



### Response to RANZCR Position Statement on Image Interpretation

The Australian Society of Medical Imaging and Radiation (ASMIRT) welcomes the opportunity to make comment on the Royal Australian and New Zealand College of Radiology (RANZCR) draft position paper, *Image Interpretation by Radiographers – Not the Right Solution*. In a patient centred healthcare system, both radiographers and radiologists have a duty of care towards patients, to ensure timely and helpful therapies. ASMIRT place the patient and their safety at the centre of the diagnostic and treatment cycle, and believe the provision of the very best service, diagnostic, therapeutic, pastoral and cost-effective care should be the driver. ASMIRT remains disappointed by this position statement that is reflective of a Medical Imaging team where subordination appears to be a key tenet of the team. ASMIRT reaffirms that it places our patients at the centre of its medical imaging team.

It appears from the draft paper that there is a degree of confusion regarding the difference between, red dot, commenting and reporting. The title of the position statement *Image Interpretation by Radiographers - Not the right solution* illustrates this confusion. Image interpretation occurs at many points in the imaging process; to determine if the image is acceptable, if other imaging series are required, to make a red dot assessment, to provide a radiographer comment and to provide a clinical report. Image interpretation is required to enable clinicians to be alerted of clinically significant findings on medical imaging studies. This confusion is not unique to RANZCR with a number of ASMIRT's own members also not clearly understanding the definitions. For the purposes of this ASMIRT response, the following definitions are taken to be understood.

The concept of the 'red dot' system commenced some 40 years ago in the UK. Its use was first cited in a publication in 1983. The red dot system is set up as an agreement between referrers and radiographers, it may not specifically include radiologists in the agreement. There have been numerous publications and learnings from the red dot system. Notably the red dot system is ambiguous i.e. if there is no red dot what can the referrer take from that information? The ASMIRT position is that in the absence of anything else it supports the notion of red dot with clear guidelines for radiographers and referring clinicians. Red dot is often implemented with little further education and training, standard setting, review and audit.

The concept of radiographer commenting is not new, with well evidenced data supporting its use in front line imaging. Commenting, like red dot, is done at the point of care and image acquisition. The advantage of commenting over the red dot is that there is no ambiguity i.e. if there is no abnormality then the comment reflects this. Further, a minimum standard of education and training is required in order to undertake commenting. Radiographers, as with the red dot, are able to add to the clinical presentation through interaction with the patient at the point of imaging. A commenting process would include a standard of competence, education and training, and an auditing process.

The practice of radiographer reporting is unique to the UK and some parts of Scandinavia. There is robust evidence to support its implementation and efficacy in their settings. ASMIRT agree with RANZCR in not supporting radiographers in a reporting role in the Australian context. The drivers for and education available are not apparent in Australia at this time.

The draft position paper includes reference to different imaging modalities, including CT, MRI and plain film. The context of the ASMIRT response relates specifically to plain film imaging context, as this is the scope of the ASMIRT Preliminary Image Examination (PIE) project, as noted in the introduction on page 7. The comments on the draft position paper below relate to the section of the draft paper and include page numbers.

## **Section 1 Summary**

### **1.1 The clinical radiologist - Page 4**

It is disappointing to read that RANZCR believes that *'best practice in contemporary patient-centred care requires a collaborative or team-based medical practice model'*, relying on a medical model rather than a model based on the capabilities of all team members. There is some variation in protocol practice for imaging across Australia. Although radiologists may protocol complex modalities such as CT or MRI, in general, they do not protocol plain film imaging other than setting standard views. It is the radiographer's job to assess the images performed against the standard protocol and the clinical question raised by the imaging request. In large city hospitals where there is a radiologist on site 24/7, the radiographer can discuss this with a radiologist if unsure; however, in many hospitals there is either no radiologist or only a registrar available when images require timely review. If the registrar is junior, an experienced radiographer's knowledge of clinical images may be superior to that of the registrar. In smaller centres and country/ rural areas, there may be no radiologist available for on the spot discussion and the protocolling of any images is strictly the radiographer's domain.

