



Society for Paediatric Anaesthesia in
New Zealand and Australia

SPANZA GUIDELINES FOR PAEDIATRIC ANAESTHESIA FELLOWSHIP

SPANZA Education Subcommittee
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SPANZA GUIDELINES FOR PAEDIATRIC ANAESTHESIA FELLOWSHIP

INTRODUCTION

The goal of a paediatric anaesthesia fellowship is for the fellow to be able to provide **independent** anaesthetic care of the child including surgery, sedation, pain management and resuscitation across all ages and comorbidities.

IMPORTANT POINTS ABOUT USING THIS DOCUMENT

- This document provides a reference for
 - Trainees who aim to work as independent paediatric anaesthetists
 - Supervisors at facilities offering paediatric anaesthetic fellowships
- This document builds upon the 'ANZCA Anaesthesia training program Curriculum' and uses the framework of Roles in Practice and Clinical Fundamentals. It is assumed that paediatric anaesthesia fellows in Australia and New Zealand have completed ANZCA Advanced Training or reached an equivalent standard.
- Mastery of every aspect of paediatric anaesthesia is a lifelong aspiration rather than an achievable goal. While learning is lifelong, independence, or the ability to be left to manage a task without direction, is the ultimate goal of training for consultant paediatric anaesthesia practice. This document is framed to acknowledge that newly qualified paediatric anaesthetists will be independent in most, but not all, of the work of paediatric anaesthesia. In common with established paediatric anaesthetists, they will continue to learn, seek advice and collaborate with colleagues throughout their careers.
- Trainees, with oversight from their supervisors, should use this document as a guide to frame their own goals, specifically with a view to their intended future scope of practice

ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPAs)

In defining the desired outcome of a paediatric fellowship, we have focused on the care of the child and the work that needs to be done in the practice of paediatric anaesthesia. Entrustable Professional Activities or EPAs provide a contemporary way to express this.

EPAs represent sizable tasks distinctive to the practice of our specialty, and as paediatric anaesthetists we can 'entrust' these to an aspiring colleague when we judge them ready. When we do this, we recognise their capability and give them both the permission and the duty to perform that task if and when required.

A paediatric anaesthesia fellowship position should allow fellows to work in close relationships with expert supervisors who have both the ability and the opportunity to judge the quality of the fellow's work. When these supervisors collectively judge them able to be entrusted with these key tasks, fellows will have met the goal of the paediatric anaesthesia fellowship.



Recommended EPAs for a paediatric fellowship

1. General Anaesthesia and Sedation

1.1. Management of Vascular Access including

- 1.1.1. *Using a range of strategies to manage difficult peripheral IV access*
- 1.1.2. *Obtaining central venous access in paediatric patients*
- 1.1.3. *Selecting an appropriate vein and vascular access device for specific patient groups*
- 1.1.4. *Using Ultrasound for peripheral IV/CVL/PICC placement*
- 1.1.5. *Post insertion care*

1.2. Communication with the child and their carers including

- 1.2.1. *Adapting to differences arising from normal development, different family structures as well as developmental delay and behavioural challenges (e.g. autism, Down syndrome, cerebral palsy)*
- 1.2.2. *Obtaining consent/assent in different age groups and situations*
- 1.2.3. *Using their preoperative consultation, pharmacologic, and non-pharmacologic interventions to provide the best possible perioperative experience for the child and their family*
- 1.2.4. *Interacting with diverse cultures including communication assisted by an interpreter when required*

1.3. Provision of safe sedation for moderately painful procedures or interventions including

- 1.3.1. *Uncomfortable procedures not requiring anaesthesia (e.g. dressing changes, nasogastric tube insertion, burns bath)*
- 1.3.2. *Managing post sedation care safely regardless of the site it is performed in*

1.4. Provision of anaesthesia for patients undergoing procedures in remote locations, e.g. MRI, CT, cardiology, interventional radiology, radiotherapy



1.5. Care of the Neonate, including

- 1.5.1. *Leading or participating in neonatal resuscitation as required*
- 1.5.2. *Managing premature neonates perioperatively*
- 1.5.3. *Providing perioperative care for neonates undergoing surgery, including*
 - 1.5.3.1. *Providing anaesthesia for routine neonatal abdominal surgery (e.g. inguinal herniotomy, pyloric stenosis)*
 - 1.5.3.2. *Managing fluid resuscitation and blood transfusion during neonatal laparotomy*
 - 1.5.3.3. *Understanding the principles involved, and having exposure to managing neonates undergoing more complex surgery (e.g. - diaphragmatic hernia, tracheo-oesophageal fistula, exomphalos/ gastroschisis)*

1.6. Provision of anaesthesia for sub specialty anaesthesia, including

- 1.6.1. *Thoracic*
 - 1.6.1.1. *Providing anaesthesia for thoracoscopy and thoracotomy*
 - 1.6.1.2. *Management of the patient with a mediastinal mass*

