



**American Society of Radiologic Technologists  
Twenty-seventh Session of the  
House of Delegates**

**Bally's Las Vegas  
Las Vegas, NV  
June 29- July 1, 2012**

**Twenty-seventh Session of the ASRT House of Delegates**

**Bally’s Las Vegas  
Las Vegas, NV.  
June 2**

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# Twenty-seventh Annual Meeting of the ASRT House of Delegates

Bally's Las Vegas  
Las Vegas, NV. June  
29 – July 1, 2012

## First Business Meeting

### I. Call to Order

Speaker of the House Sandra Hayden called the 27th Annual Meeting of the ASRT House of Delegates to order at 1:35 p.m., Friday, June 29, 2012.

### II. Opening Ceremony and Delegate Orientation

Speaker of the House Sandra Hayden appointed Liana Watson, ASRT Chief Governance and Development Officer, to take the minutes of the House meetings.

### III. Introductions

### IV. Delegate Orientation

Speaker of the House Sandra Hayden presented delegate orientation.

### V. Credentials Report

Vice Speaker G. Tim Wescott presented the Credentials Report. Out of a possible 170 delegates, 150 were credentialed as follows:

Credentialed Affiliate Delegates:	96
Credentialed Chapter Delegates:	<u>54</u>
Total Credentialed Delegates:	150

**Action:** Adopted by voice vote without objection. The Credentials Report established that a quorum was present.

### VI. Adoption of House of Delegates' Standing Rules

**Action:** Adopted with 99 percent of delegates voting in the affirmative.

### VII. Adoption of Agenda

**Action:** Adopted with 98 percent of delegates voting in the affirmative.

### VIII. Memorial Resolution

**Motion:** Be it resolved, that the American Society of Radiologic Technologists expresses its sorrow over the passing of these members since our 2011 House of Delegates meeting in Albuquerque, N.M., and affirms our sorrow by rising for a moment of silence in memory of our departed colleagues.

**Action:** Adopted by a rising vote without objection. (The [list](#) of deceased members can be found in the attached appendix.)

## **IX. Courtesy Resolutions**

No courtesy resolutions were received.

## **X. ASRT Annual Report**

President of the ASRT Dawn McNeil presented the annual report. The 2012 election results were provided to the House of Delegates.

## **XI. Introduction of Late Main Motions Requiring a 2/3 Vote to Debate**

**Motion:** Jonathan Mazal, MRI Chapter Delegate, moved to debate the motion to amend the position statement titled “Campaign Guidelines” by inserting: and the use of the ASRT Communities social networking tool to read: It is the position of the American Society of Radiologic Technologists that ASRT members running for national office or chapter delegate positions shall limit their campaign activities to ASRT-published candidate position statements and the use of the ASRT Communities social networking tool to ensure fairness and equal opportunity for all candidates.

**Action:** Adopted with 82 percent of the delegates voting in the affirmative. Motion is numbered C-12.18.

## **XII. Nominations for Speaker and Vice Speaker**

**Speaker**  
Sandra Hayden

**Vice Speaker**  
G. Tim Wescott

## **XIII. Announcements**

## **XIV. Adjournment**

Speaker of the House Sandra Hayden adjourned the first business meeting of the 2012 House of Delegates at 3:44 p.m., Friday, June 29, 2012.

# Twenty-seventh Annual Meeting of the ASRT House of Delegates

Bally's Las Vegas  
Las Vegas, NV. June  
29 – July 1, 2012

## Second Business Meeting

### I. Call to Order

Speaker of the House Sandra Hayden called the second business meeting of the 27th Annual Meeting of the ASRT House of Delegates to order at 8:05 a.m., Sunday, July 1, 2012.

### II. Credentials Report

Vice Speaker G. Tim Wescott presented the Credentials Report. There was no change in the number of credentialed delegates (150).

### III. Committee on Bylaws Report

Chairman Jesse Pennington presented the Committee on Bylaws report. The Committee on Bylaws had no main motions assigned to it and had no proposed amendments.

### IV. Commission Report and Consent Calendar

**Action:** Motions 3, 7, 8, 9, 10, 11, 12 and 14 were removed from the Consent Calendar. Following this action the remainder of the Consent Calendar, consisting of motions 1, 2, 4, 5, 6, 13, 15, 16 and 17 was adopted by voice vote without objection.

Chairman Ginger Griffin presented the Commission report. The full content of each motion can be found in the attached appendix. The results of each motion are as follows:

<b>Main Motion</b>	<b>Title</b>	<b>Action</b>
<a href="#">C-12.01</a>	Amend the Mammography Practice Standards	Adopted on Consent Calendar.
<a href="#">C-12.02</a>	Amend the Sonography Practice Standards	Adopted on Consent Calendar.
<a href="#">C-12.03</a>	Adopt the Quality Management Practice Standards	Adopted as amended 149 – 0.
<a href="#">C-12.04</a>	Rescind the Position Statement “Breast Sonography”	Adopted on Consent Calendar.
<a href="#">C-12.05</a>	Rescind the Position Statement “Qualifications for Performing Breast Sonography”	Adopted on Consent Calendar.
<a href="#">C-12.06</a>	Rescind the Position Statement “Qualifications for Performing Mammography”	Adopted on Consent Calendar.
<a href="#">C-12.07</a>	Adopt the Advisory Opinion Statement “Medication Injection Through Existing Vascular Access”	Adopted 147 - 3.
<a href="#">C-12.08</a>	Rescind the Position Statement “Vascular Access”	Adopted 143 - 5.
<a href="#">C-12.09</a>	Adopt the Advisory Opinion Statement	Adopted 149 - 1.

	“Medication Injections by Radiologic Technologists”	
<a href="#">C-12.10</a>	Rescind the Position Statement “Medication and Contrast Media Injections by Radiologic Technologists”	Adopted 147 - 3.
<a href="#">C-12.11</a>	Adopt the Advisory Opinion Statement “Placement of Personal Radiation Monitoring Devices”	Adopted 147 - 1.
<a href="#">C-12.12</a>	Adopt the Advisory Opinion Statement “Placement of Personal Radiation Monitoring Devices”	Adopted 143 - 4.
<a href="#">C-12.13</a>	Amend the Practice Standards Glossary	Adopted on Consent Calendar.
<a href="#">C-12.14</a>	Rescind the Position Statement “Computed Tomography Procedures on Pediatric Patients”	Referred to Practice Standards Council 132 - 15.
<a href="#">C-12.15</a>	Rescind the Position Statement “Opposition to Multiloading of Film Cassettes”	Adopted on Consent Calendar.
<a href="#">C-12.16</a>	Rescind the Position Statement “Continuing Education for the Radiologic Technologist”	Adopted on Consent Calendar.
<a href="#">C-12.17</a>	Rescind the Position Statement “Fluoroscopy by Radiologic Technologists”	Adopted on Consent Calendar.
<a href="#">C-12.18</a>	Amend the position statement titled “Campaign Guidelines”	Adopted 141 - 8.

## V. New Business

### A. Introduction of Late Main Motions Requiring a 3/4 Vote to Debate

No late motions were received.

### B. Courtesy Resolutions

A courtesy motion was brought by Ginger Griffin and Travis Prowant recognizing attendees who are currently serving, retirees or veteran of the military thanking them for their service.

**Motion:** Moved by Ginger Griffin, Florida Affiliate Deletion, be it resolved that we, the House of Delegates, on behalf of ASRT, extend appreciation to all current, retired and veteran members of the Armed Services and ask that they stand for recognition.

**Action:** Adopted with delegates showing their appreciation through rising applause.

Without objection, the House of Delegates agreed to suspend the rules to allow Student Leadership Development Participants to bring a motion of courtesy thanking the ASRT for opportunity to attend the ASRT Student Leadership Development Program and the Annual Governance and House of Delegates meeting.

**Motion:** Moved by the Student Leadership Development Participants, resolved, the members of the Student Leadership Development Program would like to extend our gratitude to ASRT, the House of Delegates, our mentors, the sponsors and all those involved in affording us this empowering opportunity.

**Action:** Adopted with delegates showing their appreciation through rising applause.

## C. Report of Election of Chapter Steering Committee Chairmen

### **Bone Densitometry**

Chairman Lisa King  
Vice Chairman Robbyn Scriven

### **Cardiovascular Interventional**

#### **Technology**

Chairman Roger Bogue  
Vice Chairman Victoria Drey

### **Computed Tomography**

Chairman Larry Maxwell  
Vice Chairman Lori Suzanne Fisher

### **Education**

Chairman Nina Kowalczyk  
Vice Chairman Tracy Herrmann

### **Magnetic Resonance**

Chairman Jonathan Mazal  
Vice Chairman Michael Grey

### **Mammography**

Chairman Karen Otterberg  
Vice Chairman Mary Carrillo

### **Management**

Chairman Susan Cazaux  
Vice Chairman Beth Weber

### **Medical Dosimetry**

Chairman Stacy Anderson  
Vice Chairman Leigh Kestranek

### **Military**

Chairman Shawn Stevenson  
Vice Chairman Vaughn Eason

### **Nuclear Medicine**

Chairman Mark Wallenmeyer  
Vice Chairman Ryan Smith

### **Quality Management**

Chairman Linda Holden  
Vice Chairman Anne Brittain

### **Radiation Therapy**

Chairman Michele Fortner  
Vice Chairman Marissa Johnson

### **Radiography**

Chairman Susan Castanette  
Vice Chairman Gaylia Smith  
Whetsel

### **Registered Radiologist Assistant**

Chairman Vicki Sanders  
Vice Chairman Shellie Pike

### **Sonography**

Chairman Amy Hofmann  
Vice Chairman Dale Collins



**VI. Nominations for Speaker and Vice Speaker**

**Speaker**  
Sandra Hayden

**Vice Speaker**  
Amanda Garlock-Corbin  
G. Tim Wescott

**VII. Election of Speaker and Vice Speaker**

**Action:** Sandra Hayden was elected as speaker by a voice vote without objection.

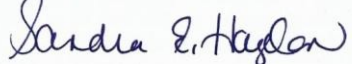
**Action:** G. Tim Wescott – 51  
Amanda Garlock-Corbin - 96


Amanda Garlock-Corbin was elected as vice speaker.

**VIII. Adjournment**

Speaker of the House Sandra Hayden adjourned the second meeting of the 27th Annual Meeting of the House of Delegates at 10:02 a.m., Sunday, July 1, 2012.

**Approved:**

  
\_\_\_\_\_  
Speaker  
Chairman, Minutes Approval Committee  
Sandra Hayden

  
\_\_\_\_\_  
Vice Speaker  
G. Tim Wescott

# Twenty-seventh Annual Meeting of the ASRT House of Delegates

Motions Appendix

**Bally's Las Vegas  
Las Vegas, NV. June  
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## *Motion*

Be it resolved, that the American Society of Radiologic Technologists expresses its sorrow over the passing of these members since our 2011 House of Delegates meeting in Albuquerque, N.M., and affirms our sorrow by rising for a moment of silence in memory of our departed colleagues.



## **2012 Memorial Resolution**

The American Society of Radiologic Technologists House of Delegates moves the following:

Whereas, all members of the American Society of Radiologic Technologists are of immeasurable value within our organization, and invaluable as members of the health team in the field of medicine, we present the names of members who have passed since our last House of Delegates meeting:

Barbara	Amato	Havertown	PA
Michael	Anderson	Newberry	MI
Emilie	Batangan	Honolulu	HI
Kim	Bigesby	Mitchellville	MD
Jeffrey	Bloomer	Birmingham	AL
Susan	Borchert	Astoria	NY
Alfredo	Campos	Glendale	OR
Richard	Cheney	Muncie	IN
Joanne	Drew	Mashpee	MA
Michael	Drinkwater	Virginia Beach	VA
Lori	Fink	Milwaukee	WI
Cynthia	Frazier	Maumelle	AR
Mary	Frenette	Penacook	NH
Leonore	Galarneau	Edmonton	AB

Jason	Garling	Hamburg	NJ
Alan	Gordon	Lake Hiawatha	NJ
Michele	Heinrichs	Madison	WI
Elaine	Holmquist	South Beloit	IL
Kenneth	Hubbard	Bloomington	IN
Barbara	Hummel	Plainfield	IL
Robin	Kraft	Winter Garden	FL
Jim	Krichbaum	Brookhaven	MS
Bruce	Land	Herrin	IL
Amy	Letourneau	Warwick	RI
Stephen	McCormack	Staten Island	NY
Craig	Miller	McFarland	WI
Henry	Murawski	Edison	NJ
Loren	O'Neal	Mount Vernon	WA
Ronald	Paul	San Jacinto	CA
Suzanne	Potter	Estero	FL
Nancy	Redwood	Goode	VA
Tony	Richardson	Mercer Island	WA
Carolyn	Rode	Sebring	FL
Samuel	Russo	Hamden	CT
Phyllis	Sauer	Spring Valley	MN
Patrice	Scheffler	Naples	FL
Marie	Schettino	Holmdel	NJ
Susan	Sechkar	Jackson	MI
John	Seger	Coal Township	PA
Carmen	Sierra	Downey	CA
Mark	Snyder	Princeton	IL
Teresa	Solomon	Parma	MI
Randy	Stewart	Barlow	KY
Patricia	Strine	Las Vegas	NV
Charlotte	Taylor	Bluefield	WV
William	Thomas	Fort Myers	FL

Roberta	Thomas	Pembroke Pines	FL
Kathleen	Walsh	Warminster	PA
Carol	Waterbury	Honesdale	PA
Mary	Wilcox	Griffith	IN
Cindy	Willis	Paducah	KY
Brian	Zabon	South River	NJ

***Main Motion C-12.01***

**Amend the Mammography Practice Standards**

The Practice Standards Council moves to amend the Mammography Practice Standards, pages M 1-31, by:

- Substitution.



# The Practice Standards for Medical Imaging and Radiation Therapy

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## Mammography Practice Standards

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## Preface to Practice Standards

A profession's practice standards serve as a guide for appropriate practice. The practice standards define the practice and establish general criteria to determine compliance. Practice standards are authoritative statements established by the profession for judging the quality of practice, service and education provided by individuals who practice in medical imaging and radiation therapy.

Practice standards can be used by individual facilities to develop job descriptions and practice parameters. Those outside the imaging, therapeutic and radiation science community can use the standards as an overview of the role and responsibilities of the individual as defined by the profession.

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### Format

The Practice Standards for Medical Imaging and Radiation Therapy are divided into six sections: introduction, scope of practice, clinical performance, quality performance, professional performance and advisory opinion statements.

*Introduction.* The introduction provides definitions for the practice and the education and certification for individuals in addition to an overview of the specific practice.

*Scope of Practice.* The scope of practice delineates the parameters of the specific practice.

*Clinical Performance Standards.* The clinical performance standards define the activities of the individual in the care of patients and delivery of diagnostic or therapeutic procedures. The section incorporates patient assessment and management with procedural analysis, performance and evaluation.

*Quality Performance Standards.* The quality performance standards define the activities of the individual in the technical areas of performance including equipment and material assessment, safety standards and total quality management.

*Professional Performance Standards.* The professional performance standards define the activities of the individual in the areas of education, interpersonal relationships, self-assessment and ethical behavior.

*Advisory Opinion Statements.* The advisory opinions are interpretations of the standards intended for clarification and guidance for specific practice issues.

Each performance standards section is subdivided into individual standards. The standards are numbered and followed by a term or set of terms that identify the standards, such as “assessment” or “analysis/determination.” The next statement is the expected performance of the individual when performing the procedure or treatment. A rationale statement follows and explains why an individual should adhere to the particular standard of performance.

*Criteria.* Criteria are used in evaluating an individual’s performance. Each set is divided into two parts: the general criteria and the specific criteria. Both criteria should be used when evaluating performance.

