Australian College of Rural
and Remote Medicine

FELLOWSHIP HANDBOOK

ADVANCED SPECIALISED TRAINING

Surgery

ACRRM

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ACRRM acknowledges Australian Aboriginal People and Torres Strait Islander People as the first inhabitants of the nation. We respect the traditional owners of lands across Australia in which our members and staff work and live and pay respect to their elders past present and future.

Contents

Introduction

Fellows of ACRRM receive specialist registration as a general practitioner with the Medical Board of Australia and can practise in any location throughout Australia.

ACRRM's standards and training also prepare doctors to be rural generalists.

> A rural generalist is a general practitioner who has specific expertise in providing medical care for rural and remote communities. A rural generalist understands and responds to the diverse needs of Aboriginal, Torres Strait Islander and other rural communities; this includes applying a population approach, providing safe primary, secondary and emergency care as required and providing specialised medical care in at least one additional discipline.

Surgery is recognised as one of the additional disciplines in which a rural generalist may undertake Advanced Specialised Training (AST).

Advanced Specialised Training in Surgery is a training program that builds on ACRRM Core Generalist Training in Surgery.

Rationale

Rural and remote communities have been disadvantaged by reduced access to appropriate local surgical services. Reduced access has resulted from multiple factors including:

- increasing technology
- sub-specialisation of the surgical workforce
- reduced access to surgical training for generalist surgeons and rural generalists, and
- absence of an appropriate specialist workforce, especially the lack of generalists in many specialties.

Surgery is a basic part of medical care, and thus maintaining local access to surgical care, within the appropriate bounds of role delineation of the rural generalist with advanced surgical skills and the designated health facility, is a basic part of achieving good health outcomes in rural and remote regions.

The absence of specialist surgical services in rural and remote areas is primarily a workforce issue and is not addressed by current programs. To address some of these inequities, a safe and high quality procedural workforce needs to be trained and deployed. The essential needs of these communities can be addressed by a working collaboration of Specialist Surgeons and Rural Generalists with advanced surgical skills.

Credentials

A rural generalist who has completed the advanced specialised training program in surgery can:

- work independently as a senior medical officer in a rural hospital
- work with the support of specialist surgeons either on or off-site
- work as part of an on-site team with other skilled medical, nursing and allied health practitioners delivering anaesthetics, emergency medicine, and obstetrics & gynaecology services
- provide surgical care for low to medium complexity surgical cases
- perform more complex surgery in consultation with a specialist surgeon or refer on
- play a role in facilitating and co-ordinating care of the surgical patients in the community
- provide a surgical advisory resource to other rural generalists

- maximize the effectiveness of specialist outreach and telemedicine services in their communities
- assist in training other rural generalists
- assist in the development, provision and promotion of surgical services
- engage in, foster, and encourage research
- develop health policies and procedures for rural surgical services

Eligibility

Prior to undertaking this training, candidates must meet the following criteria:

- satisfactory completion of 12 months Core Generalist Training component of ACRRM Fellowship training or
- have completed postgraduate year two for those doctors who are not in Fellowship Training.

There is an assumption that candidates already have core generalist surgery knowledge and skills, as outlined in the Rural Generalist Curriculum.

It is expected that the candidate can perform the following generic elementary surgical skills (as defined by Royal Australasian College of Surgeons):

- standard precautions
- instrumentation
- diathermy
- using sutures, surgical knots, and needles
- surgical wounds and tissue handling
- insertion and care of tubes and drains
- splinting and immoblisation
- local anaesthetic
- peri-operative life support.

Training

Advanced Specialised Training in surgery requires a minimum 24 months full time (FTE) or equivalent part time training in an ACRRM accredited training post. If part-time, registrars should be employed no less than 0.5 FTE. The training may be undertaken in two or more blocks or concurrently with Core Generalist Training.

Education

Registrars are expected to average a minimum of four hours per week engaged in educational activities related to the AST. A record of education must be kept by the registrar and discussed with the Supervisor and Medical Educator regularly throughout training.

Registrars participate in the RACS registrar education program and education sessions tailored to the AST curriculum.

Registrars must successfully complete the following courses:

- RACS Australian and New Zealand Surgical Skills Education and Training (ASSET) course or RANZCOG Basic Surgical Skills Workshop

- Early Management of Severe Trauma (EMST)
- Care of the Critically Ill Patient (CCrISP)

Candidates are required to complete Gastroscopy & Colonoscopy training that meets the requirements of the Conjoint Committee for Recognition of Training in Gastrointestinal Endoscopy (CCRTGE).

Assessment

The assessments required for Advanced Specialised Training are additional to the assessments undertaken for Core Generalist Training.

