Anaesthetic Services

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SA Health

Module Overview

Please note: This module must be read in conjunction with the Fundamentals of the Framework (including glossary and acronym list) and Anaesthetic Services - Children's module.

This module primarily addresses the provision of **elective** anaesthetic services. The following information refers to patients undergoing general anaesthesia, local anaesthesia, major regional anaesthesia / analgesia or sedation (to be collectively described as *anaesthesia*) for diagnostic or therapeutic surgical and medical procedures. This module should be interpreted in conjunction with other professional documents of the Australian and New Zealand College of Anaesthetists (ANZCA) and World Health Organisation (WHO).

The CSCF recognises anaesthetic services as a ***support service*** rather than a clinical service. For the purposes of this module, providing anaesthetic services applies predominantly to *procedural / operative anaesthesia.* Please also refer to the Surgical Services and Perioperative Services modules.

Children have specific needs in health services—please refer to relevant children's services modules.

Note: Where emergency / trauma anaesthetic services are provided, please refer to the Royal Australasian College of Surgeons' Australasian Trauma Verification Program[1] and Emergency Services module.

Anaesthetic services are a *hospital-wide* service provided by a multidisciplinary anaesthetic and anaesthetic-assistant workforce with specialist expertise in managing patients requiring procedural and/or operative anaesthesia. Anaesthetic services also provide pre- and post-procedural / operative anaesthetic care, acute pain management services, and specialist services such as children's, intensive care, trauma and maternity services. As a consequence, anaesthetic services can be provided in many locations outside the operating theatre complex.

The CSCF outlines four levels of complexity for anaesthetic services: Levels 3 to 6. The different service levels address the interaction between anaesthetic risk (i.e. physical status of the patient) and procedural / surgical complexity. Patient risk may be partly addressed using the American Society of Anesthesiologists (ASA[1]) scale (Table 1) as a proxy for anaesthetic risk. This scale can be used to guide the decision as to the appropriate level of service required for a particular patient, although other factors, including clinical opinion, sleep apnoea, narcotic use and BMI may override these decisions.

Table 1: Physical status scale

P I = ASA 1	A normal, healthy patient.
P2 = ASA 2	A patient with mild systemic disease and no functional limitations.
P3 = ASA 3	A patient with moderate to severe systemic disease that results in some functional limitation.
P4 = ASA 4	A patient with severe systemic disease that is a constant threat to life and functionally incapacitating.
P5 = ASA 5	A moribund patient who is not expected to survive 24 hours with or without surgery.
P6 = ASA 6	A declared brain-dead patient whose organs are being removed for donor purposes.
E	A patient requiring an emergency procedure.

Adapted from: ASA Physical Status Classification System

Table 2 describes the provision of anaesthetic services using the physical status of the patient in terms of low, medium and high levels of risk.

Table 2: Level of risk and physical status

Level of risk	Physical status of adults
Low	ASA I (PI) and ASA 2 (P2)
Medium	ASA 3 (P3)
High	ASA 4 (P4) and ASA 5 (P5)

Adapted from: ASA Physical Status Classification System

When the ASA[1] scale is used in conjunction with surgical complexity measures (Appendix 1), it aligns with anaesthetic service capability levels where similar support services and staffing are required to provide that service safely. When surgery is to be performed and there is an anaesthetic risk requiring a level of service greater than that which the presenting anaesthetic service has the capacity to provide, alternatives—such as transfer to a service that can provide care, or movement of more experienced staff to the patient at the time of surgery—must be considered. A pathway for that patient to attend another service provider should be clearly provided.

Consideration should also be given to the complexity of each case. For example, a person presenting with several identified 'low risk' factors might be more accurately assessed as 'moderate risk' due to the complexity of their general health. As anaesthetic (and surgical) complexity increases, input from a higher level of service would be expected.