*General Criteria.* General criteria are written in a style that applies to imaging and radiation science individuals. These criteria are the same in all of the practice standards, with the exception of limited x-ray machine operators, and should be used for the appropriate area of practice.

*Specific Criteria.* Specific criteria meet the needs of the individuals in the various areas of professional performance. While many areas of performance within imaging and radiation sciences are similar, others are not. The specific criteria are drafted with these differences in mind.

# Introduction to Mammography Practice Standards

## Definition

The practice of mammography is performed by a segment of health care professionals responsible for the administration of ionizing radiation and high-frequency sound waves for diagnostic, therapeutic or research purposes. A mammography technologist performs breast imaging procedures and related techniques, producing data at the request of and for the interpretation by a licensed independent practitioner.

Although an interdisciplinary team of clinicians, mammography technologists and support staff play a critical role in the delivery of health services, it is the mammography technologist who performs the breast imaging procedures that create mammographic and sonographic images needed for diagnosis.

Mammography integrates scientific knowledge, technical skills, patient interaction and compassionate care resulting in diagnostic information. The mammography technologist recognizes patient conditions essential for successful completion of the procedure.

Mammography technologists must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. They must maintain a high degree of accuracy in positioning. Mammography technologists must possess, utilize and maintain knowledge about radiation protection and safety and bioeffects of high-frequency sound waves. Mammography technologists prepare, administer and document activities related to medications in accordance with state and federal regulations or lawful institutional policy.

Mammography technologists independently perform or assist the licensed independent practitioner in the completion of mammographic and sonographic breast imaging procedures.

Mammography technologists are the primary liaison between patients, licensed independent practitioners, and other members of the support team. Mammography technologists must remain sensitive to the needs of the patient through good communication, patient assessment, patient monitoring and patient care skills. As members of the health care team, mammography technologists participate in quality improvement processes and continually assess their professional performance.

Mammography technologists think critically and use independent, professional and ethical judgment in all aspects of their work. They must comprehend the complexities of the appropriate state and federal regulations and have knowledge of the quality control and quality assurance requirements for mammography and breast sonography. They engage in continuing education to include their area of practice to enhance patient care, radiation safety, public education, knowledge and technical competence.



## Education and Certification

Mammography technologists prepare for their role on the interdisciplinary team by successfully completing an accredited educational program in radiography and attaining appropriate primary certification by the American Registry of Radiologic Technologists. Initial mammography training hours may be required on a state or federal level.

Eligibility to take the ARRT postprimary examination in mammography requires appropriate primary certification at the time of examination and documentation of clinical experience in specific procedures. Those passing the mammography examination use the credential R.T.(M).

Eligibility to take the ARRT postprimary examination in breast sonography requires appropriate primary and/or postprimary certification at the time of examination and documentation of clinical experience in specific procedures. Those passing the breast sonography examination use the credential R.T.(BS).

To maintain ARRT postprimary certification, mammography technologists must complete appropriate continuing education requirements to sustain a level of expertise and awareness of changes and advances in practice.

## Overview

An interdisciplinary team of radiologists, mammography technologists, radiographers and other support staff plays a critical role in the delivery of health services as new modalities emerge and the need for imaging procedures increases. A comprehensive procedure list for the mammography technologist is impractical because clinical activities vary by practice needs and expertise of the mammography technologist. As mammography technologists gain more experience, knowledge and clinical competence, the clinical activities for the mammography technologist may evolve.

State statute, regulation or lawful community custom may dictate practice parameters. *Wherever there is a conflict between these standards and state or local statutes or regulations, the state or local statutes or regulations supersede these standards.* A mammography technologist should, within the boundaries of all applicable legal requirements and restrictions, exercise individual thought, judgment and discretion in the performance of the procedure.

## **Mammography Technologist Scope of Practice**

The scope of practice of the medical imaging and radiation therapy professional includes:

- Receiving, relaying and documenting verbal, written and electronic orders in the patient's medical record.
- Corroborating patient's clinical history with procedure, ensuring information is documented and available for use by a licensed independent practitioner.
- Verifying informed consent.
- Assuming responsibility for patient needs during procedures.
- Preparing patients for procedures.
- Applying principles of ALARA to minimize exposure to patient, self and others.
- Performing venipuncture as prescribed by a licensed independent practitioner.
- Starting and maintaining intravenous access as prescribed by a licensed independent practitioner.
- Identifying, preparing and/or administering medications as prescribed by a licensed independent practitioner.
- Evaluating images for technical quality, ensuring proper identification is recorded.
- Identifying and managing emergency situations.
- Providing education.
- Educating and monitoring students and other health care providers.
- Performing ongoing quality assurance activities.

The scope of practice of the mammography technologist also includes:

1. Performing mammographic procedures.
2. Performing breast ultrasound procedures.
3. Determining image exposure factors.
4. Imaging pathologic breast specimens.
5. Providing or assisting with physical breast inspection or palpation.

6. Assisting in maintaining medical records, respecting confidentiality and established policy.

# Mammography Clinical Performance Standards

## Standard One – Assessment

The mammography technologist collects pertinent data about the patient and the procedure.

### *Rationale*

Information about the patient's health status is essential in providing appropriate imaging and therapeutic services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Gathers relevant information from the patient, medical record, significant others and health care providers.
2. Reconfirms patient identification and verifies the procedure requested or prescribed.
3. Reviews the patient's medical record to verify the appropriateness of a specific examination or procedure.
4. Verifies the patient's pregnancy status.
5. Assesses factors that may contraindicate the procedure, such as medications, patient history, insufficient patient preparation or artifacts.
6. Recognizes signs and symptoms of an emergency.

### *Specific Criteria*

The mammography technologist:

1. Reviews information about previous breast imaging procedures.
2. Assesses the need for alternative procedures based on the patient's age, hormonal status and the presence of surgical implants.
3. Assesses any potential patient limitations (body habitus, physical or mental capabilities) and modifies the performance of the procedure when possible.

# Mammography Clinical Performance Standards

## Standard Two – Analysis/Determination

The mammography technologist analyzes the information obtained during the assessment phase and develops an action plan for completing the procedure.

### *Rationale*

Determining the most appropriate action plan enhances patient safety and comfort, optimizes diagnostic and therapeutic quality and improves efficiency.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Selects the most appropriate and efficient action plan after reviewing all pertinent data and assessing the patient's abilities and condition.
2. Employs professional judgment to adapt imaging and therapeutic procedures to improve diagnostic quality and therapeutic outcome.
3. Consults appropriate medical personnel to determine a modified action plan.
4. Determines the need for and selects supplies, accessory equipment, shielding and immobilization devices.
5. Determines the course of action for an emergency or problem situation.
6. Determines that all procedural requirements are in place to achieve a quality diagnostic or therapeutic procedure.

### *Specific Criteria*

The mammography technologist:

1. Determines the need for additional projections to complete the procedure.

# Mammography Clinical Performance Standards

## Standard Three – Patient Education

The mammography technologist provides information about the procedure and related health issues according to protocol.

### *Rationale*

Communication and education are necessary to establish a positive relationship.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Verifies that the patient has consented to the procedure and fully understands its risks, benefits, alternatives and follow-up. The mammography technologist verifies that written or informed consent has been obtained.
2. Provides accurate explanations and instructions at an appropriate time and at a level the patients and their care providers can understand. Addresses patient questions and concerns regarding the procedure.
3. Refers questions about diagnosis, treatment or prognosis to a licensed independent practitioner.
4. Provides related patient education.
5. Explains precautions regarding administration of medications.

### *Specific Criteria*

The mammography technologist:

1. Educates the patient on the benefits of early detection of breast cancer.
2. Educates the patient, when requested, on radiation the value and use of additional projections or alternative breast imaging procedures.
3. Educates the patient on the need for adequate compression in achieving a quality mammogram and instructs the patient to indicate if the compression becomes intolerable.

# Mammography Clinical Performance Standards

## Standard Four – Performance

The mammography technologist performs the action plan.

### *Rationale*

Quality patient services are provided through the safe and accurate performance of a deliberate plan of action.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Performs procedural timeout.
2. Implements an action plan.
3. Explains each step of the action plan to the patient as it occurs and elicits the cooperation of the patient.
4. Uses an integrated team approach.
5. Modifies the action plan according to changes in the clinical situation.
6. Administers first aid or provides life support.
7. Utilizes accessory equipment.
8. Assesses and monitors the patient's physical, emotional and mental status.
9. Applies principles of sterile technique.
10. Positions patient for anatomic area of interest, respecting patient ability and comfort.
11. Immobilizes patient for procedure.
12. Monitors the patient for reactions to medications.

*Specific Criteria*

The mammography technologist:

1. Performs standard projections during a screening mammogram and additional projections to ensure breast tissue is adequately imaged.
2. Ensures correct annotation of images.
3. Applies appropriate radiopaque markers to the breast to mark nipples, scars, lumps, etc.
4. Exercises clinical judgment in the application of adequate compression to acquire a quality mammographic image.
5. Performs the required or recommended projections during a diagnostic mammogram.
6. Informs the patient of the right to receive a lay summary result in accordance with the Mammography Quality Standards Act of 1992 (MQSA).
7. Assists in the collecting and labeling of tissue samples for further processing.



# Mammography Clinical Performance Standards

## Standard Five – Evaluation

The mammography technologist determines whether the goals of the action plan have been achieved.

### *Rationale*

Careful examination of the procedure is important to determine that expected outcomes have been met.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Evaluates the patient and the procedure to identify variances that may affect the expected outcome.
2. Completes the evaluation process in a timely, accurate and comprehensive manner.
3. Measures the procedure against established policies, protocols and benchmarks.
4. Identifies exceptions to the expected outcome.
5. Develops a revised action plan to achieve the intended outcome.
6. Communicates revised action plan to appropriate team members.

### *Specific Criteria*

The mammography technologist:

1. Evaluates the quality of each mammographic.

# Mammography Clinical Performance Standards

## Standard Six – Implementation

The mammography technologist implements the revised action plan.

### *Rationale*

It may be necessary to make changes to the action plan to achieve the expected outcome.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards

### *General Criteria*

The mammography technologist:

1. Bases the revised plan on the patient's condition and the most appropriate means of achieving the expected outcome.
2. Takes action based on patient and procedural variances.
3. Measures and evaluates the results of the revised action plan.
4. Notifies appropriate health care provider when immediate clinical response is necessary based on procedural findings and patient condition.

### *Specific Criteria*

The mammography technologist:

1. Adjusts imaging parameters, patient procedure or computer-generated information to improve the outcome.

# Mammography Clinical Performance Standards

## Standard Seven – Outcomes Measurement

The mammography technologist reviews and evaluates the outcome of the procedure.

### *Rationale*

To evaluate the quality of care, the mammography technologist compares the actual outcome with the expected outcome.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Reviews all diagnostic or therapeutic data for completeness and accuracy.
2. Uses evidenced-based practice to determine whether the actual outcome is within established criteria.
3. Evaluates the process and recognizes opportunities for future changes.
4. Assesses the patient's physical, emotional and mental status prior to discharge.

### *Specific Criteria*

None added.

# Mammography Clinical Performance Standards

## Standard Eight – Documentation

The mammography technologist documents information about patient care, the procedure and the final outcome.

### *Rationale*

Clear and precise documentation is essential for continuity of care, accuracy of care and quality assurance.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Documents diagnostic, treatment and patient data in the medical record in a timely, accurate and comprehensive manner.
2. Documents exceptions from the established criteria or procedures.
3. Provides pertinent information to authorized individual(s) involved in the patient's care.
4. Records information used for billing and coding procedures.
5. Archives images or data.
6. Verifies patient consent is documented.
7. Documents procedural timeout.

### *Specific Criteria*

The mammography technologist:

1. Documents the clinical history and location of visible and palpable breast conditions.
2. Documents the location of previous breast imaging procedures and obtains authorization for release of prior studies.

# Mammography Quality Performance Standards

## Standard One – Assessment

The mammography technologist collects pertinent information regarding equipment, procedures and the work environment.

### *Rationale*

The planning and provision of safe and effective medical services relies on the collection of pertinent information about equipment, procedures and the work environment.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Determines that services are performed in a safe environment, minimizing potential hazards, in accordance with established guidelines.
2. Confirms that equipment performance, maintenance and operation comply with manufacturer's specifications.
3. Verifies that protocol and procedure manuals include recommended criteria and are reviewed and revised.

### *Specific Criteria*

The mammography technologist:

1. Sets required quality control test criteria and performs tests at required intervals adhering to state and federal regulations and guidelines.

# Mammography Quality Performance Standards

## Standard Two – Analysis/Determination

The mammography technologist analyzes information collected during the assessment phase to determine the need for changes to equipment, procedures or the work environment.

### *Rationale*

Determination of acceptable performance is necessary to provide safe and effective services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Assesses services, procedures and environment to meet or exceed established guidelines and adjusts the action plan.
2. Monitors equipment to meet or exceed established standards and adjusts the action plan.
3. Assesses and maintains the integrity of medical supplies such as a lot/expiration, sterility, etc.

### *Specific Criteria*

None added.

# Mammography Quality Performance Standards

## Standard Three – Education

The mammography technologist informs the patient, public and other health care providers about procedures, equipment and facilities.

### *Rationale*

Open communication promotes safe practices.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Elicits confidence and cooperation from the patient, the public and other health care providers by providing timely communication and effective instruction.
2. Presents explanations and instructions at the learner's level of understanding.
3. Educates the patient, public and other health care providers about procedures along with the biological effects of radiation, sound wave or magnetic field and protection.
4. Provides information to patients, health care providers, students and the public concerning the role and responsibilities of individuals in the profession.

### *Specific Criteria*

The mammography technologist:

1. Provides information on certification or accreditation of mammography facilities to the patient, other health care providers and the general public.
2. Displays certificate(s) of compliance.

# Mammography Quality Performance Standards

## Standard Four – Performance

The mammography technologist performs quality assurance activities.

### *Rationale*

Quality assurance activities provide valid and reliable information regarding the performance of equipment, materials and processes.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Maintains current information on equipment, materials and processes.
2. Performs ongoing quality assurance activities.
3. Performs quality control testing of equipment.

### *Specific Criteria*

The mammography technologist:

1. Communicates to the lead interpreting physician and medical physicist about quality control tests as required.
2. Monitors image production to determine technical acceptability.



# Mammography Quality Performance Standards

## Standard Five – Evaluation

The mammography technologist evaluates quality assurance results and establishes an appropriate action plan.

### *Rationale*

Equipment, materials and processes depend on ongoing quality assurance activities that evaluate performance based on established guidelines.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Validates quality assurance testing conditions and results.
2. Evaluates quality assurance results.
3. Formulates an action plan.

### *Specific Criteria*

The mammography technologist:

1. Evaluates the required quality control tests before breast imaging is performed.
2. Reviews the medical physicist's report and inspection reports to assess the quality of the mammographic equipment performance.
3. Collaborates with the lead interpreting physician and medical maintain equipment in compliance with state and federal regulations and guidelines.

# Mammography Quality Performance Standards

## Standard Six – Implementation

The mammography technologist implements the quality assurance action plan for equipment, materials and processes.

### *Rationale*

Implementation of a quality assurance action plan promotes safe and effective services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Obtains assistance to support the quality assurance action plan.
2. Implements the quality assurance action plan.

### *Specific Criteria*

The mammography technologist:

1. Proceeds with the mammographic procedure only when mammography equipment is in correct working order and results from the required quality control tests, medical physicist's report and inspection are in compliance.

# Mammography Quality Performance Standards

## Standard Seven – Outcomes Measurement

The mammography technologist assesses the outcome of the quality management action plan for equipment, materials and processes.

