

The Radiologist Assistant: Improving Patient Care While Providing Work Force Solutions

**Consensus Statements from the Advanced Practice Advisory Panel
March 9-10, 2002, Washington, D.C.**

Introduction

The radiology community faces many challenges today, including increased patient demand, a growing shortage of radiologists and radiologic technologists, and the rapid expansion of new technology. In this fluctuating environment, it may be time for the radiology workplace to introduce a new type of radiologic technologist, a person whose advanced clinical skills can extend the role of the radiologist. Working with the supervision of a radiologist, an advanced-level radiologic technologist could take responsibility for patient assessment, patient education and patient management; perform fluoroscopy and other radiology procedures; and make initial image observations. By assuming responsibility for these tasks, the advanced-level technologist would improve productivity, increase patient access to radiologic services, and enhance the overall quality of patient care.

On March 9-10, 2002, an Advanced Practice Advisory Panel met in Washington, D.C., to explore key issues surrounding the development of an advanced clinical role for radiologic technologists. Members of the advisory panel included representatives from the American College of Radiology, the American Society of Radiologic Technologists, the American Registry of Radiologic Technologists, state regulatory agencies, radiologic science educational programs, and a medical imaging manufacturer. The panel also included two radiology practitioner assistants (RPAs).

The advisory panel represented a broad base of stakeholders, each of whom has unique concerns regarding the development of an advanced clinical role for radiologic technologists and the eventual incorporation of such a technologist into the radiology workplace. The goal of the panel members at their March 9-10 meeting was to reach consensus on key issues concerning the educational preparation, experience, roles and responsibilities, level of supervision and level of regulatory oversight of the advanced radiologic technologist. The panel wrote 12 consensus statements addressing these and other issues. Each consensus statement is presented below, accompanied by relevant discussion that took place at the panel's March 9-10 meeting.

Consensus Statement on Title and Definition

- The advisory panel recommends the title of “radiologist assistant” for the radiologic technologist working in an advanced clinical role. The panel supports the following definition of radiologist assistant:

A radiologist assistant is an advanced-level radiologic technologist who enhances patient care by extending the capacity of the radiologist in the diagnostic imaging environment. The radiologist assistant is an ARRT-certified radiographer who has completed an advanced academic program encompassing a nationally recognized radiologist assistant curriculum and a radiologist-directed clinical preceptorship. With radiologist supervision, the radiologist assistant performs patient assessment, patient management, fluoroscopy and other radiology procedures. The radiologist assistant also makes initial observations of diagnostic images, but does not provide an official interpretation (final written report) as defined by the *ACR Standard for Communication: Diagnostic Radiology*.

Discussion: Panel members agreed the title “radiologist assistant” most accurately reflects the nature of the relationship between the radiologist and the radiologic technologist working in an advanced clinical role. The title clearly places the technologist’s professional role and clinical responsibilities within the radiology environment.

The panel noted that fewer than 100 advanced-level radiologic technologists in the United States have been certified by the Certification Board for Radiology Practitioner Assistants and are known as “radiology practitioner assistants.” The panel believes that the inclusion of the word “practitioner” in the job title is potentially misleading to the public and other health professionals, as it implies that the individual is an assistant to any medical practitioner, not just to radiologists. The title “radiologist assistant” clearly links the advanced-level technologist to the radiologist. The radiologist assistant supplements or extends the radiologist’s role.

The ACR Task Force on Human Resources supports the concept of the “radiology extender.” In a 2001 paper, the task force encouraged the ACR Commission on Human Resources to work with the ASRT to develop a curriculum and a job description for the job title, with the understanding that “the radiology extender is not a primary interpreter of imaging studies.”¹ In the definition it drafted, the advisory panel emphasized that the radiologist assistant does not provide an official interpretation of any imaging examination and performs his or her duties with the supervision of a radiologist.

Consensus Statement on the Need for a Radiologist Assistant

- The need to develop a radiologist assistant is supported by several factors in the radiology environment, including the growing shortage of radiologic technologists and radiologists, the soaring demand for medical imaging procedures, and the radiology community’s desire to enhance the overall quality of patient care. The advisory panel believes the introduction of the radiologist assistant will have a positive impact in each of these areas, and it encourages the development and establishment of this profession.

Discussion: The concept of an advanced-level radiologic technologist is not new; educational programs to produce them were first developed in the early 1970s. However, there was little support for those programs because the need to introduce a nonphysician clinician into the

radiology environment could not be clearly demonstrated at the time. Today, work force shortages of radiologists and radiologic technologists have dramatically altered the picture.

