2008 Practice Guidelines & Technical Standards

AMERICAN COLLEGE OF RADIOLOGY

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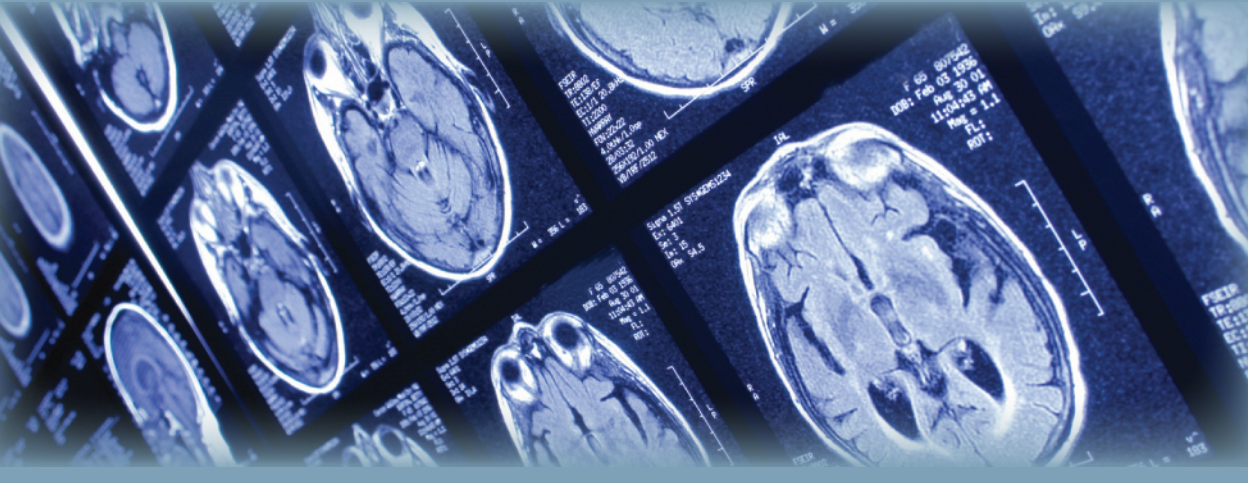

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September 2008

Dear ACR member:

Enclosed you will find the *ACR Practice Guidelines and Technical Standards* 2008 CD-ROM. If you would like to order this information in book form, please fill out and return the postcard included with this package. The practice guidelines and technical standards are also available online at **www.acr.org**/guidelines. As always, members may request individual guidelines or standards as needed in their practices.

Included in the 2008 *ACR Practice Guidelines and Technical Standards* are seven new and 23 revised practice guidelines and technical standards that were considered and adopted as policy by the ACR Council at the Annual Meeting and Chapter Leadership Conference 2008. I commend the efforts of everyone in the College who took part in developing these practice guidelines and technical standards, particularly the members of the Guidelines and Standards Committees of the Commission on Quality and Safety.

One of the most important goals of the ACR and our profession is to improve radiological care to patients. Practice guidelines and technical standards guide us in achieving that goal, and I urge you to refer to them on a regular basis.

Sincerely yours,

James H. Thrall, M.D., FACR, Chair
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DEFINITION AND APPLICATION OF TERMS USED IN ACR PRACTICE GUIDELINES

ACR Practice Guidelines use several terms such as "supervision", "performance", "interpretation", "reporting", and "review" in discussion of physician qualifications. Often some number of cases is specified in one or more of these categories. However, the precise meaning of these terms is left to the reader. While these concepts may be relatively straightforward in a traditional learning environment such as in a residency or fellowship program, they are less clear in other situations such as when practicing physicians learn a new technique primarily through independent study. With increasing scrutiny of new procedures by hospitals, insurers, physicians, and the public, clearer definitions are needed.

The concepts of "supervision" and "performance" of an examination are often related and can vary substantially among examinations. In interventional procedures and invasive diagnostic procedures, there is a hands-on component of performance that includes direct interaction with the patient. As part of performance of the procedure, the physician is also directly involved in supervision of the procedure and other personnel involved in its performance. At the other extreme are examinations that are completely performed by technologists with only limited general supervision by a physician. This includes general radiography and many basic cross-sectional examinations. The physician may be involved in developing and revising protocols that define performance of the procedures. There is an intermediate class of examinations that may require some level of physician participation in the performance, and this level of involvement might vary from case to case even for the same type of examination. In general, increasing levels of physician involvement in the performance of an examination relate to more immediate supervision of others also involved in performing the examination. Examples would include CT and MRI studies that require post-processing of image data and ultrasound studies where the physician might perform additional imaging. In addition, newer and/or more complex examinations may require a greater level of supervision than more established examinations.

