April 2022.
- 6 Queensland Clinical Guidelines (2021) [Newborn baby assessment \(routine\)](#), Maternity and Neonatal Clinical Guideline, accessed 4 April 2022.
- 7 Royal Australian and New Zealand College of Obstetricians and Gynaecologists Women's Health Committee (2017) [Provision of routine intrapartum care in the absence of pregnancy complications](#), accessed 4 April 2022.
- 8 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2020) [Neonatal Hypoglycaemia](#), SA Perinatal Practice Guidelines, accessed 4 April 2022.
- 9 World Health Organization (2017) [Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services](#), World Health Organization, Geneva, accessed 4 April 2022.

Keeping baby warm after birth

Summary of changes

Addition: Thermoregulation assistance now applies to all babies thought to be low birth weight or preterm - further guidance provided on methods and rationale

Primary references

- 1 Conde-Agudelo A and Díaz-Rossello JL (2016) 'Kangaroo mother care to reduce morbidity and mortality in low birthweight infants', *Cochrane Database of Systematic Reviews*, 8:CD002771, doi:10.1002/14651858.CD002771.pub4
- 2 Government of Western Australia Child and Adolescent Health Service (2020) [Thermoregulation](#), Clinical Guideline, accessed 30 January 2022.
- 3 McCall EM, Alderdice F, Halliday HL, Vohra S and Johnston L (2018) 'Interventions to prevent hypothermia at birth in preterm and/or low birth weight infants', *Cochrane Database of Systematic Reviews*, 2(2):CD004210, doi:10.1002/14651858.CD004210.pub5
- 4 Royal Australian and New Zealand College of Obstetricians and Gynaecologists Women's Health Committee (2017) [Provision of routine intrapartum care in the absence of pregnancy complications](#), accessed 4 April 2022.
- 5 The Royal Children's Hospital Melbourne (2020) [Assisted thermoregulation](#), Clinical Practice Guidelines, accessed 21 April 2022.
- 6 The Royal Children's Hospital Melbourne (2020) [Skin to skin care for the newborn](#), Clinical Practice Guidelines, accessed 21 April 2022.

Stillbirth

Summary of changes

- Tests recommended for mother to align with new PSANZ guidelines

Primary references

- 1 Perinatal Society of Australia and New Zealand Guidelines Group (2020) [Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death, Version 3.4](#), accessed 11 January 2022.
- 2 Queensland Clinical Guidelines (2019) [Stillbirth care](#), Maternity and Neonatal Clinical Guidelines, accessed 30 January 2022.

Postnatal

Mother

Postnatal care of mother

Summary of changes

Addition: Recommended schedule of visits added

Medicines: Added give iodine if caesarean section

Other: Postnatal care of mother and mother's 6-8 week postnatal check merged

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (n.d) [Australian consensus STI Testing Guideline for Aboriginal and Torres Strait Islander People](#), accessed 11 January 2022.
- 2 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 3 King Edward Memorial Hospital (2016) [Postnatal Care: Maternal - Quick Reference Guide](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 30 March 2022.
- 4 National Health and Medical Research Council (2010) [Iodine supplementation for pregnant and breastfeeding women](#), NHMRC Public Statement, accessed 22 September 2022.
- 5 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2019) [Guidelines on the prophylactic use of Rh D immunoglobulin \(anti-D\) in obstetrics](#), accessed 11 January 2022.
- 6 South Australia Health, Government of South Australia (2021) [Perineal care and repair](#), SA Perinatal Practice Guideline, accessed 11 January 2022.
- 7 The Royal Children's Hospital Melbourne (2020) [Safe sleeping](#), Clinical Guidelines: Nursing, accessed 22 September 2022.
- 8 Turawa EB, Musekiwa A and Rohwer AC (2015) 'Interventions for preventing postpartum constipation', *Cochrane Database of Systematic Reviews*, 9:CD011625, doi:10.1002/14651858.CD011625.pub2
- 9 World Health Organization (2013) [WHO Recommendations on Postnatal Care of the New Mother and Newborn](#), accessed 22 April 2022.

Postpartum follow-up of medical conditions

Summary of changes

Addition

- Red flags box to prompt recognition of the unwell patient requiring urgent escalation of care for consistent format across protocols
- Heart disease recommendations relate to RHD clarified
- High BP — added preeclampsia
- Detail about importance of breastfeeding highlighting need for support
- More detail to GDM section
- Brief section on obesity as per request from feedback

Deletion

- Urinary tract infections section

Medicines

- Changes to diabetes medications immediately postpartum require specialised input

Other

- Renamed to Postpartum follow-up of medical conditions
- Updated content under pre-existing diabetes to ensure key concepts from current evidence are included
- Follow-up requirements for pre-existing diabetes updated

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2012) [Observation and response charts](#), accessed 22 September 2022.
- 2 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 3 Guidelines Committee of the Royal College of Obstetricians and Gynaecologists (2018) [Care of Women with Obesity in Pregnancy \(Green-top Guideline No. 72\)](#), accessed 11 April 2022.
- 4 King Edward Memorial Hospital (2017) [Sexually Transmitted Infections](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 11 January 2022.
- 5 Queensland Clinical Guidelines (2021) [Hypertension and pregnancy](#), Maternity and Neonatal Clinical Guidelines, accessed 17 September 2022.
- 6 Rheumatic Heart Disease Australia (ARF/RHD writing group) (2020) [The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease, 3rd edition](#), accessed 11 January 2022.
- 7 Royal Australian College of General Practitioners (2020) [Management of type 2 diabetes: A handbook for general practice](#), The Royal Australian College of General Practitioners, East Melbourne, Vic, accessed 11 January 2022.
- 8 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2022) [Management of obesity in pregnancy](#), Best Practice Statement, accessed 11 April 2022.

- 9 Rudland VL, Price SAL, Hughes R, Barrett HL, Lagstrom J, Porter C, Britten FL, Glastras S, Fulcher I, Wein P, Simmons D, McIntyre HD and Callaway L (2020) 'Australasian Diabetes In Pregnancy Society 2020 guideline for pre-existing diabetes and pregnancy', *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 60(6):E18-E52, doi:10.1111/ajo.13265
- 10 World Health Organization (2015) [Pregnancy, childbirth, postpartum and newborn care: A guide for essential practice \(3rd edition\)](#), World Health Organization, Luxembourg, accessed 11 January 2022.

Baby

Newborn screening test

Summary of changes

- Minor changes for clarity

Primary references

- 1 Commonwealth of Australia (Department of Health) (2018) [Newborn Bloodspot Screening: National Policy Framework](#), accessed 20 May 2022.
- 2 The Royal Children's Hospital Melbourne (2019) [Newborn bloodspot screening](#), Clinical Practice Guidelines, accessed 20 May 2022.
- 3 Victorian Clinical Genetics Services (2021) [Newborn Bloodspot Screening Comprehensive Collection Guideline](#), accessed 20 May 2022.

Postnatal care of baby

Summary of changes

- Check maternal syphilis status added
- Protocol restructured to incorporate 6-8 week checks
- Schedule of visits highlighted

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (n.d) [Australian consensus STI Testing Guideline for Aboriginal and Torres Strait Islander People](#), accessed 11 January 2022.
- 2 Department of Health (2020) [Clinical Practice Guidelines: Pregnancy Care](#), Australian Government Department of Health, Canberra, accessed 1 April 2022.
- 3 The Royal Children's Hospital Melbourne (2020) [Safe sleeping](#), Clinical Guidelines: Nursing, accessed 22 September 2022.
- 4 World Health Organization (2015) [Pregnancy, childbirth, postpartum and newborn care: A guide for essential practice \(3rd edition\)](#), World Health Organization, Luxembourg, accessed 11 January 2022.
- 5 World Health Organization (2013) [WHO Recommendations on Postnatal Care of the New Mother and Newborn](#), accessed 22 April 2022.

Infant feeding

Postnatal nutrition for mother and baby (up to 6 months old)

Summary of changes

Addition: More guidance provided on infant formula feeding

Other: Protocol was redesigned to focus on the immediate postnatal period (birth-6 weeks) with recommendations for ongoing nutrition provided in the child nutrition protocol

Primary references

- 1 National Health and Medical Research Council (2012) [Infant Feeding Guidelines: Information for health workers](#), NHMRC, Canberra, accessed 4 April 2022.
- 2 National Health and Medical Research Council (2012) [Literature Review: Infant Feeding Guidelines](#), NHMRC, Canberra, accessed 22 September 2022.

Breastfeeding

Summary of changes

Other: Protocol restructured to better support breastfeeding assessment and support

Primary references

- 1 Council of Australian Governments Health Council (2019) [The Australian National Breastfeeding Strategy: 2019 and Beyond](#), COAG Health Council, Canberra, accessed 4 April 2022.
- 2 National Health and Medical Research Council (2012) [Infant Feeding Guidelines: Information for health workers](#), NHMRC, Canberra, accessed 4 April 2022.
- 3 Rosadas C, Woo T, Haddow J, Rowan A and Taylor GP (2021) 'Anti-HTLV-1/2 IgG Antibodies in the Breastmilk of Seropositive Mothers', *Microorganisms*, 9(7):1413, doi:10.3390/microorganisms9071413
- 4 United Nations Children's Fund and World Health Organization (2021) [Implementation Guidance on Counselling Women to Improve Breastfeeding Practices](#), United Nations Children's Fund, New York, accessed 4 April 2022.
- 5 Victora CG, Bahl R, Barros AJD, França GVA, Horton S, Krasevec J, Murch S, Sankar MJ, Walker N and Rollins NC (2016) 'Breastfeeding in the 21st century: epidemiology, mechanisms and lifelong effect', *The Lancet*, 387:475-90, doi:10.1016/S0140-6736(15)01024-7

Indigenous/remote context references

- 1 van Tienen C, Jakobsen M and Schim van der Loeff M (2012) 'Stopping breastfeeding to prevent vertical transmission of HTLV-1 in resource-poor settings: beneficial or harmful?', *Archives of Gynecology and Obstetrics*, 286:255-256, doi:10.1007/s00404-011-2211-4

Breastfeeding — common issues

Summary of changes

Medicines: Ibuprofen added to pain relief and clindamycin recommended when allergy to penicillin

Other: Protocol restructured in order of severity

Primary references

- 1 King Edward Memorial Hospital (2020) [Mastitis and breast abscess management](#), KEMH Clinical Guidelines: Obstetrics & Gynaecology, accessed 4 April 2022.
- 2 LeFort Y, Evans A, Livingstone V, Douglas P, Dahlquist N, Donnelly B, Leeper K, Harley E and Lappin S (2021) 'Academy of Breastfeeding Medicine Position Statement on Ankyloglossia in Breastfeeding Dyads', *Breastfeeding Medicine*, 16(4):278-281, doi:10.1089/bfm.2021.29179.ylf
- 3 National Health and Medical Research Council (2012) [Infant Feeding Guidelines: Information for health workers](#), NHMRC, Canberra, accessed 4 April 2022.
- 4 The Royal Women's Hospital (2020) [Infant Feeding - Breast and Nipple Thrush](#), Clinical Guidelines, accessed 4 April 2022.
- 5 The Royal Women's Hospital (2020) [Infant Feeding - Mastitis and Breast Abscess](#), Clinical Guidelines, accessed 4 April 2022.

Sexual health

STI checks for young people

Summary of changes

Addition: Information regarding consent and health intimate relationships, and protective behaviours

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 American Sexual Health Association (n.d.) [Understanding consent](#), accessed 22 September 2022.
- 3 British Association for Sexual Health and HIV (2021) [British Association for Sexual Health and HIV Guidelines](#), BASHH guidelines, accessed 4 April 2022.
- 4 Family Planning NSW, Local Health District HARP Units and Northern Sydney Local Health District Youth Health Promotion Team, NSW STI Programs Unit and Yfoundations (n.d.) [Talking about sexual health: A tool for youth workers](#), NSW Health STI programs unit, accessed 19 January 2022.
- 5 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 6 NSW Kids and Families (2014) [Youth Health Resource Kit: An Essential Guide for Workers](#), NSW Health: Youth health and wellbeing, accessed 11 January 2022.
- 7 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

STI checks for women

Summary of changes

Addition

- Information textbox for POC testing for STIs
- POC test to Standard, Full and Pregnancy STI check
- Query about non-consensual or unwanted sex
- Think about medical consult for PrEP if behavioural risk factors for HIV

Deleted

- 'First void' removed from urine collection

Other

- Changed highest risk group from sexually active under 19 to under 25

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 British Association for Sexual Health and HIV (2021) [British Association for Sexual Health and HIV Guidelines](#), BASHH guidelines, accessed 4 April 2022.
- 3 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 4 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

Self-collected lower vaginal swabs (LVS)

Summary of changes

Addition: POC test to table of sample and swab types (NAAT for chlamydia, gonorrhoea, trichomonas)

Primary references

- 1 Australia Government Department of Health (2022) [Understanding the National Cervical Screening Program Management Pathway: A Guide for Healthcare Providers](#), accessed 22 September 2022.
- 2 Australian Institute of Health and Welfare (2019) [National Cervical Screening Program monitoring report 2019](#), Cancer series no. 125, AIHW, Canberra, accessed 11 January 2022.
- 3 Cancer Council Australia Clinical Guidelines Working Party (2021) [Important changes to the National Cervical Screening Program's Clinical Guidelines pathway for women at intermediate risk](#), accessed 11 January 2022.