The risk management strategies presented here should be used as a guide only and are not intended to replace clinical judgment or clinical assessment conducted on an individual basis by experienced and qualified clinicians. Anaesthetic services—including provision of conscious sedation—should fulfil ANZCA T1 (Recommendations of Minimum Facilities for Safe Administration of Anaesthesia in Operating Suites and Other Anaesthetising Locations). Other locations include, but are not limited to, emergency departments, medical imaging units, procedure rooms and outpatient clinics.

Note: Medical staff administering anaesthetics—including conscious sedation—in these locations must be credentialed and have suitable trained assistance.

Pre-anaesthetic screening is desirable for elective surgical patients and should be completed and vetted by suitably trained staff. This will identify patients who need a more comprehensive and early pre-anaesthetic consultation with an anaesthetist, due to suspected higher than normal anaesthetic risk.

Patients with low anaesthetic risk profiles on screening may have their formal pre-anaesthetic consult on the day of surgery.

Pre-anaesthetic consultation is mandatory for all patients undergoing an anaesthetic, the only exception being an extreme emergency.

Pre-anaesthetic consultation/screening ensures:

- the patient is in an optimal state of health for the planned procedure (or that timely changes in patient management are made to achieve this)
- anaesthetic management is planned
- there is discussion about the type of anaesthetic to be given
- consent for the procedure is given, and appropriate risk management is discussed.[2]

Recovery from anaesthesia must occur in a post-anaesthetic recovery area. Postanaesthetic recovery areas should be equipped as per ANZCA recommendations[3], with suitably qualified staff.

General service requirements for anaesthetic services include:

- all anaesthetic equipment must comply with relevant Australian and New Zealand Standards, Drugs and Therapeutics Standards and ANZCA Guidelines including guidelines for checking of equipment.[4]

- anaesthetic services must have close and direct relationships with relevant clinical and support services that may include, but are not limited to, emergency department, intensive care, maternity, medical imaging, medication, pathology, perioperative, sterilising and surgical services.
- ongoing education regarding infection control must form part of staff orientation to anaesthetic services including orientation to policies such as:
- standard precautions
- sterilisation and/or decontamination of anaesthetic equipment
- cleaning and checking of all anaesthetic equipment.[5,6]

Service Requirements

In addition to the requirements outlined in the Fundamentals of the Framework, specific service requirements include:

- provide relevant clinical indicator data to satisfy accreditation and other statutory reporting obligations
- compliance with SA Health policy directives and guidelines that are referenced at:
  - SA Health Policy Directives
  - SA Health Policy Guidelines
  - SA Health Clinical Directives and Guidelines

Workforce Requirements

The CSCF does not prescribe staffing ratios, absolute skill mix, or clerical and/or administration workforce requirements for a team providing a service, as these are best determined locally and in accordance with relevant industrial instruments. Where minimum standards, guidelines or benchmarks are available, the requirements outlined in this module should be considered as a guide only. All staffing requirements should be read in conjunction with the *Health Care Act 2008*, Awards and relevant Enterprise Agreements including, but not limited to:

- SA Health Salaried Medical Officers Enterprise Agreement 2013
- SA Health Visiting Medical Specialists Enterprise Agreement 2012
- SA Health Clinical Academics Enterprise Agreement 2014
- Nursing/Midwifery (South Australian Public Sector) Enterprise Agreement 2013
- SA Ambulance Service Enterprise Agreement 2011
- SA Public Sector Wages Parity Enterprise Agreement Salaried 2014

In addition to what is outlined in the Fundamentals of the Framework, and taking into consideration (for the purposes of this module) that workforce requirements refer to either, the *anaesthetic workforce* or *anaesthetic assistant workforce*, specific workforce requirements include:

