

# Accreditation standards: Medical radiation practice



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## Authority

Each of the standards in this document have been approved by the Medical Radiation Practice Board of Australia (the National Board) pursuant to the Health Practitioner Regulation National Law, as in force in each state and territory (the [National Law](#)), with approval taking effect from 17 December 2013.

## Introduction

Medical radiation practice education began in Australia in the 1950s at technical colleges. In the 1970s programs were offered through higher education tertiary institutions when the government introduced Colleges of Advanced Education. Later, education was delivered at institutions of technology until the Commonwealth abolished this sector in 1991 and delivery of programs was transferred to universities. During this period medical radiation practice programs progressively changed from certificate level to associate diploma and diploma level and, later, to bachelor degree level. Medical radiation practice programs for entry to the profession are currently offered at bachelor degree, bachelor honours degree and masters degree levels.

On 1 July 2012, the medical radiation practice profession joined the National Registration and Accreditation Scheme ([National Scheme](#)) established by the National Law.

The Medical Radiation Practice Accreditation Committee (Accreditation Committee) was established by the National Board under the National Law. The Accreditation Committee was responsible for developing these accreditation standards against which education providers and their medical radiation practice programs will be assessed when applying for accreditation under the National Law.

The *Medical radiation practice accreditation standards* align with the threshold standards from the *Higher education standards framework (Threshold Standards) 2011* (threshold HES). The Accreditation Committee recognises the role of the Higher Education Standards Panel and the Tertiary Education Quality and Standards Agency (TEQSA) in regulation and quality assurance of higher education in Australia and rather than duplicating that role, the accreditation standards will be used to assess education providers and programs in the context of assuring quality outcomes of medical radiation practice programs of study.

Information about the Higher Education Standards Panel, TEQSA and the HES framework is available at [www.hestandards.gov.au](http://www.hestandards.gov.au) and [www.teqsa.gov.au](http://www.teqsa.gov.au).

The Accreditation Committee's recognition of the role of TEQSA fosters consistency and efficiency by enabling education providers to submit evidence of assessment by, and registration with, TEQSA as part of their application for accreditation assessment by the Accreditation Committee.

## Structure of the accreditation standards

The *Medical radiation practice accreditation standards* are set out within six overarching fields.

The standards set out in Field 1 establish requirements for education providers, and the medical radiation practice programs they offer, to meet requirements established by the threshold HES and regulated by TEQSA.

The accreditation standards set out in Fields 2 - 5 align with relevant standards from the threshold HES, but do not simply reproduce them. Instead, the accreditation standards apply the threshold HES (which cover all the operations of an education provider) to the context of the medical radiation practice program and the provider offering that program.

The accreditation standards set out in Field 6 cover aspects of the knowledge, skills and professional attributes required to practise as a diagnostic radiographer, radiation therapist or nuclear medicine technologist in Australia.

The education provider must ensure all students demonstrate the abilities in the Field 6 standards.

## Field 1: Education provider registration and course accreditation

### *Standard 1.1 Education provider registration*

The education provider is registered as a higher education provider with TEQSA.

### *Standard 1.2 Course accreditation*

The program has been accredited against the criteria listed in the *Provider course accreditation standards* in the threshold HES.

## Field 2: Governance, management and resourcing

### *Standard 2.1 Education provider standing*

The education provider is reputable and accountable for the medical radiation practice program, consistent with the requirements for registration as a higher education provider with TEQSA.

### *Standard 2.2 Financial viability and sustainability*

The education provider has the financial resources and financial management capacity to sustain the delivery of its medical radiation practice program, consistent with the requirements for registration as a higher education provider with TEQSA.

### *Standard 2.3 Corporate and academic governance*

The education provider shows sound corporate and academic governance in delivering its medical radiation practice program, consistent with the requirements for registration as a higher education provider with TEQSA.

### *Standard 2.4 Primacy of academic quality and integrity*

The education provider maintains academic quality and integrity in delivering its medical radiation practice program, consistent with the requirements for registration as a higher education provider with TEQSA.

### *Standard 2.5 Management and human resources*

The education provider's operations are well-managed and human resources are appropriate for delivering its medical radiation practice program and are consistent with the requirements for registration as a higher education provider with TEQSA.