Registrars must submit to their training organisation and ACRRM the following:

- AST Plan and Progress Report completed by registrar and supervisor every three months
- Ten miniCEXs conducted by their supervisor (five miniCEXs may be replaced by Direct Observation of Procedural Skills (DOPS))
- Five Case Based Discussions conducted by their supervisor (strongly encouraged)
- A log of surgical procedures (see below)

Registrars must gain a pass in AST Surgery StAMPS.

See the Fellowship Assessment Handbook for further information on assessment requirements.

Log of surgical procedures
Candidates are required to maintain a log of all surgical procedures undertaken during training. This is a practice that needs to be continued throughout a surgical career.

The candidate may use any appropriate surgical logbook, for example the RACS Morbidity Audit and Logbook.

An appropriate logbook would:

- use standardised terminology, for example SNOMED clinical descriptors
- be easily sorted by procedure, to enable a supervisor to see how often a procedure has been performed
- be able to be shared electronically and in printed form
- contain the following data set for each entry:
  - date of procedure
  - name of hospital where procedure performed
  - patient name, age, gender, and hospital ID
  - name of primary surgeon
  - level procedure performed: 1st assistant, 2nd assistant, observed
  - level of supervision: independent, supervised
  - complications

Training posts

Advanced Specialised Training in surgery must be undertaken in teaching posts accredited by ACRRM. Training needs to provide a balance of volume and scope of surgical practice in addition to preparing the Rural Generalist for work in a district hospital. Training in composite training posts involving a combination of a regional 'base' hospital and one or more district hospitals is therefore desirable.

Regional hospitals with posts accredited for RACS surgical training will generally be suitable but any posts will need to gain accreditation with ACRRM for AST Surgery. Institutions with established educational links to other institutions and involvement with undergraduate teaching (Rural Clinical Schools) and other vocational training would be highly desirable.

Regional hospitals providing ACRRM surgical training will generally have the following features:

- be a secondary or tertiary referral hospital
- have general surgery services
- have obstetrics and gynaecology services
- have orthopaedic services
- have specialist surgical staff with enough expertise to supervise candidates – including general surgeons, orthopaedic surgeons and obstetrics and gynaecology specialists
- demonstrate commitment and ability to provide the required level of experience and teaching
- provide access to an adequate number of suitable procedures to enable candidates to fulfill the surgical and endoscopy requirements of this curriculum
- focus on training in secondary rather than tertiary surgical procedures.

To achieve the curriculum, it may also be desirable for a candidate to train in more than one unit or undertake one or more short-term secondments to learn specific skills, for example working in one or more of the following units:

1. orthopaedic trauma
2. obstetrics and gynaecology
3. burns
4. vascular
5. plastics (skin cancer)

See Supervisor and Training Post Standards for further information.

The AST registrar must be employed as a Registrar or in a position with equivalent level of responsibility.

Supervision

Candidates undertaking AST in Surgery will require specific medical, professional and personal support and supervision arrangements.

This will include at least one:

- *Specialist supervisor* – a doctor holding a Fellowship of RACS or other Fellowship with relevant qualifications and experience who is overall responsible for the clinical and educational supervision of the registrar.

See Supervisor and Training Post Standards for further information.

Competencies

Rural Generalist competencies are grouped under the eight domains of rural and remote practice. They describe the key competencies that are required in each context of practice.

These competencies are required to be met by all Rural Generalists prior to Fellowship, they are described in the Rural Generalist Curriculum.

The table below describes the competencies and the standard required in Core Generalist and Advanced Specialised Training in surgery.

Competencies		Core Generalist	Advanced Specialised
1.3	Diagnose and manage common and important conditions in rural primary, secondary and emergency settings	Provides patient with most plausible diagnoses based on evidence gathered Negotiates individual evidence-based management plan, considering impact of the condition and proposed management on the patient's lifestyle/function	Diagnoses and manages less common or more complex, acute and chronic conditions with consideration of clinical services capability: Autonomously delivers a defined scope of specialised clinical practice
1.6	Appropriately order, perform and interpret diagnostic investigations	Judiciously orders investigations with the risks and benefits of investigations explained to the patient Able to explain how each investigation contributes to the patient's management. Assists with development of robust and efficient systems to ensure that results are interpreted and communicated to patients	Performs and interprets a broader range of diagnostic investigations as identified in the relevant syllabus and within clinical services capability
1.7	Ensure safe and appropriate prescribing of medications and non-pharmacological treatment options	Reviews and revises own patterns of prescribing to improve quality and safety Performs non pharmacological treatment options from Core	Delivers a broader range of pharmacological and non- pharmacological treatment options as identified in the relevant syllabus and within clinical services capability
1.8	Formulate an appropriate management plan, incorporate specialist practitioner's advice or referral where applicable	Arranges referrals in concert with the patient and/or carer considering the balance of potential benefits, harms and costs	Works with a team on and off site to provide specialised clinical care
1.9	Demonstrate commitment to teamwork, collaboration, coordination and continuity of care	Provides leadership and participates as a respectful team member with local and distant teams to optimise quality patient care Works collaboratively, including during challenging situations and transitions of care Negotiates and manages conflict amongst the healthcare team	Provides leadership for the defined scope of specialised clinical practice

Syllabus

The Core Generalist Training knowledge and skills for surgery required by all rural generalists, are defined in the Rural Generalist Curriculum. The Advanced Specialised Training Surgery knowledge, skills and attributes that build on this core are described below.