- drugs used for conscious sedation must be prescribed by a medical practitioner, registered medical specialist or other person authorised under legislation with appropriate training in administration of conscious sedation.
- conscious sedation can only be performed by a person authorised under legislation, and in keeping with ANZCA Document PS09.
- patient care is achieved through provision of appropriately qualified and experienced staff, including both regulated (e.g. medical and nursing staff) and non-regulated (e.g. anaesthetic technicians, assistants in nursing, orderlies) healthcare workers.[7]
- staff directly providing anaesthetic services must be assigned responsibilities commensurate with their level of training and education, competence, experience, required level of supervision, credentials and scope of practice in accordance with particular statutory legislation.[8]
- an assistant, with demonstrated ongoing competency relevant to the role, must be provided to the anaesthetist for all patients receiving an anaesthetic[9] and may include:
  - anaesthetic technicians with training and education commensurate with the role defined by level of service and procedures being performed, and who have completed annual competency
  - nursing staff qualified and experienced commensurate with the role defined by level of service and procedures being performed, and have completed annual competency.

- documented processes for upskilling staff must be evident where the service does not maintain sufficient procedural turnover to maintain clinical skills.
- anaesthetist responsible for the anaesthetic must be in attendance at all times while the patient is anaesthetised and if the need to leave the operating theatre occurs, either temporarily or permanently, handover to a person authorised under legislation must occur.[10]
- assistant to medical staff administering sedation/anaesthesia (anaesthetic assistant) must be exclusively available to the medical practitioner at induction of and emergence from sedation/anaesthesia, and during the procedure, as required.
- assistants undertaking rotational training or upskilling must be appropriately supervised at all times by a fully qualified anaesthetic assistant with recency of practice.
- where a number of assistants are employed, an appropriately qualified and experienced senior member of the group must be designated as the supervisor.
- registered medical practitioners (general practitioners or rural generalists) may provide specific anaesthetic services, consequent to credentialing and defining scope of clinical practice by the health service Credentialing and Clinical Privileging Committee or equivalent.
- registered medical practitioners undertaking training in anaesthesia may provide anaesthesia under supervision.[12] Restrictions on their practice and supervision arrangements must be determined by the health service Credentialing and Clinical Privileging Committee or equivalent.[13]

Anaesthetic Services	Level 3	Level 4	Level 5	Level 6
Service description	- may be provided 24 hours a day for patients receiving low- to medium-risk general anaesthetics, all types of sedation, neuraxial block and regional block for combinations of: - surgical complexity I procedures with low to high anaesthetic risk - surgical complexity II procedures with low to high anaesthetic risk - surgical complexity III procedures with low to medium anaesthetic risk - surgical complexity IV procedures with low to medium anaesthetic risk.	- provided 24 hours a day and has dedicated operating theatre staff who may be either on-site or accessible 24 hours. - anaesthesia is provided for combinations of: - surgical complexity I procedures with low to high anaesthetic risk - surgical complexity II procedures with low to high anaesthetic risk - surgical complexity III procedures with low to high anaesthetic risk - surgical complexity IV procedures with low to medium anaesthetic risk - surgical complexity V procedures with low anaesthetic risk. - will have links with higher level services.	- provided in a designated hospital or general hospital facility 24 hours a day with combinations of medical, nursing, allied and other staff on-site 24 hours. - manages procedures that have moderate to high level of complexity and risk with some patients who have comorbidities and risk of intra- and post-operative complications. - provides anaesthesia for combinations of the following: - surgical complexity I procedures with low to high anaesthetic risk - surgical complexity II procedures with low to high anaesthetic risk - surgical complexity III procedures with low to high anaesthetic risk - surgical complexity IV procedures with low to high anaesthetic risk - surgical complexity V procedures with low to high anaesthetic risk. - manages most levels of patient risk (low, moderate and high) through provision of short- to long-term or intermittent care.	- specialised statewide and/or superspecialty service and (where applicable) interstate service. - manages highest level of anaesthetic risk in range of subspecialties in conjunction with most complex surgical and medical presentations that have high level of complexity, magnitude or risk to patients with extensive range of comorbidities requiring specialist staff. - Predominantly delivered in large metropolitan facility (population >100,000) supported by wide range of medical and surgical subspecialties and support services. - staff at Level 6 represent critical mass of expertise and may provide statewide leadership and education. - statewide consultation and liaison service may be provided. - usually a provider of telehealth.