### *Standard 2.6 Responsibilities to students*

The education provider documents and meets its responsibilities to medical radiation practice students, consistent with the requirements for registration as a higher education provider with TEQSA, including by:

- 2.6.1 providing students with information, support and equitable treatment
- 2.6.2 informing all medical radiation practice students prior to enrolment and during their studies, of the:
  - a. education provider's obligation to provide information requested by the Medical Radiation Practice Board of Australia about students and the mandatory notification requirements under the Health Practitioner Regulation National Law as in force in each state and territory
  - b. practitioners' requirement to register with the Medical Radiation Practice Board of Australia in order to use professional titles
  - c. Medical Radiation Practice Board of Australia's requirements for registration to practise as a medical radiation practitioner in Australia, including any period of postgraduate supervised practice required by the Medical Radiation Practice Board of Australia, and
  - d. medical radiation program's accreditation and approval status under the Health Practitioner Regulation National Law as in force in each state and territory
- 2.6.3 informing students about the risks associated with medical radiation practice, and
- 2.6.4 ensuring students develop skills they can employ to ensure their safety and ensuring students are adequately prepared for clinical education.

### *Standard 2.7 Physical and electronic resources and infrastructure*

The education provider ensures there is sufficient infrastructure and safe, well-maintained physical and electronic resources, to enable the achievement of the medical radiation practice program objectives, across all its relevant locations, consistent with the requirements for registration as a higher education provider with TEQSA, including by:

- 2.7.1 providing the teaching and learning equipment and tools to allow for the development of a range of clinical skills aligned to the medical radiation practice program's learning outcomes, including simulation equipment relevant to the respective division of clinical practice, and
- 2.7.2 ensuring medical radiation practice students have exposure to contemporary technologies and equipment relevant to clinical practice.

## **Standard 2.8 Clinical education**

The education provider has effective arrangements to assure the quality of student clinical placements in the medical radiation practice program, including by:

- 2.8.1 assuring the quality of all clinical education and placement facilities
- 2.8.2 using documented criteria for selecting appropriate clinical education and placement facilities for the medical radiation practice program, including a criterion that requires each facility to meet all applicable regulatory requirements
- 2.8.3 ensuring clinical education facilities are appropriately licensed
- 2.8.4 ensuring that, when external clinical education and placement facilities are used, a formal agreement is in place with the facility or relevant external agency
- 2.8.5 having a risk management process in place that includes strategies to deal with potential workplace incidents in clinical education and placement facilities for the medical radiation practice program
- 2.8.6 having a process in place that requires students to disclose to the education provider issues that may affect their ability to safely engage in clinical education and placements
- 2.8.7 having appropriate processes in place to ensure students are safe to engage in clinical practice prior to clinical placements, including confidential disclosure of issues by students, completion of police checks and, where appropriate, working with children checks
- 2.8.8 having appropriate insurance that indemnifies all academic and clinical staff, students and clinical supervisors when undertaking activities related to the medical radiation practice program, including when undertaking activities off-shore
- 2.8.9 ensuring the volume, range and level of clinical education and placements is adequate for effective delivery of the medical radiation practice program's learning outcomes
- 2.8.10 ensuring clinical supervisors for the medical radiation practice program have had a period of relevant clinical and supervision experience and are registered in the relevant division of medical radiation practice by the Medical Radiation Practice Board of Australia
- 2.8.11 providing clinical supervisors and students in the medical radiation practice program with detailed information on their roles and responsibilities

- 2.8.12 ensuring the ratio of clinical staff to students is adequate for effectively achieving the medical radiation practice program's learning outcomes
- 2.8.13 ensuring there is ongoing evaluation of the clinical education facilities used, and clinical supervisors engaged in, the medical radiation practice program
- 2.8.14 ensuring each medical radiation practice student's clinical education and placements include:
  - a. experience providing culturally competent health care, and
  - b. exposure to a range of clinical settings including rural and regional settings
- 2.8.15 ensuring clinical education and placements provide medical radiation practice students with regular opportunities to reflect on their observations of practice, and
- 2.8.16 ensuring there are sufficient clinical placements available for all students in the program of study to demonstrate achievement of the program's learning outcomes.

## **Field 3: Education provider attributes**

### **Standard 3.1 Education provider standards**

The education provider delivers teaching and learning that engage with advanced knowledge and inquiry, consistent with the higher education provider category requirements in the threshold HES including by:

- 3.1.1 actively establishing and maintaining partnerships with relevant organisations in the health sector, aimed at enhancing the education, including clinical education, of medical radiation practice students, and
- 3.1.2 actively seeking stakeholder participation to maintain the currency and relevance of the medical radiation practice program of study to the health sector and the community.

