



Procedural skills

Contents

Definition	515
Curriculum in practice	516
Rationale and general practice context	517
Training outcomes of the five domains of general practice	519
Learning objectives across the GP professional life	521
<i>Medical student</i>	521
<i>Prevocational doctor</i>	522
<i>Vocational registrar</i>	523
<i>Continuing professional development</i>	524
References	525

**The Royal Australian College of General Practitioners
Curriculum for Australian General Practice 2011**

Published by:
The Royal Australian College of General Practitioners

1 Palmerston Crescent
South Melbourne, Victoria, 3205
T 03 8699 0414
F 03 8699 0400
www.racgp.org.au
ABN 34 000 223 807

Definition

Procedural skills encompass the areas of clinical care that require physical and practical skills of the clinician in order to accomplish a specific and well characterised technical task, or medical procedure (or just a procedure).

A procedure is a manual intervention that aims to produce a specific outcome during the course of patient care; it may be investigational, diagnostic, and/or therapeutic, and is usually able to be performed in the ambulatory primary healthcare setting thus excluding:

- manual skills which are part of routine clinical examination
- purely interpretive skills
- complex surgical procedures that require a general anaesthetic.

Inherent in the term of medical procedure is the concept of invasiveness. This may involve discomfort for the patient and a risk of adverse effects and complications associated with the procedure in addition to those associated with the medical condition which initially necessitated the procedure.

This aspect of invasiveness is not absolute, as some procedures are more invasive than others, for example, venepuncture compared with urinalysis.

Procedures may require the use of equipment which, in turn, implies the need for appropriately equipped and resourced facilities with quality control processes in place for the successful completion of the procedure.

Procedural skills requirements vary according to the context in which procedures are performed and according to the level of complexity of the required procedure. For example, general practitioners in rural and remote communities may be required to provide treatment such as emergency medicine procedures,¹ which entail a level of complexity different to that of their urban counterparts. The term advanced rural level skills has been developed to describe these requirements which include:

- major general surgery
- obstetrics (including management of the delivery, surgical or non surgical)
- anaesthesia (including general anaesthesia)
- orthopaedic surgery (including the management of dislocations and fractures requiring major regional or general anaesthesia)
- radiology (including personally performed X-rays, ultrasounds and/or echocardiograms with interpretation of results, not confined to limb X-rays)
- endoscopy (including colonoscopy or gastroscopy).

Procedural skill competency is the type and level of behaviour required in relation to a specific skill to achieve a successful outcome. For example, the skill competency for one procedure (eg. dipstick urinalysis) may include the ability to explain and perform the task appropriately in an unsupervised fashion. Other procedures may require just the skill to be able to explain the procedure's principles to a patient without the necessary skill for the clinician to perform the procedure themselves, for example an abdominal CT scan.

Clinicians need to be familiar with the professional, legal and jurisdictional requirements regarding eligibility to perform particular procedures.

Procedural competency often involves the acquisition of specific psychomotor skills. Procedural skills training needs to provide the opportunity to perform and perfect the necessary psychomotor skills, taking into account that the acquisition of knowledge and skills takes place at an individual rate.

Curriculum in practice

The following presentations illustrate how the procedural skills curriculum applies to general practice:

- A 23 year old man presents for removal of genital warts
- A hearing impaired older person presents for an appointment for the surgical removal of a benign skin lesion
- Your registrar has read about a new way of establishing an emergency airway in a child and would like to see it demonstrated. How confident are you to arrange a simulation?

Rationale and general practice context

Procedural medicine is an integral part of Australian general practice and is becoming more common. During 2008–2009, there were 16.7 procedural events for every 100 general practice encounters. This is a significantly higher number of procedures than the 12.5 procedures per 100 patient encounters in 1999–2000.²

Patient safety and informed consent

For many patients, a successful clinical outcome depends on having a well performed technical procedure. Therefore, technical competence is a key aspect for procedural training.³ The opportunities for learning and successfully performing procedural tasks necessary for unsupervised general practice need to be balanced with concerns of patient safety, which are of the highest priority during any medical procedure.

The ability to educate and inform patients of the risks and benefits of each procedure and to ensure that informed consent is obtained is part of procedural skills competency. This includes discussing any discomfort or pain and how these will be managed.