### *Rationale*

Outcomes assessment is an integral part of the ongoing quality management action plan to enhance diagnostic and therapeutic services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Reviews the implementation process for accuracy and validity.
2. Determines that actual outcomes are within established criteria.
3. Develops and implements a modified action plan.

### *Specific Criteria*

The mammography technologist:

1. Performs the annual medical outcomes audit and provides results to each interpreting licensed independent practitioner.

# Mammography Quality Performance Standards

## Standard Eight – Documentation

The mammography technologist documents quality assurance activities and results.

### *Rationale*

Documentation provides evidence of quality assurance activities designed to enhance safety.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Maintains documentation of quality assurance activities, procedures and results in accordance with established guidelines.
2. Documents in a timely, accurate and comprehensive manner.

### *Specific Criteria*

The mammography technologist:

1. Provides documentation of the quality assurance program as required for the lead interpreting physician, medical physicist, accrediting body and state and federal inspectors.

# Mammography Professional Performance Standards

## Standard One – Quality

The mammography technologist strives to provide optimal patient care.

### *Rationale*

Patients expect and deserve optimal care during diagnosis and treatment.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Collaborates with others to elevate the quality of care.
2. Participates in ongoing quality assurance programs.
3. Adheres to standards, policies and established guidelines.
4. Applies professional judgment and discretion while performing diagnostic study or treatment.
5. Anticipates and responds to patient needs.
6. Respects cultural variations.

### *Specific Criteria*

The mammography technologist:

1. Performs mammographic procedures that meet or exceed expected quality guidelines and documents variances.

# Mammography Professional Performance Standards

## Standard Two – Self-Assessment

The mammography technologist evaluates personal performance.

### *Rationale*

Self-assessment is necessary for personal growth and professional development.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Assesses personal work ethics, behaviors and attitudes.
2. Evaluates performance and recognizes opportunities for educational growth and improvement.
3. Recognizes and applies personal and professional strengths.
4. Participates in professional societies and organizations.

### *Specific Criteria*

None added.

# Mammography Professional Performance Standards

## Standard Three – Education

The mammography technologist acquires and maintains current knowledge in practice.

### *Rationale*

Advancements in the profession require additional knowledge and skills through education.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Completes education related to practice.
2. Maintains credentials and certification related to practice.
3. Participates in continuing education to maintain and enhance competency and performance.
4. Shares knowledge and expertise with others.

### *Specific Criteria*

The mammography technologist:

1. Maintains clinical experience according to state and federal regulations and guidelines.

# Mammography Professional Performance Standards

## Standard Four – Collaboration and Collegiality

The mammography technologist promotes a positive and collaborative practice atmosphere with other members of the health care team.

### *Rationale*

To provide quality patient care, all members of the health care team must communicate effectively and work together efficiently.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Shares knowledge and expertise with members of the health care team.
2. Develops collaborative partnerships to enhance quality and efficiency.
3. Promotes understanding of the profession.

### *Specific Criteria*

None added.



# Mammography Professional Performance Standards

## Standard Five – Ethics

The mammography technologist adheres to the profession's accepted ethical standards.

### *Rationale*

Decisions made and actions taken on behalf of the patient are based on a sound ethical foundation.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Provides health care services with respect for the patient's dignity, age-specific needs and culture.
2. Acts as a patient advocate.
3. Takes responsibility for decisions made and actions taken.
4. Delivers patient care and service free from bias or discrimination.
5. Respects the patient's right to privacy and confidentiality.
6. Adheres to the established practice standards of the profession.

### *Specific Criteria*

None added.

# Mammography Professional Performance Standards

## Standard Six – Research and Innovation

The mammography technologist participates in the acquisition and dissemination of knowledge and the advancement of the profession.

### *Rationale*

Scholarly activities such as research, scientific investigation, presentation and publication advance the profession.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The mammography technologist:

1. Reads and evaluates research relevant to the profession.
2. Participates in data collection.
3. Investigates innovative methods for application in practice.
4. Shares information through publication, presentation and collaboration.
5. Adopts new best practices.
6. Pursues lifelong learning.

### *Specific Criteria*

None added.

## **Mammography Advisory Opinion Statements**

Injecting Medication in Peripherally Inserted Central Catheter Lines or Ports with a Power Injector.

Medication Injection Through Existing Vascular Access

Medication Injections by Radiologic Technologists

Placement of Personal Radiation Monitoring Devices

***Main Motion C-12.02***

**Amend the Sonography Practice Standards**

The Practice Standards Council moves to amend the Sonography Practice Standards, pages S 1-31, by:

- Substitution.



# The Practice Standards for Medical Imaging and Radiation Therapy

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## Sonography Practice Standards

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## Preface to Practice Standards

A profession's practice standards serve as a guide for appropriate practice. The practice standards define the practice and establish general criteria to determine compliance. Practice standards are authoritative statements established by the profession for judging the quality of practice, service and education provided by individuals who practice in medical imaging and radiation therapy.

Practice standards can be used by individual facilities to develop job descriptions and practice parameters. Those outside the imaging, therapeutic and radiation science community can use the standards as an overview of the role and responsibilities of the individual as defined by the profession.

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### Format

The Practice Standards for Medical Imaging and Radiation Therapy are divided into six sections: introduction, scope of practice, clinical performance, quality performance, professional performance and advisory opinion statements.

*Introduction.* The introduction provides definitions for the practice and the education and certification for individuals in addition to an overview of the specific practice.

*Scope of Practice.* The scope of practice delineates the parameters of the specific practice.

*Clinical Performance Standards.* The clinical performance standards define the activities of the individual in the care of patients and delivery of diagnostic or therapeutic procedures. The section incorporates patient assessment and management with procedural analysis, performance and evaluation.

*Quality Performance Standards.* The quality performance standards define the activities of the individual in the technical areas of performance including equipment and material assessment, safety standards and total quality management.

*Professional Performance Standards.* The professional performance standards define the activities of the individual in the areas of education, interpersonal relationships, self-assessment and ethical behavior.

*Advisory Opinion Statements.* The advisory opinions are interpretations of the standards intended for clarification and guidance for specific practice issues.

Each performance standards section is subdivided into individual standards. The standards are numbered and followed by a term or set of terms that identify the standards, such as "assessment" or "analysis/determination." The next statement is the expected performance of the individual when performing the procedure or treatment. A rationale statement follows and

explains why an individual should adhere to the particular standard of performance.

*Criteria.* Criteria are used in evaluating an individual's performance. Each set is divided into two parts: the general criteria and the specific criteria. Both criteria should be used when evaluating performance.

*General Criteria.* General criteria are written in a style that applies to imaging and radiation science individuals. These criteria are the same in all of the practice standards, with the exception of limited x-ray machine operators, and should be used for the appropriate area of practice.

*Specific Criteria.* Specific criteria meet the needs of the individuals in the various areas of professional performance. While many areas of performance within imaging and radiation sciences are similar, others are not. The specific criteria are drafted with these differences in mind.

# Introduction to Sonography Practice Standards

## Definition

The practice of sonography is performed by a segment of health care professionals responsible for the administration of high-frequency sound waves and other diagnostic techniques for diagnostic, therapeutic or research purposes. A sonographer performs sonographic procedures at the request of and for interpretation by a licensed independent practitioner.

The complex nature of disease processes involves multiple imaging modalities. Although an interdisciplinary team of clinicians, sonographers and support staff play a critical role in the delivery of health services, it is the sonographer who performs the ultrasound examination that creates the images needed for diagnosis.

Sonography integrates scientific knowledge, technical skills, patient interaction and compassionate care resulting in diagnostic information. Sonographers recognize patient conditions essential for successful completion of the procedure.

Sonographers must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology.

Sonographers must maintain a high degree of accuracy in the production, use, recognition and analysis of ultrasound images and patterns used for patient diagnosis and treatment. They must possess, utilize and maintain knowledge about bioeffects of high-frequency sound waves. Sonographers independently perform or assist the licensed independent practitioner in the completion of sonographic procedures. Sonographers prepare, administer and document activities related to medications in accordance with state and federal regulations or lawful institutional policy.

Sonographers are the primary liaison between patients, licensed independent practitioners, and other members of the support team. Sonographers must remain sensitive to the needs of the patient through good communication, patient assessment, patient monitoring and patient care skills. As members of the health care team, sonographers participate in quality improvement processes and continually assess their professional performance.

Sonographers think critically and use independent, professional and ethical judgment in all aspects of their work. They engage in continuing education to include their area of practice to enhance patient care, public education, knowledge and technical competence.

## Education and Certification

Sonographers prepare for their role on the interdisciplinary team by successfully completing an accredited educational program in sonography and attaining appropriate primary certification by the American Registry of Radiologic Technologists or the American Registry of Diagnostic Medical Sonographers. Those passing the ARRT examination use the credential R.T.(S). Those passing the required ARDMS examinations use the credential RDMS, RDCS and/or RVT.

Eligibility to take the postprimary examinations in sonography requires appropriate primary certification at the time of examination and documentation of clinical experience in specific procedures. Those who successfully complete these examinations may use the credentials



R.T.(S), R.T.(VS) and/or R.T.(BS).

To maintain ARRT and/or ARDMS certification, sonographers must complete appropriate continuing education requirements to sustain a level of expertise and awareness of changes and advances in practice.

### **Overview**

An interdisciplinary team of radiologists, sonographers, radiographers and other support staff plays a critical role in the delivery of health services as new modalities emerge and the need for imaging procedures increases. A comprehensive procedure list for the sonographer is impractical because clinical activities vary by practice needs and expertise of the sonographer. As sonographers gain more experience, knowledge and clinical competence, the clinical activities for the sonographer may evolve.

State statute, regulation or lawful community custom may dictate practice parameters. *Wherever there is a conflict between these standards and state or local statutes or regulations, the state or local statutes or regulations supersede these standards.* A sonographer should, within the boundaries of all applicable legal requirements and restrictions, exercise individual thought, judgment and discretion in the performance of the procedure.

## Sonographer Scope of Practice

The scope of practice of the medical imaging and radiation therapy professional includes:

- Receiving, relaying and documenting verbal, written and electronic orders in the patient's medical record.
- Corroborating patient's clinical history with procedure, ensuring information is documented and available for use by a licensed independent practitioner.
- Verifying informed consent.
- Assuming responsibility for patient needs during procedures.
- Preparing patients for procedures.
- Applying principles of ALARA to minimize exposure to patient, self and others.
- Performing venipuncture as prescribed by a licensed independent practitioner.
- Starting and maintaining intravenous access as prescribed by a licensed independent practitioner.
- Identifying, preparing and/or administering medications as prescribed by a licensed independent practitioner.
- Evaluating images for technical quality, ensuring proper identification is recorded.
- Identifying and managing emergency situations.
- Providing education.
- Educating and monitoring students and other health care providers.
- Performing ongoing quality assurance activities.

The scope of practice of the sonographer also includes:

1. Performing diagnostic ultrasound procedures or examinations as prescribed by a licensed independent practitioner.
2. Optimizing equipment parameters to ensure diagnostic exams are of consistent technical and administrative quality as requested by a licensed independent practitioner.
3. Assisting a licensed independent practitioner with interventional procedures.

# Sonography Clinical Performance Standards

## Standard One – Assessment

The sonographer collects pertinent data about the patient and the procedure.

### *Rationale*

Information about the patient's health status is essential in providing appropriate imaging and therapeutic services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Gathers relevant information from the patient, medical record, significant others and health care providers.
2. Reconfirms patient identification and verifies the procedure requested or prescribed.
3. Reviews the patient's medical record to verify the appropriateness of a specific examination or procedure.
4. Verifies the patient's pregnancy status.
5. Assesses factors that may contraindicate the procedure, such as medications, patient history, insufficient patient preparation or artifacts.
6. Recognizes signs and symptoms of an emergency.

### *Specific Criteria*

The sonographer:

1. Locates and reviews previous examinations for comparison.
2. Assesses patient's need for information and reassurance.

# Sonography Clinical Performance Standards

## Standard Two – Analysis/Determination

The sonographer analyzes the information obtained during the assessment phase and develops an action plan for completing the procedure.

### *Rationale*

Determining the most appropriate action plan enhances patient safety and comfort, optimizes diagnostic and therapeutic quality and improves efficiency.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Selects the most appropriate and efficient action plan after reviewing all pertinent data and assessing the patient's abilities and condition.
2. Employs professional judgment to adapt imaging and therapeutic procedures to improve diagnostic quality and therapeutic outcome.
3. Consults appropriate medical personnel to determine a modified action plan.
4. Determines the need for and selects supplies, accessory equipment, shielding and immobilization devices.
5. Determines the course of action for an emergency or problem situation.
6. Determines that all procedural requirements are in place to achieve a quality diagnostic or therapeutic procedure.

### *Specific Criteria*

The sonographer:

1. Selects appropriate ultrasound system and scanning techniques to optimize the procedure.

# Sonography Clinical Performance Standards

## Standard Three – Patient Education

The sonographer provides information about the procedure and related health issues according to protocol.

### *Rationale*

Communication and education are necessary to establish a positive relationship.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Verifies that the patient has consented to the procedure and fully understands its risks, benefits, alternatives and follow-up. The sonographer verifies that written or informed consent has been obtained.
2. Provides accurate explanations and instructions at an appropriate time and at a level the patients and their care providers can understand. Addresses patient questions and concerns regarding the procedure.
3. Refers questions about diagnosis, treatment or prognosis to a licensed independent practitioner.
4. Provides related patient education.
5. Explains precautions regarding administration of medications.

### *Specific Criteria*

The sonographer:

1. Consults with other departments, such as patient transportation and anesthesia, for patient services.

# Sonography Clinical Performance Standards

## Standard Four – Performance

The sonographer performs the action plan.

### *Rationale*

Quality patient services are provided through the safe and accurate performance of a deliberate plan of action.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Performs procedural timeout.
2. Implements an action plan.
3. Explains each step of the action plan to the patient as it occurs and elicits the cooperation of the patient.
4. Uses an integrated team approach.
5. Modifies the action plan according to changes in the clinical situation.
6. Administers first aid or provides life support.
7. Utilizes accessory equipment.
8. Assesses and monitors the patient's physical, emotional and mental status.
9. Applies principles of sterile technique.
10. Positions patient for anatomic area of interest, respecting patient ability and comfort.
11. Immobilizes patient for procedure.
12. Monitors the patient for reactions to medications.

### *Specific Criteria*

The sonographer:

1. Recognizes sonographic appearance of normal and abnormal tissue structures and physiological data.
2. Assists in collecting and labeling of tissue samples for further processing.

# Sonography Clinical Performance Standards

## Standard Five – Evaluation

The sonographer determines whether the goals of the action plan have been achieved.

### *Rationale*

Careful examination of the procedure is important to determine that expected outcomes have been met.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Evaluates the patient and the procedure to identify variances that may affect the expected outcome.
2. Completes the evaluation process in a timely, accurate and comprehensive manner.
3. Measures the procedure against established policies, protocols and benchmarks.
4. Identifies exceptions to the expected outcome.
5. Develops a revised action plan to achieve the intended outcome.
6. Communicates revised action plan to appropriate team members.

### *Specific Criteria*

None added.

# Sonography Clinical Performance Standards

## Standard Six – Implementation

The sonographer implements the revised action plan.

### *Rationale*

It may be necessary to make changes to the action plan to achieve the expected outcome.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Bases the revised plan on the patient's condition and the most appropriate means of achieving the expected outcome.
2. Takes action based on patient and procedural variances.
3. Measures and evaluates the results of the revised action plan.
4. Notifies appropriate health care provider when immediate clinical response is necessary based on procedural findings and patient condition.

### *Specific Criteria*

None added.



# Sonography Clinical Performance Standards

## Standard Seven – Outcomes Measurement

The sonographer reviews and evaluates the outcome of the procedure.

