



Put Safety First

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Outpatient Imaging Centers (OIC) are evolving from hospital outpatient services and dedicated imaging clinics to in-office imaging for specialty physician practices such as neurology, orthopedics, cardiology, neurosurgery, and others. As reimbursement for professional services dwindles, physicians are looking for ways to enhance their practices as well as to optimize their revenues. This shift brings unique challenges to physicians who have little experience or knowledge of radiology operations. This article will address many of the operational details that must be addressed to ensure a safe operation.

Above all, **SAFETY** must be the highest priority. Depending upon the modality installed in an office, physicians, administrators, and staff must understand local, state, and federal requirements and implement policies, procedures, and safeguards to address each requirement. This includes but is not limited to:

1. Occupational Safety and Health Administration (OSHA) standards
2. Nuclear Regulatory Commission (NRC) for nuclear imaging
3. Radiation control (state regulated for ionizing radiation)
4. Medical and Hazardous waste (local and state regulated)
5. Medical emergencies
6. Incident and accident tracking and reporting
7. Medications management and controlled substances (DEA)

Each of these topics requires extensive research and effort to meet the requirements as well as manage the respective operation. While this article can only touch on a few of the details, it will give the reader a sense of the importance of planning and preparing for a safe and efficient operation.

1. Occupational Safety and Health Administration (OSHA): Employees have the right to work in a safe environment and to know that their workplace puts safety first for both the employee as well as patients and visitors. OSHA offers training, manuals, and guidance to establish policies and procedures regarding the medical workplace. Their website is a great place to start and it provides links to all requirements and standards. <http://www.osha.gov>.

Some of the areas of interest include:

- Training
- Infection Control
- Radiation Safety
- Hazards
- Slips, trips, and falls
- Employee Right to Know
- Fire and emergencies

OSHA experts are available and willing to assist with any questions and are a great resource when setting up new centers.

2. Nuclear Regulatory Commission: Nuclear Imaging is regulated by the NRC including very extensive quality control requirements. Any physician's office installing nuclear imaging modalities must clearly understand the requirements and utilize registered technologists who are experienced with NRC requirements. <http://www.nrc.gov/> provides all the needed information and contacts when considering this imaging modality. Some of the requirements include:
 - Training
 - Radiation Safety practices
 - Radiation waste management
 - Radiation Safety Officer responsibilities
 - Quality assurance activities and record keeping
3. Radiation Control is generally regulated by the state and often through the State Department of Health or Office of Environmental Health. OSHA also addresses radiation safety standards for the workplace. For example, if an office installs a CT scanner or ionizing radiation equipment, many states require a medical physicist to complete quality assurance testing and radiation monitoring procedures at least once per year. In addition, radiation film badge monitoring and tracking must be implemented. All employees working with ionizing radiation must complete special training and annual education per OSHA standards. A radiation safety officer must be identified and routinely review film badges and the effectiveness of a radiation safety program. Most states have very specific rules to follow, but one must research the requirements and address those that apply to the particular practice or modality.
4. Medical and Hazardous waste management is regulated by local and/or state laws and is also addressed by OSHA from a worker's safety perspective. Infection Control practices are clearly identified by both regulatory bodies and must be addressed in OICs. States vary in their approach to hazardous waste, but clearly are concerned about the disposal practices in medical facilities. This includes blood soaked dressings, needle disposal, acutely hazardous medications and chemicals such as epinephrine and alcohol. One must contact the local waste management governing body to identify the specific requirements in the city, county, and state.
5. Medical Emergencies can happen anywhere and anytime, but it is essential that the medical practice understands the types of medical emergencies that are unique to diagnostic imaging. The most common is contrast media reactions. While these types of reactions are relatively few and most often minor, they are an added risk when diagnostic imaging services are added to a practice. The physician and staff must understand contrast media, contraindications, medical management of patients receiving contrast, and the various types and treatments of reactions. OIC's must identify all of the procedures to be performed and whether contrast media will be administered. If yes, special safeguards and procedures must be established to monitor patients for adverse reactions and the staff must be able to respond to any emergencies that arise. If a center offers oral or IV sedation, additional training and procedures will be required. Physicians should work directly with the imaging staff to

identify emergency drugs needed or crash cart supplies. Emergency response processes should be practiced and discussed with all the staff working in the area. Some centers use full crash carts and require staff to be ACLS or PALS certified in medical response, while others have only minimal emergency supplies available and rely on 911 or medical response teams when emergencies arise.

6. Incident and accident tracking and reporting should become part of the routine of daily operations. Establish a simple database with patient name, pertinent patient information, type of incident, response to incident, outcome, and other vital information to help the practice track incidents. This is helpful as a learning tool for managing incidents and tracking trends over a long period. As trends are identified, it can be used in process improvement to provide better training or guidance to the staff or it may prompt a change in process. Some common incident categories to track include:
 - Physical injuries such as slips, trips, falls, cuts, bruises, etc.
 - Medical emergencies such as cardiac or respiratory arrest, seizure, etc.
 - Contrast or drug reactions
 - Complaints or threatening behavior
 - Errors
 - Miscellaneous

7. Medications management is expected in all medical practices, but adding diagnostic imaging introduces new medications to consider. The Drug Enforcement Agency (DEA) has strict requirements for controlled substances, so remember to include any medications in the crash cart that fall under DEA jurisdiction. A daily inventory is required with a sign out and wasting process to ensure control and security. The DEA website <http://www.dea.gov/> provides needed information for setting up medications management processes.

Establishing a strong safety program with a focus on prevention is essential to a high quality OIC. Policies, procedures, forms, and documentation may be cumbersome, but once established, they lay the foundation for a safe operation. A coordinated and focused effort on safety can ensure a safe environment for employees and patients and can minimize the risk inherently part of any medical practice.

About the author:

Peg Feaski is a senior consultant with the Medilink Consulting Group and has over 25 years experience in healthcare and radiology experience. She has written policy and procedure manuals, safety manuals and programs, and numerous training tools focusing on diagnostic imaging and outpatient operations. ©Peg Feaski 2006