“Most people will experience a significant diagnostic error in their lifetime, sometimes with devastating consequences.”

—Institute of Medicine Report on Diagnostic Error

Modern advanced medical images can provide a wealth of information on a patient’s underlying disease process efficiently and painlessly, and they often lead to the discovery of unexpected problems. However, imaging tests rarely eliminate all diagnostic uncertainty, and a danger still exists in that the exquisite anatomic detail and visual appeal of the images can contribute to a false impression of infallibility. Unlike many other diagnostic tests, radiological imaging tests are highly variable and complex, often yielding uncertain results as well as frequent false-negatives and false-positives. Additionally, diagnostic radiologists sometimes make mistakes; the practice of diagnostic radiology is a fallible, human endeavor involving complex perceptual, neurophysiological, and cognitive processes employed under a wide range of circumstances.

Error and Uncertainty in Diagnostic Radiology opens the ‘black box’ of medical imaging, exposing the remarkable hidden inner workings of the process of diagnostic radiology—including how and why it can sometimes go tragically wrong. The occurrence of radiological error is shown to be fundamentally intertwined with the underlying high level of uncertainty known to be present in the diagnostic process. Dr. Michael A. Bruno, a foremost expert on quality and Safety in Radiology, provides a conceptual framework for understanding error and uncertainty in radiology, insight into the various types of error known to occur and their underlying causes, and practical strategies for error prevention and for reducing the risk of harm to patients when errors inevitably occur.

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