Acquiring proficiency in procedural skills requires skills in recognising and managing associated complications.

Maximising procedural skill competencies not only helps to minimise any potential harm to patients, but may also help minimise potential medicolegal consequences. Continuing surveillance of reports from medical boards, alerts and bulletins from medical defence organisations and surveillance authorities for trends in procedural risk complications provides an important opportunity to identify and minimise adverse risk associated with medical procedures.

Occupational health and safety

Education on the potential hazards to the health of the clinician performing the procedure and their assistant(s) is critical for the prevention and management of procedural related harm.

Clinicians and workplace managers need to be aware of their roles and responsibilities in maintaining a safe work environment during procedural tasks or procedural complications in accordance with workplace standards; for example, the safe handling of body fluids and substances, or the clinician's responsibilities regarding blood borne virus transmission and the management of needlestick injuries.

Clinicians must also recognise that psychomotor impairment or medical conditions may affect the ability to successfully and safely perform technical tasks and must act appropriately in each particular circumstance. This may require limiting participation to those tasks for which they can demonstrate competence.

Procedural skills and the general practitioner learning life

Over the general practice learning life, varying procedural skill levels may be required.

In general, procedural skills acquired as a medical student provide a basis for procedural skill acquisition later in the learning life, although career path changes can result in significant changes in procedural skill requirements and competency levels. General practitioners need to recognise their current procedural skill requirements and ensure that the appropriate skill competency level is maintained.

Skill level requirements will often depend upon the clinical context. For example, a prevocational hospital doctor may have acquired specific procedural skills that may not be required when they commence working in an urban general practice. This lack of demand for the use of this skill may result in a diminished skill level. However, should the need arise for this clinician to practise in a remote area, they may need to undertake additional training to acquire appropriate skill competency levels.

Some general practitioners will develop special interest areas, for example, dermatology or aviation medicine, requiring a different procedural skill set in addition to that of routine general medical practice. Clinicians in these situations need to be clear on their skill requirements and the ongoing requirements for procedural skill maintenance.

Procedural skill requirements for the level of final year medical students are set by medical schools and the Australian Medical Council.⁴

Procedural skill requirements for prevocational doctors (first and second postgraduate year and later) are set by the Australian Curriculum Framework for Junior Doctors.⁵

Procedural skill requirements for general practice registrars for Fellowship are set by The Royal Australian College of General Practitioners.

General practitioners with a special interest area or undertaking additional procedural skills need to ensure that their skill levels meet the recognised standards/curriculum requirements for procedural skill competency acquisition and maintenance. Examples include:

- Standards for General Practice Education and Training Requirements for Fellowship items⁶
- Advanced rural skills training¹
- Fellowship of Advanced Rural General Practice⁷
- RACGP Joint Consultative Committees⁸
- Other specialist medical colleges
- Other jurisdictional requirements/standards, eg. the Australian Government requirements for yellow fever vaccination providers⁹ or RACGP guidelines for Implanon insertion.¹⁰

Procedural skills, advanced life support and the RACGP Fellowship

Competencies in procedural skills related to emergency life support measures are critical for successful patient management. Advanced life support training is a requirement for Fellowship, and doctors must complete training in the early management of trauma and advanced life support (ALS) during vocational training (see Requirements V.12. and v.13).⁶

Teaching of procedural skills

Training in technical procedures through parts of a medical practitioner's learning life has been reported as being unsystematic and unstructured.³ This may be because the need for procedures which can then be used to observe, learn, and develop skill levels often arises randomly.

Doctors at all levels of their learning lives are often involved in teaching procedural skills to their juniors: the medical student may learn skills from the first year intern or the registrar from the vocational doctor, reflected in the traditional expression, 'See one, do one, teach one'. Teaching can also be an important method of reinforcing learning in the teacher. Clinicians involved in teaching need to assess their teaching processes to ensure that they are teaching technical skills in a systematic manner.

Use of simulation based teaching techniques to initially acquire and to practise skills is highly recommended.