STI management for women

Summary of changes

Addition

- Mycoplasma to list of conditions
- New section on mycoplasma genitalia as now tested for in limited circumstances - advised medical consult

Medicines

- For Chlamydia: added to give doxycycline oral for anal infections.
- For gonorrhoea: separated oral from anal (azithromycin oral 2g, anal 1g)
- For chlamydia and gonorrhoea – separate treatment for uncomplicated genital or pharyngeal infections and anorectal infection
- Valaciclovir replaces acyclovir for genital herpes if pregnant; deleted imiquimod as option for treatment of genital wart

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 3 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

Indigenous/remote context references

- 1 Martin DH (2021) [Mycoplasma genitalium infection in males and females](#), UpToDate, accessed 18 January 2022.
- 2 Melbourne Sexual Health Centre (2021) [Mycoplasma genitalium treatment guidelines](#), Treatment Guidelines, accessed 20 May 2022.

Vaginal discharge

Addition: 'No follow up needed' (bacterial vaginosis) 'but if symptoms persist - medical consult'

Medicines: Removed tinidazole as option for treatment of abnormal vaginal discharge as no longer available

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 British Association for Sexual Health and HIV (2021) [British Association for Sexual Health and HIV Guidelines](#), BASHH guidelines, accessed 4 April 2022.
- 3 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 4 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

Genital ulcers and lumps

Summary of changes

Addition

- Mycoplasma to list of conditions
- New section on mycoplasma genitalia as now tested for in limited circumstances - advised medical consult

Medicines

- For chlamydia: added to give doxycycline oral for anal infections
- For gonorrhoea: separated oral from anal (azithromycin oral 2g, anal 1g)
- For chlamydia and gonorrhoea – separate treatment for uncomplicated genital or pharyngeal infections and anorectal infection
- Valaciclovir replaces acyclovir for genital herpes if pregnant; deleted imiquimod as option for treatment of genital wart

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 3 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

Indigenous/remote context references

- 1 Martin DH (2021) [Mycoplasma genitalium infection in males and females](#), UpToDate, accessed 18 January 2022.
- 2 Melbourne Sexual Health Centre (2021) [Mycoplasma genitalium treatment guidelines](#), Treatment Guidelines, accessed 20 May 2022.

Pelvic inflammatory disease

Addition

- Syphilis and HIV serology to bloods taken if severe PID
- 'Follow-up if ongoing symptoms' and medical consult about further testing including NAAT for mycoplasma genitalia

Note: Rationale for ongoing recommendation for severe PID of **azithromycin** oral single dose – adult **1g** (eTG/STI guidelines recommend: IV azithromycin **500mg** single dose): Remote clinics do not stock IV azithromycin and it would be reasonable to give an oral dose, since the patient would be urgently evacuated and get continuing IV therapy if required. Following oral administration of a 500 mg dose, azithromycin is absorbed from the gastrointestinal tract with an absolute bioavailability of 37% (MIMS online). Thus a 1g oral dose may be equivalent to something around 370mg IV. The treatment for mild PID includes Azithromycin 1G oral, so should not be less for a severe case. The stat dose rather than the BD for metronidazole would be because the patient should be in hospital for the 12th hrly dose. If not, the consulting Dr can order a 2nd dose.

Primary references

- 1 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (2021) [Australian STI Management Guidelines for use in primary care](#), accessed 4 April 2022.
- 2 British Association for Sexual Health and HIV (2021) [British Association for Sexual Health and HIV Guidelines](#), BASHH guidelines, accessed 4 April 2022.
- 3 Expert Groups for Antibiotics, Arthroplasty device infections and Sore throat and Acute rheumatic fever (2019) [Principles of sexually transmitted infection management](#), Therapeutic Guidelines, accessed 29 March 2022.
- 4 International Union Against Sexually Transmitted Infections (2021) [International Union Against Sexually Transmitted Infections \(IUSTI\) Treatment Guidelines](#), Treatment Guidelines (Europe), accessed 20 May 2022.
- 5 Martin DH (2021) [Mycoplasma genitalium infection in males and females](#), UpToDate, accessed 18 January 2022.
- 6 Melbourne Sexual Health Centre (2021) [Mycoplasma genitalium treatment guidelines](#), Treatment Guidelines, accessed 20 May 2022.
- 7 Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM and Bolan GA (2021) [Sexually Transmitted Infections Treatment Guidelines, 2021](#), Morbidity and Mortality Weekly Report: Recommendations and Reports Vol 70(4), accessed 20 May 2022.

Gynaecology

Breasts

Breast examination

Summary of changes

- Minor changes for clarity

Primary references

- 1 Cancer Australia (2015) [Early detection of breast cancer](#), Position Statement, accessed 1 April 2022.
- 2 Elmore JG and Lee CI (2020) [Screening for breast cancer: Evidence for effectiveness and harms](#), UpToDate, accessed 30 March 2022.

Breast cancer — screening

Summary of changes

Addition: Definition of high risk 'known predisposing gene mutation in family'

Other: Replaced FRA-BOC with i-prevent (online tools available to assess breast cancer)

Primary references

- 1 Cancer Australia (2015) [Early detection of breast cancer](#), Position Statement, accessed 1 April 2022.
- 2 Cancer Institute NSW (2015) [Breast cancer - referring to Genetics](#), eviQ, accessed 1 January 2022.

- 3 Elmore GE and Lee CI (2021) [Screening for breast cancer: Strategies and recommendations](#), UpToDate, accessed 11 January 2022.

Indigenous/remote context references

- 1 Tapia KA, Garvey G, Mc Entee M, Rickard M and Brennan P (2017) 'Breast Cancer in Australian Indigenous Women: Incidence, Mortality, and Risk Factors', *Asian Pacific Journal of Cancer Prevention*, 18(4):873-884, doi:10.22034/APJCP.2017.18.4.873

Breast problems

Summary of changes

- Biopsy rather than FAN biopsy

Primary references

- 1 Cancer Australia (2021) [The investigation of a new breast symptom: a guide for General Practitioners](#), accessed 30 March 2022.
- 2 Cancer Council Victoria and Department of Health Victoria (2021) [Optimal Care Pathway for People with Breast Cancer, 2nd Edition](#), Cancer Council Victoria, Melbourne, accessed 22 September 2022.

Screening for and preventing cervical and vaginal cancer

Genital examination — female

Summary of changes

Addition

- In asymptomatic patients, a self-collected or practitioner-collected swab for NAAT is sufficient, culture is not required unless symptomatic or discharge is present
- First void urine only used if woman refuses self-obtained lower vaginal (SOLV) swab

Deletion

- Speculum examination section (as trained clinicians only should be doing this and they will know how to do it, having it in the protocol may encourage untrained clinicians to give it a try)

Primary references

- 1 Australia Government Department of Health (2022) [Understanding the National Cervical Screening Program Management Pathway: A Guide for Healthcare Providers](#), accessed 22 September 2022.
- 2 Cancer Council Australia Clinical Guidelines Working Party (2021) [Important changes to the National Cervical Screening Program's Clinical Guidelines pathway for women at intermediate risk](#), accessed 11 January 2022.

Indigenous/remote context references

- 1 Government of Western Australia Department of Health (2020) [Silver Book: STI screening recommendations for priority populations](#), accessed 16 April 2021.

Vaginal vault screening

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australia Government Department of Health (2022) [Understanding the National Cervical Screening Program Management Pathway: A Guide for Healthcare Providers](#), accessed 22 September 2022.
- 2 Cancer Council Australia Clinical Guidelines Working Party (2021) [Important changes to the National Cervical Screening Program's Clinical Guidelines pathway for women at intermediate risk](#), accessed 11 January 2022.

Cervical cancer prevention and screening

Summary of changes

- **Important change to screening pathway:** Updated flowchart, for women who are not 16/18 positive, they are no longer referred for colposcopy on the 2nd positive test

Primary references

- 1 Australia Government Department of Health (2022) [Understanding the National Cervical Screening Program Management Pathway: A Guide for Healthcare Providers](#), accessed 22 September 2022.
- 2 Australian Institute of Health and Welfare (2019) [National Cervical Screening Program monitoring report 2019](#), Cancer series no. 125, AIHW, Canberra, accessed 11 January 2022.
- 3 Cancer Council Australia Clinical Guidelines Working Party (2021) [Important changes to the National Cervical Screening Program's Clinical Guidelines pathway for women at intermediate risk](#), accessed 11 January 2022.

Women's health

Abnormal vaginal bleeding in non-pregnant women

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australia Government Department of Health (2022) [Understanding the National Cervical Screening Program Management Pathway: A Guide for Healthcare Providers](#), accessed 22 September 2022.
- 2 Australian Commission on Safety and Quality in Health Care (2017) [Heavy menstrual bleeding clinical care standard](#), Clinical Care Standards, accessed 1 April 2022.
- 3 Australian Commission on Safety and Quality in Health Care (2018) [Heavy menstrual bleeding: The case for improvement](#), Clinical Care Standards, accessed 1 April 2022.
- 4 Cancer Council Australia Clinical Guidelines Working Party (2021) [Important changes to the National Cervical Screening Program's Clinical Guidelines pathway for women at intermediate risk](#), accessed 11 January 2022.

Infertility

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australasian Diabetes in Pregnancy Society (2014) [ADIPS Consensus Guidelines for the Testing and Diagnosis of Hyperglycaemia in Pregnancy in Australia and New Zealand](#), accessed 21 April 2022.
- 2 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 3 Fields E, Chard J, James D, Treasure T and Guideline Development Group (2013) 'Fertility (update): summary of NICE guidance', *The BMJ*, 346:f650, doi:10.1136/bmj.f650
- 4 International PCOS Network (2018) [International evidence-based guideline for the assessment and management of polycystic ovary syndrome](#), accessed 21 April 2022.
- 5 National Institute for Health and Care Excellence (2017) [Fertility problems: assessment and treatment \[CG156\]](#), NICE Clinical Guidelines, accessed 2022 April 21.

Polycystic ovary syndrome

Summary of changes

Deletion: Section on prevention of diabetes and CVR as redundant information

Primary references

- 1 International PCOS Network (2018) 'Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome', *Human Reproduction*, 33(9):1602-1618, doi:10.1093/humrep/dey256
- 2 National Health and Medical Research Council, Centre for Research Excellence in PCOS and the Australian PCOS Alliance (2018) [International evidence-based guideline for the assessment and management of polycystic ovary syndrome](#), Monash university, Melbourne, accessed 22 September 2022.

Menopause

Summary of changes

- Updates to terminology, more medical consults (rather than recommending tests or treatments) specific treatments, Menopause Hormonal Therapy (MHT) risks

Primary references

- 1 Australian Menopause Society (2018) [Complementary medicine options for menopausal symptoms](#), accessed 11 January 2022.
- 2 Magraith K and Stuckey B (2019) 'Making choices at menopause', *Australian Journal of General Practice*, 48(7):457-462, doi:10.31128/AJGP-02-19-4851
- 3 North American Menopause Society (2018) 'The 2017 hormone therapy position statement of The North American Menopause Society', *Menopause*, 25(11):1362-1387, doi:10.1097/GME.0000000000001241
- 4 Vinogradova Y, Coupland C and Hippisley-Cox J (2020) 'Use of hormone replacement therapy and risk of breast cancer: nested case-control studies using the QResearch and CPRD databases', *The BMJ*, 371:m3873, doi:10.1136/bmj.m3873

Vulval problems

Summary of changes

Medicines

- Updated antibiotics for Bartholin's cyst
 - From ceftriaxone and azithromycin then amoxicillin-clavulanic acid
 - To amoxicillin-clavulanic acid and doxycycline

Other

- Clarified description of lumps and Bartholin's cyst

Primary references

- 1 Chen KT (2021) [Bartholin gland masses: Diagnosis and management in UpToDate](#), UpToDate, accessed 14 September 2021.
- 2 Edwards SK, Bates CM, Lewis F, Sethi G and Grover D (2015) 'UK national guideline on the management of vulval conditions', *International Journal for STD & AIDS*, 26(9):611-24, doi:10.1177/0956462414554271

Urinary incontinence

Summary of changes

Addition

- To obstetric history: BW, forceps, OASI
- To do moderate exercise

Deletion

- Urodynamic studies

Primary references

- 1 Abrams P, Cardozo L, Wagg A and Wein A (2017) [Incontinence, 6th Edition](#), International Continence Society, Bristol, accessed 23 September 2022.
- 2 National Institute for Health and Care Excellence (2019) [Urinary incontinence and pelvic organ prolapse in women: management \[NG123\]](#), NICE Clinical Guidelines, accessed 20 May 2022.

