Supervised practice program for medical radiation practitioners

Supervision assessment report two (2): nuclear medicine technology

The quarterly reports submitted during the supervised practice program will contribute to the assessment of the practitioner's application for general registration with the Medical Radiation Practice Board of Australia.

The Principal supervisor must discuss the assessment with the supervised practitioner prior to submitting.

It is important that the Principal supervisor refers to the Board's *Supervised practice registration standard* and the *Supervised practice program guide* before completing assessment reports.

These documents can be found at www.medicalradiationpracticeboard.gov.au

The practitioner's capability in each domain must be assessed. If the practitioner is assessed as making limited or no progress, further details must be provided. Comments are not required if the practitioner is making satisfactory progress.

Please submit this form.

This assessment form must be sent to mrpsupervisedpractice@ahpra.gov.au

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Name of supervised practitioner: _____

Registration number: MRP _____

Name of principal supervisor: _____

Registration number: MRP _____

Date of report: _____ / _____ / 20_____

Total weeks completed in program: _____

No of weeks worked during reporting period (usually 12 weeks**):** _____ **Leave taken** _____ week/s

Professional capabilities for medical radiation practice

Key capabilities – what registered medical radiation practitioners must be able to do

The key capabilities describe the key features of safe and competent practice in a range of contexts and situations of varied complexity and uncertainty. During any one procedure or treatment, practitioners are expected to demonstrate key capabilities from various domains. This recognises that competent professional practice is more than a sum of each discrete part and requires an ability to draw on and integrate the breadth of capabilities to support overall performance.

Enabling components – evidence of the key capabilities for general registration as a medical radiation practitioner

The enabling components describe the essential and measurable characteristics of the corresponding key capabilities and facilitate assessment of performance in the practice setting. Medical radiation practitioners must be able to demonstrate all enabling components for all key capabilities for safe and competent practice. This includes applying, adapting and synthesising new knowledge from experience to continually improve performance.

The enabling components include different ways of demonstrating capability:

- **Apply knowledge / principles of:** indicates a practitioner is expected to apply detailed knowledge in the practice setting.
- **Understand** indicates a practitioner is expected to apply broad knowledge and understanding of information for safe practice, however may not need to understand or interpret detailed information or may not need to use their knowledge and understanding to perform certain procedures.
- **Performance e.g. 'perform', 'identify', 'respond' and/or 'operate'** are used for the majority of enabling components **–** these are abilities needed in the practice setting.

Definitions

Capable

Professional capability is the ability to take appropriate and effective action to formulate and solve problems in both familiar and unfamiliar, complex and changing settings. Professional capability develops over time and must be demonstrated to the standard of performance needed in the workplace.

Prior to completion of the supervised practice program a supervised practitioner must have demonstrated all of the key capabilities, including those relevant for the division of nuclear medicine technology (not including MRI or US except where they form part of the supervised practitioner's practice)

A supervised practitioner may demonstrate capability (all of the enabling components) at any time during the program, including the early stages of the program.

For a supervised practitioner to be assessed as capable they must:

- demonstrate the capability according to the relevant descriptor (*apply, understand, perform* etc)
- consistently demonstrate all of the enabling components of capability at the standard required for safe and effective practice
- accept responsibility and be accountable for their practice, including managing individual patients within the supervisor's general oversight, and
- use their professional judgement, decision-making skills and experiential learning to apply their scientific knowledge, practical skills and ability in any given situation.

Satisfactory progress (2nd report)

Satisfactory progress by the end of period two means the supervised practitioner:

- sometimes requires direction and extended timeframes to undertake a practice or treatment
- has demonstrated some of the enabling components of capability, sometimes requiring assistance to apply this knowledge, and
- practises semi-independently, sharing the responsibility for individual patient/clients with the supervisor.

