



## **ISRRRT Position Statement:**

### **Radiographers/Radiological Technologists Role in Quality Assurance and Quality Control as a Team Approach**

The ISRRRT promotes within the scope of practice for radiographers/radiological technologists to include competence in quality assurance and quality control within a quality assurance framework. This is essential to assure the delivery of safe, cost-effective and high quality diagnostic imaging and radiotherapy services.

The ISRRRT considers quality assurance and quality control within the scope of practice for radiographers/radiological technologists using an integrated team approach. Quality assurance and quality control includes every activity which will affect the patient's journey through the clinical imaging or radiotherapy service and includes use of ionizing and non-ionizing modalities. For Diagnostic Imaging this will include the evaluation and monitoring of patient doses received for a particular radiological examination, protocols and procedures linked to specific imaging procedures, reject analysis and the accuracy of diagnostic imaging reports.

Quality assurance embraces all aspects of the diagnostic imaging process including a visual check of the equipment and confirmation of careful preparation prior to every patient procedure as well as establishing a routine quality control testing (daily, weekly, monthly, quarterly or annually) programme of equipment.

Quality control testing includes the monitoring, evaluation and maintenance of equipment for optimal performance and stability. It is essential that radiographers/radiological technologists recognise, record and report, according to policy, when a significant increase or underexposure in radiation exposure occurs.

Analyzing the results of quality control testing together with initiating corrective action are essential integral components of quality assurance. Validating quality assurance testing conditions and results and reporting significant tolerance deviations from quality control tests to appropriate personnel is a professional requirement.

The role for radiographers/radiological technologists will include documenting and maintaining records for the quality control program in accordance with applicable regulations, legal requirements, accrediting agencies and recommendations from equipment manufacturers using

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an integrated team approach. This role is subject to the demonstration of appropriate educational preparation leading to clinical competence within the scope of practice for radiographers/radiological technologists.

Senior and competent radiographers/radiological technologists should be responsible for overseeing the equipment quality control testing programme as well as other responsible roles in the quality assurance framework in the radiology department which embraces all imaging modalities and quality improvement projects.

### **Background:**

#### Quality assurance for medical exposures

The Basic Safety Standards (BSS) published by the International Atomic Energy Agency (IAEA) as General Safety Requirements-Part 3, July 2014 support the position statement. The BSS covers a team approach describing active participation in quality assurance and quality control with responsibilities for the entire team including active participation of the medical radiation technologists, radiologic medical practitioners and medical physicists as stated in section 3.170. Registrants and licensees, in applying the requirements of these Standards in respect of management systems, shall establish a comprehensive program of quality assurance for medical exposures with the active participation of medical physicists, radiological medical practitioners, medical radiation technologists and, for complex nuclear medicine facilities, radio pharmacists and radiochemists, and in conjunction with other health professionals as appropriate. Principles established by the World Health Organization, the Pan American Health Organization and relevant professional bodies shall be taken into account.

Section 3.171. Registrants and licensees shall ensure that programs of quality assurance for medical exposure include, as appropriate to the medical radiation facility: (a) Measurements of the physical parameters of medical radiological equipment made by, or under the supervision of, a medical physicist: (i) At the time of acceptance and commissioning of the equipment prior to its clinical use on patients; (ii) Periodically thereafter; (iii) After any major maintenance procedure that could affect protection and safety of patients; (iv) After any installation of new software or modification of existing software that could affect protection and safety of patients. (b) Implementation of corrective actions if measured values of the physical parameters mentioned in (a) above are outside established tolerance limits. (c) Verification of the appropriate physical and clinical factors used in radiological procedures. (d) Maintaining records of relevant procedures and results. (e) Periodic checks of the calibration and conditions of operation of dosimetry equipment and monitoring equipment.

Radiographers/radiological technologists following their education and training will obtain a thorough understanding and knowledge performing quality control testing of equipment, which they perform daily before the start of any procedure. Radiographers/radiological technologists will also obtain competence performing quality control for film processing chemicals where

appropriate processor sensitometry and general system conditions for computed radiography (CR) and direct readout (DR) equipment when appropriate. The radiographer/radiological technologist is the person operating the equipment. The radiographer/radiological technologist will also be performing the quality control testing, evaluating the results and reporting any deviations to the service team or physicists according to protocols. This educational training will also include performing quality assurance activities and participation in safety and risk management activities. At the completion of education, radiographers/radiological technologists should be competent to assess the outcome of the quality management action plan for equipment and processes in a diagnostic imaging or radiotherapy center.

The education includes reviewing and evaluating quality assurance processes and tools for effectiveness. Radiographers/radiological technologists learn how to evaluate performance of equipment, materials and processes in a quality assurance activity based on established guidelines. All health care facilities irrespective of setting and including both hospital and community based services must have robust processes for quality assurance and quality control with written processes and competent radiographers/radiological technologists.

The effectiveness of the Quality Assurance programme and Quality control testing should be subject to independent scrutiny and audit.

#### References:

[www.iaea.org](http://www.iaea.org), International Basic Safety Standards (BSS), International Atomic Energy Agency (IAEA), General Safety Requirements Part 3, July 2014.

The Practice Standards for Medical Imaging and Radiation Therapy, Radiography Practice Standards, 2017 [https://www.asrt.org/docs/default-source/practice-standards-published/ps\\_rad.pdf?sfvrsn=2](https://www.asrt.org/docs/default-source/practice-standards-published/ps_rad.pdf?sfvrsn=2)

Nuclear Medicine Technologist Scope of Practice and Performance Standards, Society of Nuclear Medicine and Molecular Imaging Technologist Section Approved: June 2016, <http://www.snmmti.org/ClinicalPractice/content.aspx?ItemNumber=5532>

Diagnostic X-Ray Imaging Quality Assurance: An Overview <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radiation/diagnostic-imaging-quality-assurance-overview.html>

Breast screening: guidance for breast screening mammographers <https://www.gov.uk/government/publications/breast-screening-quality-assurance-for-mammography-and-radiography>

#### **Note:**

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