Whilst acknowledging that teleradiology may be an option, it should also be noted that the expense of having it available on a 24/7 basis may be prohibitive and that it does not give an immediate answer in cases of urgent/ trauma imaging.

### **1.2.2 Radiography - Page 4**

Radiographer education is undertaken through one of three pathways: a three year undergraduate Bachelor degree followed by a Supervised Practice Program of one year, a four year undergraduate Bachelor degree, or a two year postgraduate degree followed by a Supervised Practice Program. Degrees in medical radiation science prepare graduates to undertake a range of clinical imaging procedures and provide the foundation for further knowledge and skill development. No course allows students to 'choose' between classroom and clinical setting in their final year of education. The Accreditation Committee of the Medical Radiation Practice Board of Australia mandate that there must be sufficient clinical placement experience in the accreditation of courses. The papers that form the basis of the assertion that *'radiographers lack the training and flexibility to write medical reports and make judgments about the relevance of radiological findings'* are outdated; current research refutes these assertions and demonstrate that radiographers with the appropriate education and training have the skills and ability to perform this role.

### **1.3 The radiology report - Page 5**

It is not ASMIRT's position that Australian radiographers should undertake reporting at this time. However, radiographers in the UK have proven in many studies that with appropriate education and training their reports equal the accuracy of radiologist reports. It is important to note that reporting radiographers in the UK have undertaken postgraduate study to enable them to perform these duties.

The interpretation and commenting by radiographers as an adjunct to the formal Radiology Report, value adds to the patient's journey and in no way represents delegation of tasks. Commenting is not designed to provide substitution for the radiologist's report.

Medical imaging professions can recognise inadequacies of imaging due to technical difficulties or the condition of the patient and make independent judgement on modifications required to perform additional imaging to improve quality. In plain film imaging, a radiologist is rarely involved in this decision making process.

#### **1.4 Role extension in radiography - Page 5**

ASMIRT is in agreement with optimising patient outcomes and believe that this can be achieved by ensuring that all members of the interprofessional team work to their full scope of practice and collaboratively. This was the case for the initial role extension in the UK. Role extension in the UK was only in part driven by a shortage of radiologists and wholly driven by a desire to improve service delivery and patient care. Interprofessional medical imaging teams with respect for all involved and their particular skills have resulted in improved turn-around times, reduction in waiting times, and above all, better patient outcomes in emergency departments in the UK. This has been demonstrated in several publications.

Acknowledgement of the "red dot" or "verbal communication" systems by radiologists suggests in-principle support for the clinical knowledge and clinical judgement available from medical imaging professionals.

Radiographer commenting is within the current scope of practice of a radiographer in Australia, as determined by the Medical Radiation Practice Board of Australia (MRPBA). Under national law radiographers are obligated to notify a referring clinician of any pathology that may have a detrimental effect on the patient if not dealt with immediately, e.g. a pneumothorax or nasogastric tube placed in the incorrect position. Documentation of this by the radiographer increases safety. All roles change their scope of clinical practice to meet the constant changes across healthcare. The scope of any clinician 20 years ago would be radically different from that of today. A project with the goal of standardising radiographer commenting does not represent an extension of scope for radiographers. It does not in any way suggest substitution of radiologists by radiographers, rather it goes to the heart of patient care.

#### **1.5 Evidence in support of role extension - Page 6**

The quoted research in the RANZCR document is between 15 and 25 years old and outdated. There is significant current research which supports radiographer commenting and relevant references have been included in the bibliography at the conclusion of this response.

The fact that many Emergency Departments have a radiologist on site has no bearing on the ability of radiographers to comment on plain x-rays. These are two separate issues. The knowledge, skill and experience of radiographer are not diminished because there may (or may not) be a radiologist in the Emergency Department.

### **1.6 Medico-legal issues - Page 6**

Any clinical entry to the patient record is a medico-legal document and many allied health professionals and nurses perform this task on a daily basis. Clear and relevant documentation regarding the patient is required for safe, high quality care.