Anaesthetic Services	Level 3	Level 4	Level 5	Level 6
Service requirements	As per module overview, plus: > on-site close observation care area/s for surgical complexity IV procedures. > at least one procedure room. > awareness of surgical complexity and combination of anaesthetic risk allowable at the service level. > members of multidisciplinary team have experience, knowledge and skills in anaesthetic principles and practice. > where services provided 24 hours, registered medical practitioners must be available to respond in rapid manner. > elective anaesthetic services are generally provided during business hours for regularly scheduled lists. > anaesthetic services may occur on weekends or after hours by prior arrangement. > emergency anaesthetic services may be available. > electroconvulsive therapy (ECT) may be provided where facility is authorised to do so.	As per Level 3, plus: > multidisciplinary team with demonstrated experience, knowledge and skills in delivery of anaesthetic services. > access—24 hours—to image intensifier in operating suites. > access—24 hours—to perioperative services where emergency services provided. > access to close observation care area/s. > may provide emergency anaesthetic services. > may provide interventional services. > may provide limited outreach services (i.e. only low- to medium-risk anaesthetics).	As per Level 4, plus: > multidisciplinary team has demonstrated experience, and advanced knowledge and skills, in delivery of anaesthetic services pertaining to specialty / subspecialty area/s. > dedicated operating theatre staff on-site or accessible 24 hours a day where emergency procedures performed. > specialist ward areas (e.g. orthopaedics). > access—24 hours—to x-ray radiographer. > outreach services may be provided.	As per Level 5, plus: > multidisciplinary team has demonstrated experience, and advanced knowledge and skills, in anaesthetic services pertaining to specific specialty and/or subspecialty area/s, some with postgraduate qualifications. > procedural / operative anaesthesia performed on patients with high potential for intra- and post-operative complications. > medical and surgical contact made on daily basis. > expectation that many of subspecialties of anaesthetics (and surgery) available with their individual staffing, equipment and processes identified and resourced. > usually provides telehealth services and may lead the state in provision of these services. > outreach services for low- to medium-risk anaesthetics services usually provided. > service may have combinations of operating theatres, endoscopy units and day surgery units. > involvement with statewide approach to anaesthetic risk management may occur.

Anaesthetic Services	Level 3	Level 4	Level 5	Level 6
Workforce requirements	As per module overview, plus: **Anaesthetic workforce** > anaesthetic administered by: – medical practitioners (generalists with extensive experience in anaesthetics) for surgery applicable to level of service – medical practitioner undertaking training in anaesthesia under supervision of recognised, credentialed anaesthetic provider – registered medical specialist with credentials in anaesthetics for elective surgery applicable to level of service. > access to registered medical specialist with credentials in anaesthetics for consultation, as required. > medical practitioner available. > on-site medical practitioner with training in anaesthesia until patient fully recovered from anaesthesia and patient's airway is patent and maintained.	As per Level 3, plus: **Anaesthetic workforce** > anaesthetic administered by: – registered medical specialists with credentials in anaesthetics – medical practitioners undertaking upskilling or maintenance of competency in anaesthetics under supervision of recognised credentialed anaesthetic provider. > access —24 hours—to anaesthetic cover. > access —24 hours—to designated anaesthetic staff. > immediate access to medical practitioner with training in anaesthesia until patient has recovered from anaesthesia and patient's airway is patent and maintained.	As per Level 4, plus: **Anaesthetic workforce** > where medical practitioners in training or upskilling are undertaking rotation in anaesthetics, they must be supervised at all times by registered medical specialist with credentials in anaesthetics. > access to registered medical specialists with credentials in anaesthetics where emergency services provided. > access—24 hours—to one or more medical practitioners with training in anaesthetics who can provide timely access to support patients in post-operative stage. > some specialist anaesthetic services / functions may be provided on visiting basis. **Allied health** > access to social work (for death in surgery, organ donation and adverse events)	As per Level 5, plus: **Anaesthetic workforce** > demonstrated knowledge, competency and experience in subspecialties of anaesthesia (e.g. neonatal anaesthesia, complex anaesthesia and anaesthesia for superspecialty procedures).
Specific risk considerations	> Nil	> Nil	> Nil	> Nil

