



## JOURNAL OF NUCLEAR CARDIOLOGY NEWS UPDATE

---

### Why Quality in Imaging is Critical to Patient Outcomes



President  
Jennifer H. Mieres, MD, FASNC

*Contributing author:* Robert C. Hendel, MD, FASNC, ASNC Past President.

“Quality counts” was introduced as a key initiative for nuclear cardiology by ASNC President Dr. Ernest Garcia in 2003. The message was crystal clear that good quality images are important in improving quality of patient care as the information is used to make key management strategies. Improving the quality of patient care continues to be a major goal for ASNC. The publication of evidence-based guidelines, consensus statements, and position statements has provided roadmaps for the accurate application of myocardial perfusion techniques and image interpretation.

The Quality Counts initiative resulted in an increase in the number of physicians certified by the Certification Board of Nuclear Cardiology and a significant increase in applications to the Intersocietal Commission for the Accreditation of Nuclear Laboratories. ASNC strongly supports mandatory accreditation of laboratories and recommends certification of physicians practicing nuclear cardiology.

Quality in Imaging is an important component of this year’s agenda, which focuses on patient outcomes. With the emergence of more sophisticated and costly imaging techniques, quality in all of cardiovascular

imaging has now become a priority for patients, physicians, and payers.

Therefore, it is imperative that ASNC members continue to be responsible imagers, diligent in all aspects of quality procedures. Each laboratory should adopt continuous quality improvement goals and implement procedures and protocols to achieve the highest level of performance.

Three years ago, a meeting sponsored by the American College of Cardiology (ACC) and Duke University defined a classification and model for the evaluation of quality for cardiovascular imaging (Douglas et al., *J Am Coll Cardiol* 2006;48:2141). Important components of this model, which define the scope of quality care for cardiovascular imaging and are key factors in improving patient care include patient selection, image acquisition, image interpretation, and the final report.

### PATIENT SELECTION

The identification of candidates who would benefit from nuclear cardiology studies while minimizing inappropriate testing and optimizing risk stratification and clinical decision-making to improve patient outcomes. Reductions in imaging of low-risk asymptomatic patients, preoperative evaluation prior to low-risk surgery, and routine annual testing are three areas where a lab may focus on reducing inappropriate testing. The Appropriate Use criteria for SPECT and CT imaging provide useful guidelines for the selection of appropriate patients (Brindis et al., *J Am Coll Cardiol* 2005;46:1606; Hendel et al., *J Am Coll Cardiol* 2006;48:1475). A revised set of criteria for SPECT will be published later this year.

### IMAGE ACQUISITION

The application of and adherence to ASNC guidelines and protocols should be utilized to ensure the acquisition of high-quality images, which ensure accurate diagnostic and prognostic accuracy to patients who are referred for nuclear cardiology studies. Protocols should be optimized to ensure minimal radiation

exposure for patients and staff. These guidelines are continually reviewed and revised by ASNC's Quality Assurance Committee under the leadership of Dr. Edward Ficaro (Ficaro EP, *J Nucl Cardiol* 2006;13:888).

### IMAGE INTERPRETATION

A systematic approach to the interpretation and reporting of myocardial perfusion imaging studies is essential for the provision of clinically relevant information for therapeutic and diagnostic decision making. Although visual analysis of extent, severity, and reversibility of defects in single-photon emission computed tomography (SPECT) has been shown to provide clinically important incremental prognostic information in patients with CAD, significant variability may be observed in interpretation by less experienced readers. This variability can be reduced by two methods, a standard 17-segment interpretation recommended by the ACC/ASNC consensus groups and quantitative programs. ASNC, in collaboration with the ACC, has issued guidelines on the requirements for training and expertise of physician readers (Cerqueira et al., *J Am Coll Cardiol* 2006;47:915).

### THE FINAL REPORT

The electronic or written report is the final portion in performing a SPECT study and is the communicator of findings and clinical implications for the referring physician. It is important that the report document the technical aspects of the procedure for purposes of accountability and reimbursement. Results must be documented in a concise, clear, clinically relevant, and timely fashion to optimize patient treatment and ultimately improve patient outcomes. The report also functions as part of ongoing quality assurance measures and allows comparison with other modalities, such as coronary angiography. Standardized reporting elements for cardiac imaging have now been defined (Hendel et al., *J Nucl Cardiol* 2003;10:705). ASNC strongly encourages the standardization of myocardial perfusion imaging reports which demonstrate clarity and clinically relevant conclusions. Additionally, the need for

structured reporting components, as defined in a recent Health Policy paper from the ACC is supported by ASNC (Douglas et al., *Circulation*. 2009;119).

### WHAT CAN WE LOOK FORWARD TO IN 2009?

ASNC will continue to work with its members to foster quality imaging by supporting laboratory accreditation and physician certification. In addition, ASNC is collaborating with the ACC and other cardiac imaging societies in the publication of updated Appropriate Use criteria for SPECT, cardiac CT, and multimodality imaging. Also, in 2009, we are planning the revival of a modified version of the former ASNC working groups, whereby the membership will have the opportunity to fine tune their interpretation skills and discuss challenging cases by having direct access to interpretation sessions with experts in their local regions.

Under the realm of patient advocacy and ensuring that patients have easy access to appropriate nuclear cardiology studies, ASNC will continue to support the development of clinical evidence while emphasizing quality of care to preserve realistic levels of reimbursement. This year, I will appoint an ASNC committee to derive solutions to the current financial and pre-authorization challenges while working with ASNC members and key ACC representatives.

This is the time for ASNC and for cardiac imagers to again focus on quality. In a time when the economics of healthcare is challenging, promoting and maintaining quality of patient care is the best way to maintain our leadership role in healthcare delivery. In these difficult economic times, the best product which serves the referring physician and patients is the one that will continue to be used and ordered.

The message hasn't changed. Quality still counts.

“The achievements of an organization are the results of the combined effort of each individual.”  
Vince Lombardi (American Football Coach, national symbol of single-minded determination to win.1913–1970)

## CALENDAR

---

Please note that the programs listed below are sponsored or cosponsored by the American Society of Nuclear Cardiology (ASNC). For more information, visit the ASNC Web site (<http://www.asnc.org/education/calendar.cfm>)

**March 28, 2009.** Nuclear Cardiology for Fellows in Training. Orlando, FL.

**April 17-18, 2009.** CT Board Exam Preparation Course. Philadelphia, PA.

**April 17-18, 2009.** Nuclear Cardiology for the Office-Based Practice. Philadelphia, PA.

**April 24, 2009.** Cardiac PET Workshop. (A pre-meeting program of Nuclear Cardiology for the Technologist.) Ft. Lauderdale, FL.

**April 25-26, 2009.** Nuclear Cardiology for the Technologist. Ft. Lauderdale, FL.

**May 2-10, 2009.** ASNC Radiation Safety Course: Becoming an Authorized User. Kansas City, MO.

**May 10-13, 2009.** ICNC9—Nuclear Cardiology and Cardiac CT. Madrid, Spain.