Radiology Safety in JCI

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Risk area

- Patient Assessment
- Medication administration
- Radiation safety
- Radioactive medication (Radiopharmaceutical)
- Environment safety (Fire)
- Tele radiology
JCI AOP.6

• Measurable Elements of AOP.6
• 1. Radiology and diagnostic imaging services meet applicable local and national standards, laws, and regulations.
• 2. Adequate, regular, and convenient radiology and diagnostic imaging services are available to meet the needs related to the hospital’s mission and patient population, the community’s health care needs, and emergency needs, including after normal hours.
3. The hospital contacts experts in specialized diagnostic areas when needed.

4. **Outside** sources are selected based on recommendations of the laboratory leader and an acceptable record of timely performance and compliance with applicable laws and regulations.

5. Patients are informed about any relationships between the referring physician and outside sources of radiology and/or diagnostic imaging services.
The radiology and diagnostic imaging leader’s responsibilities include:

- developing, implementing, and maintaining policies and procedures;
- administrative oversight;
- maintaining any necessary quality control program;
- recommending outside sources of radiology and diagnostic imaging services; and
- monitoring and reviewing all radiology and diagnostic imaging services.
Measurable Elements of AOP.6.2

• 1. Those individuals who perform diagnostic and imaging studies or direct or supervise the studies are identified.
• 2. Staff with proper qualifications and experience perform diagnostic and imaging studies.
• 3. Staff with proper qualifications and experience interpret study results.
• 4. Properly qualified staff verify and report the results of studies.
• 5. There is an adequate number of staff to meet patient needs.
• 6. Supervisory staff have proper qualifications and experience.
The radiation safety management program includes

• compliance with applicable standards, laws, and regulations;

• compliance with standards addressing facility management and infection control programs;

• availability of safety protective devices appropriate to the practices and hazards encountered;
JCI AOP.6.3

- the orientation of all radiology and diagnostic imaging staff to safety procedures and practices; and
- in-service education for new procedures and newly acquired or recognized hazardous materials. (Also see FMS.4, FMS.4.1, and FMS.5)

ME.2 The safety program is part of the hospital’s facility management and infection control programs, and the program provides reports to the hospital safety structure at least annually and when any safety events occur.
Radiation safety

- Room Shielding + Inspection
- Personal Protective Equipment: Thyroid, Gonads
- OSL (OSLD - Optically Stimulated Luminescence Dosimeter)
- Alarm system when operate ionising radiation machine
- Annual health check
OSLD

- Proper wear
- Continuous recording
- Combined result
- Accumulative data
Nuclear Medicine Exposures up Health Risks for Radiology Techs

NEW YORK (Reuters Health) - Technologists working in nuclear medicine have a heightened risk for some cancers and myocardial infarction, according to a nationwide U.S. survey led by National Cancer Institute (NCI) researchers.

"Our results were mainly driven by exposures occurring before 1980, which is consistent with evidence that most cancers and other serious radiation-related chronic disease risks are generally not observable until many years after exposure," Dr. Cari M. Kitahara, of the NCI's Radiation Epidemiology Branch in Rockville, Maryland, and the study's lead investigator, told Reuters Health by email.

"Additionally," she said, "occupational exposures, in general, have declined over time, owing primarily to changes in technology and improved standards for radiation safety."

The questionnaire-based study, published online July 28 in Occupational and Environmental Medicine, included 90,955 radiology technologists; 77% were women, and 24% worked with radionuclides.
Fire safety
Fire safety
Hot Lab

- Inspection of Radiation Sources and Regulatory Enforcement IAEA-TECDOC-1526 (2007)
- Regular inspection + Daily inspection and monitoring
- Prevention and Control of infection
- Prevention and Control of leakage: Negative pressure
- Labelling of Radiopharmaceutical
Quality control procedures include

- validation of the test methods used for accuracy and precision;
- daily surveillance of imaging results by qualified radiology staff;
- rapid corrective action when a deficiency is identified;
- testing of reagents and solutions; and
- documentation of results and corrective actions.
The hospital regularly reviews quality control results for all outside sources of diagnostic services.

- 1. The frequency and type of quality control data from outside sources are determined by the hospital.
- 2. The qualified individual responsible for the radiology quality control or qualified designee reviews the quality control results from the outside source.
- 3. The responsible individual or qualified designee takes action based on the quality control results.
- 4. An annual report of the quality control data from the outside source is provided to hospital leadership to facilitate management of contracts and contract renewal.
IPSG.

- IPSG.1 : Patient identification
- IPSG.3 : High alert medication
- IPSG.4 : Mark site, Time out
- IPSG.5 : Hand hygiene
- IPSG.6 : Fall reassessment after imaging/intervention (Risk assessment)
IPSG.2

- Verbal order by radiologist, not recorded
- Critical value, not include all imaging test
- Critical value reporting
- Hand off
AOP

• Minimum content for assessment
• Assessment performed by qualified individuals
• Reassessment after treatment/intervention/medication given