

2021



# ASMIRT

Position Statement

**Virtual Cockpit**

*Your profession. Your future.*



There are a number of protected titles for medical radiation practice. They include:

Medical Radiation Practitioner (MRP)

Diagnostic Radiographer (DR)

Medical Imaging Technologist (MIT)

Radiographer

Nuclear Medicine Scientist (NMS)

Nuclear Medicine Technologist (NMT)

Radiation Therapist (RT).

For the purposes of our documentation we use the broad descriptor Medical Radiation Practitioner (MRP) recognising that it covers a range of areas of practice.



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## ASMIRT position statement:

Use of the Virtual Cockpit remote assistance in high-end imaging modalities.

ASMIRT CT Reference Group

## Background

The Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) are aware of a new integrative product that allows an operator at a satellite location to advise and/or perform scans on a scanner at a separate location. In an effort to promote products and technologies that have the potential to enhance capacity for patient care by radiographers, the Society supports the move toward virtual or remote operation of scanners. However, to ensure patient safety and effectively, ASMIRT believe several important caveats must be considered prior to implementing such an approach.

Virtual Cockpit is a vendor specific technology currently commercially available through one of the major imaging manufacturers (Siemens Healthineers). Although this appears to be the first product to market of its kind, ASMIRT believes this technology will become more widespread and be implemented in various forms into the future.

The Virtual Cockpit environment has benefits in providing support to more junior or inexperienced radiographers, and may provide several benefits to the community, such as improved access to expertise from advanced radiographer skillsets, and an enhanced level of advice from professionals.

ASMIRT believes that this will be extremely beneficial for rural practices who run on skeleton staff or be utilised as a support structure to assist younger inexperienced radiographers at times when a senior is not readily available (eg. nightshift).

Ostensibly, the technology purports to serve two key functions:

- a teaching and remote assistance tool (over and above that offered directly by vendor applications specialists and engineers).
- a remote operator tool – allowing the determination of imaging protocols and potentially performance of scans from a secondary location.

## Technical Requirements

From a technical point of view, there are several logistical barriers that may heavily impact on the appropriate implementation of this type of design. Most notably, the bandwidth and speed of data transfer between the scanner and the secondary location. Therefore, ASMIRT recommends that technical specifications are always addressed, and optimised according to the vendor's recommendations prior to implementation of this technology.

Furthermore, any implementation of a technology, where patient or other privileged information is being transferred across or between networks, must have a mechanism to reduce potential for cyber-attack. Personnel must be adequately trained to further reduce any risks of human error, and sites must ensure satellite/secondary locations are secure and private both in the physical and cyber sense.





## Professional Requirements

- Several risks have been identified through use of this environment. There is a risk to the patient if handover between onsite and remote professionals is not adequate.
- Patient confidentiality risks need to be mitigated for this to be an effective strategy. This includes strategies associated with the appropriate transfer of data between sites as well as ensuring the secondary site is in a private location that meets professional standards for the conduct of an imaging investigation.
- The remote service provider must be in an area where they are free from other distractions, and available to immerse themselves completely in the task at hand, free from competing demands on their time.
- Other professional risks include the potential for over-reliance on subspecialisation, which may reduce the opportunity for other staff to gain experience in operating these imaging modalities.
- Finally, attention should be given to the expectations of how scans are to be performed, particularly in CT, where an ionising radiation event can only be initiated by a registered, trained and licensed radiographer.

## Recommendations

ASMIRT welcomes a new era of remote assistance and care, with the caveat that this technology is:

- Underwritten by an evidence-informed model of care that specifically underlines the need for remote assistance.
- Justification for why it cannot be addressed through usual care (e.g. remote location of operation, junior staff at site).
- Provision of suitably trained staff at the primary site.
- Clear delegation of duties between onsite and remote staff with particular attention to regulatory licensing and accreditation requirements at the scanner site.

Furthermore, ASMIRT wish to emphasise that:

The justification for the use of the technology should represent more than simply financial value.

- Remote assistance should only be provided as a single episode of service/care at a time.
- The control of such a system is maintained by adequately qualified, well experienced (minimum 7+ years) and credentialed medical radiation practitioners (preferably with a master's level degree and/or relevant ASMIRT Certification).
- The technology undergoes regular quality assurance processes.
- Research into this aspect of radiographer practice, with particular emphasis on the effects on patient care should be prioritised, with quality improvement activities directed to patient safety in this environment.
- Emphasis should be placed on the use of this technology as a supplementary rather than a standalone method for imaging/treating patients.
- That the system be implemented using a sister-hospital model, where locations are assigned, rather than one late-night operator servicing multiple locations.



- This technology should not be utilised as a replacement of staff. Whilst this can improve efficiency for several machines at a time, it is highly recommended to have in-person support - especially when dealing with contrast and larger amounts of radiation.
- This tool should not be relied on solely to train radiographers in CT. In a CT related emergency situation at a single operator site and a radiographer with minimal training, virtual support would be less than ideal.
- ASMIRT recommends that this technology is NOT utilised as a training surrogate, or break-glass measure to enable untrained staff to act as the hands and eyes of a remote operator. All users will require the appropriate training and education on safe operational use.