ASMIRT agrees that a radiologist cannot be held medico-legally responsible for actions taken solely on the basis of written comments from a radiographer (or indeed any other radiologist) without examining the images themselves. Radiographer commenting, however, is particularly important in time critical situations such as the emergency department or in a rural location where a radiologist report may not be available for some time. Medical staff are not necessarily highly experienced and having a discussion with the radiographer can result in a better outcome for the patient. Indeed, radiographers have a legal responsibility to document what they observe/see. If they observe something on an x-ray that is an emergency they need to report it for patient safety.

### **1.7 Conclusion - Page 6**

Radiographer commenting is not a delegated task, nor is it role extension. The PIE project is specifically designed to improve patient care and service delivery. ASMIRT does not support the reporting of imaging examinations for individual patients by radiographers.

### **Section 2. Introduction - Page 7**

It is noted that the draft paper was prepared *'in response to expand the role of radiographers to include reporting and interpretation of imaging studies.'* ASMIRT have no comment to make regarding the Queensland Health Ministerial Taskforce Report, however wish to make clear the scope and purpose of the PIE project.

Late in 2016 ASMIRT committed a direction towards setting a national standard for radiographer commenting. At the outset, the Chair of a special committee convened under the Advanced Practice Advisory Panel invited a number of key stakeholders to have input and guidance on this project. These included the Registration Board, the Allied Health Professions' Office of Queensland and RANZCR. RANZCR were specifically invited as the recognised 'Gold Standard' in image interpretation knowledge and skills and their input, mentorship and guidance in our development of this standard would have been valued. Further to this invitation the Chair and the ASMIRT President discussed with the Faculty Dean of RANZCR, Professor John Slavotinek and Mr Mark Nevin, Executive Officer, the details of the goals of patient focussed project. The key points ASMIRT made in this meeting were:

- This was a patient safety driven project
- ASMIRT was not seeking permission or endorsement from RANZCR
- We would value their expertise
- Radiographer commenting was clearly defined and it was clearly stated that it did not replace the final definitive report of the Radiologist

Unfortunately, RANZCR declined our invitation. In our response to this, ASMIRT stated again that this invitation remained open.

The project team announced that radiographer commenting in the context of the Australian Healthcare setting would be referred to as the Preliminary Image Evaluation or PIE.

ASMIRT are not currently looking to expand the role of radiographers to include reporting. ASMIRT are working to provide the best possible ongoing learning for radiographers who are required to

*'apply knowledge or responsibilities for conveying information when significant findings are identified'*. This is within their minimum scope of practice as defined by the *Professional capabilities for medical radiation practice* of the Medical Radiation Practice Board of Australia, the regulatory body.

### **Section 3. Clinical role of the Radiologist - Page 7**

In the context of plain film imaging, it is incorrect to state that *'Radiologists oversee the clinical journey...which includes...patient interaction before and after imaging and communication of the knowledge gained'* (page 8). In many instances radiologists do not interact at all with the patient before or after imaging. Many patients who have plain film imaging never see a radiologist.

### **Section 4 Comparison of Radiologist and Radiographer Training – Page 8**

ASMIRT are in complete agreement with the statement *'Within the imaging team, each professional brings a particular combination of training and experience, which defines their role and responsibilities'*. It is disappointing however that the draft paper does not appear to recognise that there have been changes to practice which require a more team-based approach rather than a medically driven one. Innovation to healthcare practices should not be anchored to historical practices.

#### **4.2 Radiographer Training - Page 8**

Radiographers are taught the appearances of 'normal' images as part of their university training. If an image appears abnormal the radiographer must decide if further imaging is required, if the clinical question has been answered and if the pathology noted should be brought to the attention of the reporting radiologist, for urgent reporting, or to the referring clinician if no radiologist is available. Radiographers undertake thorough training and education in normal anatomy and common pathologies found on plain film imaging. Those that go on to further studies in pathology and image interpretation will clearly have a higher knowledge than new graduates. Radiographers 'on the job' pathology learning is akin to that of the radiologists, where a pathology is recognised as it has been seen before, and is referred to as pattern recognition.