Pelvic floor exercises

Summary of changes

Addition: Clarification in how to teach women to do pelvic floor muscle exercises

Other: Resources added in languages and continence videos

Primary references

- 1 Abrams P, Cardozo L, Wagg A and Wein A (2017) [Incontinence, 6th Edition](#), International Continence Society, Bristol, accessed 23 September 2022.
- 2 National Institute for Health and Care Excellence (2019) [Urinary incontinence and pelvic organ prolapse in women: management \[NG123\]](#), NICE Clinical Guidelines, accessed 20 May 2022.

- Wallace SL, Miller LD and Mishra K (2019) 'Pelvic floor physical therapy in the treatment of pelvic floor dysfunction in women', *Current Opinion in Obstetrics and Gynecology*, 31(6):485-493, doi:10.1097/GCO.0000000000000584

Female catheterisation

Summary of changes

Addition: Positioning if obese, other tips and clarifications

Primary references

- Dougherty JM and Rawla P (2020) Female Urinary Retention, StatPearls Publishing, Treasure Island, accessed 11 January 2022.
- Halbgewachs C and Domes T (2015) 'Postobstructive diuresis', *Canadian Family Physician*, 61(2):137-42.
- Schaeffer AJ (2021) [Placement and management of urinary bladder catheters in adults](#), UpToDate, accessed 11 January 2022.

Contraception

Contraceptives — names and abbreviations

Summary of changes

- Divided table into hormones, emergency contraception, long acting, oral; updated common names and common brand names

Primary references

- Faculty of Sexual and Reproductive Healthcare of the Royal College of the Obstetricians and Gynaecologists (n.d.) [Faculty of Sexual and Reproductive Healthcare \(FSRH\) Standards and Guidance](#), accessed 1 April 2022.
- Therapeutic Guidelines Expert Groups (n.d.) [Sexual and Reproductive Health Guidelines](#), Therapeutic Guidelines, accessed 30 March 2022.

Contraception — general principles

Summary of changes

Addition: Clarified and updated list of risk factors for clots (removed abnormal blood fats)

Medicines

- List of medicines that affect contraceptives
- Removed Depo from under LARC (not a LARC)
- Updated contraception effectiveness (percentages)
- Added to list of medicines that affect contraceptives in *Best contraceptive choices table*

Primary references

- Committee on Practice Bulletins-Gynecology, Long-Acting Reversible Contraception Work Group (2017) 'Practice Bulletin No. 186: Long-Acting Reversible Contraception: Implants and Intrauterine Devices', *Obstetrics & Gynecology*, 130(5):e251-e269, doi:10.1097/AOG.0000000000002400

- 2 Faculty of Sexual and Reproductive Healthcare of the Royal College of Obstetrics and Gynaecologists (2019) [Clinical Guidance: Drug Interactions with Hormonal Contraception](#), Standards and Guidelines, accessed 30 March 2022.
- 3 Faculty of Sexual and Reproductive Healthcare of the Royal College of Obstetrics and Gynaecologists (2016) [UK Medical Eligibility Criteria for Contraceptive Use \(UKMEC\)](#), Standards and Guidelines, accessed 30 March 2022.
- 4 Family Planning Alliance Australia (2020) [Efficacy of contraceptive methods: How effective is my contraceptive method?](#), accessed 30 March 2022.
- 5 Family Planning Alliance Australia (n.d.) [Long-Acting Reversible Contraception \(LARC\) Resources](#), accessed 4 April 2022.
- 6 Harvey C, McNamee K, Bateson D and Stewart M (2019) 'An updated guide to contraception Part 2: Long-acting reversible methods', *Medicine today*, 19(11):20-23.
- 7 Therapeutic Guidelines Expert Groups (n.d.) [Sexual and Reproductive Health Guidelines](#), Therapeutic Guidelines, accessed 30 March 2022.

Emergency contraceptive pill (ECP)

Summary of changes

Addition: Added information regarding effectiveness if overweight or obese

Other: Improved accuracy of information concerning timing, quick start, vomiting, breastmilk, anti-epileptic medicine

Primary references

- 1 Faculty of Sexual and Reproductive Healthcare of the Royal College of the Obstetricians and Gynaecologists (n.d.) [Faculty of Sexual and Reproductive Healthcare \(FSRH\) Standards and Guidance](#), accessed 1 April 2022.
- 2 Therapeutic Guidelines Expert Groups (n.d.) [Sexual and Reproductive Health Guidelines](#), Therapeutic Guidelines, accessed 30 March 2022.

Barrier contraception

Summary of changes

Addition: Warnings about oil-based lubricant and removal of diaphragm (timing)

Other: Updated rates of effectiveness, updated terms

Primary references

- 1 Faculty of Sexual and Reproductive Healthcare of the Royal College of the Obstetricians and Gynaecologists (n.d.) [Faculty of Sexual and Reproductive Healthcare \(FSRH\) Standards and Guidance](#), accessed 1 April 2022.
- 2 Family Planning Alliance Australia (2020) [Efficacy of contraceptive methods: How effective is my contraceptive method?](#), accessed 30 March 2022.
- 3 Therapeutic Guidelines Expert Groups (n.d.) [Sexual and Reproductive Health Guidelines](#), Therapeutic Guidelines, accessed 30 March 2022.

Contraceptive pills and vaginal ring

Summary of changes

- Updates to effectiveness, side-effects, contraindications

- More accuracy around descriptions

Primary references

- 1 Faculty of Sexual and Reproductive Healthcare of the Royal College of the Obstetricians and Gynaecologists (2020) [Combined Hormonal Contraception](#), FSRH Guideline, accessed 1 April 2022.
- 2 Faculty of Sexual and Reproductive Healthcare of the Royal College of the Obstetricians and Gynaecologists (n.d.) [Faculty of Sexual and Reproductive Healthcare \(FSRH\) Standards and Guidance](#), accessed 1 April 2022.
- 3 Therapeutic Guidelines Expert Groups (n.d.) [Sexual and Reproductive Health Guidelines](#), Therapeutic Guidelines, accessed 30 March 2022.

Long-acting reversible contraception (LARC)

Summary of changes

Addition

- Concerns if considering giving ENG to young girls
- Added IUD not needing removal if patient responding to treatment for infection

Deletion

- Upper thigh or lower abdomen as option for ENG

Medicines

- Depo separated from protocol (not a LARC)

Other

- Updated contraindications, risks, side effects and effectiveness throughout

Primary references

- 1 Faculty of Sexual and Reproductive Healthcare of the Royal College of Obstetrics and Gynaecologists (2016) [UK Medical Eligibility Criteria for Contraceptive Use \(UKMEC\)](#), Standards and Guidelines, accessed 30 March 2022.
- 2 Family Planning Alliance Australia (2015) [Placement of Implanon NXT at Alternative Sites](#), Position Statement, accessed 21 April 2022.
- 3 Family Planning Alliance Australia (n.d.) [Guidance for management of troublesome vaginal bleeding with progestogen-only long-acting reversible contraception \(LARC\)](#), accessed 21 April 2022.
- 4 Therapeutic Guidelines Expert Groups (n.d.) [Sexual and Reproductive Health Guidelines](#), Therapeutic Guidelines, accessed 30 March 2022.

Permanent contraception

Summary of changes

- Minor changes for clarity

Primary references

- 1 Faculty of Sexual & Reproductive Healthcare (2014) [Male and Female Sterilisation Summary of Recommendations](#), Faculty of Sexual & Reproductive Healthcare Clinical Guideline, accessed 11 January 2022.

Reference section

Clinical observations

Summary of changes

- Separated adult and children BMI and weight/growth measurements for clarity
- All measurements for children <2y should be separate - BMI is not used in this age group
- Removal of z-scores
- Added section on waist for height
- Use of RCH physiological values for heart rate, BP and RR

Primary references

- 1 American Heart Association (2015) 'Part 12: Pediatric Advanced Life Support: 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care', *Circulation*, 132(18 Suppl 2):S526–S542, doi:10.1161/CIR.0000000000000266
- 2 Ataş Berksoy E, Bağ Ö, Yazici S and Çelik T (2018) 'Use of noncontact infrared thermography to measure temperature in children in a triage room', *Medicine (Baltimore)*, 97(5):e9737, doi:10.1097/MD.00000000000009737
- 3 Australian Commission on Safety and Quality in Health Care (2020) [Recognising and Responding to Acute Deterioration Standard](#), accessed 11 January 2022.
- 4 Australian Institute of Health and Welfare (2020) [Overweight and obesity: an interactive insight](#), AIHW, Canberra, accessed 11 January 2022.
- 5 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 9.2.7 – First aid management of anaphylaxis](#), The ARC Guidelines, 2022 accessed 11 January.
- 6 Bharti P, Chauhan M and Ahmed K (2017) 'Comparison of rectal, infra red tympanic and infra red skin temperature in term neonates', *International Archives of Integrated Medicine*, 3:43-49.
- 7 Cole TJ and Lobstein T (2012) 'Extended international (IOTF) body mass index cut-offs for thinness, overweight and obesity', *Pediatric Obesity*, 7(4):284-294, doi:10.1111/j.2047-6310.2012.00064.x
- 8 Foster M (2019) Weight estimation guidelines – Part 1, Don't Forget the Bubbles, accessed 18 September 2022 doi:10.31440/DFTB.18165
- 9 Lobar Cancelier AC, Trevisol D and Schuelter-Trevisol F (2018) 'Waist-To-Height Ratio as a Screening Tool for Childhood Obesity: A Systematic Literature Review', *Annals of Pediatrics and Child Health*, 6(1):1141.
- 10 Mogensen CB, Wittenhoff L, Fruerhøj G and Hansen S (2018) 'Forehead or ear temperature measurement cannot replace rectal measurements, except for screening purposes', *BMC Pediatrics*, 18(1):15, doi:10.1186/s12887-018-0994-1

- 11 National Health and Medical Research Council (2013) [Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia](#), accessed 18 January 2022.
- 12 Paes BF, Vermeulen K, Brohet RM, van der Ploeg T and de Winter JP (2010) 'Accuracy of tympanic and infrared skin thermometers in children', *Archives of Disease in Childhood*, 95(12):974-8, doi:10.1136/adc.2010.185801
- 13 Safer Care Victoria (2018) [Blood pressure disorders](#), Neonatal eHandbook, accessed 22 September 2022.
- 14 The Royal Children's Hospital Melbourne (2020) [Acceptable ranges for physiological variables](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 15 The Royal Children's Hospital Melbourne (2017) [Hypertension](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 16 van den Bruel A, Verbakel J, Wang K, Fleming S, Holtman G, Glogowska M, Morris E, Edwards G, Abakar Ismail F, Curtis K, Goetz J, Barnes G, Slivkova R, Nesbitt C, Aslam S, Swift E, Williams H and Hayward G (2020) 'Non-contact infrared thermometers compared with current approaches in primary care for children aged 5 years and under: a method comparison study', *Health Technology Assessment*, 24(53):1-28, doi:10.3310/hta24530

Antibiotic and other medicines doses tables

Summary of changes

- Estimated weight used for calculation are from AMH and Children's Dosing Companion
- Background to the values AMH has in its table:
 - The estimates are derived from two growth charts – the World Health Organization (WHO) 2006 for children aged 0–5 years, and the US Centers for Disease Control and Prevention (CDC) 2000 for children >5 years
 - Many tables have separate values for boys and girls; as we wanted a simple table, we took an average of those values for any given age rather than having a value for both sexes – remember this is just an estimate anyway
 - The US CDC has adopted WHO for children 0–2 years but use their own 2000 charts for 2–20 years (WHO are based on more data points in the early months as opposed to a smoothing of the curve by the CDC, so it's believed WHO is more accurate)
 - As AMH was using the WHO charts for younger ages, we used their chart for the whole 0–5 years age group for which they had data, and switched to the CDC for those >5 years

Primary references

- 1 Buckley N (Editor) (2021) *Australian Medicines Handbook*, AMH Pty Ltd, Adelaide.
- 2 Expert Groups for Antibiotic, version 16 (2021) [Antibiotic](#), Therapeutic Guidelines, accessed 21 May 2021.
- 3 Society of Hospital Pharmacists of Australia (2020) *Australian Injectable Drugs Handbook, 8th Edition*, Society of Hospital Pharmacists of Australia, Collingwood.

CLINICAL PROCEDURES MANUAL

Working in remote clinics

Cultural safety

Summary of changes

- Minor changes for clarity

Primary references

- 1 Queensland Government Cultural Capability Team (2015) [Communicating effectively with Aboriginal and Torres Strait Islander people](#), accessed 6 October 2022.