### *Rationale*

To evaluate the quality of care, the sonographer compares the actual outcome with the expected outcome.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Reviews all diagnostic or therapeutic data for completeness and accuracy.
2. Uses evidenced-based practice to determine whether the actual outcome is within established criteria.
3. Evaluates the process and recognizes opportunities for future changes.
4. Assesses the patient's physical, emotional and mental status prior to discharge.

### *Specific Criteria*

None added.

# Sonography Clinical Performance Standards

## Standard Eight – Documentation

The sonographer documents information about patient care, the procedure and the final outcome.

### *Rationale*

Clear and precise documentation is essential for continuity of care, accuracy of care and quality assurance.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Documents diagnostic, treatment and patient data in the medical record in a timely, accurate and comprehensive manner.
2. Documents exceptions from the established criteria or procedures.
3. Provides pertinent information to authorized individual(s) involved in the patient's care.
4. Records information used for billing and coding procedures.
5. Archives images or data.
6. Verifies patient consent is documented.
7. Documents procedural timeout.

### *Specific Criteria*

The sonographer:

1. Documents initial impressions and technical data.

# Sonography Quality Performance Standards

## Standard One – Assessment

The sonographer collects pertinent information regarding equipment, procedures and the work environment.

### *Rationale*

The planning and provision of safe and effective medical services relies on the collection of pertinent information about equipment, procedures and the work environment.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Determines that services are performed in a safe environment, minimizing potential hazards, in accordance with established guidelines.
2. Confirms that equipment performance, maintenance and operation comply with manufacturer's specifications.
3. Verifies that protocol and procedure manuals include recommended criteria and are reviewed and revised.

### *Specific Criteria*

The sonographer:

1. Participates in patient safety, risk management and quality management activities.

# Sonography Quality Performance Standards

## Standard Two – Analysis/Determination

The sonographer analyzes information collected during the assessment phase to determine the need for changes to equipment, procedures or the work environment.

### *Rationale*

Determination of acceptable performance is necessary to provide safe and effective services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Assesses services, procedures and environment to meet or exceed established guidelines and adjusts the action plan.
2. Monitors equipment to meet or exceed established standards and adjusts the action plan.
3. Assesses and maintains the integrity of medical supplies such as a lot/expiration, sterility, etc.

### *Specific Criteria*

None added.

# Sonography Quality Performance Standards

## Standard Three – Education

The sonographer informs the patient, public and other health care providers about procedures, equipment and facilities.

### *Rationale*

Open communication promotes safe practices.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Elicits confidence and cooperation from the patient, the public and other health care providers by providing timely communication and effective instruction.
2. Presents explanations and instructions at the learner's level of understanding.
3. Educates the patient, public and other health care providers about procedures along with the biological effects of radiation, sound wave or magnetic field and protection.
4. Provides information to patients, health care providers, students and the public concerning the role and responsibilities of individuals in the profession.

### *Specific Criteria*

None added.

# Sonography Quality Performance Standards

## Standard Four – Performance

The sonographer performs quality assurance activities.

### *Rationale*

Quality assurance activities provide valid and reliable information regarding the performance of equipment, materials and processes.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Maintains current information on equipment, materials and processes.
2. Performs ongoing quality assurance activities.
3. Performs quality control testing of equipment.

### *Specific Criteria*

The sonographer:

1. Monitors image production to determine technical acceptability.
2. Performs routine archiving status checks.

# Sonography Quality Performance Standards

## Standard Five – Evaluation

The sonographer evaluates quality assurance results and establishes an appropriate action plan.

### *Rationale*

Equipment, materials and processes depend on ongoing quality assurance activities that evaluate performance based on established guidelines.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Validates quality assurance testing conditions and results.
2. Evaluates quality assurance results.
3. Formulates an action plan.

### *Specific Criteria*

None added.

# Sonography Quality Performance Standards

## Standard Six – Implementation

The sonographer implements the quality assurance action plan for equipment, materials and processes.

### *Rationale*

Implementation of a quality assurance action plan promotes safe and effective services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Obtains assistance to support the quality assurance action plan.
2. Implements the quality assurance action plan.

### *Specific Criteria*

None added.



# Sonography Quality Performance Standards

## Standard Seven – Outcomes Measurement

The sonographer assesses the outcome of the quality management action plan for equipment, materials and processes.

### *Rationale*

Outcomes assessment is an integral part of the ongoing quality management action plan to enhance diagnostic and therapeutic services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Reviews the implementation process for accuracy and validity.
2. Determines that actual outcomes are within established criteria.
3. Develops and implements a modified action plan.

### *Specific Criteria*

None added.

# Sonography Quality Performance Standards

## Standard Eight – Documentation

The sonographer documents quality assurance activities and results.

### *Rationale*

Documentation provides evidence of quality assurance activities designed to enhance safety.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Maintains documentation of quality assurance activities, procedures and results in accordance with established guidelines.
2. Documents in a timely, accurate and comprehensive manner.

### *Specific Criteria*

None added.

# Sonography Professional Performance Standards

## Standard One – Quality

The sonographer strives to provide optimal patient care.

### *Rationale*

Patients expect and deserve optimal care during diagnosis and treatment.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Collaborates with others to elevate the quality of care.
2. Participates in ongoing quality assurance programs.
3. Adheres to standards, policies and established guidelines.
4. Applies professional judgment and discretion while performing diagnostic study or treatment.
5. Anticipates and responds to patient needs.
6. Respects cultural variations.

### *Specific Criteria*

The sonographer:

1. Strives to minimize patient exposure to acoustic energy.

# Sonography Professional Performance Standards

## Standard Two – Self-Assessment

The sonographer evaluates personal performance.

### *Rationale*

Self-assessment is necessary for personal growth and professional development.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Assesses personal work ethics, behaviors and attitudes.
2. Evaluates performance and recognizes opportunities for educational growth and improvement.
3. Recognizes and applies personal and professional strengths.
4. Participates in professional societies and organizations.

### *Specific Criteria*

None added.

# Sonography Professional Performance Standards

## Standard Three – Education

The sonographer acquires and maintains current knowledge in practice.

### *Rationale*

Advancements in the profession require additional knowledge and skills through education.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Completes education related to practice.
2. Maintains credentials and certification related to practice.
3. Participates in continuing education to maintain and enhance competency and performance.
4. Shares knowledge and expertise with others.

### *Specific Criteria*

None added.

# Sonography Professional Performance Standards

## Standard Four – Collaboration and Collegiality

The sonographer promotes a positive and collaborative practice atmosphere with other members of the health care team.

### *Rationale*

To provide quality patient care, all members of the health care team must communicate effectively and work together efficiently.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Shares knowledge and expertise with members of the health care team.
2. Develops collaborative partnerships to enhance quality and efficiency.
3. Promotes understanding of the profession.

### *Specific Criteria*

None added.

# Sonography Professional Performance Standards

## Standard Five – Ethics

The sonographer adheres to the profession's accepted ethical standards.

### *Rationale*

Decisions made and actions taken on behalf of the patient are based on a sound ethical foundation.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Provides health care services with respect for the patient's dignity, age-specific needs and culture.
2. Acts as a patient advocate.
3. Takes responsibility for decisions made and actions taken.
4. Delivers patient care and service free from bias or discrimination.
5. Respects the patient's right to privacy and confidentiality.
6. Adheres to the established practice standards of the profession.

### *Specific Criteria*

The sonographer:

1. Opposes participation in sonography procedures for the purpose of nonmedical entrepreneurial application or entertainment contrary to the tenets of ethical medical practice.

# Sonography Professional Performance Standards

## Standard Six – Research and Innovation

The sonographer participates in the acquisition and dissemination of knowledge and the advancement of the profession.

### *Rationale*

Scholarly activities such as research, scientific investigation, presentation and publication advance the profession.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The sonographer:

1. Reads and evaluates research relevant to the profession.
2. Participates in data collection.
3. Investigates innovative methods for application in practice.
4. Shares information through publication, presentation and collaboration.
5. Adopts new best practices.
6. Pursues lifelong learning.

### *Specific Criteria*

None added.



## **Sonography Advisory Opinion Statements**

Injecting Medication in Peripherally Inserted Central Catheter Lines or Ports with a Power Injector.

Medication Injection Through Existing Vascular Access

Medication Injections by Radiologic Technologists

***Main Motion C-12.03***

**Adopt the Quality Management Practice Standards**

The Practice Standards Council moves to adopt the Quality Management Practice Standards, pages QM 1-27.

The Commission moves to amend Motion C-12.03 Quality Management Practice Standards, Quality Management Quality Performance Standards, Standard Eight – Documentation, *Specific Criteria*, by inserting:

3. Provides reports as required by institutional policy, accrediting bodies and state and federal regulations.

A large, light gray decorative graphic is positioned in the upper right quadrant of the page. It consists of a thick, diagonal line that starts from the top left and extends towards the bottom right. A large, light gray sphere is centered on this line, partially overlapping it.

# The Practice Standards for Medical Imaging and Radiation Therapy

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## Quality Management Practice Standards

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## Preface to Practice Standards

A profession's practice standards serve as a guide for appropriate practice. The practice standards define the practice and establish general criteria to determine compliance. Practice standards are authoritative statements established by the profession for judging the quality of practice, service and education provided by individuals who practice in medical imaging and radiation therapy.

Practice standards can be used by individual facilities to develop job descriptions and practice parameters. Those outside the imaging, therapeutic and radiation science community can use the standards as an overview of the role and responsibilities of the individual as defined by the profession.

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### Format

The Practice Standards for Medical Imaging and Radiation Therapy are divided into six sections: introduction, scope of practice, clinical performance, quality performance, professional performance and advisory opinion statements.

*Introduction.* The introduction provides definitions for the practice and the education and certification for individuals in addition to an overview of the specific practice.

*Scope of Practice.* The scope of practice delineates the parameters of the specific practice.

*Clinical Performance Standards.* The clinical performance standards define the activities of the individual in the care of patients and delivery of diagnostic or therapeutic procedures. The section incorporates patient assessment and management with procedural analysis, performance and evaluation.

*Quality Performance Standards.* The quality performance standards define the activities of the individual in the technical areas of performance including equipment and material assessment, safety standards and total quality management.

*Professional Performance Standards.* The professional performance standards define the activities of the individual in the areas of education, interpersonal relationships, self-assessment and ethical behavior.

*Advisory Opinion Statements.* The advisory opinions are interpretations of the standards intended for clarification and guidance for specific practice issues.

Each performance standards section is subdivided into individual standards. The standards are numbered and followed by a term or set of terms that identify the standards, such as "assessment" or "analysis/determination." The next statement is the expected performance of the individual when performing the procedure or treatment. A rationale statement follows and

explains why an individual should adhere to the particular standard of performance.

*Criteria.* Criteria are used in evaluating an individual's performance. Each set is divided into two parts: the general criteria and the specific criteria. Both criteria should be used when evaluating performance.

*General Criteria.* General criteria are written in a style that applies to imaging and radiation science individuals. These criteria are the same in all of the practice standards, with the exception of limited x-ray machine operators, and should be used for the appropriate area of practice.

*Specific Criteria.* Specific criteria meet the needs of the individuals in the various areas of professional performance. While many areas of performance within imaging and radiation sciences are similar, others are not. The specific criteria are drafted with these differences in mind.

# Introduction to Quality Management Practice Standards

## Definition

The practice of quality management is performed by health care professionals responsible for the identification, measurement, control, and improvement of the various core processes that will ultimately lead to improved medical imaging and radiation therapy department performance.

The goal of quality management is to ensure excellence in healthcare through the systematic collection and evaluation of data, with a primary objective of enhancing patient care.

Today's medical imaging and radiation therapy departments involve multiple modalities, creating an interdisciplinary team. The quality management technologist is a vital member of the team of clinicians, quality management technologists and support staff, as well as personnel from outside the department.

Quality management includes but is not limited to four main components: quality planning, quality control, quality assurance and quality improvement. Quality management focuses on image/service quality and the means to achieve it. A quality management technologist combines all of these components to ensure efficient and effective patient care.

The quality management technologist must demonstrate an understanding of the various modalities, equipment performance, regulatory/accreditation requirements, performance improvement processes, patient throughput, and the various information technologies present in the medical imaging and radiation therapy departments.

Quality management technologists must maintain a high degree of accuracy. They must possess, utilize and maintain knowledge about radiation protection and safety. Quality management technologists independently perform or assist the medical physicist in the completion of quality control procedures. Quality management technologists prepare, administer and document activities related to all facets of quality management in accordance with state and federal regulations or lawful institutional policy.

Quality management technologists serve as liaisons between patients, licensed independent practitioners and other members of the healthcare team. Quality management technologists must remain sensitive to the needs of patients and coworkers through good communication, assessment, monitoring and patient care skills. As members of the health care team, quality management technologists facilitate quality improvement processes and continually assess their professional performance.

Quality management technologists think critically and use independent, professional and ethical judgment in all aspects of their work. They engage in continuing education to include their area of practice to enhance patient care, radiation safety, public education, knowledge and technical competence.

## Education and Certification

Quality management technologists prepare for their role on the interdisciplinary team by successfully completing an accredited educational program in medical imaging or radiation

therapy and attaining appropriate primary certification by the American Registry of Radiologic Technologists or the Nuclear Medicine Technology Certification Board.

Eligibility to take the ARRT postprimary examination in quality management requires appropriate primary certification at the time of examination and documentation of clinical experience in specific procedures. Those passing the quality management postprimary examination, use the credentials R.T.(QM).

To maintain ARRT postprimary certification, quality management technologists must complete appropriate continuing education requirements to sustain a level of expertise and awareness of changes and advances in practice.

## **Overview**

An interdisciplinary team of clinicians, quality management technologists and support staff plays a critical role in the delivery of health services as new modalities emerge and the need for imaging procedures increases. A comprehensive procedure list for the quality management technologist is impractical because clinical activities vary by practice needs and expertise of the quality management technologist. As quality management technologists gain more experience, knowledge and clinical competence, the activities for the quality management technologist may evolve.

State statute, regulation or lawful community custom may dictate practice parameters. *Wherever there is a conflict between these standards and state or local statutes or regulations, the state or local statutes or regulations supersede these standards.* A quality management technologist should, within the boundaries of all applicable legal requirements and restrictions, exercise individual thought, judgment and discretion in the performance of the quality management procedures.

## Quality Management Technologist Scope of Practice

The scope of practice of the medical imaging and radiation therapy professional includes:

- Receiving, relaying and documenting verbal, written and electronic orders in the patient's medical record.
- Corroborating patient's clinical history with procedure, ensuring information is documented and available for use by a licensed independent practitioner.
- Verifying informed consent.
- Assuming responsibility for patient needs during procedures.
- Preparing patients for procedures.
- Applying principles of ALARA to minimize exposure to patient, self and others.
- Performing venipuncture as prescribed by a licensed independent practitioner.
- Starting and maintaining intravenous access as prescribed by a licensed independent practitioner.
- Identifying, preparing and/or administering medications as prescribed by a licensed independent practitioner.
- Evaluating images for technical quality, ensuring proper identification is recorded.
- Identifying and managing emergency situations.
- Providing education.
- Educating and monitoring students and other health care providers.
- Performing ongoing quality assurance activities.

The scope of practice of the quality management technologist also includes:

1. Coordinating, performing and monitoring quality control procedures for all types of equipment.
2. Determining and monitoring exposure factors and/or procedural protocols in accordance with ALARA principles.
3. Ensuring adherence to federal, state and local regulatory requirements.
4. Ensuring adherence to accreditation requirements.