Related curriculum areas

Procedural skills impact on most areas of the RACGP curriculum but closely related areas include:

- *Acute and serious illness*
- *Doctor's health*
- *Pain management*
- *Practice management*
- *Quality and safety*
- *Rural health.*

Training outcomes of the five domains of general practice

1. Communication skills and the patient-doctor relationship

- PROT1.1 Understand that clearly explaining all facets of a procedure is critical to obtaining valid informed consent.
- PROT1.2 Clearly explain the reasons for the procedure; the steps of the procedure; the potential outcomes including benefits, risks and complications; and address patient interests and concerns.

2. Applied professional knowledge and skills

- PROT2.1 Achieve procedural skill competency level appropriate to their learning life level and workplace requirements.
- PROT2.2 Apply medical procedural knowledge relevant to the clinician's requirements by explaining indications, contraindications, patient preparation methods, sterile techniques, pain management and proper techniques for handling specimens and fluids obtained, and test results.
- PROT2.3 Recognise and manage complications of procedures including the complications of procedures that other people performed.

3. Population health and the context of general practice

- PROT3.1 Know the current and ongoing pattern of risks and complications of procedural errors through the reports from medical boards, alerts, bulletins, medical defence organisations, continuing education and surveillance authorities.
- PROT3.2 Use knowledge of the current and ongoing pattern of risks and complications of procedural errors to identify and minimise adverse risk associated with medical procedures.
- PROT3.3 Be aware of other procedural related risks, such as the transmission of blood borne viruses and their potential for transmission between patients and healthcare providers during procedures.

4. Professional and ethical role

- PROT4.1 Identify and know the level of competence required for each procedural skill level dependent upon the specific requirements for the stage of the learning life and work requirements.
- PROT4.2 Understand how the presence of psychomotor impairment or medical conditions may affect the ability to successfully and safely perform technical tasks and work practices may need to be altered to suit each particular circumstance.
- PROT4.3 Understand the requirement for limiting participation to tasks for which competence or suitability can be demonstrated in the presence of psychomotor impairment or medical conditions.
- PROT4.4 Be familiar with any professional, legal and jurisdictional requirements regarding eligibility to perform particular procedures.

5. Organisational and legal dimensions

- PROT5.1 Ensure that procedural tasks meet the ethical and legal requirements for patient informed consent including documentation.
- PROT5.2 Understand the use of systemic processes to include a mechanism for the ongoing identification and minimisation of procedural related risks (see *Quality and safety* curriculum statement for more detail).
- PROT5.3 Ensure that practice facilities are appropriately equipped and resourced to meet procedural task requirements.

Learning objectives across the GP professional life

Medical student

1. Communication skills and the patient-doctor relationship

- PROLM1.1 Demonstrate the ability to counsel patients regarding the reasons for procedures.
- PROLM1.2 Demonstrate the ability to counsel patients regarding any potential outcomes including benefits, risks and complications for procedures.
- PROLM1.3 Demonstrate the ability to clearly explain the steps of procedures.
- PROLM1.4 Demonstrate how to address patient interests and concerns about procedures.
- PROLM1.5 Demonstrate communication skills necessary to obtain informed consent for procedures.

2. Applied professional knowledge and skills

- PROLM2.1 Demonstrate applied professional and procedural skill competence.
- PROLM2.2 Demonstrate the ability to explain indications, contraindications, patient preparation methods, sterile techniques, pain management and proper techniques for handling specimens and fluids obtained and test results for procedures.
- PROLM2.3 Describe the complications and management of procedures.

3. Population health and the context of general practice

- PROLM3.1 Describe patterns of potential risks and complications of procedures.
- PROLM3.2 Describe sources of information for ongoing identification of risk trends in procedural errors.
- PROLM3.3 Describe the epidemiology of hazards and risks to patients and healthcare workers associated with procedural medicine.

4. Professional and ethical role

- PROLM4.1 Detail procedural requirements to a level appropriate for the medical student skill setting.
- PROLM4.2 Outline processes of maintaining appropriate skill competency levels.
- PROLM4.3 Describe how psychomotor impairment or medical conditions may affect an individual's ability to successfully and safely perform technical tasks and work practices.

5. Organisational and legal dimensions

- PROLM5.1 Describe the ethical and legal requirements for patient informed consent for procedures.
- PROLM5.2 Describe how organisational system processes need to include a mechanism for the ongoing identification and minimisation of procedural related risks (see *Quality and safety* curriculum statement for more detail).
- PROLM5.3 Describe organisational facilities and equipment requirements necessary to provide an acceptable standard of care for procedures.
- PROLM5.4 Describe any professional, legal and jurisdictional requirements regarding eligibility to perform particular procedures.