## **Field 4: Program attributes**

### **Standard 4.1 Program design**

The education provider ensures its medical radiation practice program is designed to develop the knowledge, skills and professional capabilities required for graduates to be ready to engage in safe and effective practice of the medical radiation profession, consistent with the requirements for course accreditation specified in the threshold HES, including by:

- 4.1.1 designing the medical radiation practice program to meet the AQF requirements for a qualification at level 7 or higher<sup>1</sup>

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<sup>1</sup> See [www.aqf.edu.au](http://www.aqf.edu.au)

- 4.1.2 ensuring input from relevant external stakeholders, including consumers, is taken into account in designing the medical radiation practice program
- 4.1.3 integrating theoretical knowledge and clinical practice of medical radiation practice throughout the program
- 4.1.4 defining and addressing learning outcomes that prepare graduates for entry to the medical radiation practice profession in the Australian healthcare context
- 4.1.5 designing an integrated, structured clinical education and placement program that provides each student with:
  - a. experiences (including patient contact, simulated learning and opportunities for inter-professional learning) across the scope of practice program's expected of entry level medical radiation practice practitioners, and
  - b. exposure to a range of clinical settings including rural and regional settings where they are available.

#### **Standard 4.2 Program resourcing and information**

The education provider ensures information provided to students, levels of resourcing for its medical radiation practice program and access to resources by staff and students are adequate and enable students to achieve the program's expected learning outcomes and are consistent with the requirements for course accreditation specified in the threshold HES.

#### **Standard 4.3 Admission criteria**

- 4.3.1 The education provider ensures the admission criteria for its medical radiation practice program are:
  - a. appropriate for the respective AQF level and the expected learning outcomes for the program, and
  - b. consistent with the requirements for course accreditation within the threshold HES.
- 4.3.2 The education provider ensures students enrolled in the medical radiation practice program are sufficiently competent in the English language to participate effectively in the program and achieve its expected learning outcomes, and sets English language entry requirements that reflect the *English language skills registration standard* established by the Medical Radiation Practice Board of Australia.

#### **Standard 4.4 Teaching and learning**

The education provider ensures the teaching and learning support for its medical radiation practice program is of high quality and consistent with the requirements for course accreditation specified in the threshold HES, including by:

- 4.4.1 appointing academic and research leadership staff at an associate professor level or higher to provide guidance to the medical radiation practice program and its staff
- 4.4.2 ensuring that staff who teach students in the medical radiation practice program have a sound understanding of current scholarship and/or professional practice in the division of medical radiation practice that they teach, and
- 4.4.3 employing mechanisms to ensure that the quality of the clinical supervision is attained and maintained in the medical radiation practice program.

#### **Standard 4.5 Assessment and expected learning outcomes**

The education provider ensures assessment methods within the medical radiation practice program are effective and consistent with the requirements for course accreditation specified in the threshold HES, including by:

- 4.5.1 employing assessment tasks that measure achievement of the program's learning outcomes
- 4.5.2 employing a range of assessment methods in the medical radiation practice program, including cognitive and practical assessment tasks
- 4.5.3 employing an appropriate balance between formative and summative assessment in the medical radiation practice program
- 4.5.4 ensuring that graduates have attained key attributes including a level of English language proficiency that meets the *English language skills registration standard* established by the Medical Radiation Practice Board of Australia, and
- 4.5.5 monitoring and analysing assessment data to support and assure the continued reliability and validity of the assessment methods.

#### **Standard 4.6 Program monitoring, review, updating and termination**

The education provider ensures its medical radiation program is regularly monitored, reviewed and updated to ensure compliance with the accreditation standards and that program change including termination will be appropriately managed, consistent with the requirements for course accreditation specified in the threshold HES, including by:

- 4.6.1 undertaking regular review of clinical education and placements in the medical radiation practice program including evaluating the students' experiences while on placements and considering feedback from clinical supervisors and staff employed at clinical facilities
- 4.6.2 ensuring there is ongoing evaluation of the quality of clinical supervision and of placement facilities for the medical radiation practice program, and
- 4.6.3 having mechanisms in place to support accurate and timely completion and submission of monitoring reports to the Accreditation Committee.

## Field 5: Qualification attributes

### *Standard 5.1 Certification documents*

The education provider ensures that it issues appropriate certification documents to graduates of its medical radiation program and maintains processes to authenticate those awards and protect against their fraudulent use, consistent with the *Qualifications standards* specified in the threshold HES.