The concepts of "interpretation" and "reporting" are more important to physician credentialing, except perhaps for interventional and invasive procedures, than are supervision and performance. These terms are closely related and nearly synonymous. Both refer to detailed analysis of the case, but reporting specifically indicates issuance of the "final report" that is part of the medical record whereas interpretation might indicate that the final report is issued by another physician. "Review", however, may indicate a less stringent level of evaluation of an examination, possibly with the actual final report available at the time of review.

In assessing physician qualification to independently perform, supervise, interpret, and/or report an examination, there is a second usage of the term "supervision". In some circumstances, the physician is expected to perform, supervise, interpret, and/or report some number of examinations "under supervision". This concept of "supervision" related to the interaction of two parties, the "expert" physician and the "training" physician. The expert physician should at minimum meet the defined qualifications for the procedure in question, and ideally the expert physician's training and experience should significantly exceed the minimum level defined for independent practice. In some cases of a new procedure, the expert physician may be one of the original physicians who described and performed the procedure and as such will not have had formal supervision or training during his/her initial experience, but such physicians will have extensive experience and be recognized as leaders in their field. More than one expert physician will often mentor a single training physician and an individual expert physician may mentor several training physicians at any time. At the conclusion of the period of training, the expert physician(s) should be able to verify the qualifications of the training physician to perform and interpret the procedure independently and should be able to document the number of procedures performed, supervised, interpreted, and/or reported under supervision if needed.

In the ideal situation, the training physician and the expert physician work together supervising and/or performing the examination as appropriate to the specific situation and then interpreting and reporting the examination. When there is a procedural component to the examination, the training physician should be the primary operator or the first assistant and should work directly with the expert physician. The

performance of such examinations may be more important, and certainly carries more risk to the patient, than the associated interpretation. As such, beyond initial limited training on phantoms, animals, or simulators, there is no substitute for performance of clinical cases under the supervision of a qualified physician. A specific number of procedures as primary operator will usually be expected. In all situations, the training physician ideally initially interprets the examination independently and then reviews the case with the expert physician prior to issuing the final report, but the two physicians may work together to simultaneously interpret the examinations. During the process, the training physician receives direct feedback as to his/her performance, and the expert physician can evaluate the progress and competency of the training physician. This type of arrangement is typical in a residency or fellowship training program, but it could also occur outside of a formal educational setting.

However, in some situation, particularly when new procedures or examinations develop, this type of direct training is not possible for the large number of physicians who need to learn and later independently perform and interpret a new examination. In such situations, training may occur using a data base of previously performed and interpreted cases. While independent review of such cases and the reports issued by expert physicians can be of substantial educational value, if the competency of the training physician is to be assessed, a more rigorous and interactive approach is usually preferred. Methods of instruction for non-procedural examinations could include a lecture format with use of an audience response system that is traceable to the individual participant, a view box or computer monitor based program of case reviews with expert supervisions and instruction, or an individual instruction system such as a CD-ROM or web-based program. In any of these alternative situations, the training physician should evaluate cases and should either independently respond to specific questions that are integral to the proper interpretation of the cases or should formulate a report of the cases for review by the expert physician. The training physician should also receive direct feedback regarding his/her responses, and the expert physician, either directly or indirectly, should be able to assess the competency of the training physician. The training physician should have resources available to remediate areas of weakness if needed. An additional alternative after an initial but incomplete period of training is to perform studies at the training physician's institution and formulate a preliminary report that is reviewed for accuracy and corrected as needed by an expert physician before the report is finalized. This situation could closely mimic the traditional residency or fellowship training relationship, especially if rapid electronic transfer of images to the expert physician is possible, which in addition to shortening the time to review could allow the two physicians to simultaneously review the case from different locations and discuss the findings as if they were in the same location.

THE PROCESS FOR DEVELOPING ACR PRACTICE GUIDELINES AND TECHNICAL STANDARDS

As part of the overall reorganization of the ACR Commission and Committee structure, the Standards and Accreditation Commission (renamed the Quality and Safety Commission) was formed. It is one of eight operational commissions. The members of this commission are, to a large extent, composed of people who also serve on a specialty commission. There are eleven specialty commissions and each of these commissions has a series of operational committees, one of which is a Guidelines and Standards Committee. The chairpersons of these committees make up the membership of the Quality and Safety Commission. This guarantees a broad spectrum of specialty representation on the Commission as well as members from private practice settings and academic medical centers with a wide geographic distribution (see organizational matrix on next page).

