Diagnostic Imaging: Sound Policies Help Reduce Test-related Risks

Imaging procedures – including such advanced techniques as computed tomography (CT), magnetic resonance imaging (MRI) and positron emission tomography (PET) – have become an increasingly common diagnostic tool. The use of CT scans has increased from 3 million annually in 1980 to approximately 70 million a year, according to the Centers for Disease Control and Prevention (CDC). In 2006, an estimated 27 million MRI procedures were performed at more than 7,000 facilities.¹

This ongoing expansion has led to a concomitant rise in risk. Liability claims against imaging centers – especially those involving diagnostic error and failure to refer – can result in major losses. The largest imaging-related payment in CNA HealthPro claim files over the past five years was for $650,000, based on a vicarious liability allegation for a negligent MRI interpretation that resulted in brain injury. The next highest paid loss was $340,000, for failure to refer to an appropriate treating physician.² Other major allegations include falls, adverse reactions and complications.

This edition of inBrief® offers a range of clinical and administrative measures designed to address the most frequent and severe risks.

**RISK AREAS AND STRATEGIES**

**Staff competency.** Diagnosis-related allegations were the most frequent category of professional liability claims asserted against CNA-insured imaging centers during the past five years. A quarter of the professional liability claims in this period involved such allegations as misdiagnosis, wrong diagnosis and delayed diagnosis.

Accurate diagnosis depends in part on test quality and image clarity, which in turn reflect the level of staff expertise. It is therefore necessary to consider personnel and equipment capabilities and limitations before awarding privileges to diagnostic or interventional radiologists. The following additional strategies can help reduce the incidence of diagnostic error:

- **Evaluate staff competencies at hire and regularly thereafter.** Review staff members’ knowledge of clinical procedures and protocols - as well as mastery of data processing, storage and retrieval techniques – at least annually.
- **Base clinical privileges on objective requirements** – including educational credentials, board certifications, training and relevant experience – and ensure that all procedures conducted by a physician are peer-reviewed at least annually.
- **Encourage external peer review of the medical staff’s image interpretation skills to ensure impartiality.**
- **Conduct peer-review audits of image quality and appropriateness as part of every technician’s evaluation process.**
- **Implement appropriate educational requirements so that staff are in a continuous learning and improvement mode.**

**Pre-procedure documentation.** Ascertaining patient histories and obtaining informed consent can be a challenge for imaging center personnel, as patient contact is often characterized by brief episodes of care. In addition to the medical history and reason for the procedure, referral and intake forms should document:

- underlying conditions, including dates of the last two menstrual cycles
- known allergies and other risk factors
- evidence of systemic disease, trauma, or skeletal or soft tissue abnormalities
- results of the pre-procedure examination
- site/limb to be examined, including patient confirmation

Document the consent process, ensuring that the patient understands the nature and purpose of the test, as well as hazards and potential alternatives. If the patient seems to lack comprehension, consult the ordering and testing physician before the test is initiated.

The use of evidence-based protocols – such as the appropriateness criteria developed by the American College of Radiology (ACR, cited in Resources) – should be documented before the procedure is performed. The reasons for any deviations should be explained within the final report.

**Final reports.** Final reports should highlight such basic elements as patient identifiers, clinical indications, procedure descriptions, imaging findings and summary information. All reports must be communicated to the referring or treating physician in a clear, timely and well-documented manner. In cases where the imaging center must report findings directly to the patient, the discussion should take place within a week of testing.

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² Figures include allocated loss adjustment expenses.
The following strategies can help prevent misunderstandings and treatment delays:

- Include both a probable diagnosis and a listing of differential diagnoses to reduce the chance of interpretive error. The use of standardized diagnostic “tree maps” can improve both reliability and defensibility.
- Compare previous reports or images with current findings in order to enhance continuity and diagnostic accuracy.
- Avoid disparaging and critical terms when reporting a discrepancy between old and new findings. Refrain from using such words and phrases as missed, error, mistake, overlooked, not appreciated, obviously presents and should have been identified.
- Bring urgent findings to the attention of the referring physician before issuing a formal report. Receipt of urgent findings must be confirmed orally and carefully documented.
- Follow up with the patient or ordering/treating physician to ensure that abnormal test results have been received and acted upon as necessary, and document these efforts.
- Perform regular medical record and test result audits to ensure that records are thorough, clear and consistent.

Adverse reactions. Adverse reactions to contrast media range from the relatively minor, such as bruising and allergic-type skin reactions, to life-threatening symptoms, including seizure and cardiac or respiratory arrest. Such reactions were a factor in 15 percent of CNA HealthPro imaging center claims during the last five years. Hence, controlling or minimizing these occurrences should be a risk management priority.

The supervising physician – who should be credentialed and privileged for the specific contrast medium used – must be present during and following the procedure. Additionally, staff and radiologists should be certified in life support and trained to respond swiftly to emergency situations.

Some contrast media present a higher level of risk than others. For example, use of low-osmolality ionic and nonionic contrast media is associated with a lower overall incidence of adverse effects.3 For patients with impaired kidney function, gadolinium-based agents should be used only when there is no alternative, and the justification for its use should be documented in the medical record. The choice of contrast medium should be based upon desired results, clinical indications, and test and patient parameters, rather than on financial or reimbursement criteria.

Following an adverse event, ensure that staff members document all relevant information, including time of contrast medium administration and onset of symptoms; vein location; type, gauge, lot number and size of catheter; type and amount of medium administered; mode of injection; patient response and condition; and interventions implemented.

Falls. Fifteen percent of imaging center claims involved falls. These injuries are generally due to mishaps either in positioning the patient prior to imaging or in the aftermath of the procedure.

Careful, ongoing review of protocols can ensure that pre- and post-procedure care requirements comply with professional standards and address the following critical patient safety issues:

- age-specific fasting guidelines
- age- and size-specific equipment
- positioning and movement of patient on imaging table
- continuous assessment and recording of vital signs
- dizziness precautions
- post-procedure assistance alighting from table
- emergency response provisions
- recovery and discharge, including escort to the parking lot

An effective risk control program begins with awareness of the variety of hazards presented by imaging procedures. The strategies outlined within this resource can help organizations counter some of the more common exposures, enhance patient safety and increase legal defensibility following an adverse event.

RESOURCES

For more information, please call us at 888-600-4776 or visit www.cna.com/healthpro.