Support service requirements for anaesthetic services	Level 3		Level 4		Level 5		Level 6	
	On-site	Accessible	On-site	Accessible	On-site	Accessible	On-site	Accessible
Intensive care		4	4		5		6	
Children's intensive care		4		4	5		5	
Perioperative (relevant section/s)	3		4		5		6	
Pharmacy	2		3		5		5	
Surgical	3		4		5		6	

Legislation, regulations and legislative standards	Non-mandatory standards, guidelines, benchmarks, policies and frameworks (not exhaustive & hyperlinks current at date of release of CSCF)
Refer to the Fundamentals of the Framework for details.	In addition to what is outlined in the Fundamentals of the Framework, the following are relevant to anaesthetic services: > Australian and New Zealand College of Anaesthetists. Professional Standard PS9: Guidelines on Sedation and/or Analgesia for Diagnostic and Interventional Medical, Dental or Surgical Procedures. ANZCA; 2010. www.anzca.edu.au/resources/professional-documents/ > Australian and New Zealand College of Anaesthetists. Professional Standard PS8: Recommendations on the Assistant for the Anaesthetist. ANZCA; 2012. www.anzca.edu.au/resources/professional-documents/ > Australian and New Zealand College of Anaesthetists. Technical Standard T1: Recommendations of Minimum Facilities for Safe Administration of Anaesthesia in Operating Suites and Other Anaesthetising Locations. ANZCA; 2008. www.anzca.edu.au/resources/professional-documents/ > Australian and New Zealand College of Anaesthetists, The Royal Australian College of General Practitioners, and Australian College of Rural and Remote Medicine (Joint Consultative Committee on Anaesthesia). Advanced Rural Skills: Curriculum Statement in Anaesthesia. ANZCA, RACGP, ACRRM; 2010. http://www.racgp.org.au/home > Australian College of Operating Room Nurses. ACORN standards, nursing roles, guidelines and position statements. www.acorn.org.au/ > Australian Society of Anaesthetic and Paramedical Officers. Standards and guidelines. www.asapo.org.au/education/education.html > Australian Society of Anaesthetists. Position statements and professional standards. www.asa.org.au/ > Country Health SA Local Health Network. Country Health SA Pre-Anaesthetic Assessment Guide (2015) > The Royal Australasian College of Physicians. National Standards for the Care of Children and Adolescents in Health Services. Sydney: RACP; 2008. www.awch.org.au/ > The Royal College of Anaesthetists, The Association of Anaesthetists of Great Britain and Ireland. Good Practice: A Guide for Departments of Anaesthesia, Critical Care and Pain Management. RCA, AAGBI; 2006. www.rcoa.ac.uk/node/1470 > World Health Organisation: Guidelines for Safe Surgery (2009). http://www.who.int/patientsafety/safesurgery/en/

Anaesthetic Appendix 1
Surgical Complexity Measures

Table 3 describes the five surgical classifications—primary, minor, intermediate and complex—acknowledging gap in descriptors between intermediate and complex.