The method for developing a practice guideline or technical standard starts with the specialty commissions or committees receiving suggestions for guidelines or standards from organizations, individual practicing radiologists, ACR State Chapters, or any other appropriate entity related to the specialty of radiology. A proposal form is submitted to the chair and vice-chair of the commission for approval.

Once approved, a draft is developed and then circulated throughout the guidelines committee for review and comment until deemed ready to submit for full member comment. If done collaboratively, a committee is formed with members of each collaborating society. The guideline is developed and then sent to the collaborative societies for review and comment.

The draft guideline or standard is available on the ACR Web site for on-line commenting during a three-week field review cycle. The ACR Web site provides access to the draft documents for all members to submit their comments online.

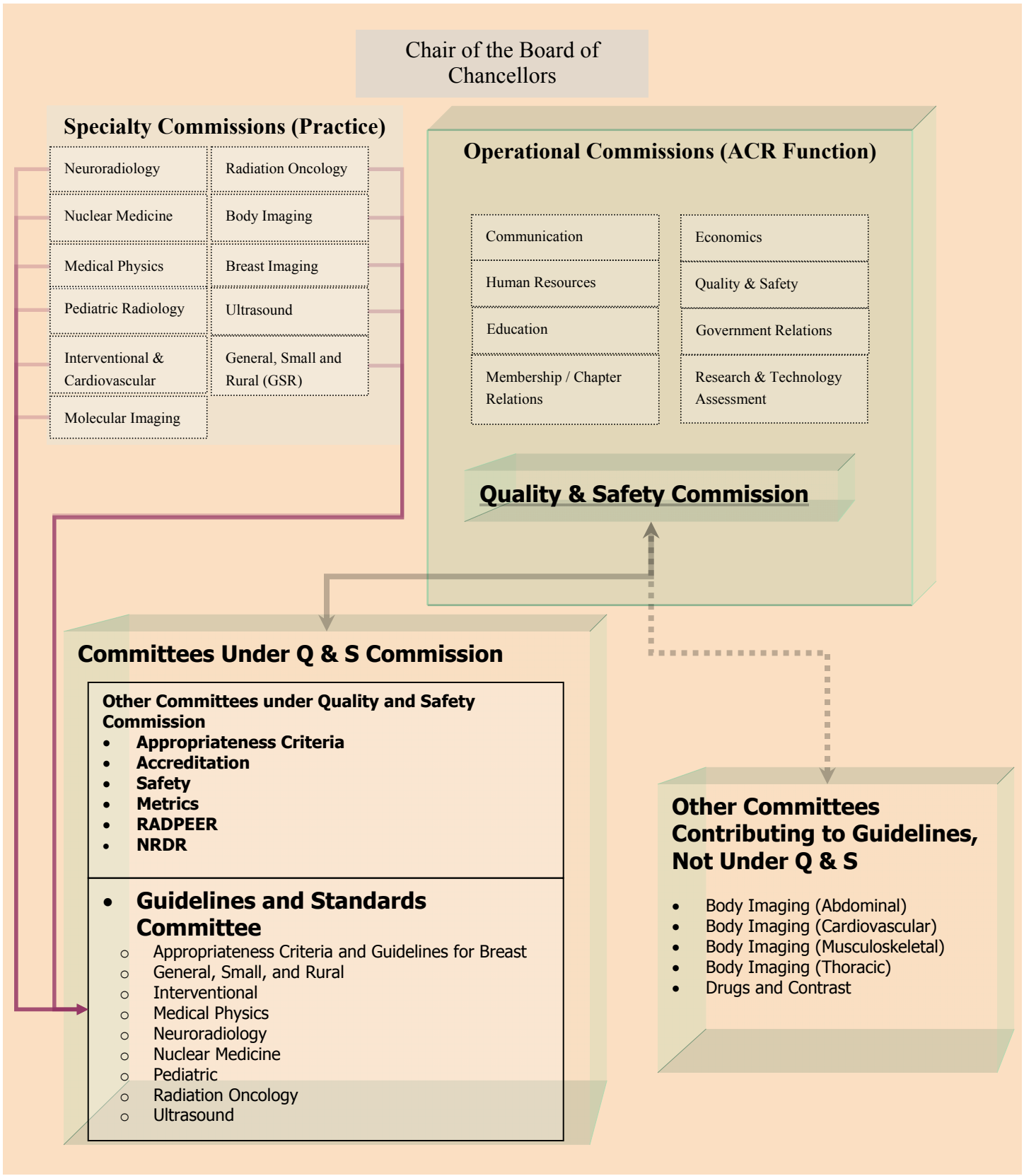
After each field review cycle, a Chair is appointed by the Council Steering Committee (CSC) and a subcommittee is formed. A conference call may be scheduled for a guideline/standard if comments were received during the field review. The subcommittee members include the principal drafters (drafting committee), Chairs of sponsoring Commission and Committee, Speaker, Vice-Speaker, 2-3 field review commenters, 2-3 guidelines committee members, collaborative committee members, ACR staff and legal counsel.