Travelling in remote areas

Summary of changes

- Reduced vehicle equipment
- Reference to OHS organisation policy

Primary references

- 1 Austroads (2019) [Vehicles as a Workplace: Work Health and Safety Guide](#), National Guide, accessed 11 January 2022.
- 2 Northern Territory Government (2020) [Safe Driving Guidelines for Workplaces](#), accessed 6 October 2022.

Consult by telephone, satellite phone, or radio

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2010) [The OSSIE Guide to Clinical Handover Improvement](#), ACSQHC, Sydney, accessed 6 October 2022.

Evacuations

Summary of changes

- Simplification of procedure for clarity
- Add section for bariatric patients

Primary references

- 1 New South Wales Health (2018) [Management of Patients with Bariatric Needs](#), Work Health and Safety, accessed 6 October 2022.
- 2 Northern Territory Government (2021) [Approved child restraints](#), Child safety, accessed 6 October 2022.

Infection control

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Government Department of Health (2020) [Coronavirus \(COVID-19\) – putting on and taking off personal protective equipment – posters](#), accessed 20 January 2022.
- 2 National Health and Medical Research Council (2019) [Australian guidelines for the prevention and control of infection in healthcare](#), Commonwealth of Australia, Canberra, accessed 6 October 2022.
- 3 Victoria Department of Health (2021) [Infection control - standard and transmission-based precautions](#), accessed 11 January 2022.
- 4 World Health Organization (2007) [Standard precautions in health care](#), Infection Control, accessed 20 April 2022.

Clinical assessment and management

Clinical assessment of adults

Summary of changes

- Reformatting of the procedure to integrate the RAN model of consult

Primary references

- 1 Lenthall S, Knight K, Foxley S, Gordon V, Ivanhoe T and Aitken R (2015) 'The remote area nurse model of consultation', *International Journal of Advanced Nursing Studies*, 4(2):149-152, doi:10.14419/ijans.v4i2.4963
- 2 Northern Territory Health (2015) [24 Hour Custody Health Assessment](#), NT Watch House Nursing Procedure, accessed 11 January 2022.
- 3 Royal Australian College of General Practitioners (2019) [Custodial health in Australia: Tips for providing healthcare to people in prison](#), RACGP, East Melbourne, accessed 6 October 2022.

Clinical assessment of children

Summary of changes

- Restructured protocol to add clarity including emergency X-referencing
- BP level deleted and X-reference to clinical measurement protocol

Primary references

- 1 Government of Western Australia (2019) [The Purple Book 2017 \(Personal Health Record\)](#), Community Child Health Program, accessed 6 October 2022.
- 2 Queensland Health, Royal Flying Doctor Service (Queensland Section) and Apunipima Cape York Health Council (2020) [Chronic Conditions Manual: Prevention and Management of Chronic Conditions in Rural and Remote Australia, 2nd edition](#), The Rural and Remote Clinical Support Unit, Torres and Cape Hospital and Health Service, Cairns, accessed 6 October 2022.
- 3 Western Australia Country Health Service, Government of Western Australia (2021) [Enhanced Child Health Schedule Guideline](#), WACHS HealthPoint Policies, accessed 6 October 2022.

Clinical measurements

Summary of changes

- Separated adult and children BMI and weight/growth measurements for clarity
- All measurements for children <2y should be separate - BMI is not used in this age group
- Removal of z-scores
- Added section on waist for height
- Use of RCH physiological values for heart rate, BP and RR

Primary references

- 1 American Heart Association (2015) 'Part 12: Pediatric Advanced Life Support: 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care', *Circulation*, 132(18 Suppl 2):S526–S542, doi:10.1161/CIR.0000000000000266
- 2 Ataş Berksoy E, Bağ Ö, Yazici S and Çelik T (2018) 'Use of noncontact infrared thermography to measure temperature in children in a triage room', *Medicine (Baltimore)*, 97(5):e9737, doi:10.1097/MD.00000000000009737
- 3 Australian Commission on Safety and Quality in Health Care (2020) [Recognising and Responding to Acute Deterioration Standard](#), accessed 11 January 2022.
- 4 Australian Institute of Health and Welfare (2020) [Overweight and obesity: an interactive insight](#), AIHW, Canberra, accessed 11 January 2022.
- 5 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 9.2.7 – First aid management of anaphylaxis](#), The ARC Guidelines, 2022 accessed 11 January.
- 6 Bharti P, Chauhan M and Ahmed K (2017) 'Comparison of rectal, infra red tympanic and infra red skin temperature in term neonates', *International Archives of Integrated Medicine*, 3:43-49.
- 7 Cole TJ and Lobstein T (2012) 'Extended international (IOTF) body mass index cut-offs for thinness, overweight and obesity', *Pediatric Obesity*, 7(4):284-294, doi:10.1111/j.2047-6310.2012.00064.x
- 8 Foster M (2019) Weight estimation guidelines – Part 1, Don't Forget the Bubbles, accessed 18 September 2022 doi:10.31440/DFTB.18165
- 9 Lobar Cancelier AC, Trevisol D and Schuelter-Trevisol F (2018) 'Waist-To-Height Ratio as a Screening Tool for Childhood Obesity: A Systematic Literature Review', *Annals of Pediatrics and Child Health*, 6(1):1141.
- 10 Mogensen CB, Wittenhoff L, Fruerhøj G and Hansen S (2018) 'Forehead or ear temperature measurement cannot replace rectal measurements, except for screening purposes', *BMC Pediatrics*, 18(1):15, doi:10.1186/s12887-018-0994-1
- 11 National Health and Medical Research Council (2013) [Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia](#), accessed 18 January 2022.
- 12 Paes BF, Vermeulen K, Brohet RM, van der Ploeg T and de Winter JP (2010) 'Accuracy of tympanic and infrared skin thermometers in children', *Archives of Disease in Childhood*, 95(12):974-8, doi:10.1136/adc.2010.185801

- 13 Safer Care Victoria (2018) [Blood pressure disorders](#), Neonatal eHandbook, accessed 22 September 2022.
- 14 The Royal Children's Hospital Melbourne (2020) [Acceptable ranges for physiological variables](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 15 The Royal Children's Hospital Melbourne (2017) [Hypertension](#), Clinical Practice Guidelines, accessed 11 January 2022.
- 16 van den Bruel A, Verbakel J, Wang K, Fleming S, Holtman G, Glogowska M, Morris E, Edwards G, Abakar Ismail F, Curtis K, Goetz J, Barnes G, Slivkova R, Nesbitt C, Aslam S, Swift E, Williams H and Hayward G (2020) 'Non-contact infrared thermometers compared with current approaches in primary care for children aged 5 years and under: a method comparison study', *Health Technology Assessment*, 24(53):1-28, doi:10.3310/hta24530

Trauma and emergencies

Preparation for trauma and emergencies

Summary of changes

- Protocol simplified and links to courses added

Primary references

- 1 Northern Territory Government Department of Health (30 September 2015) [Emergency Medical Kits PHC Remote Guideline](#), accessed 11 November 2022.
- 2 Queensland Government Office of Rural and Remote Health Clinical Support Unit (2022) [Emergency procedural kits checklist](#), Rural and Remote Emergency Services Standardisation Guideline, accessed 11 November 2022.
- 3 Queensland Health Office of Rural and Remote Health Clinical Support Unit (29 June 2022) [Rural and Remote Emergency Services Standardisation: Emergency Equipment](#), Queensland Health Guideline, accessed 11 November 2022.

Assessing trauma - primary and secondary survey

Summary of changes

- Significant change in guidelines advocating soft foam collars, minimal handling in spinal trauma force significant changes to the wording
- Addition of multiple-casualty event section and modified HAINES technique
- These challenges to trauma management dogma should be recognized in the application of spinal immobilization and methods of rolling the patient
- Jaw thrust has been kept as a life saving measure if chin lift is not effective despite not being included in ARC guidelines

Primary references

- 1 Agency for Clinical Innovation, New South Wales Government (2018) [Use of foam collars for cervical spine immobilisation: Initial management principles](#), accessed 6 October 2022.
- 2 American College of Surgeons (2018) *Student Course Manual: Advanced Trauma Life Support*, American College of Surgeons, Chicago.

- 3 Australian Institute for Disaster Resilience (2019) [Health and Disaster Management](#), Australian Disaster Resilience Handbook Collection, accessed 6 October 2022.
- 4 Clinical Quality & Patient Safety Unit, Queensland Ambulance Service (2021) [Trauma/Cervical collar](#), Clinical Practice Procedures, accessed 6 October 2022.
- 5 Maschmann C, Jeppesen E, Rubin MA and Barfod C (2019) 'New clinical guidelines on the spinal stabilisation of adult trauma patients - consensus and evidence based', *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 27(1):77, doi:10.1186/s13049-019-0655-x
- 6 NSW Health Emergency Management Unit (2017) [Mass Casualty Triage Pack - SMART Triage Pack](#), accessed 6 October 2022.
- 7 Queensland Ambulance Service (2021) [Digital Clinical Practice Manual](#), accessed 11 January 2022.
- 8 Rowell W (2014) 'When emergency nurses should drop the log-rolling manoeuvre', *Emergency Nurse*, 22(4):32-3, doi:10.7748/en.22.4.32.e1324
- 9 Ten Brinke JG, Groen SR, Dehnad M, Saltzherr TP, Hogervorst M and Goslings JC (2018) 'Prehospital care of spinal injuries: a historical quest for reasoning and evidence', *European Spine Journal*, 27(12):2999-3006, doi:10.1007/s00586-018-5762-2
- 10 The Royal Children's Hospital Melbourne (n.d.) [Primary and secondary survey](#), The Paediatric Trauma Manual, accessed 6 October 2022.

Application of a military tourniquet

Summary of changes

- Minor changes for clarity

Primary references

- 1 Goodwin T, Moore KN, Pasley JD, Troncoso R Jr, Levy MJ and Goolsby C (2019) 'From the battlefield to main street: Tourniquet acceptance, use, and translation from the military to civilian settings', *Journal of Trauma and Acute Care Surgery*, 87(1S Suppl 1):S35-S39, doi:10.1097/TA.0000000000002198
- 2 Kauvar DS, Dubick MA, Walters TJ and Kragh JF Jr (2018) 'Systematic review of prehospital tourniquet use in civilian limb trauma', *Journal of Trauma and Acute Care Surgery*, 84(5):819-825, doi:10.1097/TA.0000000000001826

Keeping airway open and assisting breathing

Summary of changes

- Finger sweep modified
- Giving oxygen: maximize oxygen delivery in shock
- Reduce oxygen flow rate for paediatric and for infant for manual ventilation
- Nasopharyngeal airway - emphasize to not direct the NPA upward
- Jaw thrust has been kept as a life saving measure if chin lift is not effective despite not being included in ARC guidelines

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2019) [ANZCOR Guideline 11.1 – Introduction to and Principles of In-hospital Resuscitation](#), The ARC Guidelines, accessed 11 January 2022.
- 2 Australian and New Zealand Committee on Resuscitation (2018) [ANZCOR Guideline 11.2 – Protocols for Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 3 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 2 – Managing an emergency](#), accessed 11 January 2022.
- 4 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 3 – Recognition and First Aid Management of the Unconscious Victim](#), accessed 11 January 2022.
- 5 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 4 – Airway](#), The ARC Guidelines, accessed 11 January 2022.
- 6 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 5 – Breathing](#), The ARC Guidelines, accessed 11 January 2022.
- 7 Laerdal Medical Corporation (2016) [Laerdal Silicone Resuscitators User Guide](#), accessed 6 October 2022.
- 8 Pilcher J and Beasley R (2015) 'Acute use of oxygen therapy', *Australian Prescriber*, 38(3):98-100.
- 9 St John Ambulance Western Australia (2017) [Bag Valve Mask Ventilation](#), Clinical Resources, accessed 11 January 2022.
- 10 The Royal Children's Hospital Melbourne (n.d.) [Airway procedures](#), The Paediatric Trauma Manual, accessed 6 October 2022.

Advanced airway management

Summary of changes

- Remove LMA's with inflatable cuffs from procedure
- Addition section: Cricothyroidotomy with trochar kit
- Patient positioning for Needle cricothyroidotomy, Cricothyroidotomy with trochar kit, Cricothyroidotomy with scalpel
- Advice on appropriate depth of insertion of tube through the cricoid - to avoid left lung collapse from inserting too deep
- Delete advise to apply disinfectant if time permits
- Direction as to where the operator should stand and best hand position for each of the three surgical airway techniques described: Needle cricoidotomy, Cricoidotomy with Trochar, and Cricoidotomy with scalpel

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2019) [ANZCOR Guideline 11.1 – Introduction to and Principles of In-hospital Resuscitation](#), The ARC Guidelines, accessed 11 January 2022.
- 2 Australian and New Zealand Committee on Resuscitation (2018) [ANZCOR Guideline 11.2 – Protocols for Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.

