

Professionals in Cardiac Sciences Australia



Credentialing, Scope of Practice and Competency Framework

Executive Summary

In Australia Cardiac Physiologists are a core component of evidence-based, patient-centred, and multidisciplinary cardiac care.

This document details three governance mechanisms used to provide a framework that ensures PICSA members provide safe and high quality patient care.

1. Credentialing 2. Scope of Practice 3. Competency

The tools within the framework also promote best practice as well as enhancing the standing of Cardiac Physiologists in the healthcare profession and community. This executive summary complements the *PiCSA Professional Practice Standards*.

Credentialing

Prospectively, to be a credentialed Cardiac Physiologist, an individual must meet the following minimum requirements:

- The individual must have successfully completed a Bachelor degree (Australian Qualifications Framework (AQF) Level 7) or a Postgraduate qualification (AQF Level 8) in healthcare science with subjects of study specific to cardiac science including but not limited to cardiovascular anatomy, cardiovascular physiology and cardiovascular pathophysiology, cardiac pharmacology, bioinstrumentation (medical technology), and Work Integrated Learning (WIL) clinical placement.
- The WIL clinical placement completed as a component of the Bachelor qualification must be a minimum of 240 hours in duration in which the student placement is undertaken in an appropriate clinical cardiac environment under the direct supervision of a credentialed Cardiac Physiologist. By the completion of the clinical placement, the individual must be deemed competent by their supervisor in the core competencies listed in Scope of Practice 1.
- Twenty hours of Continuing Professional Development (CPD) per annum relevant to cardiac physiology to enable on going credentialing

For Cardiac Physiologists already practicing, a grandfathering process will be undertaken to credential those already in the profession.

Scope of Practice

The Scope of Practice for Cardiac Physiologists (CPs) includes 5 clinical modalities; within each are numerous clinical tasks of varying complexity from entry to advanced level. Result documentation, communication, patient management and safety are embedded within all modalities. Procedural results provide Cardiologists with specific clinical information to enable the appropriate treatment and management of both adult and paediatric patients with cardiac disease.

1. Non-Invasive cardiac diagnostic testing

Core competencies: accurately perform, analyse, interpret, troubleshoot and report findings and results for resting 12 lead Electrocardiogram (ECG), Ambulatory ECG monitoring (24/48hr) and Exercise Stress Testing. These are the minimum requirements for competency in non-invasive cardiac diagnostic testing.

Additional non-Invasive cardiac diagnostic testing competencies: perform, interpret, analyse, interpret, troubleshoot and report findings and results for ambulatory blood pressure monitoring (ABP), tilt table testing, ECG event monitoring and pharmacological stress testing.

2. Cardiac Catheter Laboratory

Monitor, record and accurately interpret all relevant and appropriate ECG rhythms and hemodynamic waveform data obtained during Left Heart Catheterisation, Right Heart Catheterisation, Percutaneous Transluminal Coronary Angiography (PTCA) (routine & emergent), Structural Cardiac Closures, Transcatheter Aortic Valve Implantation (TAVI), Pericardiocentesis, and Intra-Aortic Balloon Pump (IABP) procedures. Competency also includes the documented ability to troubleshoot all physiologic recording equipment.

3. Cardiac Implanted Devices

Perform accurate and appropriate pre implant, peri-implant and post-implant programming, testing, analysis and troubleshooting of Cardiac Implantable Electronic Devices (CIED) including Permanent Pacemakers (PPM), Implantable Cardioverter Defibrillator (ICD), Cardiac Resynchronisation Therapy (CRT) and Implantable Loop Recorders (ILR). Post-implant care may include in-clinic and remote monitoring. Competency includes but is not limited to testing of device and lead function, evaluation and interpretation of diagnostics, stored episodes and electrograms, trouble shooting and device optimisation.

4. Transthoracic Echocardiography (TTE)

Acquisition and storage of appropriate echocardiographic images including the performance of accurate measurements, analysis and interpretation data to produce a diagnostically accurate report. The routine TTE examination must include the use of ECG monitoring, two-dimensional (2D) imaging, colour and spectral Doppler imaging. Stress echocardiography, exercise or dobutamine, will include the use of 2D recordings before exercise (baseline) from at least three acoustic windows with matching recordings acquired from the same acoustic windows at, or immediately after, peak exercise.

5. Electrophysiology

Appropriate setup, operation and troubleshooting of equipment during Electrophysiology studies (EPS) including amplifiers, stimulators, ablation generators (radiofrequency and cryotherapy), standard and electroanatomic mapping system, catheters, connector cables and other consumables. Ability to monitor, record, accurately interpret and analyse all x-ray fluoroscopy, surface ECG, intracardiac electrogram, 3D electroanatomic information and haemodynamic waveform data during invasive and pharmacologic manipulation and evaluation of cardiac conduction system disorders and arrhythmias. Competency includes but is not limited to pacing protocols and manoeuvres, evaluation and interpretation of diagnostic information.

Extended Scope of Practice Modalities

Cardiac physiologists can also practice in extended Scope of Practice modalities. These extended scope modalities should be seen as complementary to core scope modalities and training and competency attainment/maintenance should be undertaken at the local Health Service level with appropriate service endorsement.

Competency

Documented evidence of theoretical and clinical knowledge, skills and performance, a procedural log book and competency-based assessment are the minimum requirements to be deemed competent in each of the 5 cardiac modules the minimum requirement is. As ECG is the entry level module, competency in ECG (Scope of Practice 1a) is required before progressing through more advanced modules.

For the advanced modules of Cardiac Implanted Devices, Electrophysiology and Echocardiography formal external assessment is required with Graduate qualifications being the minimum educational standard for Electrophysiology and Echocardiography. For echocardiography, a cardiac must have an accredited cardiac ultrasound qualification.

The attainment of a Master's degree or even PhD is encouraged for those who wish to acquire specialised advancement in knowledge and skills for research, and/or professional practice and/or further learning.

Definitions

Credentialing is the formal process used to verify qualifications, experience, professional standing and other professional attributes for the purpose of forming a view about their competence, performance and professional suitability to provide safe, high-quality healthcare services.¹

Scope of practice is the full spectrum of roles functions, responsibilities, activities and decision making capacity that individuals within that profession are educated, competent and authorised to perform.²

Competency is the consistent application of knowledge and skill to the standard of performance required in the workplace. It embodies the ability to transfer and apply skills and knowledge to new situations and environments.³ Competency is required for a clinical physiologist to practise as an independent healthcare professional; to communicate effectively with patients and other health care providers; to collect and interpret information; to make appropriate clinical decisions and carry out safe and effective diagnostic procedures.⁴

References

1. *Australian Council of Safety and Quality and Healthcare 2004*
2. *Nursing and Midwifery board of Australia 2007 p.2*
3. *National Quality Council 2014 p.4*
4. *Competencies, Key Learning Objectives and Tools for Assessing Independent Clinical Measurements Scientist Practice, Queensland Health, 2014*