Limited progress

The supervised practitioner has not demonstrated satisfactory progress or has otherwise demonstrated limited progression. Minor changes to the supervision implementation plan are likely to enable the supervised practitioner to make sufficient progress over the next supervision period.

The Principal supervisor may make minor adjustments to the supervision plan to ensure development of the supervised practitioner in the next assessment period. Minor adjustments to the supervision plan do not require approval from the Board.

No progress

The supervised practitioner is not meeting expectations / not making adequate progress in most or all elements of the domain. Major changes to the supervision plan are required to enable the supervised practitioner to make sufficient progress over the next supervision period.

Major changes to the supervision plan must be approved by the Board.

If a supervised practitioner has been assessed as making No progress in two or more Capability domains the Principal supervisor should raise a concern with Ahpra by email to mrpsupervisedpractice@ahpra.gov.au

Not assessed

Ordinarily, supervised practitioners will be expected to practice in accordance with the approved supervision implementation plan and this will include demonstrating capabilities across the common domains at all times throughout the period of supervision.

For Domain 1B – nuclear medicine technology, the supervision plan generally describes practice arrangements that ensures the supervised practitioner receive experiential learning in the different areas of practice.

An indication that a capability was 'Not assessed' should only be used if the supervised practitioner was not assessed during this assessment period because;

- the approved supervision plan did not require the capability to be assessed in this period, or
- an unscheduled change to the supervision plan has occurred

Details of changes to the supervision plan should be noted in this report and reflected in an amended supervision plan

Domain 1: Medical radiation practitioner:

1.1. Apply knowledge of anatomy, physiology and pathology to practice.

1.2. Use clinical information management systems appropriately.

1.3. Understand and apply the different methods of imaging and treatment.

1.4. Confirm the procedure according to clinical indicators.

1.5. Assess the patient's capacity to receive care.

1.6. Implement techniques for patient stabilisation and reproducibility of procedures and outcomes.

1.7. Deliver patient care, including

- Recognise patients/clients whose condition is deteriorating, or who are unable to undergo an examination/treatment and respond to their needs in an appropriate and timely way consistent with standards of safe and high-quality care. This includes calling for emergency help when needed.
- Apply quality criteria to assure image quality, evaluate medical images and identify any urgent and/or unexpected findings.
- If the practitioner identifies any urgent or unexpected findings, take appropriate and timely action to ensure the immediate management of the patient/client.

1.8. Apply knowledge of safe and effective use of medicines.

Contrast agents and other medicines

Some examinations and treatments include the use of contrast agents and other medicines.

The safe use of contrast agents and/or other medicines used in connection with examinations or treatments must be assessed against the enabling components of Domain 1, Key capability 8 - Apply knowledge of safe and effective use of medicines.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below**)

☐ No progress (**provide details below**)

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

1B: Practice in nuclear medicine technology

1. Prepare and assess the purity of radiopharmaceuticals

a. Perform the elution and quality control of the radioisotope generator.

b. Assay the eluate and prepare radiopharmaceuticals ensuring critical procedure features are observed, such as correct volume and radioactivity.

c. Perform quality control on radiopharmaceuticals and assess for patient/client use.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)** ☐ Not assessed

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

1B: Practice in nuclear medicine technology

2. Perform nuclear medicine examinations and therapies

a. Calculate the dose and decay of radiopharmaceuticals used in examinations and therapies.

b. Recognise the difference between therapeutic and diagnostic doses, as it affects the patient/client, health practitioner and the public.

c. Deliver appropriate dosage of radiopharmaceutical delivery systems and safe aseptic techniques for each patient/client.

d. Use appropriate radiopharmaceutical delivery systems.

e. Perform planar, SPECT/CT and PET/CT studies, including positioning the patient/client for the best diagnostic outcome.

f. Process data image sets, including multi-planar reformats and volume imaging.

g. Determine whether the biodistribution of radiopharmaceuticals is normal, altered or unexpected.

h. Apply the principles underpinning nuclear medicine therapies to practice.

i. Prepare the patient/client and delivery systems for nuclear medicine radiopharmaceutical therapies.