It is not the position of ASMIRT that radiographers should be reporting images at this time however, recognition of pathology and informing referring clinicians is a basic premise of plain film imaging. The papers that form the basis of the assertion that *'radiographers lack the training and flexibility to write medical reports and make judgments about the relevance of radiological findings'* are outdated; current research refutes these assertions and demonstrate that radiographers have the skills and ability to perform this role.

Comments around radiographers' expertise enabling them to play a role in image acquisition *'with limited supervision'* to *'support the work of the radiologist'* (page 9) are ill informed. Language such as this undermines the professional standing of the radiographer and denotes a lack of understanding of the complimentary roles played by those in the department. There are also many practices where there is not a radiologist on site. Statements such as these demonstrate a lack of knowledge around medical imaging sites outside the major metropolitan locations.

The following statement is also incorrect: *"However, radiographers do not undergo medical training, do not study the nature of disease in-depth or the capacity of different imaging techniques to demonstrate disease processes."* Whilst radiographers do not undergo medical training, the nature

of disease and the capacity of different imaging techniques to demonstrate disease processes is an integral part of undergraduate training, and their knowledge continues to increase with clinical experience after graduation. Many experienced radiographers have a much higher understanding than many medical staff for that reason alone.

#### **4.3 Steps involved in Reporting and Interpretation of Imaging Investigations - Page 9**

As stated, ASMIRT does not support the reporting of images by radiographers.

##### **4.3.1 Understanding the clinical information - Page 10**

Many plain film requests lack sufficient detail and often the radiographer is required to gain further information from the referrer and/or the patient. The suggestion that radiographer's education and experience is insufficient to understand the provided information is grossly misleading. Radiographers also have extensive knowledge of common medical abbreviations – as is required when understanding what imaging is required from the request form.

##### **4.3.2 Technical knowledge – Page 10**

ASMIRT agrees that producing images of diagnostic quality requires skill. Both radiologist and radiographer education include detailed understanding of the accuracy of various imaging procedures relative to other imaging modalities. Both radiologists and radiographers are trained to evaluate the quality of the images. With respect to plain film, protocols are most often developed through evidenced based practice by radiographers. In the context of plain film, radiologists are rarely involved from the request to the acquisition of the image. Radiographer education and training enables them to determine if an image is suboptimal or incomplete.

##### **4.3.3 Observation - Page 10**

Cross checking of patient identification and information is the responsibility of every health care professional involved in the patient's care.

##### **4.3.4 Analysis – Page 10**

With respect to plain film, the finding answers the clinical questions i.e. Is there a fracture? A differential diagnosis is rarely given in this context.

Radiographers are trained to evaluate images. If an image appears abnormal the radiographer must decide if further imaging is required, if the clinical question has been answered and if the pathology noted should be brought to the attention of the reporting radiologist, for urgent reporting, or to the referring clinician if no radiologist is available. This in turn reduces over servicing and leads to timely provision of service.

Medical imaging professionals are trained to avoid over-servicing, and the associated inconvenience and anxiety imposed on patients in addition to unnecessary exposure to ionising and non-ionising radiation.

##### **4.3.5 Integration with medical knowledge and experience – Page 11**

Specifically, with respect to plain film, radiographer education includes the appearances of 'normal' images as part of their university training, including normal anatomy and common pathology. Radiographers undertake in-depth education and training in normal anatomy and common

pathologies found on plain film imaging. As with radiologists, radiographers 'on the job' learning enables them to recognise a pathology as it has been seen before.

#### **4.3.6 Advice - Page 11**

As with radiologists, radiographers are taught the likely accuracy of the examination for a particular patient related to the published accuracy of the technique and its applicability to the particular examination.

ASMIRT's position is that the definitive report is still required and should always override the opinion of the referrer and/or radiographer.

#### **4.3.7 Communication with referrer - Page 11**

As stated, ASMIRT does not support image reporting by radiographers. However, in the context of plain film, comments by the radiographer must be appropriately documented. This includes the professional status of the person making the comment.

#### **4.3.8 Taking Appropriate Action - Page 12**

ASMIRT agree that effective and timely communication of imaging findings is essential for good patient outcomes. However, this is not only the domain of the radiologist, but of the entire team. In regional and rural settings there may be no radiologist on site or online to give a report. In these circumstances an experienced radiographer's advice and interpretation is essential to patient outcomes.