- 3 Cook T and Howes B (2011) 'Supraglottic airway devices: recent advances', *Continuing Education in Anaesthesia Critical Care & Pain*, 11(2):56–61, doi:10.1093/bjaceaccp/mkq058
- 4 Cook TM and Kelly FE (2015) 'Time to abandon the 'vintage' laryngeal mask airway and adopt second-generation supraglottic airway devices as first choice', *British Journal of Anaesthesia*, 115(4):497-9, doi:10.1093/bja/aev156
- 5 Coté CJ and Hartnick CJ (2009) 'Pediatric transtracheal and cricothyrotomy airway devices for emergency use: which are appropriate for infants and children?', *Paediatric Anaesthesia*, 19(Suppl 1):66-76, doi:10.1111/j.1460-9592.2009.02996.x
- 6 Difficult Airway Society, Intensive Care Society, Faculty of Intensive Care Medicine and Royal College of Anaesthetists (2018) 'Guidelines for the management of tracheal intubation in critically ill adults', *British Journal of Anaesthesia*, 120(2):323-352, doi:10.1016/j.bja.2017.10.021
- 7 Duggan LV, Ballantyne Scott B, Law JA, Morris IR, Murphy MF and Griesdale DE (2016) 'Transtracheal jet ventilation in the 'can't intubate can't oxygenate' emergency: a systematic review', *British Journal of Anaesthesia*, 117 (Suppl 1):i28-i38, doi:10.1093/bja/aew192
- 8 Price TM and McCoy EP (2019) 'Emergency front of neck access in airway management', *British Journal of Anaesthesia*, 19(8):246-253, doi:10.1016/j.bjae.2019.04.002

Chest procedures

Summary of changes

- Reduction of lignocaine dose to 10ml

Primary references

- 1 BTS Pleural Disease Guideline Group (2010) 'Pleural procedures and thoracic ultrasound: British Thoracic Society Pleural Disease Guideline 2010', *Thorax*, 65 (Suppl 2):ii61-76, doi:10.1136/thx.2010.137026

Immobilising the spine

Summary of changes

Addition: Instructions for use of soft foam collars, instructions for HAINES roll

Primary references

- 1 Agency for Clinical Innovation, New South Wales Government (2018) [Use of foam collars for cervical spine immobilisation: Initial management principles](#), accessed 6 October 2022.
- 2 Clinical Quality & Patient Safety Unit, Queensland Ambulance Service (2021) [Trauma/Cervical collar](#), Clinical Practice Procedures, accessed 6 October 2022.
- 3 Clinical Quality & Patient Safety Unit, Queensland Ambulance Service (2019) [Manual in-line stabilization](#), Clinical Practice Procedures, accessed 6 October 2022.
- 4 Hood N and Considine J (2015) 'Spinal immobilisation in pre-hospital and emergency care: A systematic review of the literature', *Australasian Emergency Nursing Journal*, 18(3):118-37, doi:10.1016/j.aenj.2015.03.003

- 5 Hyldmo PK, Vist GE, Feyling AC, Rognås L, Magnusson V, Sandberg M and Søreide E (2015) 'Is the supine position associated with loss of airway patency in unconscious trauma patients? A systematic review and meta-analysis', *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 23:50, doi:10.1186/s13049-015-0116-0
- 6 Maschmann C, Jeppesen E, Rubin MA and Barfod C (2019) 'New clinical guidelines on the spinal stabilisation of adult trauma patients - consensus and evidence based', *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 27(1):77, doi:10.1186/s13049-019-0655-x
- 7 Oteir AO, Smith K, Stoelwinder JU, Middleton J and Jennings PA (2015) 'Should suspected cervical spinal cord injury be immobilised?: a systematic review', *Injury*, 46(4):528-35, doi:10.1016/j.injury.2014.12.032
- 8 Wampler DA, Pineda C, Polk J, Kidd E, Leboeuf D, Flores M, Shown M, Kharod C, Stewart RM and Cooley C (2016) 'The long spine board does not reduce lateral motion during transport - a randomized healthy volunteer crossover trial', *American Journal of Emergency Medicine*, 34(4):717-21, doi:10.1016/j.ajem.2015.12.078

Immobilisation for a snake bite

Summary of changes

- Minor changes for clarity

Primary references

- 1 Isbister GK, Brown SG, Page CB, McCoubrie DL, Greene SL and Buckley NA (2013) 'Snakebite in Australia: a practical approach to diagnosis and treatment', *Medical Journal of Australia*, 199(11):763-8, doi:10.5694/mja12.11172

Giving fluids (rehydration)

Putting in nasogastric tube (NGT)

Summary of changes

- Minor changes for clarity

Primary references

- 1 Chun DH, Kim NY, Shin YS and Kim SH (2009) 'A randomized, clinical trial of frozen versus standard nasogastric tube placement', *World Journal of Surgery*, 33(9):1789-92, doi:10.1007/s00268-009-0144-x
- 2 McCall E (2019) [Nasogastric & nasojejunal tube care for an infant, child, or young person](#), Nursing Guidelines, accessed 6 October 2022.
- 3 Shlamovitz G (2020) [Nasogastric Intubation](#), Medscape Clinical Procedures, accessed 6 October 2022.
- 4 Sigmon DF and An J (2021) *Nasogastric tube*, StatPearls Publishing, Treasure Island.
- 5 The Royal Children's Hospital Melbourne (2021) [Nasogastric fluids](#), Clinical Practice Guidelines, accessed 6 October 2022.

Putting in IV cannula and starting a drip

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Commission on Safety and Quality in Health Care (2019) [Peripheral intravenous catheters: A review of guidelines and research](#), ACSQHC, Sydney, accessed 6 October 2022.
- 2 Australian Commission on Safety and Quality in Health Care (2021) [Management of Peripheral Intravenous Catheters](#), Clinical Care Standard, ACSQHC, Sydney, accessed 6 October 2022.
- 3 Gabriel B, Beecham and Gary Tackling (2021) *Peripheral Line Placement*, StatPearls Publishing, Treasure Island.
- 4 LeBlanc A and Cobbett S (2000) 'A 0.5% chlorhexidine gluconate in 70% isopropyl alcohol swab was more effective than 2 other methods for intravenous skin antisepsis', *Evidence-Based Nursing*, 3(119):9-14.
- 5 Shlamovitz GZ (2021) [Intravenous Cannulation](#), Medscape Clinical Procedures, accessed 6 October 2022.
- 6 The Royal Children's Hospital Melbourne (2018) [Peripheral intravenous \(IV\) device management](#), Clinical Guidelines (Nursing), accessed 6 October 2022.
- 7 World Health Organization (2015) [My 5 Moments for Hand Hygiene: Focus on caring for a patient with a peripheral venous catheter](#), accessed 6 October 2022.

Putting in butterfly IV needle

Summary of changes

- Change in antiseptic type, flushing made more accurate

Primary references

- 1 Australasian Society of Clinical Immunology and Allergy (2015) [Preparing the infusion set and inserting the Butterfly needle \(Springfuser\)](#), accessed 6 October 2022.
- 2 LeBlanc A and Cobbett S (2000) 'A 0.5% chlorhexidine gluconate in 70% isopropyl alcohol swab was more effective than 2 other methods for intravenous skin antisepsis', *Evidence-Based Nursing*, 3(119):9-14.
- 3 Queensland Health (2020) [Section 3: Selection and Preparation of the Site](#), Management of Subcutaneous Infusions in Palliative Care, accessed 6 October 2022.
- 4 The Royal Children's Hospital Melbourne (2018) [Peripheral intravenous \(IV\) device management](#), Clinical Guidelines (Nursing), accessed 6 October 2022.
- 5 World Health Organization (2015) [My 5 Moments for Hand Hygiene: Focus on caring for a patient with a peripheral venous catheter](#), accessed 6 October 2022.

Putting in intraosseous needle

Summary of changes

- Add instructions for alternative IO insertion locations
- Specification for tibia insertion site according different device used

- Addition of sites to avoid for IO

Primary references

- 1 Maffei F (2019) [Intraosseous Cannulation](#), Medscape, accessed 11 January 2022.
- 2 Nickson C (2020) [Intraosseous access](#), Critical Care Compendium, accessed 6 October 2022.
- 3 The Royal Children's Hospital Melbourne (2020) [Intraosseous access](#), Clinical Practice Guidelines, accessed 6 October 2022.
- 4 Veldhoen ES, de Vooght KM, Slieker MG, Versluys AB and Turner NM (2014) 'Analysis of bloodgas, electrolytes and glucose from intraosseous samples using an i-STAT(®) point-of-care analyser', *Resuscitation*, 85(3):359-63, doi:10.1016/j.resuscitation.2013.12.002

Pathology

Storing and transporting pathology specimens

Summary of changes

- Removed recommendation on not collecting sample if transport can't be done in reasonable time
- Removed recommendation to collect 6 hours prior transport if refrigeration required
- Addition of freezing process for frozen specimen that will be transported

Primary references

- 1 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.

Collecting blood samples

Summary of changes

- Move UEC content to above PTH to provide detail on spinning at commencement of subsection
- Modify last sentence to blood glucose testing to omit 'as soon as you can'
- Check to ensure procedure says to check with local lab (regarding tubes to use etc)

Primary references

- 1 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.
- 2 World Health Organization (2010) [WHO Guidelines on Drawing Blood: Best Practices in Phlebotomy](#), WHO, Geneva, accessed 18 January 2022.

Indigenous/remote context references

- 1 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) [National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, 3rd edition](#), RACGP, East Melbourne, accessed 4 October 2022.

Collecting blood from babies and children

Summary of changes

- Removed section referring to jugular vein

Primary references

- 1 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.

Testing for diabetes mellitus — blood glucose and HbA1c

Summary of changes

- Minor changes for clarity

Primary references

- 1 Peña AS, Curran JA, Fuery M, George C, Jefferies CA, Lobley K, Ludwig K, Maguire AM, Papadimos E, Peters A, Sellars F, Speight J, Titmuss A, Wilson D, Wong J, Worth C and Dahiya R (2020) 'Screening, assessment and management of type 2 diabetes mellitus in children and adolescents: Australasian Paediatric Endocrine Group guidelines', *Medical Journal of Australia*, 213(1):30-43, doi:10.5694/mja2.50666
- 2 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.
- 3 d'Emden MC, Shaw JE, Colman PG, Colagiuri S, Twigg SM, Jones GR, Goodall I, Schneider HG and Cheung NW (2012) 'The role of HbA1c in the diagnosis of diabetes mellitus in Australia', *Medical Journal of Australia*, 197(4):220-1, doi:10.5694/mja12.10988

Additional references

- 1 Bell K, Shaw JE, Maple-Brown L, Ferris W, Gray S, Murfet G, Flavel R, Maynard B, Ryrle H, Pritchard B, Freeman R and Gordon BA (2020) 'A position statement on screening and management of prediabetes in adults in primary care in Australia', *Diabetes Research and Clinical Practice*, 164:108188, doi:10.1016/j.diabres.2020.108188

Testing haemoglobin

Summary of changes

- Minor changes for clarity

Primary references

- 1 Kim SH, Lilot M, Murphy LS, Sidhu KS, Yu Z, Rinehart J and Cannesson M (2014) 'Accuracy of continuous noninvasive hemoglobin monitoring: a systematic review and meta-analysis', *Anesthesia & Analgesia*, 119(2):332-346, doi:0.1213/ANE.0000000000000272
- 2 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.

Collecting body fluids, viral cultures, skin specimens

Summary of changes

- Variation in kit utilized across jurisdiction

Primary references

- 1 New South Wales Health (2016) [Instructions for collecting sputum for tuberculosis](#), accessed 11 January 2022.
- 2 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.
- 3 Sullivan Nicolaides Pathology (2017) [Sputum collection](#), accessed 9 April 2022.

Collecting swabs

Summary of changes

- Minor changes for clarity

Primary references

- 1 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.

Collecting urine

Summary of changes

- Removed sections on bag sample collection and suprapubic puncture
- Additional tip to encourage flow of urine for babies

Primary references

- 1 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.

Collecting faeces and parasites

Summary of changes

- Minor changes for clarity

Primary references

- 1 Royal College of Pathologists of Australasia (2015) [RCPA Manual: Manual of use and interpretation of pathology tests](#), accessed 11 January 2022.
- 2 Royal College of Pathologists of Australasia (2015) [Faecal pathogen testing by PCR and the detection of *Dientamoeba fragilis* and *Blastocystis* species](#), accessed 11 January 2022.
- 3 Yalamanchili H, Dandachi D and Okhuysen PC (2018) 'Use and Interpretation of Enteropathogen Multiplex Nucleic Acid Amplification Tests in Patients With Suspected Infectious Diarrhea', *Gastroenterology and Hepatology*, 14(11):646-652.