Learning objectives across the GP professional life

Prevocational doctor

Assumed level of knowledge – medical student

1. Communication skills and the patient-doctor relationship

- PROLP1.1 Demonstrate the ability to counsel patients regarding the reasons for procedures.
- PROLP1.2 Demonstrate the ability to counsel patients regarding any potential outcomes, including benefits, risks and complications of procedures.
- PROLP1.3 Demonstrate the ability to clearly explain the steps of procedures.
- PROLP1.4 Demonstrate how to address patient interests and concerns about procedures.

2. Applied professional knowledge and skills

- PROLP2.1 Demonstrate applied professional and procedural skill competence.
- PROLP2.2 Demonstrate the ability to explain indications, contraindications, patient preparation methods, sterile techniques, pain management and proper techniques for handling specimens and fluids obtained and test results for procedures.
- PROLP2.3 Describe the complications and management of procedures.

3. Population health and the context of general practice

- PROLP3.1 Describe patterns of potential risks and complications of procedural errors.
- PROLP3.2 Describe sources of information for ongoing identification of risk trends in procedural errors.
- PROLP3.3 Describe the epidemiology of hazards and risks to patients and healthcare workers associated with procedural medicine.

4. Professional and ethical role

- PROLP4.1 Detail procedural requirements to a level appropriate for the prevocational setting.
- PROLP4.2 Outline processes of maintaining appropriate skill competency levels.
- PROLP4.3 Describe how psychomotor impairment or medical conditions may affect an individual's ability to successfully and safely perform technical tasks and work practices.

5. Organisational and legal dimensions

- PROLP5.1 Describe the ethical and legal requirements for patient informed consent for procedures.
- PROLP5.2 Describe how organisational system processes need to include a mechanism for the ongoing identification and minimisation of procedural related risks (see *Quality and safety* curriculum statement for more detail).
- PROLP5.3 Describe organisational facilities and equipment requirements necessary to provide an acceptable standard of care for procedures. Describe any professional, legal and jurisdictional requirements regarding eligibility to perform particular procedures.

Learning objectives across the GP professional life

Vocational registrar

Assumed level of knowledge — prevocational doctor

1. Communication skills and the patient-doctor relationship

- PROLV1.1 Demonstrate the ability to counsel patients regarding the reasons for procedures.
- PROLV1.2 Demonstrate the ability to counsel patients regarding any potential outcomes including benefits, risks and complications for procedures.
- PROLV1.3 Demonstrate the ability to clearly explain the steps of procedures.
- PROLV1.4 Demonstrate how to address patient interests and concerns about procedures.

2. Applied professional knowledge and skills

- PROLV2.1 Demonstrate applied professional and procedural skill competence.
- PROLV2.2 Demonstrate ability to explain indications, contraindications, patient preparation methods, sterile techniques, pain management and proper techniques for handling specimens and fluids obtained and test results for procedures.
- PROLV2.3 Describe the complications and management of procedures.

3. Population health and the context of general practice

- PROLV3.1 Describe patterns of potential risks and complications of procedural errors.
- PROLV3.2 Describe sources of information for ongoing identification of risk trends in procedural errors.
- PROLV3.3 Describe the epidemiology of hazards and risks to patients and healthcare workers associated with procedural medicine.

4. Professional and ethical role

- PROLV4.1 Detail procedural requirements to a level consistent with the requirements for Fellowship of The Royal Australian College of General Practitioners.
- PROLV4.2 Describe processes of maintaining appropriate skill competency levels. This includes adjusting for changing career skill level requirements over the course of continuing professional development.
- PROLV4.3 Describe how psychomotor impairment or medical conditions may affect an individual's ability to successfully and safely perform technical tasks and work practices.

5. Organisational and legal dimensions

- PROLV5.1 Describe the ethical and legal requirements for patient informed consent for procedures.
- PROLV5.2 Describe how organisational system processes need to include a mechanism for the ongoing identification and minimisation of procedural related risks (see *Quality and safety* curriculum statement for more detail).
- PROLV5.3 Describe organisational facilities and equipment requirements necessary to provide an acceptable standard of care for procedures. Describe any professional, legal and jurisdictional requirements regarding eligibility to perform particular procedures.