- 1.6.2. *Neurosurgery*
 - 1.6.2.1. *Managing traumatic brain injury in children*
 - 1.6.2.2. *Providing anaesthesia for craniotomy for tumour, epilepsy, vascular lesions and trauma*
 - 1.6.2.3. *Providing anaesthesia for myelomeningocele surgery*
 - 1.6.2.4. *Providing anaesthesia for hydrocephalus surgery*

- 1.6.3. *Orthopaedics*
 - 1.6.3.1. *Providing anaesthesia for major orthopaedic surgery (e.g. scoliosis surgery, pelvic, femoral osteotomies, multilevel orthopaedic surgery)*

- 1.6.4. *Transplant*
 - 1.6.4.1. *Understanding the issues involved in providing anaesthesia for solid organ transplantation*
 - 1.6.4.2. *Managing patients both pre and post-transplant*

- 1.6.5. *Craniofacial*
 - 1.6.5.1. *Providing anaesthesia for cleft lip and palate surgery*
 - 1.6.5.2. *Understanding the issues involved in providing anaesthesia for cranial vault surgery*



1.6.6. *Ear, Nose and Throat*

- 1.6.6.1. *Providing anaesthesia for routine airway surgery (e.g. tonsillectomy)*
- 1.6.6.2. *Understanding the issues involved in providing anaesthesia for major airway procedures including perioperative management (e.g. laryngotracheoplasty)*

1.6.7. *Abdominal*

- 1.6.7.1. *Providing anaesthesia for routine abdominal surgery (e.g. laparoscopic procedures, pyloromyotomy)*
- 1.6.7.2. *Understanding the issues involved in providing anaesthesia for major tumour excision (e.g. Wilms, neuroblastoma)*

1.6.8. *Urology*

- 1.6.8.1. *Providing anaesthesia for routine procedures (e.g. circumcision, inguinal surgery, renal tract surgery)*
- 1.6.8.2. *Understanding the issues involved in providing anaesthesia for surgery for complex urogenital disorders*

1.6.9. *Cardiac*

- 1.6.9.1. *Understanding the issues involved in providing anaesthesia for children with atrial septal defect, ventricular septal defect or post single ventricle repairs*
- 1.6.9.2. *Understanding the issues involved in providing anaesthesia for surgery for cyanotic and acyanotic heart disease*

2. Airway management

2.1. *Management of the Paediatric Airway, including*

- 2.1.1. *Providing expert management of the normal paediatric and neonatal airway*
- 2.1.2. *Providing anaesthesia for shared airway procedures (e.g. tonsillectomy, inhaled foreign body, rigid/flexible bronchoscopy, supraglottoplasty) including team co-ordination and planning*
- 2.1.3. *Recognising the potential or known difficult airway and planning appropriate management, including the use of airway adjuncts (e.g. video laryngoscope, fiberoptic bronchoscope)*



3. Regional and Local Anaesthesia

- 3.1. *Provision of local and regional anaesthesia for children of all ages, including*
 - 3.1.1. *Providing simple regional blocks (e.g. caudal, dorsal penile, sciatic, femoral nerve block)*
 - 3.1.2. *Understanding the principles involved in performing and managing neuraxial and continuous peripheral nerve blocks*
 - 3.1.3. *Managing regional blockade in the postoperative period and troubleshooting potential problems e.g. managing local anaesthetic infusions*

4. Perioperative Medicine

- 4.1. *Provision of perioperative care for children with significant medical conditions, including*
 - 4.1.1. *Neurological conditions e.g. seizure disorders*
 - 4.1.2. *Respiratory conditions e.g. cystic fibrosis, obstructive sleep apnoea, bronchiectasis*
 - 4.1.3. *Cardiac conditions e.g. pulmonary hypertension, acyanotic heart disease, cyanotic heart disease, single ventricle physiology*
 - 4.1.4. *Metabolic diseases -Inborn errors of metabolism, e.g. mitochondrial disorders, urea cycle disorders, lysosomal storage disorders*
 - 4.1.5. *Abdominal diseases e.g. Wilms tumour, liver failure, neuroblastomas*
 - 4.1.6. *Neuromuscular diseases e.g. muscular dystrophies, spinal muscular atrophy, myopathies, non-idiopathic scoliosis*
 - 4.1.7. *Haematological diseases e.g. haemophilia, leukaemia, sickle cell disease*
- 4.2. *Management of commonly encountered perioperative issues, including*
 - 4.2.1. *Postoperative nausea and vomiting*
 - 4.2.2. *Fluids and fasting*
 - 4.2.3. *Perioperative agitation, emergence delirium*
 - 4.2.4. *Glucose*

5. Pain Medicine

- 5.1. *Pain Management for children of all ages, including*
 - 5.1.1. *Managing acute pain for both elective and emergency surgery*
 - 5.1.2. *Troubleshooting problems in acute pain management*
 - 5.1.3. *Participating in chronic pain assessment and management, and referring appropriately when required*



