



Response template for providing feedback to public consultation – draft revised professional capabilities for medical radiation practice

This response template is an optional way to provide your response to the public consultation paper for the **Draft revised professional capabilities for medical radiation practice**. Please provide your responses to any of the questions in the corresponding text boxes; you do not need to answer every question if you have no comment.

Making a submission

Please complete this response template and send to medicalradiationconsultation@ahpra.gov.au, using the subject line '*Feedback on draft revised professional capabilities for medical radiation practice*'.

Submissions are due by midday on Friday 26 April 2019.

Stakeholder details

Please provide your details in the following table:

Name:	Claire Mulcahy
Organisation Name:	The Florey Institute of Neuroscience & Mental Health

Your responses to the preliminary consultation questions

1. Does any content need to be added to any of the documents?

The very real hazards of MRI and the skill and knowledge of the MRI radiographer in preventing injuries to patients and staff are only briefly mentioned in this document. An individual is a lot more likely to suffer an injury from the MRI environment than by undergoing any other diagnostic medical imaging procedure. It is the MRI radiographer's role primarily to keep them safe. A number of deaths and serious injuries have resulted from MRI accidents over the years. Furthermore, as an increasing number of MRI scanners are being installed and the number of less experienced operators is increasing, MRI accident rates are increasing. Radiofrequency burns (often requiring amputation of limbs) are the most common MRI accident. Other common examples of types of accidents include those caused by the projectile/ missile effect of the static magnetic field, equipment faults, unsafe patient implants/devices, hearing damage associated with the gradient magnetic fields, contrast reactions, etc.. I understand that MRI is often grouped with ultrasound as it doesn't involve ionising radiation but as patients and staff are a lot more likely to be harmed in an MRI environment if proper precautions are not adhered to, it needs to be considered differently and the minimum threshold of education, skills etc. needs to be high.

2. Does any content need to be amended or removed from any of the documents?

Key Capabilities & Enabling Components:

3. Understand the different methods of imaging and treatment to determine the most appropriate option.

c.. Understand the use of CT and MRI based simulation for a range of cancer sites, patient/client presentations and related planning procedures.

d. Understand the use of CT, MRI and PET datasets in radiation therapy simulation.

e. operate equipment and apply knowledge of laboratory procedures to practice when necessary.

All of the above Enabling Components seem to be focused on radiation therapy. Understanding the various modalities used in the different imaging and treatment pathways across medical radiation practices should be enough. I don't believe that it is necessary for all medical imaging technologists to have in depth knowledge of all cancer sites, all radiation therapy simulations or laboratory procedures.

4. Confirm the procedure to clinical indicators

a. Review the patient's/client's clinical history, referral and current medical information to confirm the requested or prescribed procedure is appropriate, drawing on knowledge of other treatment pathways.

b. Determine the appropriate imaging and/or treatment protocols and priorities, which consider the information collected during the interaction with the patient/client and knowledge of imaging and/or treatment options.

c. Adapt the requested examination/treatment to an individual patient/client considering available clinical information.

The above statements are of concern in regards to reviewing the patient's clinical history and modifying the procedure. I believe any modification of a clinical procedure that differs from a medical request should be discussed with a radiologist. Also a full medical history may not be available at the time of imaging, thereby making a radiographer vulnerable to legal liability for any alteration to the requested procedure that they may make.

7. Deliver Patient/client care. “The patient/client and their family/carers should also be informed” I have always been led to believe that when a medical radiation practitioner identifies medically significant findings on an image they are to inform the requesting practitioner or other practitioners (e.g. radiologist) for the immediate and appropriate management of the patient but are not to inform the patient as it is not their role.

3. Do the key capabilities sufficiently describe the threshold level of professional capability required to safely and competently practise as a medical radiation practitioner in a range of contexts and situations?

The minimum threshold level for a MRI radiographer need to be a lot higher than those outlined in this document so as to avoid injuries to patients, staff or members of the public.

4. Do the enabling components sufficiently describe the essential and measurable characteristics of threshold professional capability that are necessary for safe and competent practice?

The minimum threshold level for a MRI radiographer need to be a lot higher than those outlined in this document so as to avoid injuries to patients, staff or members of the public.

5. Is the language clear and appropriate? Are there any potential unintended consequences of the current wording?

6. Are there jurisdiction-specific impacts for practitioners, or governments or other stakeholders that the National Board should be aware of, if these capabilities are adopted?

7. Are there implementation issues the National Board should be aware of?

8. Do you have any other general feedback or comments on the proposed draft revised professional capabilities?

I believe it is important that the high level of skills and knowledge required to be a competent and safe MRI radiographer are recognised by AHPRA to protect patients and to protect our profession. Skills that include knowledge of MRI physics, image optimisation, MRI safety, anatomy, pathology, as well as patient skills such as recognising a deteriorating patient, recognising anxiety, rapid response, etc.. As MRI does not use ionising radiation and not all practices/institutions that operate MRI scanners are Medicare accredited, it seems that anyone can operate some MRI scanners. This is a particular concern if these operators are scanning patients. There is currently little in place to protect these patients other than indemnity insurance from these non-radiographer MRI operator's employers.

