INTERSOCIETAL ACCREDITATION COMMISSION

VASCULAR INTERVENTIONAL

IAC Standards for Vascular Interventional Accreditation – Fluoroscopy

Accreditation Standards

AUGUST 2025

The Intersocietal Accreditation Commission (IAC) accredits facilities that provide venous, arterial, and hemodialysis evaluation and management and/or treatment procedures. IAC accreditation is a process by which centers can evaluate and demonstrate the level of patient care they provide. These Standards are specific to facilities performing fluoroscopy only.

These accreditation Standards are the minimum standards for accreditation and represent the minimum requirements to which an accredited facility is held accountable. In addition to all Standards listed below, the facility, including all staff, must comply at all times with all federal, state and local laws and regulations, including but not limited to laws relating to licensed scope of practice, facility operations and billing requirements.

Section 1A: Personnel and Supervision

STANDARD – Personnel

1.1A Fluoroscopic equipment may only be operated by individuals with the requisite training and credentials who meet all local, state, and federal requirements and operate the equipment within their scope of practice.

1.1.1A Personnel Required Training and Experience

1.1.1.1A All individuals in the fluoroscopic procedure room during the procedure must have documented radiation safety training that is approved by a medical physicist and that meets state requirements. Radiation safety training should align with the National Council on Radiation Protection and Measurements *Commentary 33 – Recommendations for Stratification of Equipment Uses and Radiation Safety Training for Fluoroscopy (2023)*.

1.1.1.2A In addition to radiation safety training, all individuals operating the fluoroscopy equipment must have machine-specific training for each make and model of the fluoroscope operated.

1.1.2A Personnel Responsibilities

Personnel responsibilities may include, but are not limited to:

1.1.2.1A All personnel in the room during fluoroscopic procedures must wear appropriate radiation protective apparel and use radiation safety equipment (i.e., lead shields and lead barriers) appropriate to the procedure. Mobile shields may be used in place of protective apparel if the shields are used as intended by the manufacturer and the medical physicist and radiation safety officer approve them (occupational dosimetry will likely need to be revised in this case).

1.1.2.2A It is the individual's responsibility to comply with the occupational radiation monitoring requirements of the institution (e.g., badge placement, badge exchange, etc.).

1.1.2.3A All personnel must be familiar with and follow their institution's radiation safety policies and procedures.

1.1.3A Continuing Education (CE) Requirements

1.1.3.1A At least one hour of CE in radiation protection related to fluoroscopy must be obtained and documented every three years for individuals operating the fluoroscope.

STANDARD – Medical Physicist

1.2A A qualified medical physicist must be retained by the facility, assume the responsibilities as outlined in Standard 1.2.2A and meet the following qualifications.

1.2.1A Medical Physicist Required Training and Experience:

The medical physicist(s) must meet one of the following criteria:

1.2.1.1A Board certification by the American Board of Radiology (ABR), the American Board of Medical Physics (ABMP) or the Canadian College of Physics (CCPM) in diagnostic medical physics or equivalent.

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1.2.1.2A Passed Part 2 of the ABR examination and completed a CAMPEP-approved residency in a medical physics discipline, including diagnostic imaging, is acceptable. As outlined above, a recognized board certification is required prior to the next accreditation cycle.

1.2.1.3A If necessary for each state, the medical physicist must be licensed or certified as a diagnostic medical physicist.

1.2.2A Medical Physicist Responsibilities:

The medical physicist(s) responsibilities include, but are not limited to:

1.2.2.1A The medical physicist should regularly perform radiation measurements, dosimetric calculations, and equipment performance evaluations of fluoroscopic equipment to maintain competence in performing these activities.

1.2.2.2A The physicist should observe at least one fluoroscopically guided procedure within each accreditation modality/area annually.

i. Acceptance (initial) tests and annual surveys (or more frequently as governed by state and local regulations) for equipment performance evaluation, including:

- maximum and typical radiation output measurements in at least one clinically used protocol with a common set of operator-controlled parameters (i.e., pulse rate, field-of-view, etc.);
- accuracy assessment of all fluoroscope reported or displayed radiation dose indices;
- system quality control tests ensuring proper functionality and operation of the fluoroscope for safe and effective operation; and
- assessment of image quality in at least one clinically used fluoroscopy mode setting and one clinically used acquisition mode setting.

ii. Where necessary, evaluation of the radiation shielding adequacy and integrity ensuring necessary radiation protection to individuals in all adjacent areas (only necessary at the initial survey, after any modifications to the structural shielding or replacement of the imaging equipment).

iii. Assessment of proper functioning of collimators and tissue compensation filters.

1.2.2.3A The medical physicist must provide a written summary report to the Medical Director or Radiation Safety Officer and include in the summary report any identified issues requiring corrective action or recommendations for improvement.

1.2.2.4A Provide written guidance for any patient or staff dosimetry issues.