There are approximately 226,000 registered radiographers in the United States today, but this number is inadequate to meet the demand for their services. According to a survey conducted by the American Hospital Association² in the fall of 2001, the vacancy rate for medical imaging technologists is the highest of any health profession. The survey reported a 15.3 percent vacancy rate for imaging technologists, which means that nearly one out of every seven jobs cannot be filled. By comparison, the vacancy rate for registered nurses was 13 percent and the rate for pharmacists was 12.7 percent.

In November 2001, the U.S. Bureau of Labor Statistics released employment projections for the nation.³ The Bureau predicts the country will need 75,000 more radiologic technologists in 2010 than it did in 2000. The job openings represent positions that will be created as the result of growth in the profession, as well as positions that will become vacant when today's technologists retire or change careers.

Unfortunately, people are not entering the profession fast enough to meet the BLS's projections. The number of people taking the radiography certification examination offered by the American Registry of Radiologic Technologists declined from 10,629 in 1994 to only 7,434 in 2001. Meanwhile, many of the radiologic technologists practicing today will retire in the next 10 to 15 years. The average age of a radiologic technologist is 41 – one of the oldest averages among the allied health professions – and 17 percent of the profession is older than 51.⁴

The radiologist community faces a similar work force problem: Not enough people are entering the specialty, and too many are leaving. The number of radiology residents dropped from 4,236 in 1994 to 3,600 in 1999.⁵ In addition, many radiologists are retiring early or nearing

typical retirement age. There are approximately 25,000 practicing radiologists in the United States, and nearly 40 percent of them are older than 50.⁵

Because of the increased number of retirements and the decreased number of residents, the American College of Radiology's Task Force on Human Resources estimates that the number of radiologists is rising by only 2 percent per year. Their workload, meanwhile, is increasing 6 percent per year as measured by relative value units.¹

While the number of radiologists and radiologic technologists remains stagnant, demand for their services is soaring. A large part of the increased demand is being driven by the aging patient population. By 2030, the U.S. population aged 65 and older will double and the population aged 85 and older will triple. As the population ages, demand for health care services, including radiology, will rise dramatically. One study predicted a 140 percent increase in annual imaging procedures among the Medicare population by 2020.⁶

The introduction of a radiologist assistant could be an innovative, cost-effective way to address efficiency and productivity issues related to shortages of radiologists and radiologic technologists. By taking a lead role in patient assessment and management and by performing procedures such as fluoroscopy, the radiologist assistant could reduce the amount of time required of radiologists, allowing them to focus on the medical requirements of interpretation.

By making radiology workflow more efficient, the radiologist assistant also will improve patient access to radiologic care. Fifty-six percent of imaging department managers who responded to a September 2000 survey by U.S. Radiology Partners said that shortages of radiologists and radiologic technologists are limiting patient access to tests and delaying turnaround times.⁷ Incorporation of radiologist assistants can improve efficiency and productivity, permitting greater numbers of patients to be examined or treated.

Finally, the advisory panel also noted that development of a career pathway for radiologist assistants could serve as a potential recruitment and retention tool for the radiologic technologist profession, which has suffered from declining interest in recent years. Advanced-level radiologic technologists have been working in the United Kingdom for nearly 30 years. According to a report by Rebecca Clemens, a radiographer at East Surrey Hospital, Redhill, England, these technologists have enhanced job satisfaction, improved recruitment, enhanced self-esteem, stronger professional confidence and increased morale.

The advisory panel believes that introduction of the radiologist assistant into the career path for radiologic technologists will make the field more appealing to potential recruits and also will facilitate upward mobility among current technologists, leading to increased employee tenure. The radiologist assistant, as an advanced career path, presents radiologic technologists with a unique opportunity for professional growth.

Consensus Statements on Educational Preparation

- The advisory panel recommends that the educational preparation for the radiologist assistant should be a minimum of a baccalaureate degree. The panel recommends that the course of study follow a prescribed curriculum that contains both academic and clinical components. The clinical portion of the radiologist assistant's education should consist of a preceptorship with a radiologist.
- The advisory panel encourages the development of a standardized national curriculum for radiologist assistant programs.
- The advisory panel recommends that a national certification process be developed so that graduates of radiologist assistant programs can prove their competency upon completion of their education.

Discussion. The advisory panel noted that the academic and clinical education of the radiologist assistant must be sufficient in scope to allow a graduate to assume responsibility for performing

fluoroscopy and other selected radiology procedures with radiologist supervision. The graduate also must be prepared, through rigorous academic and clinical education, to make initial image observations and report their observations to the supervising radiologist. These responsibilities distinguish the radiologist assistant from the radiologic technologist.