Medicines

Managing a remote clinic dispensary

Summary of changes

- Minor changes for clarity

Primary references

- 1 Northern Territory Government Department of Health (2019) [Drug Storage Room Standards](#), Primary Health Care Remote Guideline, accessed 11 January 2022.

Storing and transporting vaccines and medicines

Summary of changes

- Add of Tagalert

Primary references

- 1 Australian Government Department of Health (2019) [National Vaccine Storage Guidelines – Strive for 5, 3rd edition](#), accessed 6 October 2022.
- 2 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 3 Northern Territory Department of Health (2019) [Cold Chain](#), Primary Health Care Remote Guideline, accessed 6 October 2022.

Giving medicines

Summary of changes

- Cross reference to other procedures to cover all route of administration

Primary references

- 1 Australian Government (2021) [Poisons Standard](#), Federal Register of Legislation, accessed 11 May 2021.
- 2 Australian Law Reform Commission, Australian Government (2014) [Informed consent to medical treatment](#), Equality, Capacity and Disability in Commonwealth Laws (DP 81), accessed 6 October 2022.
- 3 Elliott RA (2014) 'Appropriate use of dose administration aids', *Australian Prescriber*, 37(2):46-50.
- 4 Pharmaceutical Society of Australia (2019) [Dispensing Practice Guidelines](#), accessed 6 October 2022.
- 5 Pharmaceutical Society of Australia (2017) [Professional Practice Standards – Version 5 – June 2017](#), accessed 6 October 2022.

Giving injections

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Technical Advisory Group on Immunisation (2021) [Administration of vaccines](#), Australian Immunisation Handbook, Australian Government Department of Health, Canberra, accessed April 2022.
- 2 Greenway K (2014) 'Rituals in nursing: intramuscular injections', *Journal of Clinical Nursing*, 23(23-24):3583-8, doi:10.1111/jocn.12627

- 3 Ogston-Tuck S (2014) 'Intramuscular injection technique: an evidence-based approach', *Nursing Standards*, 29(4):52-9, doi:10.7748/ns.29.4.52.e9183
- 4 Palma S and Strohfus P (2013) 'Are IM injections IM in obese and overweight females? A study in injection technique', *Applied Nursing Research*, 26(4):e1-4, doi:10.1016/j.apnr.2013.09.002
- 5 Taddio A, McMurtry CM, Shah V, Riddell RP, Chambers CT, Noel M, MacDonald NE, Rogers J, Bucci LM, Mousmanis P, Lang E, Halperin SA, Bowles S, Halpert C, Ipp M, Asmundson GJG, Rieder MJ, Robson K, Uleryk E, Antony MM, Dubey V, Hanrahan A, Lockett D, Scott J and Bleeker EV (2015) 'Reducing pain during vaccine injections: clinical practice guideline', *Canadian Medical Association Journal*, 187(13):975-982, doi:10.1503/cmaj.150391
- 6 Wynaden D, Tohotoa J, Al Omari O, Happell B, Heslop K, Barr L and Sourinathan V (2015) 'Administering intramuscular injections: how does research translate into practice over time in the mental health setting?', *Nurse Education Today*, 35(4):620-4, doi:10.1016/j.nedt.2014.12.008

Giving medicines to babies and young children

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Technical Advisory Group on Immunisation (2020) [Australian Immunisation Handbook](#), Australian Government Department of Health, Canberra, accessed 30 April 2022.
- 2 NPS Medicinewise (2017) [How to Give Medicines to Children](#), accessed 6 October 2022.
- 3 Tse Y, Vasey N, Dua D, Oliver S, Emmet V, Pickering A and Lim E (2020) 'The KidzMed project: teaching children to swallow tablet medication', *Archives of Disease in Childhood*, 105(11):1105-1107, doi:10.1136/archdischild-2019-317512
- 4 van der Vossen AC, Al-Hassany L, Buljac S, Brugma JD, Vulto AG and Hanff LM (2019) 'Manipulation of oral medication for children by parents and nurses occurs frequently and is often not supported by instructions.', *Acta Paediatrica*, 108(8):1475-81, doi:10.1111/apa.14718

Giving IV medicines by injection

Summary of changes

- Minor changes for clarity

Primary references

- 1 Children's Health Queensland Hospital and Health Service (2022) [Peripheral Intravenous Cannula \(PIVC\) Taping](#), Guideline: Peripheral intravenous catheter (PIVC), accessed 6 October 2022.
- 2 Kuitunen S, Niittynen I, Airaksinen M and Holmström AR (2020) 'Systemic Causes of In-Hospital Intravenous Medication Errors: A Systematic Review', *Journal of Patient Safety*, 17(8):e1660-e1668, doi:10.1097/PTS.0000000000000632

- 3 Society of Hospital Pharmacists of Australia (2020) *Australian Injectable Drugs Handbook, 8th Edition*, Society of Hospital Pharmacists of Australia, Collingwood.
- 4 The Royal Children's Hospital Melbourne (2018) [Peripheral intravenous \(IV\) device management](#), Clinical Guidelines (Nursing), accessed 6 October 2022.
- 5 Westbrook J, Rob M, Woods A and Parry D (2011) 'Errors in the administration of intravenous medications in hospital and the role of correct procedures and nurse experience', *British Medical Journal Quality & Safety*, 20(12):1027-1034, doi:10.1136/bmjqs-2011-000089

Giving iron by IV infusion

Summary of changes

- Remove the requirement to use only infusion pump, Gravity feed infusion and slow IV push
- Addition of minimum administration time
- Emphasize surveillance and risk for extravasation

Primary references

- 1 Canning M and Grannell L (2020) 'A stain on iron therapy', *Australian Prescriber*, 51(43):160.
- 2 Crowley CM, McMahon G, Desmond J and Imcha M (2019) 'Skin staining following intravenous iron infusion', *BMJ Case Report*, 12(6), doi:10.1136/bcr-2018-229113
- 3 Harris RE, Garrick V and Curtis L (2018) 'Skin staining due to intravenous iron extravasation in a teenager with Crohn's disease', *Archives of Disease in Childhood*, 105(4):362.
- 4 NPS Medicinewise (2014) [Ferric carboxymaltose \(Ferinject\) for iron-deficiency anaemia](#), RADAR, accessed 6 October 2022.
- 5 National Blood Authority Australia (2016) [Module 6 – Neonatal and Paediatrics](#), Patient Blood Management Guidelines, accessed 6 October 2022.
- 6 Society of Hospital Pharmacists of Australia (2020) *Australian Injectable Drugs Handbook, 8th Edition*, Society of Hospital Pharmacists of Australia, Collingwood.
- 7 South Australian Maternal, Neonatal and Gynaecology Community of Practice (2016) [Iron infusion](#), SA Perinatal Practice Guidelines, accessed 31 March 2022.

Giving oxygen

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2016) [ANZCOR Guideline 11.6.1 – Targeted oxygen therapy in Adult Advanced Life Support](#), The ARC Guidelines, accessed 11 January 2022.
- 2 BOC Healthcare (2015) [Medical Gases: Cylinder identification pocket guide](#), accessed 6 October 2022.

- 3 Pilcher J and Beasley R (2015) 'Acute use of oxygen therapy', *Australian Prescriber*, 38(3):98-100.
- 4 The Royal Children's Hospital Melbourne (2017) [Oxygen delivery](#), Clinical Guidelines (Nursing), accessed 6 October 2022.

Calculating medicine doses and drip rates

Summary of changes

- Minor changes for clarity

Primary references

- 1 Wright K and Shepherd E (2017) 'How to calculate drug doses and infusion rates accurately', *Nursing Times*, 113(11):31-34.

Inhalation devices for respiratory medicines

Summary of changes

- Added nebuliser warning
- Updated breathing technique

Primary references

- 1 National Asthma Council Australia (2021) [COVID-19: Managing asthma during the COVID-19 \(SARS-CoV-2\) pandemic](#), Australian Asthma Handbook, accessed 11 January 2022.
- 2 National Asthma Council Australia (2018) [Inhaler technique for people with asthma or COPD](#), National Asthma Council Australia, Melbourne, accessed 6 October 2022.

Spacer devices for respiratory medicines

Summary of changes

- Updated to include the two different methods to use a spacer
 - (a) Single Breath Method
 - (b) Multiple Breaths (Tidal Breathing) for young children or during acute flare-ups

Primary references

- 1 Cates CJ, Welsh EJ and Rowe BH (2016) 'Holding chambers (spacers) versus nebulisers for beta-agonist treatment of acute asthma', *Cochrane Database of Systematic Reviews*, 9:CD000052, doi:10.1002/14651858.CD000052.pub3
- 2 National Asthma Council Australia (2018) [Inhaler technique for people with asthma or COPD](#), National Asthma Council Australia, Melbourne, accessed 6 October 2022.
- 3 National Asthma Council Australia (2020) [Inhaler technique: Device-specific checklists](#), accessed 6 October 2022.
- 4 National Asthma Council Australia (2016) [Spacer use and care](#), accessed 6 October 2022.

Skin

Skin examination

Summary of changes

- Clarified descriptions of skin conditions
- Emphasised cultural considerations
- Added acanthosis nigricans

Primary references

- 1 DermNet NZ (2008) [Examination of the skin](#), Principles of dermatological practice, accessed 7 October 2022.
- 2 Oxford Medical Education (2016) [Skin examination](#), Clinical examinations, accessed 7 October 2022.
- 3 Sinclair R, Meah N and Arasu A (2019) 'Skin checks in primary care', *Australian Journal of General Practice*, 48(9):614-619, doi:10.31128/AJGP-03-19-4887

Indigenous/remote context references

- 1 Green AC (2007) *A Handbook of Skin Conditions in Aboriginal Populations of Australia*, Blackwell Science Asia, Carlton South.

Cutting and draining an abscess

Summary of changes

- Minor changes for clarity

Primary references

- 1 Dumville JC, McFarlane E, Edwards P, Lipp A, Holmes A and Liu Z (2015) 'Preoperative skin antiseptics for preventing surgical wound infections after clean surgery', *Cochrane Database of Systematic Reviews*, 4:CD003949, doi:10.1002/14651858.CD003949.pub4
- 2 Emergency Care Institute, New South Wales Government (2020) [Surgical - Abscess \(superficial\)](#), accessed 7 October 2022.
- 3 Pain and Analgesia Expert Group (2020) [Local anaesthetics for acute pain management](#), Therapeutic Guidelines, accessed 5 October 2022.
- 4 Pastorino A and Tavarez MM (2020) *Incision and Drainage*, StatPearls Publishing, Treasure Island.
- 5 Queensland Health and the Royal Flying Doctor Service (Queensland Section) (2019) [Primary Care Manual Emergency, 10th edition](#), The Rural and Remote Clinical Support Unit, Torres and Cape Hospital and Health Service, accessed 11 January 2022.

Injuries — fingers

Summary of changes

- Minor changes for clarity

Primary references

- 1 Expert Group for Pain and Analgesia, version 7 (2020) [Pain and Analgesia](#), Therapeutic Guidelines, accessed 5 October 2022.

- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.
- 3 Rupert J, Honeycutt JD and Odom MR (2020) 'Foreign Bodies in the Skin: Evaluation and Management', *American Family Physician*, 101(12):740-747.

Injuries — fingernails and toenails

Summary of changes

- Minor changes for clarity

Primary references

- 1 Dulski A and Edwards CW (2021) *Paronychia*, StatPearls Publishing, Treasure Island.
- 2 Rerucha CM, Ewing JT, Oppenlander KE and Cowan WC (2019) 'Acute Hand Infections', *American Family Physician*, 99(4):228-236.
- 3 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.

Removing a tick

Summary of changes

- Examples of recommended agents for tick removal updated
- Added advice to grasp tick by it's mouth parts with tweezers

Primary references

- 1 Australia Government Department of Health (2015) [Preventing and treating tick bites](#), Communicable Disease Factsheets, accessed 11 January 2022.
- 2 Australian society of clinical immunology and allergy (2019) [Tick Allergy](#), accessed 7 October 2022.
- 3 British Columbia Centre for Disease Control (2016) [Tick Bites and Disease](#), HealthLinkBC Files, accessed 7 October 2022.
- 4 Taylor BWP, Ratchford A, van Nunen S and Burns B (2019) 'Tick killing in situ before removal to prevent allergic and anaphylactic reactions in humans: a cross-sectional study', *Asia Pacific Allergy*, 9(2):e15, doi:10.5415/apallergy.2019.9.e15

Wound management

Wound assessment

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Wound Management Association and the New Zealand Wound Care Society (2011) [Flow chart for assessment of venous leg ulcers](#), accessed 7 October 2022.
- 2 Coleman K and Neilsen G (2019) *Wound care: A practical guide for maintaining skin integrity*, Elsevier Health Sciences, Sydney.