1.2.2.5A Provide radiation training for personnel as required.

1.2.2.6A Other personnel, deemed by the medical physicist as competent to perform the assigned tasks, may assist the medical physicist in the data collection under the direct supervision of the medical physicist (i.e., the physicist must be on premises and immediately available). The medical physicist must review and approve all such data. The medical physicist remains personally responsible for tasks.

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1.2.3A Continuing Education (CE) Requirements:

1.2.3.1A The medical physicist must obtain at least 15 credit hours of CE approved by the Commission on Accreditation of Medical Physics Education Program (CAMPEP) in diagnostic imaging every three years; at least three credits of which must be directly related to fluoroscopy.

Comment: Actively participating and fulfilling the requirements of ABR MOC meets this requirement.

Comment: If the medical physicist has successfully attained board certification within the three years prior to the application date, the CE requirement will be considered fulfilled.

1.2.3.2A Documentation of CE credits must be kept on file and available for inspection.

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Section 2A: Facility (Fluoroscopy)

STANDARD – Examination Areas

2.1A Rooms containing fixed fluoroscopes must have structural radiation-shielding (e.g., walls, doors, windows) that meet state requirements and specifications in the *National Council on Radiation Protection and Measurements Report No. 147: Structural Shielding Design for Medical X-Ray Imaging Facilities*. For rooms with dedicated mobile fluoroscopes (i.e., they are not moved between multiple rooms), a medical physicist must evaluate the potential need for structural shielding.

2.2A A qualified medical physicist must perform a radiation safety area survey to ensure that occupational workers and members of the public in all renovated or newly constructed rooms and adjacent areas are appropriately protected according to state regulations. This survey must be performed before first patient use for each new fixed angiographic imaging system. A documented radiation safety survey of the procedure room and adjacent areas that a State Radiation Program has accepted fulfills this requirement. A summary report of this survey must be provided to the Medical Director and/or Radiation Safety Officer, explicitly state that the existing shielding is or is not adequate, and provide any necessary corrective action.

2.3A Fluoroscopy rooms must have signage to identify an area using x-ray equipment and restrictions of the public.

STANDARD – Equipment and Instrumentation

2.4A Fluoroscope

2.4.1A Fluoroscopes used for accredited procedures must comply with International Electrotechnical Commission (IEC) Standard 60601-2-43: Requirements for the Basic Safety and Essential Performance of X-ray Equipment for Interventional Procedures.

2.4.2A Fluoroscopes must be maintained and in good working condition and with appropriate documentation.

2.4.3A Fluoroscopes must be used for clinical applications as intended and defined in the manufacturer's documentation.

2.4.4A Fluoroscopes must be tested as described in Standard 2.5A.

STANDARD – Equipment and Instrumentation Quality Control

2.5A Fluoroscopic system quality control testing must include a comprehensive evaluation of the system components, image performance, and radiation output limits as outlined in the *Suggested State Regulations for Control of Radiation (CRCPD) SSR, Part F, Medical Diagnostic and Interventional X-ray and Imaging Systems* (2015) or comply with state health-code regulations.

2.5.1A A qualified medical physicist must complete the performance evaluations at equipment installation and at least annually or at the state-required frequency if that is more frequent. Equipment performance evaluations should include radiation output measurements, system quality control tests and image quality performance measurements.

2.5.2A Preventive maintenance (PM) service is required per the manufacturers' recommendations or at least annually for each fluoroscope.

2.5.3A All equipment and instrumentation must be routinely inspected for safety and proper functionality, and records of the inspections must be kept on file.

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2.5.4A Image monitor performance must be assessed using the Society of Motion Picture and Television Engineers (SMPTE) pattern, AAPM TG 272, AAPM TG 18 patterns, or equivalent; at a minimum, the maximum luminance and display uniformity must be measured.

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Section 3A: Safety

STANDARD – Contrast

3.1A Contrast Safety

3.1.1A If intravascular contrast media are used, the facility must have written policies regarding the administration.

3.1.2A Vascular access must be established or confirmed following the facility's protocol.

3.1.3A Low or iso-osmolar contrast must be used for intravascular injections.

3.1.4A Power or automated contrast injectors should be available and used when applicable.

3.1.5A Contrast material must be clearly labeled.

3.1.6A The maximum allowable contrast dose must be calculated for each patient before the procedure. The total contrast volume administered to the patient must be monitored in real-time and limited to as low as clinically possible. Staff should inform physicians when maximal limits have been reached.

3.1.7A Contrast name and volume administered must be documented in the patients' medical record.

3.1.8A Emergency equipment and medications must be immediately available to treat adverse events related to contrast media administration

3.1.9A Policies must be in place for prophylaxis and treatment of patients with contrast allergies/reactions.

3.1.10A A policy must be in place for the management of patients at risk for or presenting with chronic kidney disease (CKD).

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