The revised draft from this conference call is then placed on the ACR Web site for an additional 3-week review period prior to the ACR Annual Meeting and Chapters Leadership Conference (AMCLC). If collaborative, the revised draft is sent to the collaborative society for approval. Comments are collated and provided to an assigned ACR Reference Committee to be considered as testimony at the AMCLC.

The approval process for collaborative guidelines during the AMCLC was revised in 2008. All guidelines, whether ACR only or collaborative, are treated in the same manner, allowing for testimony from the floor to be considered and draft language to be amended by the Reference Committee. The ACR also established a process to allow representatives at the AMCLC in order to provide input from the collaborating societies' on amendments to the collaborative guidelines proposed by ACR councilors.

The guidelines or standards that are approved at the AMCLC are published in a CD format and mailed to all College Members for implementation in their practices. The effective date for guidelines or standards is October first of that year.

This process provides opportunity for input from all sectors of radiology. The chairperson of the Quality and Safety Commission is most interested in this broad participation and invites comments as well as proposals for new practice guidelines or technical standards from all members of the American College of Radiology.


Chair of the Board of Chancellors
Specialty Commissions (Practice)
Neuroradiology
Radiation Oncology
Nuclear Medicine
Body Imaging
Medical Physics
Breast Imaging
Pediatric Radiology
Ultrasound
Interventional & Cardiovascular
General, Small and Rural (GSR)
Molecular Imaging
Operational Commissions (ACR Function)
Communication
Economics
Human Resources
Quality & Safety
Education
Government Relations
Membership / Chapter Relations
Research & Technology Assessment
Quality & Safety Commission
Committees Under Q & S Commission
Other Committees under Quality and Safety Commission
Appropriateness Criteria
Accreditation
Safety
Metrics
RADPEER
NRDR
Guidelines and Standards Committee
Appropriateness Criteria and Guidelines for Breast
General, Small, and Rural
Interventional
Medical Physics
Neuroradiology
Nuclear Medicine
Pediatric
Radiation Oncology
Ultrasound
Other Committees Contributing to Guidelines, Not Under Q & S
Body Imaging (Abdominal)
Body Imaging (Cardiovascular)
Body Imaging (Musculoskeletal)
Body Imaging (Thoracic)
Drugs and Contrast

ACR POSITION STATEMENT

Quality Control and Improvement, Safety, Infection Control, and Patient Education Concerns

The American College of Radiology (ACR) continually promotes among its membership high regard for issues of quality and safety in radiologic procedures as they relate to the patients receiving the services, the personnel providing those services, and the equipment used to perform them as well as the education of patients regarding these matters. The statements that follow have been developed in support of that philosophy.

Equipment Quality Control

Ionizing Radiation

Each imaging facility should have documented policies and procedures for monitoring and evaluating the effective management, safety, and operation of equipment involved in the use of ionizing radiation for therapy, diagnosis and imaging. The quality control program should be designed to minimize patient, personnel, and public radiation risks and to maximize the quality of the diagnostic information or therapeutic benefit.

Equipment performance should be monitored and estimates of typical patient dose should be made by a qualified medical physicist as described in the appropriate ACR Technical Standard for physics equipment performance monitoring. Routing quality control testing should be conducted by properly trained individuals with review at least annually by the supervising physician and qualified medical physicist as described in the appropriate ACR Technical Standard for physics equipment performance monitoring.