The advisory panel asked the American Society of Radiologic Technologists to develop a standardized curriculum for radiologist assistant educational programs. The panel recommended that the curriculum include coursework in patient assessment, patient management, patient education, pharmacology, radiation safety, radiobiology, health physics, pathophysiology and clinical pathways. The curriculum also should include instruction in specific radiology examinations and procedures, as well as instruction in the initial observation of images and the communication of observations to the supervising radiologist. Each component of the academic program should be supplemented by a formal clinical preceptorship with a supervising radiologist.

Panel members volunteered to serve as advisors during the curriculum development process. Acknowledging that it is important to introduce significant numbers of radiologist assistants into the clinical environment as soon as possible, the panel also encouraged educational institutions throughout the country to develop programs to educate radiologist assistants.

Finally, the panel recommended that a national certification method be developed so that radiologist assistants can demonstrate that they are competent to provide the care they offer when they enter the profession. The panel suggested that the certification method be based upon a standardized national examination, and that appropriate credentials be awarded to individuals who pass the examination.

Consensus Statements on Roles and Responsibilities

- The panel agreed that the radiologist assistant should have three primary areas of responsibility, all performed with the supervision of a radiologist:
 1. Take responsibility for patient assessment, patient management and patient education.
 2. Evaluate image quality, make initial image observations and communicate observations to the supervising radiologist.
 3. Perform selected radiology procedures including, but not limited to, fluoroscopy.

- The panel agreed that the following responsibilities are not within the roles and responsibilities of the radiologist assistant:
 1. The radiologist assistant does not interpret images. The supervising radiologist retains responsibility for final image interpretation.
 2. The radiologist assistant does not make diagnoses. The supervising radiologist retains responsibility for preparing a final written report.
 3. The radiologist assistant does not prescribe medications or therapies.

Discussion. In determining the appropriate roles and responsibilities for the radiologist assistant, the advisory panel emphasized that it was not the tasks themselves, but the higher levels of accountability, responsibility and knowledge that will define the radiologist assistant's role. The radiologist assistant not only will perform each function competently, but also will understand how that activity fits into the entire continuum of a patient's care. The radiologist assistant is unique because of his or her ability to enhance the quality of care each patient receives. The radiologist assistant also could facilitate patient risk management processes.

Members of the panel emphasized that the radiologist assistant will work at all times with the supervision of a radiologist. The radiologist assistant is intended to be a supplement to, not a substitute for, the radiologist. The supervising radiologist will retain responsibility for final image interpretation and for preparing a final written report, as defined by the *ACR Standard for Communication: Diagnostic Radiology*.⁸

Consensus Statement on Supervision Level

- The advisory panel recommends that the radiologist provide an appropriate level of supervision for the radiologist assistant. This level of supervision should be consistent with the educational preparation and experience level of the radiologist assistant, and may change over time as the radiologist assistant gains more expertise.

Discussion. The advisory panel noted that the radiologist assistant must always work with the supervision of a radiologist. However, the panel recognizes that the level of supervision may change as the radiologist assistant acquires more skills, experience and confidence. The panel believes this consensus statement allows for evolution, growth and progress on the part of the radiologist assistant and gives the radiologist discretion to determine an appropriate level of supervision.

Consensus Statements on Regulation

- The advisory panel believes that the radiologist assistant is an enhancement of the radiologic technology profession. Because of this status, the radiologist assistant is covered under existing radiologic technologist statutes as well as under state medical practice acts that authorize radiologists to delegate the performance of tasks with their supervision. For these reasons, the panel believes that separate state certification or licensure is not necessary for the radiologist assistant.
- The advisory panel acknowledges that regulations in some states prohibit some of the proposed roles and responsibilities of the radiologist assistant. The panel recommends that the American College of Radiology and the American Society of Radiologic Technologists develop materials to promote the role of radiologist assistants in all states as set forth in this document. The panel encourages the ACR and the ASRT to conduct these efforts in collaboration with the National Society of Radiology Practitioner Assistants.

Discussion: Panel members noted that 38 states partially or fully license radiologic technologists. In those states, an additional license would not be necessary for radiologist assistants because the job is an extension of the radiologic technologist profession. In the 12

states that do not license radiologic technologists, the radiologist assistant should be recognized as an “advanced” role for the radiologic technologist, a previously acknowledged health care occupation.

Consensus Statements on Other Issues

- The advisory panel encourages the ASRT to evaluate its code of ethics for radiologic technologists to determine if additional content is needed to address the expanded roles and responsibilities of radiologist assistants.

Discussion. It is important for any health profession to have a code of ethics that clearly outlines the profession’s philosophy and values. The code should express the radiologic assistant’s ethical responsibilities to patients, to his or her health care colleagues and to society as a whole. The code should serve as constant guidance for the professional conduct of the radiologist assistant.

- The advisory panel endorses the incorporation of radiologist assistants into the *ACR Standards*.