- 3 European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance (2019) [Prevention and Treatment of Pressure Ulcers/Injuries: Quick Reference Guide](#), accessed 11 January 2022.
- 4 Swanson T, Asimus M and McGuinness B (2014) *Wound Management for the Advanced Practitioner*, IP Communications, Melbourne.
- 5 Wounds Australia (2016) [Standards for wound prevention and management, 3rd edition](#), Cambridge Media, Osborne Park, accessed 7 October 2022.

Wound dressings

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Wound Management Association and the New Zealand Wound Care Society (2011) [Flow chart for assessment of venous leg ulcers](#), accessed 7 October 2022.
- 2 European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance (2019) [Prevention and Treatment of Pressure Ulcers/Injuries: Quick Reference Guide](#), accessed 11 January 2022.
- 3 Swanson T, Asimus M and McGuinness B (2014) *Wound Management for the Advanced Practitioner*, IP Communications, Melbourne.
- 4 Wounds Australia (2016) [Standards for wound prevention and management, 3rd edition](#), Cambridge Media, Osborne Park, accessed 7 October 2022.

Examining and cleaning a wound before closing

Summary of changes

- Minor changes for clarity

Primary references

- 1 Kramer A, Dissemond J, Kim S, Willy C, Mayer D, Papke R, Tuchmann F and Assadian O (2017) 'Consensus on Wound Antiseptics Update 2018', *Skin Pharmacology and Physiology*, 31(1):28-58, doi:10.1159/000481545
- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.

Giving local anaesthetic before closing a wound

Summary of changes

- Addition of adrenaline to local anesthetics if bleeding wound

Primary references

- 1 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.

Closing a wound

Summary of changes

- Minor changes for clarity

Primary references

- 1 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.

Taking out sutures and staples

Summary of changes

- Minor changes for clarity

Primary references

- 1 Puri N and Talwar A (2009) 'The efficacy of silicone gel for the treatment of hypertrophic scars and keloids', *Journal of Cutaneous and Aesthetic Surgery*, 2(2):104-6, doi:10.4103/0974-2077.58527
- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.
- 3 The Royal Children's Hospital Melbourne (2005) [Scar Management](#), Occupational Therapy – Kids health information, accessed 7 October 2022.

Nerve and ring blocks

Summary of changes

Addition: Chlorhexidine for cleaning injection sites

Primary references

- 1 National Institute for Health and Care Excellence (2020) [Surgical site infections: prevention and treatment \[NG125\]](#), NICE Guidelines, accessed 7 October 2022.
- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.
- 3 Thomson CJ and Lalonde DH (2006) 'Randomized double-blind comparison of duration of anesthesia among three commonly used agents in digital nerve block', *Plastic and Reconstructive Surgery*, 118(2):429-32, doi:10.1097/01.prs.0000227632.43606.12

Eyes, ears, nose and mouth

Eyes

Checking near and distant vision

Summary of changes

Addition: Lower age limit for procedure (3 years and over)

Deletion: LEA chart

Primary references

- 1 Guimaraes S, Fernandes T, Costa P and Silva E (2018) 'Should tumbling E go out of date in amblyopia screening? Evidence from a population-based sample normative in children aged 3–4 years', *British Journal of Ophthalmology*, 102(6):761-766, doi:10.1136/bjophthalmol-2017-310691

Indigenous/remote context references

- 1 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) [National guide to a preventive health](#)

[assessment for Aboriginal and Torres Strait Islander people, 3rd edition](#), RACGP, East Melbourne, accessed 4 October 2022.

Eye procedures

Summary of changes

Addition: New section on retinal photography

Primary references

- 1 Elliott DB (2020) *Clinical Procedures in Primary Eye Care, 5th edition*, Elsevier Health Sciences, Netherlands.
- 2 Gervasio K and Peck T (2021) *The Wills Eye Manual: Office and emergency room diagnosis and treatment of eye disease, 8th edition*, Wolters Kluwer Health, United States.

Ears

Ear examination

Summary of changes

- Minor changes for clarity

Primary references

- 1 Garnett Passe and Rodney Williams Memorial Foundation (2019) [Aboriginal, Torres Strait Islander and Pacific Islander ear health manual](#), The Garnett Passe and Rodney Williams Memorial Foundation, Melbourne, accessed 7 October 2022.

Ear procedures

Summary of changes

- Minor changes for clarity

Primary references

- 1 Garnett Passe and Rodney Williams Memorial Foundation (2019) [Aboriginal, Torres Strait Islander and Pacific Islander ear health manual](#), The Garnett Passe and Rodney Williams Memorial Foundation, Melbourne, accessed 7 October 2022.

Nose

Nasal packing procedures

Summary of changes

- Deletion of instructions in the protocol for Mercocel and RapiRhino, replaced with "check the instructions and seek help if unsure"

Primary references

- 1 Alter H (2021) [Approach to the adult with epistaxis](#), UpToDate, accessed 11 January 2022.
- 2 Beck R, Sorge M, Schneider A and Dietz A (2018) 'Current Approaches to Epistaxis Treatment in Primary and Secondary Care', *Deutsches Ärzteblatt International*, 115(1-02):12-22, doi:10.3238/arztebl.2018.0012

- 3 Kravchik L, Jamal Z and Pester JM (2021) *Anterior Epistaxis Nasal Pack*, StatPearls Publishing, Treasure Island.
- 4 Pinder D (2020) [Epistaxis](#), British Medical Journal Best Practice, accessed 11 January 2022.
- 5 Tunkel DE, Anne S, Payne SC, Ishman SL, Rosenfeld RM, Abramson PJ, Alikhaani JD, Benoit MM, Bercovitz RS, Brown MD, Chernobilsky B, Feldstein DA, Hackell JM, Holbrook EH, Holdsworth SM, Lin KW, Lind MM, Poetker DM, Riley CA, Schneider JS, Seidman MD, Vadlamudi V, Valdez TA, Nnacheta LC and Monjur TM (2020) 'Clinical Practice Guideline: Nosebleed (Epistaxis) Executive Summary', *Otolaryngology–Head and Neck Surgery*, 162(1):8-25, doi:10.1177/0194599819889955
- 6 Womack JP, Kropa J and Jimenez Stabile M (2018) 'Epistaxis: Outpatient Management', *American Family Physician*, 98(4):240-245.

Mouth

Mouth, throat, teeth and gums examination

Summary of changes

Addition: New 'ask' section

Primary references

- 1 Bickley LS (2020) *Bates' Guide To Physical Examination and History Taking, 13th edition*, Wolters Kluwer Health, United States.

Protective dental procedures

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Research Centre for Population Oral Health (2020) 'Guidelines for use of fluorides in Australia: update 2019', *Australian Dental Journal*, 65(1):30-38, doi:10.1111/adj.12742
- 2 Clinical Excellence Queensland, Queensland Government (2021) [Fluoride Varnish](#), Queensland Health Guideline, accessed 7 October 2022.
- 3 Nguyen TM, Tonmukayakul U, Warren E, Cartwright S and Liew D (2020) 'A Markov cost-effective analysis of biannual fluoride varnish for preventing dental caries in permanent teeth over a 70-year time horizon', *Health Promotion Journal of Australia*, 31(2):177-183, doi:10.1002/hpja.283

Indigenous/remote context references

- 1 Lawrence HP, Binguis D, Douglas J, McKeown L, Switzer B, Figueiredo R and Laporte A (2008) 'A 2-year community-randomized controlled trial of fluoride varnish to prevent early childhood caries in Aboriginal children', *Community Dentistry and Oral Epidemiology*, 36(6):503-16, doi:10.1111/j.1600-0528.2008.00427.x
- 2 Roberts-Thomson KF, Slade GD, Baillie RS, Endean C, Simmons B, Leach AJ, Raye I and Morris PS (2010) 'A comprehensive approach to health promotion for the reduction of dental caries in remote Indigenous Australian children: a clustered randomised controlled trial', *International Journal of Dentistry*, 60(3, Suppl 2):245-9.

Emergency dental kit

Summary of changes

Addition: New temporary filling materials (chewing gum and blu tak)

Primary references

- 1 Expert Group for Oral and Dental, version 3 (2019) [Oral and Dental](#), Therapeutic Guidelines, accessed 11 January 2022.

Dental care procedures

Summary of changes

Addition: New materials for temporary fillings (chewing gum and blue tak)

Primary references

- 1 Expert Group for Oral and Dental, version 3 (2019) [Oral and Dental](#), Therapeutic Guidelines, accessed 11 January 2022.
- 2 International Association of Dental Traumatology (2020) [International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries](#), Dental Traumatology, accessed 7 October 2022.
- 3 Rushworth B and Kanatas A (2020) *Oxford Handbook of Clinical Dentistry, 7th Edition*, Oxford University Press, United Kingdom.
- 4 Wegenast S (2013) 'Observe the healing process', *British Dental Journal*, 214(5):217, doi:10.1038/sj.bdj.2013.226

Chest and abdomen

Chest

Lungs and respiratory system examination

Summary of changes

- Updated definitions and descriptions of lung/breath sounds, clarified asthma diagnosis, breathing function measurements

Primary references

- 1 National Asthma Council Australia (2021) [Spirometry training and tools](#), accessed 11 January 2022.
- 2 Walker HK, Hall WD and Hurst JW (1990) *Clinical Methods: The History, Physical, and Laboratory Examinations, 3rd edition*, Butterworths, Boston.

Chest physiotherapy

Summary of changes

- Postural drainage breathing exercises updated to 'Active Cycle of Breathing Technique'

Primary references

- 1 Lee AL, Burge AT and Holland AE (2017) 'Positive expiratory pressure therapy versus other airway clearance techniques for bronchiectasis', *Cochrane Database of Systematic Reviews*, 9:CD011699, doi:10.1002/14651858.CD011699.pub2

- 2 Main E and Denehy L (2016) *Cardiorespiratory Physiotherapy Adults and Paediatrics*, Churchill Livingstone, London.
- 3 Santos MD, Milross MA, McKenzie DK and Alison JA (2020) 'Bubble-positive expiratory pressure device and sputum clearance in bronchiectasis: A randomised cross-over study', *Physiotherapy Research International*, 25(3):e1836, doi:10.1002/pri.1836

Abdomen

Abdominal examination

Summary of changes

- Minor changes for clarity

Primary references

- 1 Felder S, Margel D, Murrell Z and Fleshner P (2014) 'Usefulness of bowel sound auscultation: a prospective evaluation', *Journal of Surgery Education*, 71(5):768-73, doi:10.1016/j.jsurg.2014.02.003
- 2 Talley NJ and O'Connor S (2017) *Talley and O'Connor's Clinical Examination*, Elsevier Health Sciences, Netherlands.

Rectal examination

Summary of changes

- Minor changes for clarity

Primary references

- 1 Murtagh J, Murtagh C, Coleman J and Rosenblatt J (2021) *Murtagh's General Practice, 8th Edition*, McGraw-Hill Education, Australia.

Male catheterisation

Summary of changes

- Minor changes for clarity

Primary references

- 1 Dougherty JM and Aeddula NR (2020) *Male Urinary Retention*, StatPearls Publishing, Treasure Island.
- 2 Marshall JR, Haber J and Josephson EB (2014) 'An evidence-based approach to emergency department management of acute urinary retention', *Emergency Medicine Practice*, 16(1):1-20.
- 3 Schaeffer AJ (2021) [Placement and management of urinary bladder catheters in adults](#), UpToDate, accessed 11 January 2022.
- 4 Shah A, Ellis G and Kucheria R (2015) [A guide for the assessment and management of post-obstructive diuresis](#), Urology News, 19(3) accessed 18 October 2022.

Reduction of a tight foreskin

Summary of changes

Addition: Section on compression technique

Deletion: Puncture technique and instructions for ring-block

Primary references

- 1 Burstein B and Paquin R (2017) 'Comparison of outcomes for pediatric paraphimosis reduction using topical anesthetic versus intravenous procedural sedation', *American Journal of Emergency Medicine*, 35(10):1391-1395, doi:10.1016/j.ajem.2017.04.015
- 2 The Royal Children's Hospital Melbourne (2018) [The Penis and Foreskin](#), Clinical Practice Guidelines, accessed 11 January 2022.

Condoms

Summary of changes

- Minor changes for clarity

Primary references

- 1 Family Planning Alliance Australia (n.d.) [Contraception choices](#), accessed 7 October 2022.
- 2 Therapeutic Guidelines Expert Groups (n.d.) [Sexual and Reproductive Health Guidelines](#), Therapeutic Guidelines, accessed 30 March 2022.