Knowledge

AS.K.1 Detail anatomy and physiology relevant to domains of surgical practice in the curriculum.

AS.K.2 Discuss selection criteria, protocols, principles and limitations of the diagnostic procedures tests and interpret their results.

AS.K.3 Describe basic principles for:

- emergency ultrasound
- procedural sedation
- endoscopy
- surgical technique
- laparoscopy
- laparotomy

AS.K.4 Identify potential surgical complications including possible failure of the surgical procedures listed in this curriculum, describe the signs and symptoms of these complications and outline appropriate rescue plans

AS.K.5 Discuss management plans and algorithms for common potential variations for common procedures eg when an ovarian pathology or bowel cancer is found for a case that was thought to be appendicitis

Skills

AS.S.1 Provide general management of surgical illnesses and complications:

- fluid and electrolyte balance
- standard ABCDE prioritisations
- nutrition
- management of shock
- wound management and wound healing
- pain management – pre-emptive, operative, post-operative and emergency
- fracture/dislocation management including principles of fixation
- recovery and mobilisation planning.
- maintain or re-establish basic bodily functions

AS.S.2 Order or perform a range of diagnostic procedures:

- basic blood tests
- Focused Assessment with Sonography for Trauma (FAST) ultrasound of abdomen

- plain x-rays – interpretation for emergency purposes pending definitive reporting, including adult and paediatric chest, spine, abdomen and extremities
- CT scans – interpretation to help guide emergency treatment pending a definitive report (considerations around emergency use of contrast)
- ultrasound examination of the pregnant uterus and pelvis, including diagnosis of acute emergency events such as ectopic pregnancy and ruptured viscera
- lumbar puncture
- endoscopy

AS.S.3 Undertake a judicious pre-surgical assessment that considers both surgical and non-surgical factors, including:

- age, weight and health of patient
- degree of urgency
- local clinical services capabilities
- own skill set
- if surgical intervention is required
- possible alternative diagnoses or pathologies
- whether to refer or manage locally
- whether to liaise with specialist surgeon regarding management options
- retrieval services available and likely time to definitive care, should a retrieval be considered

AS.S.4 Consider alternative diagnoses and their implications for care in current medical setting

AS.S.5 Perform appraisal of whether surgical care should be undertaken and if this should be non-definitive (intermediate) or definitive surgical care

AS.S.6 Perform damage control techniques to control haemorrhage, prevention of contamination and protection from further injury, for presentations where surgical intervention is not safe, eg in the following presentations:

- intra-abdominal haemorrhage
- appendicitis
- open fracture

AS.S.7 Consider the appropriate mode of anaesthetic for the case, consulting with the Anaesthetist as required

AS.S.8 Recognise and implement a management plan for surgical complications, including:

- management of post-operative haemorrhage and infection
- management of incision wound infection/abscess
- management of wound dehiscence
- identification and management of vascular insufficiency or deep vein thrombosis, including appropriate preventative strategies

- management for complications such as pulmonary embolus
- perforation/obstruction, pneumothorax, spinal headache, pressure sores
- medical complications following surgery – respiratory (eg infective pneumonia, aspiration), cardiac (eg arrhythmias, MI) renal (eg ARF, hyper and hypo kalemia), neurological (eg CVA, delirium), GI (eg ileus, constipation)
- complications of therapeutics – allergy/anaphylaxis, toxicity, drug interactions, GI bleeding, dystonic reactions, neuroleptic malignant syndrome, transfusion reactions, under or over-hydration, over-anticoagulation.

AS.S.9 Demonstrate basic skills:

- emergency ultrasound
- procedural sedation
- gastroscopy & colonoscopy - required to fulfil requirements of the Conjoint Committee for Recognition of Training in Gastrointestinal Endoscopy (CCRTGE)
- surgical technique
- laparoscopy
- laparotomy
- surgical audit
- risk assessment

AS.S.10 Manage abdominal presentations:

- Abdominal wall mass or pain: hernia repair
- Acute right and left lower quadrant pain: appendicitis, adnexal/ovarian disease, diverticular disease, constipation
- Gastrointestinal bleeding (upper and lower)
- Gastrointestinal screening and surveillance (upper and lower)
- Perianal presentations: haemorrhoids, infections, warts, pilonidal sinuses, anal fissures

AS.S.11 Manage non-abdominal presentations:

- Integumentary lesions: skin, nail, subcutaneous lesions, ganglia, lipoma, digital amputation, burns cellulitis, skin flap and skin graft closure
    - Wounds: dressings, excision and suture, drainage and debridement, drainage and packing
    - Fertility: vasectomy
    - Genitourinary disease: acute testicular torsion, epididymitis, phimosis, circumcision
    - Breast lump: triple assessment and referral
    - Hand/limb: carpal tunnel release, hand trauma/infection, extensor tendon repair, compartment syndrome upper and lower limb

AS.S.12 Consider also undertaking DRANZCOG advanced training during or after Fellowship training to be able to manage complications of pregnancy, including:

- Complications of labour and delivery: operative vaginal delivery, caesarean section, perineal trauma, uterine inversion, postpartum haemorrhage, retained placenta, advanced labour and risk management, neonatal resuscitation

- First trimester pain and bleeding: uterine bleeding: dilation, curettage and hysteroscopy (pregnant and non-pregnant), ectopic pregnancy, and
- Tubal ligation

AS.S.13 Obtain specific approval and training from supervisor before undertaking new procedures

AS.S.14 Undertake special training or accreditation as required to perform additional skills to address community needs

Attributes

At.1 Accountability

At.19 Self-reliance

At.11 Integrity

Presentations and conditions

- Skin: benign and malignant skin lesions, skin infections (impetigo, cellulitis, abscesses, boils, haematomata)
- Acute abdomen: appendicitis, biliary colic, cholelithiasis cholangitis, pancreatitis, oesophagitis/G.U./D.U., inflammatory bowel disease, renal causes, aortic/vascular aneurysm disease, diverticulitis/ischaemic colitis, acute infective diarrhoeal illness, perforate viscus, strangulated hernia, visceral perforation and peritonitis
- Anorectal: perianal haematoma, perianal abscess, tumours of the colon
- Respiratory: pneumothorax, upper and lower airway obstruction, pleural effusion and haemothorax, pericardial effusion, perforated oesophagus/Boerhaave's syndrome, rib fractures
- Urinary: acute urinary retention, renal tract tumour, renal tract calculus, renal trauma, urinary tract infections, torsion of testis
- Neurosurgical: closed head injury, acute and chronic subdural haematoma, tumours of the central nervous system (CNS), vascular disasters of the CNS, berry aneurysm, arteriovenous malfunction, trauma to the spinal cord and peripheral nerves, intracranial haemorrhage
- Ophthalmological: sudden loss of vision, non-penetrating ocular trauma, corneal foreign bodies, corneal abrasion, hyphema, lens dislocation, retinal detachment, penetrating eye wounds, eyelid and skin tumours, trauma and infections
- Vascular: acute peripheral vascular occlusive disease/threatened limb, deep vein thrombosis, varicose veins, abdominal aortic aneurysm, venous ulceration and deep venous incompetence
- ENT: tympanic perforation, aural foreign bodies, otitis externa, tumours of the ear, nasal foreign bodies, nasal polyps and tumours, sinusitis, maxillary, and other sinuses, medical nasal conditions, throat and pharynx conditions, uvular oedema, tonsillitis/quinsy, glottic and pharyngeal foreign bodies, epiglottitis, acute and chronic sinusitis
- Fractures: skull, cervical spine, orbit, zygoma, face, jaw, thoracic and lumbar spine, clavicle, ribs, pelvis, neck of humerus, supracondylar humerus, head of radius, mid forearm, distal forearm including Colles', Smith's, metacarpals especially scaphoid, digits, femur, tibia, Potts fracture, calcaneus, metatarsals
- Crush injuries: systemic complications (fat embolism), compartment syndrome

- Dislocations: jaw (temporomandibular joint), shoulder - anterior/posterior, patella, interphalangeal joints, lunate, femur, ankle

Learning resources

Recommended texts and other resources

- Access to appropriate diagnostic training programs and workshops – eg Ultra Sound Training programs for FAST and Obstetrics
- Access to Surgical Skills Training Laboratories and supervised procedural hands-on skills training.
- Access to knowledge-based Conferences and advanced knowledge Workshops (Regional and Provincial RACS Conferences)
- RACS Acute Neuro-trauma workshop
- Anatomy and Surgical Exposure Course JCU
- Damage Control Laparotomy – University of Tasmania Course
- Assessment and management of acute appendicitis workshop - University of Tasmania
- The Cutting Edge: Proceduralist Obstetrics and Gynaecological Skills - Clinical training and evaluation centre (CTEC) – University of Western Australia
- Core Skills: Laparoscopic General Surgery - Clinical training and evaluation centre (CTEC), – University of Western Australia
- Management of Rural Surgical Emergencies (MOSES)
- EMSB - ANZBA: Australian & New Zealand Burn Association - Emergency Management of Severe Burns

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