Table 3: Surgical complexity characteristics

Complexity	Characteristics
Surgical complexity I (SCI) (e.g. removal of small skin lesions)	This level of surgical complexity: > is ambulatory / office surgery procedure > requires local anaesthetic, but not sedation > requires procedure room, aseptic technique and sterile instruments, but not an operating theatre > requires access to resuscitation equipment (including oxygen) and means of delivery > requires area where patients can sit, but not a recovery room > generally does not require post-operative stay or treatment > does not require support services other than suture removal or a post-operative check.
Day surgery for SCI	When this definition is applied to patients having day surgery (i.e. those admitted and discharged on same day), refer to Section 2, Day Surgery Services of Perioperative Services module.
Surgical complexity II (SCII) (e.g. carpal tunnel release)	This level of surgical complexity: > is usually ambulatory, day-stay or emergency department procedure > requires local anaesthesia or peripheral nerve block and possibly some level of sedation, but not general anaesthesia > requires at least one operating room or procedure room, and separate recovery area.
Day surgery for SCII	When this definition applies to patients having day surgery, refer to Section 2, Day Surgery Services of Perioperative Services module.
Surgical complexity III (SCIII) (e.g. inguinal hernia hernia repair, diagnostic laparoscopy)	This level of surgical complexity: > usually requires general anaesthesia and/or regional, epidural or spinal block > requires at least one operating room and separate recovery room > may be a day-stay / overnight case or extended stay case > may have access to close observation care area/s.
Day surgery for SCIII	When this definition is applied to patients having day surgery, refer to Section 2, Day Surgery Services of Perioperative Services module. Freestanding day hospitals require at least one operating room and separate recovery room when performing SCIII procedures. Freestanding day hospitals may not provide extended stay cases.

Complexity	Characteristics
Surgical complexity IV (SCIV) (e.g. laparotomy, major joint surgery)	This level of surgical complexity: > involves major surgical procedures > usually requires general anaesthesia and/or regional, epidural or spinal block > has potential for perioperative complications > has close observation care area/s > has access to intensive care services > may have capacity to provide emergency procedures.
Surgical complexity V (SCV) (e.g. thoracotomy, cardiac surgery, intracranial surgery)	This level of surgical complexity: > includes major surgical procedures > includes surgery with highest potential for intra- and post-operative complications > provides most complex surgical services > requires specialist clinical staff, equipment and infrastructure > has on-site intensive care services > may have extensive support services available.

Table note: Developed by the Queensland Health CSCF Surgical, Perioperative and Anaesthetic Services Advisory Groups

Reference List:

1. Royal Australasian College of Surgeons. The Australasian Trauma Verification Program Manual. Melbourne: RACS; 2009. www.surgeons.org
2. Australian and New Zealand College of Anaesthetists. Professional Standard PS7: Recommendations for the Pre-Anaesthesia Consultation. ANZCA; 2008. www.anzca.edu.au/resources/professional-documents/
3. Australian and New Zealand College of Anaesthetists. Professional Standard PS4: Recommendations for the Post-Anaesthesia Recovery Room. ANZCA; 2006. www.anzca.edu.au/resources/professional-documents/
4. Australian and New Zealand College of Anaesthetists. Professional Standard PS31: Recommendations on Checking Anaesthesia Delivery Systems. ANZCA; 2003. www.anzca.edu.au/resources/professional-documents/
5. National Health and Medical Research Council. Australian Guidelines for the Prevention and Control of Infection in Health Care 2010. www.nhmrc.gov.au
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8. Australian and New Zealand College of Anaesthetists. Professional Standard PS42: Recommendations for Staffing of Departments of Anaesthesia. ANZCA; 2006. www.anzca.edu.au/resources/professional-documents/
9. Australian and New Zealand College of Anaesthetists. Professional Standard PS8: Recommendations on the Assistant for the Anaesthetist. ANZCA; 2008. www.anzca.edu.au/resources/professional-documents/
10. Australian and New Zealand College of Anaesthetists. Professional Standard PS10: Guidelines on the Handover of Responsibility During an Anaesthetic. ANZCA; 2004. www.anzca.edu.au/resources/professional-documents/
11. Australian and New Zealand College of Anaesthetists. Professional Standard PS1: Recommendations on Essential Training for Rural General Practitioners in Australia Proposing to Administer Anaesthesia. ANZCA; 2002. www.anzca.edu.au/resources/professional-documents/
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14. American Society of Anesthesiologists. Manual for Anesthesia Department Organisation and Management; 2003.

For more information

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