Delivery systems may include but are not limited to intra-arterial, intravenous, oral, subcutaneous and inhalation.

Planar, SPECT/CT and PET/CT Studies may include but are not limited to bone, myocardial perfusion, gated heart pool, lung perfusion/ventilation, thyroid, and renal studies as well as oncologic, cardiac and neurologic PET studies.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)** ☐ Not assessed

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

1B: Practice in nuclear medicine technology

3. Perform in vivo and in vitro laboratory procedures when necessary.

a. Perform safe aseptic blood labelling procedures.

b. Perform in vivo laboratory procedures.

c. Implement appropriate methods to determine if results of laboratory procedures are normal, altered or unexpected.

Laboratory procedures must be understood by nuclear medicine technologists and may include the use of sample counters such as well counters, operation of centrifuges, and use of fume hoods.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)** ☐ Not assessed

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

1B: Practice in nuclear medicine technology

4. Perform computed tomography (CT) imaging.

a. Operate CT systems safely and effectively

b. Apply appropriate imaging parameters for the patient/client presentation.

c. Adjust relative dose levels based on the range of patient/client presentations.

d. Collaborate in the design and evaluation of CT protocols.

e. Perform and evaluate contrast and non-contrast CT examinations of the body and, when appropriate, modify them to consider patient/client presentation and clinical indications.

f. Process data image sets, including multi-planar reformats and volume imaging.

Contrast agents and other medicines

CT may contrast-enhanced studies which requires the safe and appropriate selection of CT contrast agents for the patient presentation.

The safe use of contrast agents and/or any other medicines used in connection with CT examinations must be assessed under Domain 1, Key capability 8 - Apply knowledge of safe and effective use of medicines.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)** ☐ Not assessed

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

Domain 2: Professional and ethical practitioner

2.1. Practise in an ethical and professional manner, consistent with relevant legislation and regulatory requirements.

2.2. Provide each patient with dignity and care

- Cultural competency is the acknowledgment of the importance of culture, the assessment of cross-cultural relations, vigilance of the dynamics that may result from cultural differences, expansion of cultural knowledge and adapting services to meet culturally-unique needs
- Cultural safety is the individual (and institutional) knowledge, skills, attitudes and competencies needed to deliver optimal health care for Aboriginal and Torres Strait Islander Peoples as determined by Aboriginal and Torres Strait Islander individuals, families and communities.

2.3. Take responsibility and accountability for professional decisions.

2.4. Advocate on behalf of the patient when appropriate.

2.5. Seek (supports) opportunities to progress the profession.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)**

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

Domain 3: Communicator and collaborator

3.1. Communicate clearly, sensitively and effectively with the patient and their family or carers.

3.2. Collaborate with other health practitioners.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)**

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

Domain 4: Evidence-informed practitioner

4.1. Resolve challenges through application of critical thinking and reflective practice.

4.2. Identify ongoing professional learning needs and opportunities.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)**

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

Domain 5: Radiation safety and risk manager

5.1. Perform and provide safe radiation practice.

5.2. Protect and enhance patient safety

5.3. Implement quality assurance processes imaging or treating patients

5.4. Maintain safety of the workplace and associated environments

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)**

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

Assessable capabilities if magnetic resonance imaging (MRI) forms part of a supervised practitioner's practice

The following enabling components cover the knowledge, skills and attributes needed by all medical radiation practitioners who use MRI as part of their practice. Meeting the capability requirements ensures that practitioners who use MRI are capable of providing safe, quality, patient-centred care.