### *Standard 5.2 Articulation, recognition of prior learning and credit arrangements*

The education provider ensures that it maintains processes to provide for the recognition of prior learning, credit transfer and articulation of awards for its medical radiation practice program, consistent with the *Qualifications standards* specified in the threshold HES.

## Field 6: Professional capabilities of medical radiation practice program graduates

The standards in this field cover aspects of the knowledge, skills and professional attributes required to practise as a diagnostic radiographer, radiation therapist or nuclear medicine technologist in Australia.

These standards reflect the *Professional capabilities for medical radiation practice* developed by the Medical Radiation Practice Board of Australia (MRPBA professional capabilities).

### *Standard 6.1 Professional and ethical conduct*

The education provider ensures all students must demonstrate the ability to:

- a. practise in an ethical and professional manner, consistent with relevant legislation and regulatory requirements
- b. provide each patient/client with an appropriate level of dignity and care
- c. assume responsibility, and accept accountability, for professional decisions, and

- d. advocate on behalf of the patient/client, when appropriate, within the context of the practitioner's particular division of registration.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 1 of the MRPBA professional capabilities.

### *Standard 6.2 Communication and collaboration*

The education provider ensures all students must demonstrate the ability to:

- a. communicate clearly, sensitively and effectively with patient/client and their family or carers, and
- b. collaborate with other health practitioners.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 2 of the MRPBA professional capabilities.

### *Standard 6.3 Evidence based practice and professional learning*

The education provider ensures all students must demonstrate the ability to:

- a. apply critical and reflective thinking to resolve clinical challenges, and
- b. identify ongoing professional learning needs and opportunities.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 3 of the MRPBA professional capabilities.

### *Standard 6.4 Radiation safety and risk management*

The education provider ensures all students must demonstrate the ability to:

- a. implement safe radiation practice appropriate to their division of registration
- b. protect and enhance patient/client safety
- c. confirm and operate equipment and instrumentation safely as appropriate to their division of registration
- d. maintain safety of self and others in the work environment appropriate to their division of registration, and

- e. safely manage radiation and radioactivity in the environment.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 4 of the MRPBA professional capabilities.

### **Standard 6.5 Practice in medical radiation sciences**

The education provider ensures all students must demonstrate the ability to:

- a. apply an understanding of anatomy, physiology and pathology that is appropriate to their division of registration
- b. apply principles of medical radiation physics and instrumentation
- c. use patient information management systems appropriately
- d. confirm the procedure according to clinical indicators
- e. assess patient/client's capacity to receive care
- f. deliver patient/client care appropriate to their division of registration
- g. manage and manipulate 3D datasets for diagnostic image production, and
- h. apply knowledge of pharmaceuticals relevant to their division of registration.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 5 of the MRPBA professional capabilities.

### **Standard 6.6 Practice in diagnostic radiography**

6.6.1 The education provider ensures all students enrolled in its medical radiation sciences program leading to a qualification in diagnostic radiography must demonstrate the ability to:

- a. implement and evaluate general radiography examinations for a range of patient/client presentations and complexities
- b. implement fluoroscopy in a range of settings
- c. implement diagnostic computed tomography (CT) imaging
- d. explain the principles and clinical applications of angiography and interventional techniques

- e. explain the principles and clinical applications of magnetic resonance (MR) imaging
- f. explain the principles and clinical applications of ultrasound imaging, and
- g. explain the principles of mammographic imaging within the clinical context.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 5A of the MRPBA professional capabilities.

6.6.2 The education provider ensures all students enrolled in its medical radiation sciences program leading to a qualification in diagnostic radiography demonstrate the ability to alert the appropriate health professional when they observe significant findings of a medically urgent nature.

### **Standard 6.7 Practice in nuclear medicine**

6.7.1 The education provider ensures all students enrolled in its medical radiation sciences program leading to a qualification in nuclear medicine technology must demonstrate the ability to:

- a. implement the preparation and assess purity of radiopharmaceuticals
- b. explain the biodistribution and applications of radiopharmaceuticals including therapies
- c. implement routine nuclear medicine imaging
- d. implement computed tomography (CT) imaging for nuclear medicine imaging
- e. implement the delivery of nuclear medicine radioisotope examinations and therapies, and
- f. describe how to undertake in vivo and in vitro laboratory procedures.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 5B of the MRPBA professional capabilities.