5. Providing input for equipment and software purchase and supply decisions when appropriate or requested.
6. Facilitating performance improvement processes.
7. Providing practical information regarding quality management topics.
8. Facilitating the department's quality assessment and improvement plan.
9. Performing physics surveys independently on general radiographic and fluoroscopic equipment. Medical physicist oversight is required.
10. Supporting and assisting a medical physicist for special modality physics surveys such as CT, Mammography, MRI, Nuclear Medicine, Radiation Therapy and PET.
11. Providing assistance to staff for image optimization, including patient positioning, proper equipment use and image critique.
12. Creating policies and procedures to meet regulatory and accreditation requirements.
13. Serving as a resource regarding regulatory and accreditation requirements.

# Quality Management Clinical Performance Standards

## Standard One – Assessment

The quality management technologist collects pertinent data about the patient and the procedure.

### *Rationale*

Information about the patient's health status is essential in providing appropriate imaging and therapeutic services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Gathers relevant information from the patient, medical record, significant others and health care providers.
2. Reconfirms patient identification and verifies the procedure requested or prescribed.
3. Reviews the patient's medical record to verify the appropriateness of a specific examination or procedure.
4. Verifies the patient's pregnancy status.
5. Assesses factors that may contraindicate the procedure, such as medications, patient history, insufficient patient preparation or artifacts.
6. Recognizes signs and symptoms of an emergency.

### *Specific Criteria*

The quality management technologist:

1. Identifies the customers served by medical imaging and radiation therapy.
2. Identifies the processes used in customer service.
3. Monitors compliance with universal precautions and standard precautions.

# Quality Management Clinical Performance Standards

## Standard Two – Analysis/Determination

The quality management technologist analyzes the information obtained during the assessment phase and develops an action plan for completing the procedure.

### *Rationale*

Determining the most appropriate action plan enhances patient safety and comfort, optimizes diagnostic and therapeutic quality and improves efficiency.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Selects the most appropriate and efficient action plan after reviewing all pertinent data and assessing the patient's abilities and condition.
2. Employs professional judgment to adapt imaging and therapeutic procedures to improve diagnostic quality and therapeutic outcome.
3. Consults appropriate medical personnel to determine a modified action plan.
4. Determines the need for and selects supplies, accessory equipment, shielding and immobilization devices.
5. Determines the course of action for an emergency or problem situation.
6. Determines that all procedural requirements are in place to achieve a quality diagnostic or therapeutic procedure.

### *Specific Criteria*

The quality management technologist:

1. Assesses and prioritizes the current processes to improve quality while focusing on issues needing immediate response.
2. Collects and analyzes data using the standard tools associated with quality management.
3. Creates an effective action plan after reviewing all pertinent data while assessing possible options, costs and ease of implementation.
4. Clarifies current steps in a process to minimize redundancy, reordering and improving service flow.
5. Develops methods for minimizing hazards associated with medical imaging and radiation therapy procedures.

6. Develops monitoring metrics.
7. Assesses proposed changes to minimize organizational disruption during implementation.

# Quality Management Clinical Performance Standards

## Standard Three – Patient Education

The quality management technologist provides information about the procedure and related health issues according to protocol.

### *Rationale*

Communication and education are necessary to establish a positive relationship.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Verifies that the patient has consented to the procedure and fully understands its risks, benefits, alternatives and follow-up. The quality management technologist verifies that written or informed consent has been obtained.
2. Provides accurate explanations and instructions at an appropriate time and at a level the patients and their care providers can understand. Addresses patient questions and concerns regarding the procedure.
3. Refers questions about diagnosis, treatment or prognosis to a licensed independent practitioner.
4. Provides related patient education.
5. Explains precautions regarding administration of medications.

### *Specific Criteria*

The quality management technologist:

1. Develops educational programs.

# Quality Management Clinical Performance Standards

## Standard Four – Performance

The quality management technologist performs the action plan.

### *Rationale*

Quality patient services are provided through the safe and accurate performance of a deliberate plan of action.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Performs procedural timeout.
2. Implements an action plan.
3. Explains each step of the action plan to the patient as it occurs and elicits the cooperation of the patient.
4. Uses an integrated team approach.
5. Modifies the action plan according to changes in the clinical situation.
6. Administers first aid or provides life support.
7. Utilizes accessory equipment.
8. Assesses and monitors the patient's physical, emotional and mental status.
9. Applies principles of sterile technique.
10. Positions patient for anatomic area of interest, respecting patient ability and comfort.
11. Immobilizes patient for procedure.
12. Monitors the patient for reactions to medications.

### *Specific Criteria*

The quality management technologist:

1. Reviews all data for completeness and accuracy.

# Quality Management Clinical Performance Standards

## Standard Five – Evaluation

The quality management technologist determines whether the goals of the action plan have been achieved.

### *Rationale*

Careful examination of the procedure is important to determine that expected outcomes have been met.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Evaluates the patient and the procedure to identify variances that may affect the expected outcome.
2. Completes the evaluation process in a timely, accurate and comprehensive manner.
3. Measures the procedure against established policies, protocols and benchmarks.
4. Identifies exceptions to the expected outcome.
5. Develops a revised action plan to achieve the intended outcome.
6. Communicates revised action plan to appropriate team members.

### *Specific Criteria*

The quality management technologist:

1. Evaluates process flow.
2. Evaluates sentinel events and continuously monitors measurements to minimize patient risk.
3. Evaluates measured processes against established policies, protocols and benchmarks.

# Quality Management Clinical Performance Standards

## Standard Six – Implementation

The quality management technologist implements the revised action plan.

### *Rationale*

It may be necessary to make changes to the action plan to achieve the expected outcome.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards

### *General Criteria*

The quality management technologist:

1. Bases the revised plan on the patient's condition and the most appropriate means of achieving the expected outcome.
2. Takes action based on patient and procedural variances.
3. Measures and evaluates the results of the revised action plan.
4. Notifies appropriate health care provider when immediate clinical response is necessary based on procedural findings and patient condition.

### *Specific Criteria*

The quality management technologist:

1. Develops protocols.



# Quality Management Clinical Performance Standards

## Standard Seven – Outcomes Measurement

The quality management technologist reviews and evaluates the outcome of the procedure.

### *Rationale*

To evaluate the quality of care, the quality management technologist compares the actual outcome with the expected outcome.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Reviews all diagnostic or therapeutic data for completeness and accuracy.
2. Uses evidenced-based practice to determine whether the actual outcome is within established criteria.
3. Evaluates the process and recognizes opportunities for future changes.
4. Assesses the patient's physical, emotional and mental status prior to discharge.

### *Specific Criteria*

The quality management technologist:

1. Evaluates the effectiveness and supports changes to processes.
2. Performs procedural analysis.

# Quality Management Clinical Performance Standards

## Standard Eight – Documentation

The quality management technologist documents information about patient care, the procedure and the final outcome.

### *Rationale*

Clear and precise documentation is essential for continuity of care, accuracy of care and quality assurance.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Documents diagnostic, treatment and patient data in the medical record in a timely, accurate and comprehensive manner.
2. Documents exceptions from the established criteria or procedures.
3. Provides pertinent information to authorized individual(s) involved in the patient's care.
4. Records information used for billing and coding procedures.
5. Archives images or data.
6. Verifies patient consent is documented.
7. Documents procedural timeout.

### *Specific Criteria*

The quality management technologist:

1. Documents steps used in improving processes.
2. Documents goals and outcomes based on data analysis.
3. Provides reports as required by institutional policy, accrediting bodies and state and federal regulations.

# Quality Management Quality Performance Standards

## Standard One – Assessment

The quality management technologist collects pertinent information regarding equipment, procedures and the work environment.

### *Rationale*

The planning and provision of safe and effective medical services relies on the collection of pertinent information about equipment, procedures and the work environment.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Determines that services are performed in a safe environment minimizing potential hazards, in accordance with established guidelines.
2. Confirms that equipment performance, maintenance and operation comply with manufacturer's specifications.
3. Verifies that protocol and procedure manuals include recommended criteria and are reviewed and revised.

### *Specific Criteria*

The quality management technologist:

1. Uses consistent and appropriate techniques to gather relevant information.
2. Assesses protocols to improve safety, efficiency and patient care.
3. Identifies the facility's loss potential.

# Quality Management Quality Performance Standards

## Standard Two – Analysis/Determination

The quality management technologist analyzes information collected during the assessment phase to determine the need for changes to equipment, procedures or the work environment.

### *Rationale*

Determination of acceptable performance is necessary to provide safe and effective services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Assesses services, procedures and environment to meet or exceed established guidelines and adjusts the action plan.
2. Monitors equipment to meet or exceed established standards and adjusts the action plan.
3. Assesses and maintains the integrity of medical supplies such as a lot/expiration, sterility, etc.

### *Specific Criteria*

The quality management technologist:

1. Monitors and develops methods for improving customer satisfaction.
2. Monitors federal and state laws and accreditation standards affect quality management in medical imaging and radiation therapy.
3. Establishes benchmarks and quality indicators for assessing quality management issues.
4. Performs repeat analysis.

# Quality Management Quality Performance Standards

## Standard Three – Education

The quality management technologist informs the patient, public and other health care providers about procedures, equipment and facilities.

### *Rationale*

Open communication promotes safe practices.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Elicits confidence and cooperation from the patient, the public and other health care providers by providing timely communication and effective instruction.
2. Presents explanations and instructions at the learner's level of understanding.
3. Educates the patient, public and other health care providers about procedures along with the biological effects of radiation, sound wave or magnetic field and protection.
4. Provides information to patients, health care providers, students and the public concerning the role and responsibilities of individuals in the profession.

### *Specific Criteria*

The quality management technologist:

1. Addresses questions and concerns regarding quality management.
2. Provides educational programs to improve understanding of quality management in medical imaging and radiation therapy.

# Quality Management Quality Performance Standards

## Standard Four – Performance

The quality management technologist performs quality assurance activities.

### *Rationale*

Quality assurance activities provide valid and reliable information regarding the performance of equipment, materials and processes.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Maintains current information on equipment, materials and processes.
2. Performs ongoing quality assurance activities.
3. Performs quality control testing of equipment.

### *Specific Criteria*

The quality management technologist:

1. Identifies variables and implements changes to improve quality.

# Quality Management Quality Performance Standards

## Standard Five – Evaluation

The quality management technologist evaluates quality assurance results and establishes an appropriate action plan.

### *Rationale*

Equipment, materials and processes depend on ongoing quality assurance activities that evaluate performance based on established guidelines.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Validates quality assurance testing conditions and results.
2. Evaluates quality assurance results.
3. Formulates an action plan.

### *Specific Criteria*

The quality management technologist:

1. Evaluates customer satisfaction.

# Quality Management Quality Performance Standards

## Standard Six – Implementation

The quality management technologist implements the quality assurance action plan for equipment, materials and processes.

### *Rationale*

Implementation of a quality assurance action plan promotes safe and effective services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Obtains assistance to support the quality assurance action plan.
2. Implements the quality assurance action plan.

### *Specific Criteria*

None added.



# Quality Management Quality Performance Standards

## Standard Seven – Outcomes Measurement

The quality management technologist assesses the outcome of the quality management action plan for equipment, materials and processes.

### *Rationale*

Outcomes assessment is an integral part of the ongoing quality management action plan to enhance diagnostic and therapeutic services.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Reviews the implementation process for accuracy and validity.
2. Determines that actual outcomes are within established criteria.
3. Develops and implements a modified action plan.

### *Specific Criteria*

The quality management technologist:

1. Assesses implemented changes for improvement.
2. Assesses differences between expected and actual outcomes.
3. Revises action plan to meet customer needs.
4. Develops strategies for maintaining improvement.
5. Develops methods to demonstrate continuous improvement.

# Quality Management Quality Performance Standards

## Standard Eight – Documentation

The quality management technologist documents quality assurance activities and results.

### *Rationale*

Documentation provides evidence of quality assurance activities designed to enhance safety.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards

### *General Criteria*

The quality management technologist:

1. Maintains documentation of quality assurance activities, procedures and results in accordance with established guidelines.
2. Documents in a timely, accurate and comprehensive manner.

### *Specific Criteria*

The quality management technologist:

1. Maintains institutional policies by continuously evaluating compliance issues.
2. Documents process flow variances and justifies exceptions.
3. Provides reports as required by institutional policy, accrediting bodies and state and federal regulations.

# Quality Management Professional Performance Standards

## Standard One – Quality

The quality management technologist strives to provide optimal patient care.

### *Rationale*

Patients expect and deserve optimal care during diagnosis and treatment.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Collaborates with others to elevate the quality of care.
2. Participates in ongoing quality assurance programs.
3. Adheres to standards, policies and established guidelines.
4. Applies professional judgment and discretion while performing diagnostic study or treatment.
5. Anticipates and responds to patient needs.
6. Respects cultural variations.

### *Specific Criteria*

The quality management technologist:

1. Verifies achievement of goals and identifies exceptions.

# Quality Management Professional Performance Standards

## Standard Two – Self-Assessment

The quality management technologist evaluates personal performance.

### *Rationale*

Self-assessment is necessary for personal growth and professional development.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Assesses personal work ethics, behaviors and attitudes.
2. Evaluates performance and recognizes opportunities for educational growth and improvement.
3. Recognizes and applies personal and professional strengths.
4. Participates in professional societies and organizations.

### *Specific Criteria*

None added.

# Quality Management Professional Performance Standards

## Standard Three – Education

The quality management technologist acquires and maintains current knowledge in practice.

### *Rationale*

Advancements in the profession require additional knowledge and skills through education.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Completes education related to practice.
2. Maintains credentials and certification related to practice.
3. Participates in continuing education to maintain and enhance competency and performance.
4. Shares knowledge and expertise with others.

### *Specific Criteria*

The quality management technologist:

1. Promotes practices enhancing patient safety.
2. Modifies current practices based upon customer input and data analysis.

# Quality Management Professional Performance Standards

## Standard Four – Collaboration and Collegiality

The quality management technologist promotes a positive and collaborative practice atmosphere with other members of the health care team.

### *Rationale*

To provide quality patient care, all members of the health care team must communicate effectively and work together efficiently.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Shares knowledge and expertise with members of the health care team.
2. Develops collaborative partnerships to enhance quality and efficiency.
3. Promotes understanding of the profession.

### *Specific Criteria*

The quality management technologist:

1. Uses team concepts to interact with clinicians, administration, support staff, customers and others.

# Quality Management Professional Performance Standards

## Standard Five – Ethics

The quality management technologist adheres to the profession's accepted ethical standards.

### *Rationale*

Decisions made and actions taken on behalf of the patient are based on a sound ethical foundation.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Provides health care services with respect for the patient's dignity, age-specific needs and culture.
2. Acts as a patient advocate.
3. Takes responsibility for decisions made and actions taken.
4. Delivers patient care and service free from bias or discrimination.
5. Respects the patient's right to privacy and confidentiality.
6. Adheres to the established practice standards of the profession.

### *Specific Criteria*

The quality management technologist:

1. Advocates for the medical imaging and radiation therapy departments.
2. Monitors adherence to ALARA.

# Quality Management Professional Performance Standards

## Standard Six – Research and Innovation

The quality management technologist participates in the acquisition and dissemination of knowledge and the advancement of the profession.

### *Rationale*

Scholarly activities such as research, scientific investigation, presentation and publication advance the profession.

### *General Stipulation*

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs and lawful institutional policies and procedures supersede these standards.

### *General Criteria*

The quality management technologist:

1. Reads and evaluates research relevant to the profession.
2. Participates in data collection.
3. Investigates innovative methods for application in practice.
4. Shares information through publication, presentation and collaboration.
5. Adopts new best practices.
6. Pursues lifelong learning.

### *Specific Criteria*

None added.



## **Quality Management Advisory Opinion Statements**

Injecting Medication in Peripherally Inserted Central Catheter Lines or Ports with a Power Injector.