Learning objectives across the GP professional life

Continuing professional development

Assumed level of knowledge – vocational doctor

1. Communication skills and the patient-doctor relationship

- PROLC1.1 Demonstrate the ability to counsel patients regarding the reasons for procedures.
- PROLC1.2 Demonstrate the ability to counsel patients regarding any potential outcomes, including benefits, risks and complications for procedures.
- PROLC1.3 Demonstrate the ability to clearly explain the steps of procedures.
- PROLC1.4 Demonstrate how to address patient interests and concerns about procedures.

2. Applied professional knowledge and skills

- PROLC2.1 Demonstrate maintenance of applied professional and procedural skill competence levels.
- PROLC2.2 Demonstrate ability to explain indications, contraindications, patient preparation methods, sterile techniques, pain management and proper techniques for handling specimens and fluids obtained and test results for procedures.
- PROLC2.3 Describe the complications and management of procedures.

3. Population health and the context of general practice

- PROLC3.1 Describe patterns of potential risks and complications of procedural errors.
- PROLC3.2 Describe sources of information for ongoing identification of risk trends in procedural errors.
- PROLC3.3 Describe the epidemiology of hazards and risks to patients and healthcare workers associated with procedural medicine.

4. Professional and ethical role

- PROLC4.1 Detail procedural requirements appropriate to the clinician's specific clinical setting, for example primary healthcare, obstetrics, and others.
- PROLC4.2 Discuss processes of maintaining appropriate skill competency levels. This includes adjusting for changing career skill level requirements over the course of continuing professional development.
- PROLC4.3 Describe how psychomotor impairment or medical conditions may affect an individual's ability to successfully and safely perform technical tasks and work practices.

5. Organisational and legal dimensions

- PROLC5.1 Describe the ethical and legal requirements for patient informed consent for procedures to the appropriate level of applied professional knowledge and skills.
- PROLC5.2 Demonstrate organisational systems for the ongoing identification and minimisation of procedural related risks (see *Patient safety* curriculum statement for more detail).
- PROLC5.3 Indicate organisational measures, facilities and equipment in place to provide an acceptable standard of care for procedures. Describe any professional, legal and jurisdictional requirements regarding eligibility to perform particular procedures.

References

1. The Royal Australian College of General Practitioners. RACGP National Rural Faculty Advanced Rural Skills – Definition. RACGP; 2006. Available at www.racgp.org.au/Content/NavigationMenu/About/Faculties/NationalRuralFaculty/RuralGeneralPracticeDefinition/AdvancedRuralSkillsDefinition/default.htm.
2. Britt HMG, Charles J, Henderson J, et al. General practice activity in Australia 1999–00 to 2008–09: 10 year data tables. Canberra: Australian Institute of Health and Welfare; 2009.
3. Grantcharov TP, Reznick RK. Teaching procedural skills. *BMJ* 2008;336(7653):1129–31.
4. Australian Medical Council. AMC Handbook of Clinical Assessment. Canberra: Australian Medical Council; 2007.
5. Postgraduate Medical Education Councils of Australia. Skills and procedures. Australian Curriculum Framework for Junior Doctors. Postgraduate Medical Education Councils of Australia; 2009 [updated 2009. Available at <http://curriculum.cpmeec.org.au/skillsprocedures.cfm>.
6. The Royal Australian College of General Practitioners. Standards for General Practice Education and Training Requirements for Fellowship. South Melbourne: The RACGP; 2011.
7. The Royal Australian College of General Practitioners. Fellowship in Advanced Rural General Practice. 2010. Available at www.racgp.org.au/fargp.
8. The Royal Australian College of General Practitioners. Joint Consultative Committees. 2010. Available at www.racgp.org.au/jcc.
9. Department of Health and Ageing. Yellow fever – information for health professionals. Canberra: Department of Health and Ageing, Australian Government; 2010. Available at www.health.gov.au/internet/main/publishing.nsf/Content/ohp-fs-yellow-fever-health-profess.htm.
10. The Royal Australian College of General Practitioners. Implanon®: Doctor checklist and patient consent form. 2006. Available at www.racgp.org.au/guidelines/implanon.

