

COPIC Tip:
Specialty Focus: Radiology

This article is part of a new series that provides a summary of common areas of risk for particular medical specialties and strategies on how to address these.

Case Study 1

A 50-year-old male smoker presents to the local ED with right-sided chest pain. Testing reveals a normal cardiology workup but an elevated D-dimer. A spiral CT is performed looking for a possible pulmonary embolus (PE). The radiologist does not see a PE, but a nodule in the left upper lung is noted. This is noted in the patient report and further workup is suggested. The radiologist does not call this finding into the ED. The patient is discharged and no mention of the lesion is made. The patient returns 18 months later with hemoptysis and is diagnosed with adenocarcinoma of the lung. The patient files suit against the hospital, the ED physician, and the radiologist for failure to diagnose malignancy.

Case Study 2

A 62-year-old female with a history of smoking presents to her family physician for right shoulder pain, scapula pain, and numbness in the arm. The pain is throbbing and severe, and frequently awakens the patient at night. The family physician orders a plain X-ray of the right shoulder and no history is given to the radiologist. Old rotator cuff disease and significant osteoarthritis of the glenohumeral joint are noted. The patient is referred for physical therapy and her pain worsens. Five months later, she develops dizziness and visual difficulty. She is eventually referred to neurology where Horner's syndrome is diagnosed. A chest X-ray reveals a Pancoast tumor and the radiologist reviews the old shoulder X-rays and notes that the tumor was there and recognizable five months ago.

Overview

Discrepancies and variation in image interpretation can lead to different diagnoses that inform subsequent health care decisions. Medical liability issues in radiology can be organized into three main areas: perceptual (you don't see something), interpretation (you see something, but draw the wrong conclusion), and communication (failure to tell the right person at the right time).

The first case illustrates a failure to communicate results in a timely manner and provide urgent and direct communication to referring physicians. The American College of Radiology notes that "It is important, however, that non-routine communications be handled in a manner most likely to reach the attention of the treating or ordering physician/health care provider in time to provide the most benefit to the patient."

The second case represents a perceptual error where an issue was missed during interpretation and this may have been influenced by a lack of clinical history. While the underlying reasons behind these errors can be difficult to pinpoint, situational factors such as fatigue, distractions, or a rapid pace of performing interpretations can play a role.

COPIC has developed a one-sheet summary for various specialties aimed at providing practical advice that focuses on key risk areas. This article covers radiology below and is organized into three sections:

1. Key areas for errors and litigation
2. Strategies to reduce errors
3. COPIC resources to help you succeed

We encourage you to share this with other practitioners and members of your staff, in particular, those who work directly with radiologists and imaging specialists.

Radiology

 <h3>KEY AREAS for errors and litigation</h3> <p>Perception (miss seeing the lesion)</p> <ul style="list-style-type: none"> ! Psychophysiological limitations—fatigue, task duration, distraction, ambient conditions, etc. ! Lesion visible, but not seen—false negative <ul style="list-style-type: none"> o Scanning—failure to fix on the lesion o Satisfaction of search—abandon search after finding something o Recognition—fixate without recognition ! Commonly missed: Breast lesions in mammography, lung nodules on CXR, bone tumors on plain x-rays, fractures, foreign bodies <p>Interpretation (see it, but draw the wrong conclusion)</p> <ul style="list-style-type: none"> ! Lack of knowledge, experience or judgment ! Failure to adequately review prior studies ! Bias that cause poor interpretation <ul style="list-style-type: none"> o Framing—undue influence by history o Availability—rely on recent experiences o Anchoring—failure to consider new info <p>Communication (don't tell the right person at right time)</p> <ul style="list-style-type: none"> ! Not recognizing need for non-routine communication <ul style="list-style-type: none"> o Need for urgent intervention due to potential adverse impact to patient's health o Clinical info buried in the body of a report o Discrepancy with previous interpretation o Challenge of informal communication between providers 	 <h3>STRATEGIES to reduce errors</h3> <ul style="list-style-type: none"> ✓ Optimize workplace setting and ability to perform tasks; shift hours limitation ✓ Double reading when indicated ✓ Improve your pre-test probability with detailed patient history ✓ Computer Aided Detection (CAD) <ul style="list-style-type: none"> o Pattern recognition software o Identifies suspicious features o FDA approved for mammograms, CXR and chest CT ✓ Use of sub-specialties in radiology ✓ Ongoing education on missed cases ✓ Examine clinical history and rigorous comparison with prior conditions ✓ Have a system to identify findings that need urgent communication and document this ✓ Also document the "who and when" ✓ Highlight significant findings in a way that stands out in the medical record ✓ Utilize electronic notification systems ✓ Communicate with ordering physician(s)
 <h3>COPIC RESOURCES to help you succeed</h3> <ul style="list-style-type: none">  Online Library of Medical Tools and Guidelines—Clinical guidelines, consent forms, practice management resources and more 	<ul style="list-style-type: none">  Education—A wide selection of activities, in particular, the "Error, Injury & Loss in Diagnostic Imaging" online course  24/7 Risk Management Hotline—Physician risk managers available for guidance  Copiscope—Bi-monthly newsletter on current topics in risk management and patient safety