Magnetic Resonance Imaging

Each facility should have documented policies and procedures for monitoring and evaluating the effective management, safety, and proper performance of magnetic resonance imaging equipment. Equipment performance should be monitored by a qualified medical physicist or a qualified MR Scientist as described in the ACR Technical Standard for Diagnostic Medical Physics Performance Monitoring of Magnetic Resonance Imaging (MRI) Equipment. A documented quality control program shall be maintained at the MR site. Routine quality control testing should be conducted by properly trained individuals with review at least annually by the supervising physician and qualified medical physicist as described in the ACR Technical Standard for Diagnostic Medical Physics Monitoring of Magnetic Resonance Imaging (MRI) Equipment.

Ultrasound

Each facility should have documented policies and procedures for monitoring and evaluating the effective management, safety, and proper performance of ultrasound imaging equipment. Equipment performance should be monitored by properly trained individuals under the supervision of a qualified medical physicist as described in the ACR Technical Standard for Diagnostic Medical Physics Performance Monitoring of Real Time Ultrasound Equipment. The quality control program should be designed to maximize the quality of the diagnostic information. Routine quality control testing should be conducted by properly trained individuals with review at least annually by the supervising physician and qualified medical physicist as described in the ACR Technical Standard for Diagnostic Medical Physics Monitoring of Real Time Ultrasound Equipment.

Infection Control

Each facility should have policies and procedures in place to control the spread of infection among patients and personnel. These should include adherence to universal precautions and the use of clean or aseptic techniques as warranted by the procedure or intervention being performed.

Safety

Each facility should have in place policies and procedures to provide for the safety of patients and personnel. These should include attention to the physical environment; the proper use, storage, and disposal of medications

and hazardous materials and their attendant equipment; and methods for addressing medical and other emergencies.

Patient Education

Each facility should have in place policies and procedures for educating and informing patients about procedures and/or interventions to be performed and facility processes for the same. This should include appropriate instructions for patient preparation and aftercare, if any. This information should be provided in an appropriate form to the patient and family, such as that provided on the ACR-RSNA website, www.RadiologyInfo.org.

Quality Improvement

Examinations should be systematically reviewed and evaluated as part of the overall quality improvement program at the facility. Monitoring should include evaluation of the accuracy of interpretation as well as the appropriateness of the examination. Complications and adverse events or activities that may have the potential for sentinel events should be monitored, analyzed and reported as required, and periodically reviewed in order to identify opportunities to improve patient care. These data should be collected in a manner that complies with statutory and regulatory peer-review procedures in order to ensure the confidentiality of the peer-review process. (ACR Resolution 9, 1998 – revised in 2008, Resolution 1e)

ACR PRACTICE GUIDELINES AND TECHNICAL STANDARDS
PURPOSE AND INTENDED USE

ACR Practice Guidelines and Technical Standards define principles and technical parameters of radiologic and radiation oncology practice, which should generally produce, desired health care outcomes. They describe a range of acceptable approaches for the diagnosis and/or treatment of disease for most patients in most circumstances. Given differences in training, experience, and local conditions, the ACR Practice Guidelines and Technical Standards acknowledge the need for health care providers to exercise their independent medical judgment in making decisions regarding the use and specific details of any procedure.

ACR Practice Guidelines and Technical Standards are educational tools designed to provide consensus-based scientifically valid and medically credible information to assist health care providers in delivering effective, efficient, consistent and safe medical care. They may be developed jointly with other professional organizations. Used in conjunction with the ACR Appropriateness Criteria®, it is expected that the ACR Practice Guidelines and Technical Standards will increase the likelihood that appropriate procedures will be performed in a safe and acceptable manner and will help reduce unnecessary ones.

ACR Practice Guidelines and Technical Standards are intended to be living documents that are regularly reviewed and revised to reflect changes in radiologic and radiation oncology practice.

PRACTICE GUIDELINES describe recommended conduct in specific areas of clinical practice. They are based on analysis of current literature, expert opinion, open forum commentary, and informal consensus. Guidelines are not intended to be legal standards of care or conduct and may be modified as determined by individual circumstances and available resources.

TECHNICAL STANDARDS describe technical parameters that are quantitative or measurable. They often include specific recommendations for patient management or equipment specifications or settings. Technical Standards are based on analysis of current literature, expert opinion, open forum commentary, and informal consensus. Technical Standards are intended to set a minimum level of acceptable technical parameters and equipment performance and may be modified as determined by individual circumstances and available resources.