Other Comments:

MRI radiographers are the frontline of MRI Safety. They are responsible for the supervision of all individuals accessing MRI, advocates of all aspects of safe MRI practice, and have a professional responsibility to protect patients, staff and the hospital or institution that they work for.

MRI Radiographers are part of an MRI safety team, together with the radiologist and physicist/engineer. As an MRI professional the radiographer offers a unique perspective and knowledge base to the MRI safety team: theoretical, clinical and practical knowledge. Further, as the MRI operator, radiographers have a vital role in ensuring MRI safety in practice. As part of the RANZCR current MRI Safety Guidelines the radiographer acts as an MRI Safety Officer, responsible for the supervising of all aspects of MRI safety for staff, visitors and patients in the MRI environment.

MRI Safety in practice involves multiple responsibilities, including but not limited to screening all individuals entering the MRI environment, effective communication with patients and staff, investigating medical records and implant and device information, safe scanning according to appropriate protocols and sequences, monitoring the patient, providing the highest quality diagnostic information/data, reporting any accidents and injuries, maintaining universal precautions, and monitoring the MRI environment for all individuals and equipment entering the

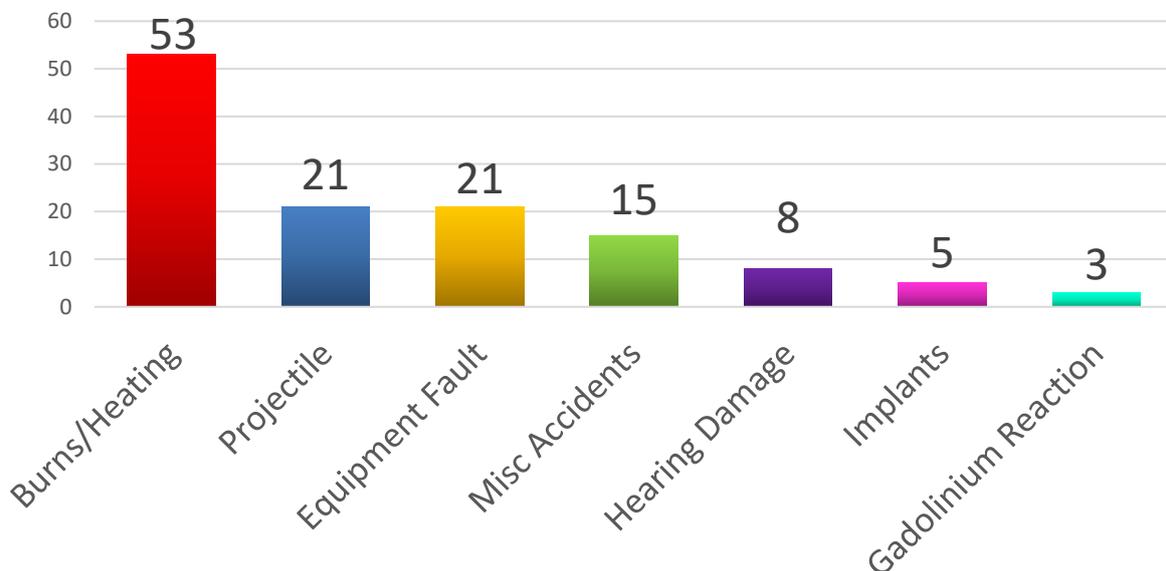
MRI scanner room and MRI control room.

However, the MRI radiographer also faces additional challenges in carrying out their role. Such challenges may be hospital or institutional related or patient related. For example, the pressure to increase scan throughput, while addressing patients who suffer anxiety or claustrophobia.

MRI practice is shaped by a number of guidelines from around the world (including AHPRA) but these are guidelines only – there is no internationally accepted standard or regulation for MRI safe practice despite everyone experiencing similar problems globally.

The main concern of MRI safety is preventing MRI accidents. While the majority of MRI radiographers have experienced some kind of MRI accident (minor or major), very few accidents are reported to national databases. What is reported is only just the tip of the iceberg. Some examples include:

1. MRI exam related injuries listed in the MAUDE (FDA, USA) database (1/05/2017-30/04/2018) = 126 case reports, including 97 injuries, 24 equipment malfunction and 2 deaths. See graph below for distribution of accident types. Note: some burns were so severe that amputation of limb or excision of tissue was required.



2. MRI exam related injuries listed in the medical devices TGA Database (Australia) 1/07/2017 -4/07/2018 = 6 Case reports including: 3 burns, 2 heating sensations & 1 projectile injury

3. MRI exam related injuries listed in the medicines TGA Database (Australia) 1/07/2017 - 18/07/2018 = 53 Case reports including: 52 cases single suspected medicine, 2 cases death

Review of the above data suggests it is likely that in most cases the MRI operator would have had some kind of involvement. Furthermore, these statistics show why all MRI operators need an excellent understanding of MRI theory, the MRI system and environment and key MRI safety risks. We need to create opportunities to learn from previous MRI safety accidents without repeating them!

As a profession, MRI radiographers need to take more of a leadership role in MRI education programmes and improve the minimum threshold standard of MRI professionals. It is important that AHPRA recognises and supports this. MRI radiographers also need to continue to embrace new technologies that promote safer scanning but remember too that these advances cannot replace important aspects of human interaction that are required to ensure MRI safe practice.