6. Resuscitation, Trauma and Crisis Management

- 6.1. *Care of the child in crisis situations, including*
 - 6.1.1. *Providing age appropriate resuscitation*
 - 6.1.2. *Leading or participating in the management of trauma (e.g. acute spinal cord injuries, acute/massive blood loss, burns injuries including ongoing burn management)*
 - 6.1.3. *Managing perioperative critical events (e.g. anaphylaxis, sepsis, bronchospasm, laryngospasm)*
 - 6.1.4. *Providing care for the critically ill child, including transfer of the intensive care patient*

7. Safety and Quality in Anaesthesia

- 7.1. *Appreciation of issues relevant to providing the highest quality care to patients including*
 - 7.1.1. *Explaining to parents risk of general anaesthesia depending on age of child and surgery*
 - 7.1.2. *Participating in risk management activities, including reviewing and auditing practice and attending Morbidity and Mortality meetings*
 - 7.1.3. *Managing infection control in the work environment*
 - 7.1.4. *Understanding the use of specialised equipment*
 - 7.1.5. *Providing adequate supervision to trainees and learners in the theatre environment*



Roles in practice – Communicator, Collaborator, Leader and Manager, Health Advocate, Scholar, Professional

The medical expert role is only one aspect of specialist paediatric anaesthesia practice. The other roles in practice are vital components of fellowship training and the work of the paediatric anaesthetist. Outcomes required of all anaesthetists in these roles are described in the ANZCA Curriculum which can be found on the website: <http://www.anzca.edu.au/training/anzca-training-program-curriculum>

Specific examples of the roles in practice pertaining to paediatric anaesthesia which fellows should be capable of are listed below:

Roles in Practice: Communicator

By the end of a paediatric anaesthesia fellowship, the fellow will be able to:

- *Manage disagreements, emotionally charged conversations with children and families*
- *Demonstrate multiple strategies for communicating with children in each developmental stage, e.g. infants v pre-school v primary school v teens, including those with special requirements, for example autism, developmental delay, etc*
- *Provide explanations of anaesthesia and relevant information to parents and children in an age appropriate manner, cognizant of their individual needs*
- *Optimise induction of anaesthesia for children in an age appropriate manner, cognizant of their individual needs*
- *Provide accurate and timely explanation of an adverse event to parents and children, plan future care and follow up, consistent with the principles of open disclosure and the individual needs of the child.*
- *Access alternative information and communication support where appropriate, e.g. interpreters, media resources, play therapists.*
- *Explain complex medical issues in a sensitive manner to non-medical personnel*

Roles in Practice: Collaborator

By the end of a paediatric anaesthesia fellowship, the fellow will be able to:

- *Maintain relationships with other paediatric specialties and health care professionals to support collaborative care*
- *Involve patients and parents as active participants in their own care*
- *Accept feedback from others on their own performance as members of a collaborative team caring for children*
- *Manage disagreements with colleagues, other paediatric specialties and health care professionals*
- *Determine when care can be safely handed over to a colleague or other paediatric specialties and health care professionals*



Roles in Practice: Leader & Manager

By the end of a paediatric anaesthesia fellowship, the fellow will be able to:

- *Contribute to, or if required, establish and lead quality improvement activities in paediatric care*
- *Manage an operative list or an operating complex to facilitate optimal patient care, patient and parental experience, and efficient use of health care resources*
- *Demonstrate leadership to improve both clinical outcomes and the experience of children and their parents, for example by instituting a new patient care initiative*
- *Actively manage their career, recognising opportunities for personal advancement while maintaining their personal life*
- *Negotiate effectively to ensure the best outcome for the patient when conflict arises in the workplace*
- *Balance and prioritise competing and conflicting priorities when allocating resources for patient care*

Roles in Practice: Health Advocate

By the end of a paediatric anaesthesia fellowship, the fellow will be able to:

- *Advocate for children to have timely access to care from suitably qualified staff in an appropriately resourced facility*

Roles in Practice: Scholar

By the end of a paediatric anaesthesia fellowship, the fellow will be able to:

- *Follow the principles of lifelong learning to manage their own learning and development in paediatric anaesthetic practice*
- *Engage in CPD particularly focused on paediatric anaesthesia*
- *Ensure their paediatric anaesthetic practice is informed by critical appraisal of the best available evidence*
- *Monitor their own practice to improve children's outcomes and the perioperative experience for children and their families*
- *Contribute to or lead scientific enquiry to enhance patient care and experience, service delivery, or the education of health professionals*
- *Provide clinical teaching, participate as an instructor and develop educational programs in aspects of paediatric anaesthetic care*
- *Assess and give feedback to trainees and students and help trainees and students to reflect on their performance and develop action plans to improve their practice*



Roles in Practice: Professional

By the end of a paediatric anaesthesia fellowship, the fellow will be able to:

- *Advocate for parents and children to receive the best care based on current evidence*
- *Understand the issues around managing a sick child and working together with multi-disciplinary teams of health professionals to plan and coordinate care to achieve the best possible outcome for the patient*