Perform magnetic resonance imaging (MRI).

a. Operate MRI systems safely and effectively.

b. Apply knowledge of the principles of MRI physics and surrounding environment to ensure patient and others' safety.

c. Select equipment and imaging parameters relevant to the patient presentation and where appropriate, modify imaging parameters to achieve optimal diagnostic outcomes.

d. Collaborate in the design and evaluation of MRI protocols.

e. Perform and evaluate MRI examinations where appropriate, modify the examination according to the MRI findings and clinical presentation.

f. Process image data sets.

Contrast agents and other medicines

MRI includes contrast-enhanced studies and the safe and appropriate selection of MRI contrast agents for the patient presentation.

The safe use of contrast agents, and any other medicines used in connection with MRI examinations must be assessed under Domain 1, Key capability 8 - Apply knowledge of safe and effective use of medicines.

MRI safety

As part of assessment a supervised practitioner must consistently apply the knowledge and principles of MRI safety in performance of MRI examinations.

MRI safety includes but is not limited to:

- maintaining the integrity of MRI safety zones
- applying principles of electro-magnetic forces and fields (static and gradient and radiofrequency)
- minimising the bioeffects of magnetic fields (including tissue heating and peripheral nerve stimulation)
- exposure limits (including specific absorption rates)
- assessing and managing risks associated with devices/implants/projectiles, acoustic risks, and
- implementing emergency procedures in the event of quench or the distressed and/or deteriorating patient.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)** ☐ Not assessed

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

Assessable capabilities if ultrasound (US) forms part of a supervised practitioner's practice

The following enabling components cover the knowledge, skills and attributes needed by all medical radiation practitioners who use ultrasound (US) as part of their practice. Meeting the capability requirements ensures that practitioners who use ultrasound are capable of providing safe, quality, patient-centred care.

Perform ultrasound imaging

a. Operate ultrasound imaging systems safely and effectively.

b. Apply knowledge of the principles of ultrasound physics to minimise the likelihood of biological effects and identification of artefacts.

c. Apply knowledge of cross-sectional anatomy, embryology, pathophysiology, haemodynamic and sonographic appearances of normal and abnormal anatomy.

d. Use standard techniques/images and equipment for the body area being examined and, where appropriate, modify them to consider the patient presentation and clinical indications.

e. Perform and evaluate ultrasound imaging and where appropriate, extend or modify the examination according to the sonographic findings and clinical presentation.

f. Document the real-time examination and evaluate findings.

Ultrasound imaging systems must include 2D, Doppler and may include contrast and 3D where appropriate.

Ultrasound physics includes transducer design and operation, identification of artefacts and understanding of the biological effects of ultrasound.

Documenting the real-time examination must follow organisational protocols and still images/cine loops must accurately represent any pathology present or absent.

Assessment:

☐ Capable ☐ Satisfactory progress ☐ Limited progress (**provide details below)**

☐ No progress (**provide details below)** ☐ Not assessed

Detail the reasons for assessment: What specific practice areas within the domain need to be addressed?

Detail the changes needed to the supervision plan for the practitioner to make sufficient progress over the next supervision period

Overall assessment

1. Do you have a concern about this supervised practitioner's progress?

   ☐ Yes (**Principal supervisor must contact Ahpra by email** mrpsupervisedpractice@ahpra.gov.au)

   ☐ No (go to Q2)

2. Is the supervised practitioner suitable to progress to next period of supervision?

   ☐ Yes (go to Q3)

   ☐ No (go to Q4)

3. Have you discussed this supervision report with the supervised practitioner and agreed with the assessment contained within and to continue with the existing agreed supervision plan?

   ☐ Yes

   ☐ No (you must discuss the assessment before submitting)

Limited progress / No progress

4. If the practitioner is not suitable to progress to the next period of supervision:
   detail changes recommended to the previously agreed supervision plan and reasons for the changes (if necessary, please provide additional information on a separate sheet)

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(go to Q5)

5. Have you discussed this supervision assessment with the supervised practitioner and agreed to recommend an amendment to the existing supervision plan?

   ☐ Yes

   ☐ No (you must discuss the assessment before submitting)