6.7.2 The education provider ensures all students enrolled in its medical radiation sciences program leading to a qualification in nuclear medicine technology must demonstrate the ability to:

- a. explain the principles and clinical applications of ultrasound imaging and magnetic resonance (MR) imaging, and

- b. alert the appropriate health professional when they observe significant findings of a medically urgent nature.

## *Standard 6.8 Practice in radiation therapy*

- 6.8.1 The education provider ensures all students enrolled in its medical radiation sciences program leading to a qualification in radiation therapy must demonstrate the ability to:
- a. apply knowledge of stabilisation devices related to radiation therapy
  - b. apply treatment simulation techniques
  - c. apply knowledge of treatment planning
  - d. implement computed tomography (CT) imaging for oncologic treatment planning, and
  - e. implement treatment techniques according to approved plans.

To meet this standard, the education provider must demonstrate that the medical radiation practice program's learning outcomes and assessment ensure each student meets the evidence requirements for Domain 5C of the MRPBA professional capabilities.

- 6.8.2 The education provider ensures all students enrolled in its medical radiation sciences program leading to a qualification in radiation therapy must demonstrate the ability to:
- a. explain the principles and clinical applications of ultrasound imaging and magnetic resonance (MR) imaging, and
  - b. alert the appropriate health professional when they observe significant findings of a medically urgent nature.



## Glossary

Clinical education	the performance of professional procedures and/or processes, including experience providing patient care, by a student or a group of students while receiving guidance and feedback from a clinical supervisor for the purpose of developing the professional capabilities required to engage in safe and effective practice of the medical radiation practice profession
Clinical supervision	the oversight – either direct or indirect – by a clinical supervisor of professional procedures and/or processes performed by a student or a group of students within a clinical placement for the purpose of guiding, providing feedback on, and assessing personal, professional and educational development in the context of each student’s experience of providing safe, appropriate and high quality patient care
Clinical supervisor	a registered medical radiation practitioner who guides students’ education during clinical placements. The clinical supervisor’s role may encompass educational, support and managerial functions. The clinical supervisor is responsible for ensuring safe, appropriate and high-quality patient care at all times throughout students’ clinical education.
Current scholarship	<p>involves, in the context of teaching and learning:</p> <ul style="list-style-type: none"> <li>• demonstrating current subject knowledge and an ongoing intellectual engagement in primary and allied disciplines, and their theoretical underpinnings</li> <li>• keeping abreast of the literature and new research, including by interaction with peers, and using that knowledge to inform teaching and learning</li> <li>• encouraging students to be critical, creative thinkers and enhancing understanding of teaching through interaction with students</li> <li>• engaging in professional practice that is appropriate to the discipline</li> <li>• being informed about the literature of teaching and learning in relevant disciplines and being committed to ongoing development of teaching practice, and</li> <li>• focusing on the learning outcomes of students.</li> </ul> <p>(Adapted from <i>TEQSA Application Guide</i>)</p>
Education provider	means (a) a university, or (b) other provider registered by TEQSA as a ‘Higher Education Provider’
Fitness to practise	Key elements of fitness to practise must include competence, professionalism, including a sense of responsibility and accountability, self awareness and professional values, sound mental health and the capacity to maintain health and wellbeing for practice.
Medical radiation practice program of study or medical radiation practice program	means a medical radiation practice program of study provided by an education provider.
Teach out mechanisms	means arrangements that allow students to complete the qualification or program in which they were enrolled at the time the education provider decided to discontinue offering that qualification or program.
Testamur	means an official certification document that confirms that a qualification has been awarded to an individual. In Australia this may be called an ‘award’, ‘parchment’, ‘laureate’ or ‘certificate’.
Volume of learning	A volume of learning is included within the AQF as an integral part of the description for each qualification type. The volume of learning is a dimension of the complexity of the qualification type. It identifies the notional duration of all activities required for the achievement of the learning outcomes specified for a particular AQF qualification type. It is expressed in equivalent full-time years.

## List of acronyms

AQF	Australian Qualifications Framework
CT	Computed tomography
Cr GFR	Chromium glomerular filtration rate study
Cr RBC	Chromium red blood cell study
IMRT	Intensity-modulated radiation therapy
IT	Information technology
MBS	Medicare Benefits Schedule
MRI	Magnetic resonance imaging
MRPBA	Medical Radiation Practice Board of Australia
PET	Positron emission tomography
SPECT	Single photon emission computed tomography
TEQSA	Tertiary Education Quality and Standards Agency
VMAT	Volumetric modulated arc therapy
Threshold HES	Higher Education Standards Framework (Threshold Standards) 2011