Medication Injection Through Existing Vascular Access

Medication Injections by Radiologic Technologists

Placement of Personal Radiation Monitoring Devices

### ***Main Motion C-12.04***

#### **Rescind the Position Statement “Breast Sonography”**

The Practice Standards Council moves to rescind the position statement titled “Breast Sonography.”

##### **Breast Sonography**

It is the position of the American Society of Radiologic Technologists that breast sonography is within the scope of practice for mammographers and sonographers with appropriate clinical and didactic education and where federal or state law and/or institutional policy permit.

### ***Main Motion C-12.05***

#### **Rescind the Position Statement “Qualifications for Performing Breast Sonography”**

The Practice Standards Council moves to rescind the position statement titled “Qualifications for Performing Breast Sonography.”

##### **Qualifications for Performing Breast Sonography**

It is the position of the American Society of Radiologic Technologists that only radiologic technologists certified in breast sonography by the American Registry for Diagnostic Medical Sonography or the American Registry of Radiologic Technologists or equivalent perform all breast sonography procedures.

### ***Main Motion C-12.06***

#### **Rescind the Position Statement “Qualifications for Performing Mammography”**

The Practice Standards Council moves to rescind the position statement titled “Qualifications for Performing Mammography.”

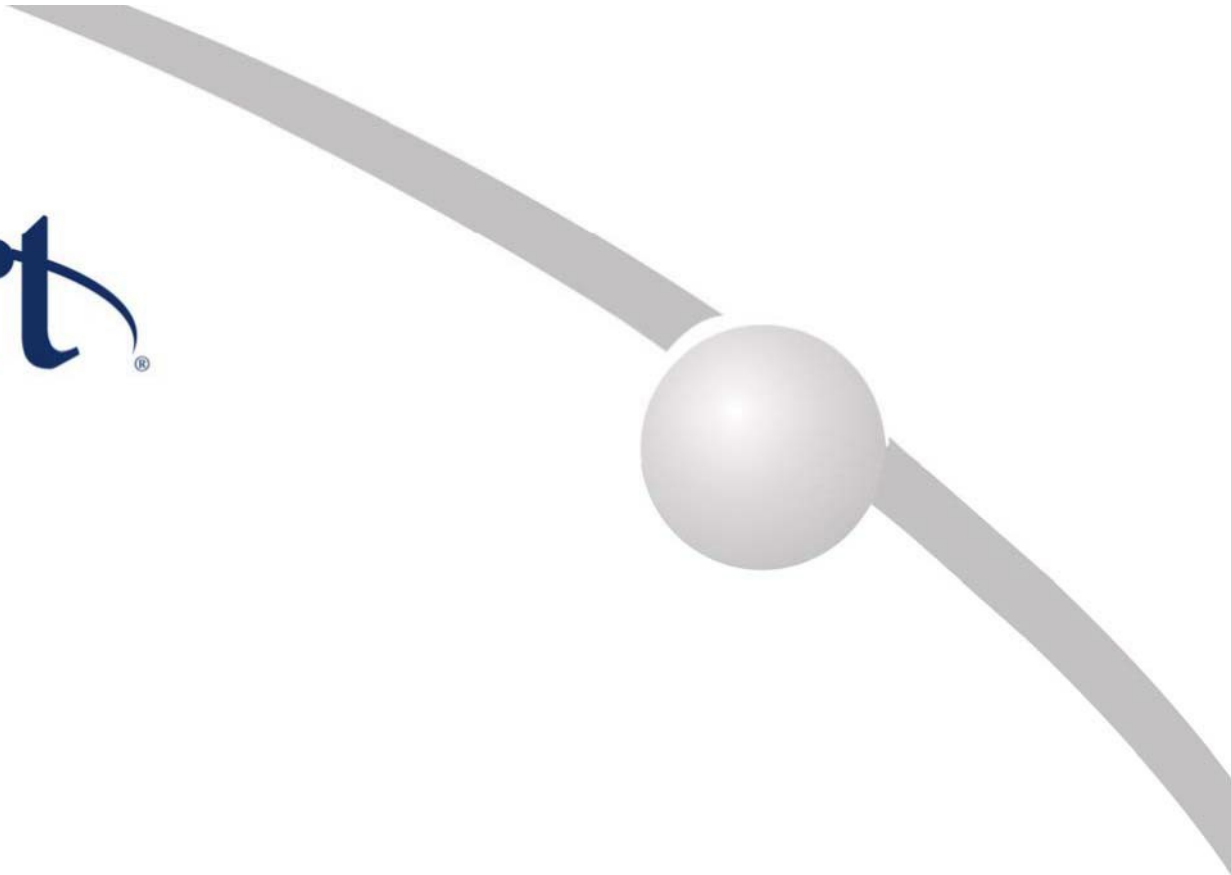
##### **Qualifications for Performing Mammography**

It is the position of the American Society of Radiologic Technologists that only radiologic technologists certified in mammography by the American Registry of Radiologic Technologists (ARRT) or equivalent perform all mammography procedures.

### ***Main Motion C-12.07***

#### **Adopt the Advisory Opinion Statement “Medication Injection Through Existing Vascular Access”**

The Practice Standards Council moves to adopt the advisory opinion statement titled “Medication Injection Through Existing Vascular Access.”

A large, light gray decorative graphic is positioned in the upper right quadrant of the page. It consists of a thick, diagonal line that passes through a 3D-rendered sphere, creating a sense of depth and movement.

# The Practice Standards for Medical Imaging and Radiation Therapy

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Advisory Opinion Statement

**Medication Injection Through Existing Vascular Access**

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## **Medication Injection Through Existing Vascular Access**

After study of evidentiary documentation such as current literature, curricula, position statements, scopes of practice, laws, federal and state regulations and inquiries received by the American Society of Radiologic Technologists Governance Department, the American Society of Radiologic Technologists issued opinions contained herein.

### **Accountability and Responsibility of Medical Imaging and Radiation Therapy Professionals**

The profession holds practitioners individually responsible and accountable for rendering safe, effective clinical services to patients and for judgments exercised and actions taken in the course of providing those services.

Acts within the recognized scope of practice for a given license or certification may be performed only by those individuals who possess the education and skill proficiency to perform those acts in a safe and effective manner.

The practitioner's performance should be consistent with state and federal laws, established standards of practice, facility policies and procedures, and be evidence-based.

### **Definitions**

**Clinically competent:** The practitioner's ability to perform a procedure in a clinical setting through the completion of clinical education and documented through an assessment by a qualified instructor.

**Educationally prepared:** Successful completion of didactic and clinical education necessary to safely perform a procedure.

**Existing vascular access:** Peripheral or central vascular implanted devices or external access lines that include, but are not limited to, peripherally inserted central catheter lines, intravenous lines, central lines and ports.

**Medication:** Any chemical substance intended for use in the medical diagnosis, cure, treatment or prevention of disease. Contrast media and radiopharmaceuticals are medications.

### **Evidentiary Documentation**

#### **Current Literature**

American College of Radiology. *ACR Manual on Contrast Media, Version 7.*

[www.acr.org/SecondaryMainMenuCategories/quality\\_safety/contrast\\_manual/FullManual.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/contrast_manual/FullManual.aspx). 2010; 81:11-12.

American College of Radiology. *ACR Practice Guidelines for Performing and Interpreting Diagnostic CT.*

[www.acr.org/SecondaryMainMenuCategories/quality\\_safety/guidelines/dx/ct\\_performing\\_interpreting.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/dx/ct_performing_interpreting.aspx). 2011.

American College of Radiology. *ACR Practice Guidelines for the Use of Intravascular Contrast Media.*

[www.acr.org/SecondaryMainMenuCategories/quality\\_safety/guidelines/dx/iv\\_contrast.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/dx/iv_contrast.aspx). 2007.

Rockwell D. A competency for central line use in radiology. *Journal of Radiology Nursing*. 2008; 27 (2): 84.

(Quality of Evidence: High)

### Curriculum

The ASRT curricula for all practice areas were reviewed.

2009 ASRT Cardiovascular Interventional and Vascular Interventional Curriculum  
Pharmacology and Drug Administration Objectives, p. 70, identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medication and the appropriate delivery of patient care during medication administration including routes of drug administration.

2008 ASRT Computed Tomography Curriculum  
Pharmacology and Drug Administration Objectives, p.50, identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medication and the appropriate delivery of patient care during medication administration including routes of drug administration.

2008 ASRT Magnetic Resonance Imaging Curriculum  
MR Safety, p.73,  
Sections I-IX identified the basic principles of MR safety and patient management and recommended procedures and responsibilities including the use of an existing line for administration of contrast media.

Pharmacology and Drug Administration, p.79,  
Sections I-VII identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of contrast agents and/or intravenous medications and the appropriate delivery of patient care during medication administration including routes of drug administration.

2008 ASRT Mammography Curriculum  
Pharmacology and Drug Administration Objectives, p.56, identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medication and the appropriate delivery of patient care during medication administration including routes of drug administration.

2009 ASRT Radiation Therapy Professional Curriculum  
Radiation Therapy Patient Care, p.86,  
Section VIII Medications and Their Administration identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medications and the appropriate delivery of patient care during medication administration.

2007 ASRT Radiography Curriculum  
Pharmacology and Drug Administration, p.49,

Sections I-VIII identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of contrast agents and/or intravenous medications including routes of drug administration.

#### 2011 ASRT Radiologist Assistant Curriculum

Pharmacology and Clinical Decision-Making in Radiology, p.11,  
Sections I-XIII identified pharmaceuticals commonly used by and given to radiology patients, the intent of the drug and its effect on diseases, conditions and physiology and the radiologist assistant's role in administering medication and monitoring patients after medication administration including routes of drug administration.

Additional nationally recognized curricula were reviewed.

#### 2008 National Education Curriculum for Sonography

Joint Review Committee on Education in Diagnostic Medical Sonography  
NEC Part II (Common Curricula)  
Patient Care Sections XI-XII identified intravenous injections, contraindications, adverse reactions, patient management, basic pharmacology and contrast materials.

#### Society of Nuclear Medicine

##### 2008 Curriculum Guide for Educational Programs in Nuclear Medicine 4th Edition

Chapter 1, Patient Care, p. 9,  
Sections VII-VIII addressed administration routes and phlebotomy.  
Chapter 12 Nuclear Pharmacy and Pharmacology, p. 80,  
Sections I-XV identified theory and practice of radiopharmacy, nonradioactive interventional drugs and contrast media, routes of administration, biodistribution mechanisms, interfering agents, contraindications and adverse effects.

(Quality of evidence: High)

#### Certification Agency Content Specifications

The American Registry of Radiologic Technologists (ARRT) content specifications:

Cardiac-Interventional Radiography Category B, Section 4, a-c. Section 6, a-c.  
Computed Tomography Category A, Section 3, a-g.  
Magnetic Resonance Imaging Category A, Section III, D.  
Nuclear Medicine Category B, Section 3, C.  
Radiation Therapy Category E, Section 4, B.  
Radiography Category B, Section 4, a-d. Section 5, a-e.  
Radiography Category E, Section VI, F.  
Registered Radiologist Assistant Category B, Section 1, f. Vascular-Interventional

Cardiovascular Credentialing International (CCI):

Registered Cardiovascular Invasive Specialist (RCIS) exam overview task list:  
Section B 5, 14.

Nuclear Medicine Technology Certification Board (NMTCB) components of preparedness:

Group III, Task #34, Content base 2, c, Task #35, Content base 3, a-e.  
Group IV, Task #42, Content base 3, b, Content base 4, d.

(Quality of evidence: High)

Scopes of Practice and Practice Standards Reference

2011 ASRT Practice Standards for Medical Imaging and Radiation Therapy.

Applies to all modality specific scopes of practice except radiologist assistants and limited x-ray machine operators.

Performing venipuncture as prescribed by a licensed independent practitioner.

Starting and maintaining intravenous (IV) access as prescribed by a licensed independent practitioner.

Identifying, preparing and/or administering medications as prescribed by a licensed independent practitioner.

(Quality of evidence: High)

Federal and State Statute Reference(s)

Not applicable.

(Quality of evidence: not applicable)

Other

Not applicable.

(Quality of evidence: not applicable)

## **Advisory Opinion**

It is the opinion of the American Society of Radiologic Technologists that based upon current literature, the curricula set forth by the ASRT, Society of Nuclear Medicine and the National Educational Curriculum for Sonography, certification examination specifications by the ARRT, NMTCB and CCI, and recommendations by the American College of Radiology and where federal or state law and/or institutional policy permits it is within the scope of practice for radiologic technologists to access and administer medications through existing vascular access.

GRADE: Strong

## **Rationale**

The ASRT's position is to determine the practice standards and scopes of practice for medical imaging and radiation therapy professionals. The practice standards general stipulation emphasizes the importance of an individual being educationally prepared and clinically competent to practice in the profession of medical imaging and radiation therapy. With proper education and proven competence, accessing and administering medications through existing vascular access provides quality patient services in a safe environment.

## **Determining Scope of Practice**

Each practitioner must exercise professional and prudent judgment in determining whether the performance of a given act is within the scope of practice for which the practitioner is licensed, educationally prepared and clinically competent to perform.

The ASRT issues advisory opinions as to what constitutes appropriate practice. As such, an opinion is not a regulation or statute and does not have the force and effect of law. It is issued as a guidepost to practitioners who engage in safe practice. Federal and state laws, accreditation standards necessary to participate in government programs and institutional policies and procedures supersede these standards. The individual must be educationally prepared and clinically competent as a prerequisite to professional practice.

Approved: July 1, 2012  
ASRT House of Delegates



***Main Motion C-12.08***

**Rescind the Position Statement “Vascular Access”**

The Practice Standards Council moves to rescind the position statement titled “Vascular Access.”

**Vascular Access**

It is the position of the American Society of Radiologic Technologists that accessing existing peripheral or central vascular implanted devices or external access lines to administer contrast media, radiopharmaceuticals and medications or maintaining line patency is within the scope of practice for radiologic technologists with appropriate clinical and didactic education and where federal or state law and/or institutional policy permit.

***Main Motion C-12.09***

**Adopt the Advisory Opinion Statement “Medication Injections by Radiologic Technologists”**

The Practice Standards Council moves to adopt the advisory opinion statement titled “Medication Injections by Radiologic Technologists.”



# The Practice Standards for Medical Imaging and Radiation Therapy

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## Advisory Opinion Statement Medication Injections by Radiologic Technologists

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## **Medication Injections by Radiologic Technologists**

After study of evidentiary documentation such as current literature, curricula, position statements, scopes of practice, laws, federal and state regulations and inquiries received by the American Society of Radiologic Technologists Governance Department, the American Society of Radiologic Technologists issued opinions contained herein.

### **Accountability and Responsibility of Medical Imaging and Radiation Therapy Professionals**

The profession holds practitioners individually responsible and accountable for rendering safe, effective clinical services to patients and for judgments exercised and actions taken in the course of providing those services.

Acts which are within the recognized scope of practice for a given license or certification may be performed only by those individuals who possess the education and skill proficiency to perform those acts in a safe and effective manner.

The practitioner's performance should be consistent with state and federal laws, established standards of practice, facility policies and procedures, and be evidence-based.

### **Definitions**

**Adverse event:** Any undesirable experience associated with the use of a medical product in a patient.

**Clinically competent:** The practitioner's ability to perform a procedure in a clinical setting through the completion of clinical education and documented through an assessment by a qualified instructor.

**Educationally prepared:** Successful completion of didactic and clinical education necessary to perform a procedure safely.

**Licensed independent practitioner:** An individual permitted by law to provide care and services without direction or supervision within the scope of the individual's license and consistent with individually granted privileges (e.g., physician, nurse practitioner, physician assistant).