Continuous ambulatory peritoneal dialysis

Summary of changes

- Minor changes for clarity

Primary references

- 1 Brown EA, Blake PG, Boudville N, Davies S, de Arteaga J, Dong J, Finkelstein F, Foo M, Hurst H, Johnson DW, Johnson M, Liew A, Moraes T, Perl J, Shroff R, Teitelbaum I, Wang AY and Warady B (2020) 'International Society for Peritoneal Dialysis practice recommendations: Prescribing high-quality goal-directed peritoneal dialysis', *Peritoneal Dialysis International*, 40(3):244-253, doi:10.1177/0896860819895364

Musculoskeletal system

Broken bones — simple and compound fractures

Summary of changes

Deletion: Instruction to get urinalysis

Primary references

- 1 Casson C, Jones RE, Gee KM and Beres AL (2019) 'Does Microscopic Hematuria After Pediatric Blunt Trauma Indicate Clinically Significant Injury?', *Journal of Surgical Research*, 241:317-322, doi:10.1016/j.jss.2019.04.020
- 2 Children's Health Queensland Hospital and Health Service (2021) [Empiric Antimicrobial Guidelines for Paediatric Intensive Care Unit](#), accessed 11 January 2022.
- 3 Emergency Care Institute, New South Wales Government (n.d.) [Limb Injuries Nurse Management Guidelines](#), Nurse Delegated Emergency Care Nurse Management Guidelines, accessed 7 October 2022.
- 4 Emergency Care Institute, New South Wales Government (n.d.) [Orthopaedic / Musculoskeletal](#), accessed 7 October 2022.

- 5 Moustafa F, Loze C, Pereira B, Vaz MA, Caumon L, Perrier C and Schmidt J (2017) 'Assessment of urinary dipstick in patients admitted to an ED for blunt abdominal trauma', *American Journal of Emergency Medicine*, 35(4):628-631, doi:10.1016/j.ajem.2016.12.047
- 6 The Royal Children's Hospital Melbourne (n.d.) [Paediatric Fractures Guidelines](#), Clinical Practice Guidelines, accessed 7 October 2022.

Bandaging

Summary of changes

- Updated images/text for bandaging arm/leg to only cover wound rather than entire limb

Primary references

- 1 Australian and New Zealand Committee on Resuscitation (2021) [ANZCOR Guideline 9.1.1 – First aid management for bleeding](#), The ARC Guidelines, accessed 11 January 2022.
- 2 McRae R and Esser M (2008) *Practical fracture treatment, 5th edition*, Churchill Livingstone, United Kingdom.
- 3 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.
- 4 St John Ambulance Australia (2017) [Emergency First Aid, 4th edition](#), St John Ambulance Australia, Canberra, accessed 7 October 2022.

Slings

Summary of changes

- Minor changes for clarity

Primary references

- 1 McRae R and Esser M (2008) *Practical fracture treatment, 5th edition*, Churchill Livingstone, United Kingdom.
- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.
- 3 St John Ambulance Australia (2017) [Emergency First Aid, 4th edition](#), St John Ambulance Australia, Canberra, accessed 7 October 2022.

Splinting

Summary of changes

- Changed instructions and images for bandages in some situations

Primary references

- 1 McRae R and Esser M (2008) *Practical fracture treatment, 5th edition*, Churchill Livingstone, United Kingdom.
- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.
- 3 St John Ambulance Australia (2017) [Emergency First Aid, 4th edition](#), St John Ambulance Australia, Canberra, accessed 7 October 2022.

Plaster of Paris (POP) slabs

Summary of changes

- Minor changes for clarity

Primary references

- 1 Eiff MP and Hatch RL (2018) *Fracture Management for Primary Care and Emergency Medicine, 4th Edition*, Elsevier Health Sciences, Philadelphia.
- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.

Taking off a cast

Summary of changes

- Minor changes for clarity

Primary references

- 1 McRae R and Esser M (2008) *Practical fracture treatment, 5th edition*, Churchill Livingstone, United Kingdom.
- 2 Roberts JR (2018) *Roberts and Hedges' clinical procedures in emergency medicine and acute care*, Elsevier, Philadelphia.

Using crutches

Summary of changes

Addition: Instructions on changing direction and turning

Primary references

- 1 Safer Care Victoria (2019) [Using crutches](#), accessed 7 October 2022.

Reducing dislocated or pulled joints

Summary of changes

- Minor changes for clarity

Primary references

- 1 Joshi SV (2019) [Digit dislocation reduction](#), UpToDate, accessed 11 January 2022.
- 2 Moore BR and Bothner J (2021) [Radial head subluxation \(pulled elbow\): Evaluation and management](#), UpToDate, accessed 11 January 2022.
- 3 Moore BR and Bothner J (2019) [Recognition and initial management of patellar dislocations](#), UpToDate, accessed 11 January 2022.
- 4 Sherman SC (2020) [Shoulder dislocation and reduction](#), UpToDate, accessed 11 January 2022.

Joint aspirations and injections

Summary of changes

- Minor changes for clarity

Primary references

- 1 Roberts WN (2021) [Joint aspiration or injection in adults: Technique and indications](#), UpToDate, accessed 11 January 2022.

Stiff neck

Summary of changes

Deletion: Hold-relax procedure

Primary references

- 1 Ackland H and Cameron P (2012) 'Cervical spine - assessment following trauma', *Australian Family Physician*, 41(4):196-201.
- 2 Australian Physiotherapy Association (2017) [Clinical guide to safe manual therapy practice in the cervical spine](#), accessed 11 January 2022.
- 3 Department of Health, Government of Western Australia (2020) [Neck pain](#), PainHEALTH, accessed 11 January 2022.

Feet

Summary of changes

- Diabetic foot ulcers indexed to wound and soft tissues protocols

Primary references

- 1 Baker IDI Heart and Diabetes Institute, The George Institute for Global Health and Adelaide Health Technology Assessment (2011) [National Evidence-Based Guideline on Prevention, Identification and Management of Foot Complications in Diabetes](#), Baker IDI, Melbourne, accessed 7 October 2022.
- 2 International Working Group on the Diabetic Feet (2019) [IWGDF Guidelines on the prevention and management of diabetic foot disease](#), accessed 7 October 2022.
- 3 Zhang Q, Yi N, Liu S, Zheng H, Qiao X, Xiong Q, Liu X, Zhang S, Wen J, Ye H, Zhou L, Li Y, Hu R and Lu B (2018) 'Easier operation and similar power of 10 g monofilament test for screening diabetic peripheral neuropathy', *Journal of International Medical Research*, 46(8):3278-3284, doi:10.1177/0300060518775244

General topics

Disability

Summary of changes

- Added more information about NDIS

Primary references

- 1 World Health Organization (2018) [The international classification of functioning, disability and health \(ICF\)](#), accessed 7 October 2022.

Palliative care

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian and New Zealand Society of Palliative Medicine and Australasian Chapter of Palliative Medicine (2016) [Recommendations: Australian and New Zealand Society of Palliative Medicine & the Australasian Chapter of Palliative Medicine](#), accessed 7 October 2022.
- 2 Expert Group for Palliative Care, version 4 (2016) [Palliative care](#), Therapeutic Guidelines, accessed 11 January 2022.
- 3 Palliative Care Outcomes Collaboration (2020) [PCOC Assessment Tools](#), accessed 7 October 2022.
- 4 Tran M, Grant M, Clayton J and Rhee J (2018) 'Advance care decision making and planning', *Australian Journal of General Practice*, 47(11):753-757, doi:10.31128/AJGP-06-18-4613

Loss and grief

Summary of changes

- Minor changes for clarity

Primary references

- 1 CareSearch (2021) [Clinician Stress and Burnout](#), accessed 7 October 2022.
- 2 Expert Group for Palliative Care, version 4 (2016) [Loss, grief and bereavement](#), Therapeutic Guidelines, accessed 11 January 2022.
- 3 Palliative Care Aged Care Evidence (PalliAGED) (2019) [Bereavement](#), accessed 7 October 2022.
- 4 Shear MK, Reynolds CF, Simon NM and Zisook S (2020) [Grief and bereavement in adults: Management](#), UpToDate, accessed 11 January 2022.

Indigenous/remote context references

- 1 Queensland Health (2015) [Sad News, Sorry Business: Guidelines for caring for Aboriginal and Torres Strait Islander people through death and dying](#), accessed 7 October 2022.
- 2 Wynne-Jones M, Hillin A, Byers D, Stanley D, Edwige V and Brideson T (2016) [Aboriginal grief and loss: a review of the literature](#), *Australian Indigenous Health Bulletin*, 16(3) accessed 27 April 2022.

Management plan

Summary of changes

- Minor changes for clarity

Primary references

- 1 Caughey GE, Vitry AI, Ramsay EN, Gilbert AL, Shakib S, Ryan P, Esterman A, McDermott RA and Roughead EE (2016) 'Effect of a general practitioner management plan on health outcomes and hospitalisations in older patients with diabetes', *Internal Medicine Journal*, 46(12):1430-1436, doi:10.1111/imj.13286
- 2 Stoneman A, Atkinson D, Davey M and Marley JV (2014) 'Quality improvement in practice: improving diabetes care and patient outcomes in Aboriginal Community

Controlled Health Services', *BMC Health Services Research*, 14:481, doi:10.1186/1472-6963-14-481

- 3 Vitry AI, Roughead EE, Ramsay EN, Ryan P, Caughey GE, Esterman A, Shakib S, Gilbert AL and McDermott R (2012) 'Chronic disease management: does the disease affect likelihood of care planning?', *Australian Health Review*, 36(4):419-423, doi:10.1071/AH11100

Indigenous/remote context references

- 1 McDermott RA, Schmidt B, Preece C, Owens v, Taylor S, Li M and Esterman A (2015) 'Community health workers improve diabetes care in remote Australian Indigenous communities: results of a pragmatic cluster randomized controlled trial', *BMC Health Services Research*, 15:68, doi:10.1186/s12913-015-0695-5

Brief interventions

Summary of changes

- Information was added to this procedure highlighting the importance of effective communication in successful brief interventions. Other important ways of supporting change including goal setting and follow up and the importance of timeliness of changes to other activities or influences in a person's life were also added

Primary references

- 1 Beyer FR, Campbell F, Bertholet N, Daepfen JB, Saunders JB, Pienaar ED, Muirhead CR and Kaner EFS (2019) 'The Cochrane 2018 Review on Brief Interventions in Primary Care for Hazardous and Harmful Alcohol Consumption: A Distillation for Clinicians and Policy Makers', *Alcohol and Alcoholism*, 54(4):417-427, doi:10.1093/alcalc/agz035
- 2 Fazelpour M and Cunningham F (2019) 'Barriers and facilitators to the implementation of brief interventions targeting smoking, nutrition, and physical activity for indigenous populations: a narrative review', *International Journal of Equity in Health*, 18(1):169, doi:10.1186/s12939-019-1059-2
- 3 Ivers RG (2004) 'An evidence-based approach to planning tobacco interventions for Aboriginal people', *Drug and Alcohol Review*, 23(1):5-9, doi:10.1080/09595230410001645501
- 4 Sebastian S, Thomas DP, Brimblecombe J, Majoni V and Cunningham FC (2020) 'Factors Impacting on Development and Implementation of Training Programs for Health Professionals to Deliver Brief Interventions, with a Focus on Programs Developed for Indigenous Clients: A Literature Review', *International Journal of Environmental Research and Public Health*, 17(3):1094, doi:10.3390/ijerph17031094
- 5 Shakeshaft A, Clifford A and Shakeshaft M (2010) 'Reducing alcohol related harm experienced by Indigenous Australians: identifying opportunities for Indigenous primary health care services', *Australian and New Zealand Journal of Public Health*, 34(Suppl 1):S41-5, doi:10.1111/j.1753-6405.2010.00552.x
- 6 Vallis M, Piccinini-Vallis H, Sharma AM and Freedhoff Y (2013) 'Clinical review: modified 5 As: minimal intervention for obesity counseling in primary care', *Canadian Family Physician*, 59(1):27-31.

Indigenous/remote context references

- 1 Campbell S, Bohanna I, Swinbourne A, Cadet-James Y, McKeown D and McDermott R (2013) 'Stages of change, smoking behaviour and readiness to quit in a large sample of

indigenous Australians living in eight remote north Queensland communities', *International Journal of Environmental Research and Public Health*, 10(4):1562-71, doi:10.3390/ijerph10041562

- 2 National Aboriginal Community Controlled Health Organisation and the Royal Australian College of General Practitioners (2018) *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, 3rd edition*, RACGP, East Melbourne.

Healthy lifestyle choices

Summary of changes

- Minor changes for clarity

Primary references

- 1 Australian Government Department of Health (2021) [Collection of physical activity and sedentary behaviour guidelines for all ages](#), accessed 7 October 2022.
- 2 Australian Institute of Health and Welfare (2020) [Diet](#), accessed 11 January 2022.
- 3 Commonwealth Department of Health (2021) [Australian 24-Hour Movement Guidelines for Children and Young People \(5-17 years\) – An Integration of Physical Activity, Sedentary Behaviour and Sleep](#), accessed 7 October 2022.
- 4 National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people: Evidence base, 3rd edition*, RACGP, East Melbourne.
- 5 National Health and Medical Research Council (2013) [Australian dietary guidelines](#), National Health and Medical Research Council, Canberra, accessed 7 October 2022.