#### **4.5 Evolution of Radiographer Reporting and Interpretation Roles - Page 12/13**

The literature cited in the draft position paper is not current, and the selection of such literature indicates a lack of understanding of the roles of the imaging team.

It is inaccurate to state "*Radiographer role extension has generally been driven by limited availability of radiologists in some countries and the impact this has on service delivery, rather than an assessment of service improvement or benefit in terms of patient care.*" By placing an emphasis on radiologist workforce shortage, this removes the importance of the timely provision of care by the radiology team, and the measures taken to ensure that this happens.

ASMIRT maintain that radiographer commenting is not a delegated task, nor it is role extension. It is a mandated task, congruent with the MRPBA's 'Professional capabilities for medical radiation practitioners'. The June 2017 MRPBA newsletter provides a summary of the obligation which focusses on communicating with other health practitioners.

*There is no expectation that registered medical radiation practitioners provide comment on each and every patient, rather, the obligation is to communicate where the interests of the patient dictate that it is necessary and appropriate to do so.*

*That obligation can be met by communicating with a health practitioner involved in the care of the patient. In some cases this may be the specialist radiologist, in some cases it may be the emergency medicine specialist, hospital medical officer or a general medical practitioner referrer. In some cases*

*it may be the nurse who is caring for the patient. Where such communication occurs, it should be properly recorded so it forms part of the patient history.*

RANZCR do not have the authority to determine the scope of practice for another profession. This is the role of MRPBA. It is unfortunate that RANZCR do not consider radiographer commenting to be within the current scope of practice despite the fact that it is mandated by the regulatory body. ASMIRT considers the national regulator to be the authority on this.

With respect to the red dot system, the position paper notes that there is “*currently no formal written process in place.*” The PIE project is intended to address this by providing a mechanism for formal skill recognition and protocol development.

It is heartening to read the RANZCR does not oppose the red dot system; however, disappointing to read that there is not support for radiographer commenting. Radiographer commenting is not designed to replace the radiologist’s report – it is a comment to assist the radiologist. ASMIRT are still somewhat confused as to the reason behind RANZCR’s opposition to this process.

ASMIRT concur entirely with the statement on page 15. *‘Role evolution, including task substitution and delegation, is a potential means of better utilising the skills of the whole DI team. This must however be considered in the context of responsibilities and core competencies to perform tasks, and by taking a collaborative team-based and system-wide approach.’* This is at the core of the PIE project.

#### **4.6 Standards for Reporting and Interpretation of Imaging Investigations – Page 15**

ASMIRT recognise that radiologists are the gold standard experts on image interpretation, hence the invitation to participate as a key stakeholder in the PIE project. As stated, ASMIRT does not support the reporting of images by radiographers at this time.

#### **4.7 Validity of Radiographer Plain Film Reporting Performance Studies – Page 16**

It is not ASMIRT’s position that Australian radiographers should undertake reporting at this time. However, radiographers in the UK have proven in many studies that with appropriate training their reports equal the accuracy of radiologist reports (refs). It is important to note that reporting radiographers in the UK have undertaken postgraduate study to enable them to perform these duties.

Much of the cited literature in the draft paper is outdated and not reflective of current practice. More recent literature supporting radiographer reporting is included in the bibliography at the conclusion of this response.

#### **4.8 Medicolegal responsibility – Page 16**

ASMIRT concurs that a radiologist cannot be held medico-legally responsible for actions taken solely on the basis of written comments from a radiographer, without having examined the images themselves. Radiographer commenting, however, is particularly pertinent in time critical situations where a radiologist report may not be available for some time.

In conclusion, ASMIRT wish to reiterate that the purpose of the PIE project is to provide guidance and set standard protocols for radiographer commenting in plain film imaging in order to make the patient pathway more timely and safe. ASMIRT believes that safe practice in contemporary patient-centred care is achieved by a collaborative or team-based radiology practice model, with all members of the team working to their full scope of practice.

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