Discussion. As a collection of official statements reflecting the position of the American College of Radiology, the *ACR Standards* are the recognized authority on radiology practice. The panel believes that inclusion of the radiologist assistant into the *ACR Standards* would confer legitimacy on the profession and serve as recognition of the role radiologist assistants can play as part of the radiology team.

Conclusion

The professions of radiology and radiologic technology are more than 100 years old, yet they continue to evolve and progress. Every decade has brought improvements in safety, technology and the delivery of quality patient care. Today, as radiology strives to meet the challenges brought on by increasing patient demand and growing work force shortages, the time is right to introduce a health care professional who can extend the role of the radiologist by functioning as an advanced-level radiologic technologist. The introduction of the radiologist assistant into the health care system represents an innovative, cost-effective way to meet patient needs while also improving the quality, efficiency and productivity of radiologic care.

References

1. Amis S, Maynard D. American College of Radiology, Task Force on Human Resources. Executive Summary. April 2001.
2. The American Hospital Association, the Association of American Medical Colleges, the Federation of American Hospitals and the National Association of Public Hospitals and Health Systems. *The Healthcare Workforce Shortage and Its Implications for America's Hospitals*. Fall 2001.
3. Hecker DE. Occupational employment projections to 2010. *Monthly Labor Review*. Office of Occupational Statistics and Employment Projections, Bureau of Labor Statistics. November 2001.
4. American Society of Radiologic Technologists. *Radiologic Technologist Wage and Salary Survey 2001*. June 2001.
5. Lowers J. Help wanted. *Diagnostic Imaging*. August 2001:44-49, 71.
6. Pesavento P. A turn-of-the-century census. *Imaging Economics*. January/February 2001:22-34.
7. Miller P. Survey: 45% of Hospitals Lack Sufficient Radiologists. Press release issued by U.S. Radiology Partners, Dallas, Texas. September 2000.
8. American College of Radiology. *Standards 2001-2002*. ACR, Reston, Va., November 2001.

Appendix: Advanced Practice Advisory Panel Participants

Panel Facilitator: Sal Martino
Executive Vice President and Chief Academic Officer
American Society of Radiologic Technologists, Albuquerque, N.M.

Michael DeVecchio, B.S., R.T.(R)
Technical Director, Department of Radiology, Brigham and Women's Hospital, Boston, Mass.
Chairman of the Board, American Society of Radiologic Technologists

Bill Finerfrock
Capitol Associates, Washington, D.C.

John Gray, R.T.(R)
Executive Director, Arizona Board of Medical Radiologic Technology, Phoenix, Ariz.

Douglas N. Hornsby, M.D.
Radiology Management Fellow
Brigham and Women's Hospital/Harvard Medical School, Boston, Mass.

John W. Larsen, B.S., RPA, R.T.(R)(M)(QM)
St. Mary's Hospital, Grand Rapids, Mich.
President, National Society of Radiology Practitioner Assistants

Leonard Lucey, J.D., LL.M.
Legal Counsel and Senior Director, Standards and Accreditation
American College of Radiology, Reston, Va.

Eileen Maloney, M.Ed., R.T.(R)(M), FASRT
Director, Radiography Program, Passaic County Community College, Paterson, N.J.
Vice President, American Society of Radiologic Technologists

Lynn May
Chief Executive Officer, American Society of Radiologic Technologists, Albuquerque, N.M.

Jim Morrison
Assistant Executive Director, American College of Radiology, Reston, Va.

Joseph J. Palma, M.B.A.
Senior Vice President of Marketing and Sales, E-Z-EM Inc., Westbury, N.Y.

Kevin Powers, M.P.A., R.T.(R)(M)
Director of Education, American Society of Radiologic Technologists

Jerry Reid, Ph.D.
Executive Director, American Registry of Radiologic Technologists, St. Paul, Minn.

Joy J. Renner, M.A., R.T.(R)
Associate Professor
Director, Division of Radiologic Science
School of Medicine, University of North Carolina at Chapel Hill

Anita Slechta, M.S., R.T.(R)(M)
Professor, Radiologic Technology
Health Science Department, California State University, Northridge

Allen Terrell, M.S., R.T.(R)(MR)
Director of Imaging Services, River Region Health System, Vicksburg, Miss.
President, American Society of Radiologic Technologists

William M. Thompson, M.D.
Duke University Medical Center, Durham, N.C.

Charles D. Williams, M.D., FACR
Chairman, Department of Radiology, Tallahassee Memorial Hospital, Tallahassee, Fla.
Member, Board of Chancellors, American College of Radiology
Chairman, Commission on Human Resources, American College of Radiology

Joann T. Yokley, RPA, R.T.(R)(CV)(M)
High Point Radiological Services
High Point, N.C.