**Medication:** Any chemical substance intended for use in the medical diagnosis, cure, treatment or prevention of disease. Contrast media and radiopharmaceuticals are medications.

### **Evidentiary Documentation**

#### **Current Literature**

American College of Radiology. *ACR Accreditation Facility Toolkit. Policy and Procedure Checklist.* [www.acr.org/accreditation/Toolkit-Practice-Sites.aspx](http://www.acr.org/accreditation/Toolkit-Practice-Sites.aspx).

American College of Radiology. *ACR Manual on Contrast Media, Version 7.* [www.acr.org/SecondaryMainMenuCategories/quality\\_safety/contrast\\_manual/FullManual.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/contrast_manual/FullManual.aspx). 2010.

American College of Radiology. *ACR Practice Guideline for Performing and Interpreting Magnetic Resonance Imaging.*

[http://www.acr.org/SecondaryMainMenuCategories/quality\\_safety/guidelines/dx/mri\\_performing\\_interpreting.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/dx/mri_performing_interpreting.aspx). 2011.

American College of Radiology. *ACR Practice Guideline for the Performance of Excretory Urography*.

[http://www.acr.org/SecondaryMainMenuCategories/quality\\_safety/guidelines/dx/genit/excretory\\_urography.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/dx/genit/excretory_urography.aspx). 2009.

American College of Radiology. *ACR Practice Guidelines for the Use of Intravascular Contrast Media*.

[www.acr.org/SecondaryMainMenuCategories/quality\\_safety/guidelines/dx/iv\\_contrast.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/dx/iv_contrast.aspx). 2007.

American College of Radiology. *ACR-SNM Technical Standard for Diagnostic Procedures Using Radiopharmaceuticals*.

[www.acr.org/SecondaryMainMenuCategories/quality\\_safety/guidelines/nuc\\_med/radiopharmaceuticals.aspx](http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/nuc_med/radiopharmaceuticals.aspx). 2011.

American Hospital Association. Transmittal 128. *CMS Manual System: Pub 100-02 Medicare Benefit Policy*. [www.aha.org/content/00-10/R128BP.pdf](http://www.aha.org/content/00-10/R128BP.pdf). 2010, May 28.

Centers for Medicare & Medicaid Services. Chapter 15 Covered medical and other health services. *Medicare Benefit Policy Manual*.

<https://www.cms.gov/manuals/downloads/bp102c15.pdf>. 2011, July 8.

(Quality of Evidence: High)

### Curriculum

The ASRT curricula for all practice areas were reviewed.

2009 ASRT Cardiovascular Interventional and Vascular Interventional Curriculum

Pharmacology and Drug Administration Objectives, p. 70, identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medication and the appropriate delivery of patient care during medication administration.

2008 ASRT Computed Tomography Curriculum

Pharmacology and Drug Administration Objectives, p.50, identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medications and the appropriate delivery of patient care during medication administration.

2008 ASRT Mammography Curriculum

Pharmacology and Drug Administration Objectives, p.56, identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medications and the appropriate delivery of patient care during medication administration.

2008 ASRT Magnetic Resonance Curriculum

Pharmacology and Drug Administration, p. 79,

Sections I-VIII identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medications and the appropriate delivery of patient care during medication administration.

2009 ASRT Radiation Therapy Professional Curriculum

Radiation Therapy Patient Care, p.86,

Section VIII identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medications and the appropriate delivery of patient care during medication administration.

2007 ASRT Radiography Curriculum,

Pharmacology and Drug Administration, p. 49,

Sections I-VIII identified basic concepts of pharmacology, theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medications and the appropriate delivery of patient care during medication administration.

2011 ASRT Radiologist Assistant Curriculum

Pharmacology and Clinical Decision-Making in Radiology, p.11,

Sections I-XIII identified pharmaceuticals commonly used by and given to radiology patients, the intent of the drug and its effect on diseases, conditions and physiology and the radiologist assistant's role in administering medication and monitoring patients after medication administration.

Contrast Media, p.18,

Sections I-VI identified the chemical makeup and physical properties of contrast agents and the radiologist assistant's role in administering contrast media and monitoring patients after medication administration.

Additional nationally recognized curricula were reviewed.

2008 National Education Curriculum for Sonography

Joint Review Committee on Education in Diagnostic Medical Sonography  
NEC Part II (Common Curricula)

Patient Care Sections XI-XII identified intravenous injections, contraindications, adverse reactions, patient management, basic pharmacology and contrast materials.

Society of Nuclear Medicine

2008 Curriculum Guide for Educational Programs in Nuclear Medicine 4th Edition

Chapter 1 Patient Care, p. 9,

Sections VII-VIII identified administration routes and phlebotomy.

Chapter 12 Nuclear Pharmacy and Pharmacology, p. 80,

Sections I-XV identified theory and practice of radiopharmacy, nonradioactive interventional drugs and contrast media, routes of administration, biodistribution mechanisms, interfering agents, contraindications and adverse effects.

(Quality of evidence: High)

Certification Agency Content Specifications

The American Registry of Radiologic Technologists (ARRT) content specifications:

Cardiac-Interventional Radiography Category B, Section 3, a-b. Section 4, a-c. Section 6, a-c.  
Computed Tomography Category A, Section 2, d. Section 3, a-g.  
Magnetic Resonance Imaging Category A, Section III, a-d.  
Nuclear Medicine Category B, Sections 2-3.  
Radiation Therapy Category C, Section 1, Category D, 1-3, Category E, Section 5.  
Radiography Category E, Sections V - VI.  
Registered Radiologist Assistant Category B, Sections 1-4.  
Vascular-Interventional Radiography Category B, Section 4, a-d. Section 5, a-e. Section 7 a-c.

Cardiovascular Credentialing International (CCI)

Registered Cardiovascular Invasive Specialist (RCIS) exam overview task list:  
Section B, 5, a-d. Sections 10, 14.

Nuclear Medicine Technology Certification Board (NMTCB) components of preparedness:

Group III, Task #35, Content base 1-3.

Group IV, Task #42, Content base 1-4. Task #46, Content base 3-8. Task #47, Content base 3-7.

(Quality of evidence: High)

Scopes of Practice and Practice Standards Reference

2011 ASRT Practice Standards for Medical Imaging and Radiation Therapy.

Applies to all modality specific scopes of practice except radiologist assistants and limited x-ray machine operators.

Identifying, preparing and/or administering medications as prescribed by a licensed independent practitioner.

(Quality of evidence: High)

Federal and State Statute Reference(s)

Not applicable.

(Quality of evidence: not applicable)

Other

Not applicable.

(Quality of evidence: not applicable)

**Advisory Opinion**

It is the opinion of the American Society of Radiologic Technologists that based upon current literature, curricula set forth by the ASRT, Society of Nuclear Medicine and the National Educational Curriculum for Sonography, certification examination specifications by the ARRT, NMTCB and CCI, recommendations by the American College of Radiology, American Hospital

Association and Centers for Medicare & Medicaid Services and where federal or state law and/or institutional policy permits:

1. It is within the scope of practice for a radiologic technologist to perform the parenteral injection of contrast media and other medications.
2. The parenteral injection of contrast media and other medications by radiologic technologists shall be performed only when a licensed independent practitioner is immediately available to ensure proper diagnoses and treatment of adverse events.

GRADE: Strong

### **Rationale**

The ASRT's position is to determine the practice standards and scopes of practice for medical imaging and radiation therapy professionals. The practice standards general stipulation emphasizes the importance of an individual being educationally prepared and clinically competent to practice in the profession of medical imaging and radiation therapy. With proper education and proven competence, the parenteral injection of contrast media and other medications by radiologic technologists provides quality patient services in a safe environment when a licensed independent practitioner is immediately available to ensure proper diagnoses and treatment for possible adverse events.

## **Determining Scope of Practice**

Each practitioner must exercise professional and prudent judgment in determining whether the performance of a given act is within the scope of practice for which the practitioner is licensed, educationally prepared and clinically competent to perform.

The ASRT issues advisory opinions as to what constitutes appropriate practice. As such, an opinion is not a regulation or statute and does not have the force and effect of law. It is issued as a guidepost to practitioners who engage in safe practice. Federal and state laws, accreditation standards necessary to participate in government programs and institutional policies and procedures supersede these standards. The individual must be educationally prepared and clinically competent as a prerequisite to professional practice.

Approved: July 1, 2012  
ASRT House of Delegates

### ***Main Motion C-12.10***

#### **Rescind the Position Statement “Medication and Contrast Media Injections by Radiologic Technologists”**

The Practice Standards Council moves to rescind the position statement titled “Medication and Contrast Media Injections by Radiologic Technologists.”

##### **Medication and Contrast Media Injections by Radiologic Technologists**

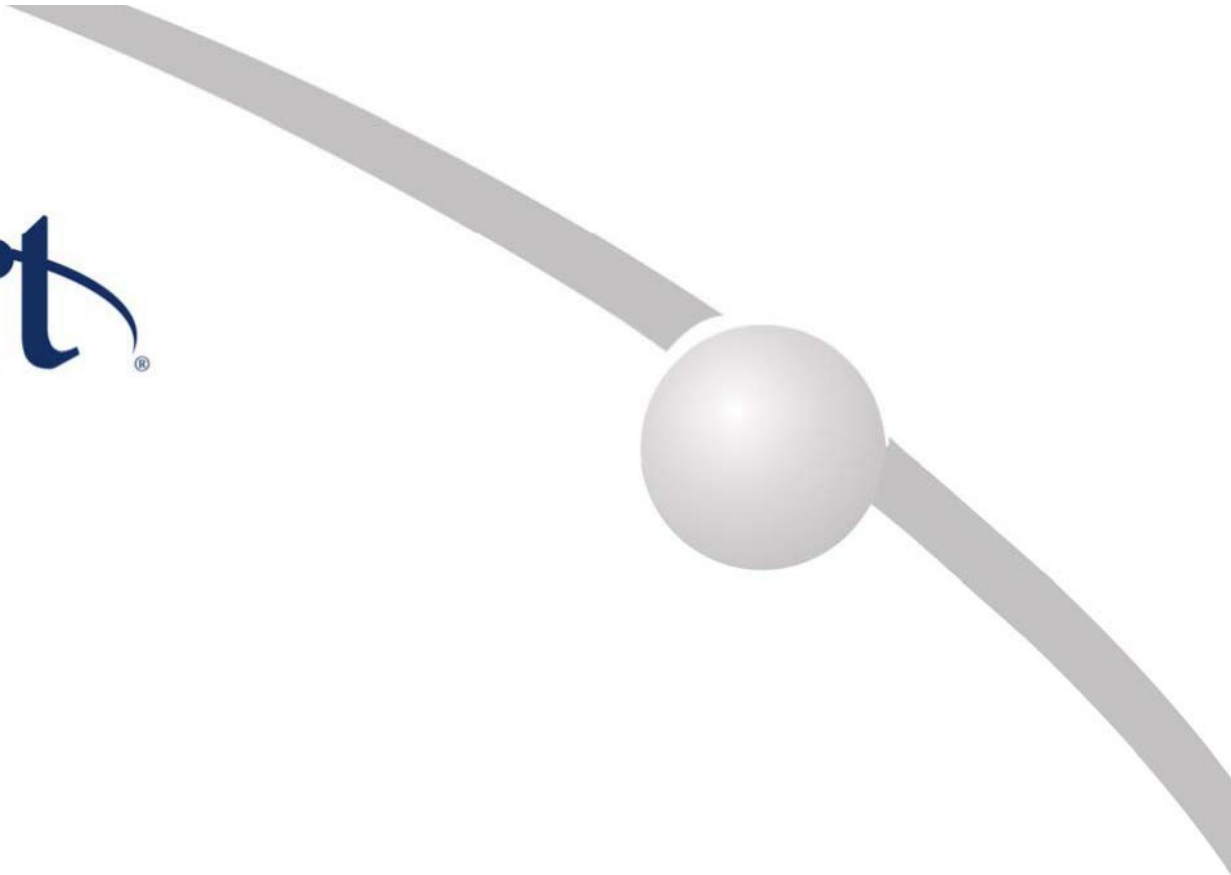
It is the position of the American Society of Radiologic Technologists that, absent specific protocols, the parenteral injection of contrast media and other medications by radiologic technologists be performed only when a licensed independent practitioner or radiologist where required, is immediately available to ensure proper diagnosing of and treatment for possible allergic reaction.

### ***Main Motion C-12.11***

#### **Adopt the Advisory Opinion Statement “Placement of Personal Radiation Monitoring Devices.”**

The Practice Standards Council moves to adopt the advisory opinion statement titled “Placement of Personal Radiation Monitoring Devices.”



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# The Practice Standards for Medical Imaging and Radiation Therapy

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Advisory Opinion Statement

**Placement of Personal Radiation Monitoring Devices**

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## **Placement of Personal Radiation Monitoring Devices**

After research of evidentiary documentation such as current literature, curricula, position statements, scopes of practice, laws, federal and state regulations and inquiries received by the American Society of Radiologic Technologists Governance Department, the American Society of Radiologic Technologists issued opinions contained herein.

## **Accountability and Responsibility of Medical Imaging and Radiation Therapy Professionals**

The profession holds practitioners individually responsible and accountable for rendering safe, effective clinical services to patients and for judgments exercised and actions taken in the course of providing those services.

Acts within the recognized scope of practice for a given license or certification may be performed only by those individuals who possess the education and skill proficiency to perform those acts in a safe and effective manner.

The practitioner's performance should be consistent with state and federal laws, established standards of practice, facility policies and procedures, and be evidence-based.

## **Definitions**

Personal radiation monitoring device: Devices designed to be worn or carried by an individual for the purpose of measuring the dose of radiation received (e.g., film badges, pocket chambers, pocket dosimeters, film rings, etc.).

## **Evidentiary Documentation**

### **Current Literature**

Bushong S. Occupational radiation dose management: Occupational radiation monitoring. In: *Radiologic Science for Technologists: Physics, Biology, and Protection* 9th Ed. Mosby. 2008:622.

Statkiewicz-Sherer M, Visconti P, Ritenour, E. Radiation monitoring: Placement of personnel dosimeter. In: *Radiation Protection in Medical Radiography*. Mosby. 2006:250.

U.S. Department of Labor. Occupational Safety and Health Standards web page. Occupational Safety & Health Administration Web site.

[www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10098](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10098). Standard Number: 1910.1096(d)(3)(i). Accessed October 10, 2011.

(Quality of Evidence: High)

### **Curriculum**

The ASRT curricula for all practice areas were reviewed.

#### 2009 ASRT Bone Densitometry Curriculum

Radiation Safety and Protection, p. 43,

Section II, B, 3 identified the knowledge base for how to adapt general radiation safety and protection principles and practices to bone densitometry techniques using ionizing radiation with DXA, including personnel monitoring.

- 2009 ASRT Limited X-ray Machine Operator curriculum  
Radiation Protection and Radiobiology, p. 63,  
Section IV, A-E identified an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public, a historical evolution of standards for personnel monitoring, the requirements, types and methods of personnel monitoring equipment, record keeping and dose limits.
- 2004 ASRT PET-CT curriculum  
Content Specifications for Basic Nuclear Medicine and PET for Dual Modality Imaging, p. 3, Section I, A identified an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public, including personnel monitoring.
- 2009 ASRT Radiation Therapy curriculum  
Radiation Protection, p. 81,  
Section IV, A-E identified an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public, the requirements, types and methods of personnel monitoring equipment, record keeping and dose limits.
- 2007 ASRT Radiography Curriculum  
Radiation Protection, p. 61,  
Section IV, A-F, identified an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public, a historical evolution of standards for personnel monitoring, the requirements, types and methods of personnel monitoring equipment, record keeping and dose limits.
- 2011 ASRT Radiologist Assistant curriculum  
Radiation Safety, Radiobiology, and Health Physics, p.45,  
Section III, A-F identified content designed to expand on prior knowledge to enhance an understanding of protection of individual and population groups against the harmful effects of ionizing radiation and practical techniques and QA/QC procedures for reducing patient and operator risk of exposure to ionizing radiation including personnel monitoring.

(Quality of Evidence: High)

Certification Agency Content Specifications

The American Registry of Radiologic Technologists (ARRT) content specifications:

- Nuclear Medicine Category A, Section 1, B, 4, b.
- Radiation Therapy Category A, Section 2, B, 1-2.
- Radiography Category A, Section IV, B, 2.
- Registered Radiologist Assistant Category E, Section 1, b, 3.

(Quality of Evidence: High)

Federal and State Statute Reference(s)

10 CFR Part 19.12 Instruction to Workers

10 CFR Part 20.1208 Dose Equivalent to an Embryo/Fetus

NRC Regulatory Guide 8.34 Monitoring Criteria and Methods to Calculate Occupational Radiation Doses

NRC Regulatory Guide 8.36 Radiation Dose to the Embryo/Fetus

NRC Regulatory Guide 8.7 Instructions for Recording and Reporting Occupational Radiation Exposure Data

(Quality of Evidence: High)

*Other*

American Association of Physicists in Medicine (AAPM) Report 58 Appendix A: Radiation Safety and Quality Assurance Program

(Quality of Evidence: High)

**Advisory Opinion**

It is the opinion of the American Society of Radiologic Technologists that based upon current literature, the curricula set forth by the ASRT, ARRT content specs, regulatory requirements, AAPM recommendations and where federal or state law and/or institutional policy permits that:

1. Radiation workers wear a personal radiation monitoring device outside of protective apparel with the label facing the radiation source at the level of the thyroid to approximate the maximum dose to the head and neck.
2. In specific cases a whole-body monitor may be indicated. This monitor should be worn at the waist under a protective lead apron.
3. In some cases a ring badge may be indicated. This monitor should be worn on the dominant hand with the label facing the radiation source.

GRADE: Strong

**Rationale**

The ASRT's position is to determine the practice standards and scopes of practice for medical imaging and radiation therapy professionals. The practice standards general stipulation emphasizes the importance of an individual being educationally prepared and clinically competent to practice in the profession of medical imaging and radiation therapy. With proper education and proven competence the determination of proper use of personal monitoring devices ensures a safe environment in which to provide quality patient services.

**Determining Scope of Practice**

Each practitioner must exercise professional and prudent judgment in determining whether the performance of a given act is within the scope of practice for which the practitioner is licensed, educationally prepared and clinically competent to perform.

The ASRT issues advisory opinions as to what constitutes appropriate practice. As such, an opinion is not a regulation or statute and does not have the force and effect of law. It is issued as

a guidepost to practitioners who engage in safe practice. Federal and state laws, accreditation standards necessary to participate in government programs and institutional policies and procedures supersede these standards. The individual must be educationally prepared and clinically competent as a prerequisite to professional practice.

Approved: July 1, 2012  
ASRT House of Delegates

### ***Main Motion C-12.12***

#### **Rescind the Position Statement “Wearing Radiation Monitoring Devices”**

The Practice Standards Council moves to rescind the position statement titled “Wearing Radiation Monitoring Devices.”

##### **Wearing Radiation Monitoring Devices**

It is the position of the American Society of Radiologic Technologists that radiation workers wear a personal monitoring device outside of the apron at the level of the thyroid to approximate the maximum dose to the head and neck. In specific cases such as pregnancy, high-dose fluoroscopy or high-dose rate brachytherapy, a second monitor may be indicated. The monitor should be worn at the waist under protective apparel, if appropriate. Each radiologic technologist should maintain consistency of location in wearing of the personal monitoring device. Additional information on the use of personal radiation monitors and radiation protection practices for radiation workers; minor workers and declared pregnant workers may be found in:

- 10 CFR Part 19.12.
- 10 CFR Part 20.1208.
- NRC Regulatory guides #8.2, 8.7, 8.13, 8.29, 8.34, 8.36, may be obtained from the NRC via the Public Document room at 1-800-397-4209 or via the Electronic Reading room ADAMS access system on their Web site at [www.nrc.gov](http://www.nrc.gov).
- Pregnancy Disability Law, P.L. 95-555.
- NCRP Report #116. *Limitation of Exposure to Ionizing Radiation* (1993).
- NCRP Report #122, *Use of Personal Monitors to Estimate Effective Dose Equivalent and Effective Dose to Workers for External Exposure to Low-LET Radiation* (1995).
- ICRP Publication #73. *Radiological Protection and Safety in Medicine*.
- ICRP Publication #75. *General Principles for the Radiation Protection of Workers*.
- ICRP Publication #84. *Pregnancy and Medical Radiation*.

### ***Main Motion C-12.13***

#### **Amend the Practice Standards Glossary**

The Practice Standards Council moves to amend the Practice Standards Glossary, pages 2-5, by:

- Substitution.



# The Practice Standards for Medical Imaging and Radiation Therapy

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## Glossary

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# Glossary to The Practice Standards for Medical Imaging and Radiation Therapy

**Accuracy** – Ability of the bone mineral densitometry system to measure the true value of an object.

**Act** - anything done, being done, or to be done; the process of doing. Synonymous with “procedure” and “clinical services”.

**Action plan** – A program or method developed prior to the performance of the procedure or treatment.

**Advanced-practice radiographer** – A registered technologist who has gained additional knowledge and skills through successful completion of an organized program or radiologic technology education that prepares radiologic technologists for advanced practice roles and has been recognized by the national certification organization to engage in the practice of advanced-practice radiologic technology.

**Anatomic (anatomical) landmarks** – Bones or other identifiable points that are visible or palpable and which indicate the position of hidden anatomy.

**Artifact** – A structure or feature produced by the technique used and not occurring naturally.

**As low as reasonably achievable (ALARA)** – Acronym for “as low as (is) reasonably achievable,” which means making every reasonable effort to maintain exposures to radiation as far below the dose limits as practical, consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest. The ASRT recognizes the concept of ALARA to include energies used for magnetic resonance and sonographic imaging.

**Assess** – To determine the significance, importance or value.

**Assessment** – The process by which a patient’s condition is appraised or evaluated.

**Beam modification devices** – Devices that change the shape of the treatment field or distribution of the radiation at (tissue) depth.

**Blocks/custom made blocks** – Devices designed to shape the radiation field.

**Brachytherapy** – A type of radiation therapy in which radioactive material sealed in needles, seeds, wires or catheters is placed directly into or near a tumor. Also called implant radiation therapy, internal radiation therapy and radiation brachytherapy.

**Clinical** – Pertaining to or founded on actual observation and treatment of patients.

**Competency** – Performance in a manner that satisfies the demands of a situation.



**Contraindicate** – To warrant an otherwise advisable procedure or treatment inappropriate.

**Customer** – Those internal and external individuals, departments and organizations that receive services or output or are the beneficiaries of the department's activities.

**Delegating radiologist** – A board-certified radiologist with appropriate clinical privileges.

**Disease** – A pathological condition of the body that presents a group of clinical signs, symptoms and laboratory findings peculiar to it and setting the condition apart as an abnormal entity differing from other normal or pathological conditions.

**Dose distributions** – Spatial representations of the magnitude of the dose produced by a source of radiation. They describe the variation of dose with position within an irradiated volume.

**Dosimetric calculations** – Computation of treatment unit settings, monitor units, treatment times and radiation doses to anatomical areas of interest.

**Electrocardiogram (ECG)** – A record of the electrical activity of the heart.

**Ethical** – Conforming to the norms or standards of professional conduct.

**Examination preparation** – The act of helping to ready a patient for a diagnostic imaging procedure.

**Fiducial markers** – Fixed reference points against which other objects can be measured. They may be placed internally, at skin surface or fixed externally to the patient.

**Immobilization device** (radiation therapy) – Device that assists in reproducing the treatment position while restricting patient movement (i.e., casts, masks or bite blocks).

**Initial observation** – Assessment of technical image quality with pathophysiology correlation communicated to a radiologist.

**Interpretation** – The process of examining and analyzing all images within a given procedure and integration of the imaging data with appropriate clinical data in order to render an impression or conclusion set forth in a formal written report composed and signed by the radiologist.

**Interventional procedures** – Minimally invasive medical imaging guidance methods used to gain access to vessels and organs to diagnose and/or treat certain conditions percutaneously that might otherwise require surgery.

**Licensed independent practitioner** – An individual permitted by law to provide care and services, without direction or supervision, within the scope of the individual's license and consistent with individually granted privileges (e.g., physician, nurse practitioner, physician assistant).

**Medical Dosimetrist** – An individual who has education and knowledge in treatment planning and who, under the supervision of a radiation physicist and/or radiation oncologist, is capable of performing dose calculations and of assisting in calibration and verification of dose distribution

within the patient.

**Medical Physicist** – An individual who is competent to practice independently in the safe use of x-rays, gamma rays, electron and other charged particle beams, neutrons, radionuclides, sealed radionuclide sources, ultrasonic radiation, radiofrequency radiation and magnetic fields for both diagnostic and therapeutic purposes. An individual will be considered competent to practice in the field of Medical Physics if he or she is certified by the appropriate recognized certification organization.

**Medication** – Any chemical substance intended for use in the medical diagnosis, cure, treatment or prevention of disease.

**Monitor units (MU)** – Unit of output measure used for linear accelerators. Accelerators are calibrated so that 1MU delivers 1cGy for a standard, reference field size at a standard reference depth at a standard source to calibration point.

**Normal tissue tolerance** – Radiation tolerance levels of healthy organs near or within the radiation treatment fields.

**Pathophysiology** – The study of how normal physiological processes are altered by disease.

**Physics Survey** – Performing equipment testing, evaluating the testing results and completing a formal written report of same. The written survey report, validated by a medical physicist, contains sufficient information to document that each test was conducted according to local, state or federal requirements and includes assessment of corrective actions and recommendations for improvements.

**Portal images** – Images taken to demonstrate radiographically that the treatment field, as externally set on the patient, adequately encompasses the desired treatment volume and at the same time avoids adjacent critical structures.

**Precision** – Ability of the bone mineral densitometry system to reproduce the same results in repeat measurement of the same object.

**Protocol** – The plan for carrying out a scientific study or a patient's treatment regimen.

**Qualified supervisor** (limited x-ray machine operator) – Individual who is educationally prepared, clinically competent, and credentialed in the medical imaging and radiation therapy sciences who provides clinical supervision to another individual.

**Quality assurance** – Activities and programs designed to achieve a desired degree or grade of care in a defined medical, nursing or health care setting or program.

**Quality control (QC)** – The routine performance of techniques used in monitoring or testing and maintenance of components of medical imaging and radiation therapy equipment. This includes interpretation of data regarding equipment function and confirmation that corrective actions are taken.

**Radiation Oncologist** – A physician who specializes in using radiation to treat cancer.

**Radiation protection** – Prophylaxis against injury from ionizing radiation. The only effective preventive measures are shielding the operator, handlers and patients from the radiation source; maintaining appropriate distance from the source; and limiting the time and amount of exposure.

**Radiobiology** – The study of the effects of radiation on living organisms.

**Radiography** – The process of obtaining an image for diagnostic examination using x-rays.

**Repeat Analysis** – A systematic approach to critically investigate images or procedures that did not meet established standards. The general purpose of repeat analysis is to determine why images or procedures did not meet established standards, implement corrective action and avoid the same outcome(s) in the future.

**Sentinel Event** – An unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious injury specifically includes loss of limb or function. The phrase “or the risk thereof” includes any process variation for which a recurrence would carry a significant chance of a serious adverse outcome.

**Setup** – Arrangement of treatment parameters used in preparation for delivering radiation therapy; includes patient positioning data, field alignment information and equipment configurations.

**Simulation** – A process using imaging technologies to plan radiation therapy so that the target area is precisely located and marked; the mockup procedure of a patient treatment with medical imaging documentation of the treatment portals.

**Timeout** –Preprocedural pause to conduct a final assessment that the correct patient, site and procedure are identified.

**Tolerance levels (doses)** – The maximum radiation dose that may be delivered to a given biological tissue at a specified dose rate and throughout a specified volume without producing an unacceptable change in the tissue.

**Treatment calculations** – See Dosimetric calculations.

**Treatment field (portal)** - Volume [of tissue] exposed to radiation from a single radiation beam.

**Treatment planning** – The process by which dose delivery is optimized for a given patient and clinical situation. It encompasses procedures involved in planning a course of radiation treatment; includes simulation through completion of the treatment summary.

**Treatment record** – Documents the delivery of treatments, recording fractional and cumulative doses, machine settings, verification imaging; and the ordering and implementation of prescribed changes.

**T-score** – Number of standard deviations the individual’s bone mineral density is from the average bone mineral density for sex-matched young normal peak bone mass.

**Venipuncture** – The transcutaneous puncture of a vein by a sharp rigid stylet or cannula carrying a flexible plastic catheter or by a steel needle attached to a syringe or catheter. It is

done to withdraw a specimen of blood, perform a phlebotomy, instill a medication, start an IV infusion or inject a radiopaque substance for radiologic examination of a part or system of the body.

**Z-score-** Number of standard deviations the individual's bone mineral density is from the average bone mineral density for sex and age-matched reference group.

### ***Main Motion C-12.14***

#### **Rescind the Position Statement “Computed Tomography Procedures on Pediatric Patients”**

The Practice Standards Council moves to rescind the position statement titled “Computed Tomography Procedures on Pediatric Patients.”

##### **Computed Tomography Procedures on Pediatric Patients**

It is the position of the American Society of Radiologic Technologists that computed tomography procedures performed on children employ the “as low as reasonably achievable” (ALARA) principle.

The Commission recommends nonadoption of Motion C-12.14 and moves to refer the motion back to the Practice Standards Council.

### ***Main Motion C-12.15***

#### **Rescind the Position Statement “Opposition to Multiloading of Film Cassettes”**

The Practice Standards Council moves to rescind the position statement titled “Opposition to Multiloading of Film Cassettes.”

##### **Opposition to Multiloading of Film Cassettes**

The American Society of Radiologic Technologists opposes the multiloading of film cassettes to produce a copy of a radiograph. This practice is inconsistent with the “as low as reasonably achievable” (ALARA) principle.

### ***Main Motion C-12.16***

#### **Rescind the Position Statement “Continuing Education for the Radiologic Technologist”**

The Commission moves to rescind the position statement titled “Continuing Education for the Radiologic Technologist.”

##### **Continuing Education for the Radiologic Technologist**

It is the position of the American Society of Radiologic Technologists that all certifying agencies for radiologic technology should require continuing education for renewal of registration and that all practicing radiologic technologists obtain continuing education credits to meet or exceed the minimum requirements for continued registration.

### ***Main Motion C-12.17***

#### **Rescind the Position Statement “Fluoroscopy by Radiologic Technologists”**

The Commission moves to rescind the position statement titled “Fluoroscopy by Radiologic Technologists.”

##### **Fluoroscopy by Radiologic Technologists**

It is the position of the American Society of Radiologic Technologists that fluoroscopy is within the scope of practice of radiologic technologists with the appropriate clinical and didactic education and where federal or state law and/or institutional policy permits.

### ***Main Motion C-12.18***

#### **Amendment of the ASRT’s Position Statement titled Campaign Guidelines**

Jonathan Mazal, MRI Delegates moves to amend the position statement titled “Campaign Guidelines” to read: It is the position of the American Society of Radiologic Technologists that ASRT members running for national office or chapter delegate positions shall limit their campaign activities to ASRT-published candidate position statement and the use of the ASRT Communities social networking tool to ensure fairness and equal opportunity for all candidates.