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**VIRTUAL/TELECONFERENCE  
RADIOGRAPHY EXAMINING BOARD  
Virtual, 4822 Madison Yards Way, Madison  
Contact: Valerie Payne (608) 266-2112  
December 9, 2020**

*The following agenda describes the issues that the Board plans to consider at the meeting. At the time of the meeting, items may be removed from the agenda. Please consult the meeting minutes for a description of the actions of the Board.*

**AGENDA**

**9:00 A.M.**

**OPEN SESSION – CALL TO ORDER – ROLL CALL**

**A. Adoption of Agenda (1-3)**

**B. Approval of Minutes of July 29, 2020 (4-10)**

**C. Conflicts of Interest**

**D. Introductions, Announcements and Recognition**

- 1) Rachael Julson, Radiographer Member (Replaces: Goodweiler) – 7/1/2024
- 2) Tim Szczykutowicz, Radiologic Physicist Member (Replaces: Marshall) – 7/1/2024

**E. Administrative Matters – Discussion and Consideration**

- 1) Department, Staff and Board Updates
- 2) Board Members – Term Expiration Dates
  - a. Donald Borst – 7/1/2021
  - b. Paul Grebe – 7/1/2023
  - c. Rachael Julson – 7/1/2024
  - d. Heidi Nichols – 7/1/2020
  - e. Tim Szczykutowicz – 7/1/2024

**F. Administrative Rule Matters – Discussion and Consideration (11)**

- 1) RAD 7, Relating to Requirements for License and Permit Renewal and Reinstatement **(12-18)**
  - a. Wisconsin Society of Radiologic Technologists' Recommendations
  - b. Preliminary Rule Draft
- 2) RAD 2 and 3, Relating to Requirements for Licenses and Permits **(19-26)**
  - a. Additional Proposals for RAD 2 and 3
  - b. Preliminary Rule Draft
- 3) RAD 1 and 4, Relating to Scope of Practice **(27-109)**
  - a. Wisconsin Society of Radiologic Technologists' Recommendation
  - b. Review of 2019 ASRT Practice Standards and Proposals for Updates to RAD 1 and 4

- 4) Administrative Rules Reporting Requirement Under 227.29, Stats. **(110-112)**
  - a. Review of Statutory Requirement and 2019 Report
  - b. Proposals for 2021 Report
- 5) Pending or Possible Rulemaking Projects

G. Discussion and Consideration of Items Added After Preparation of Agenda

- 1) Introductions, Announcements and Recognition
- 2) Nominations, Elections, and Appointments
- 3) Administrative Matters
- 4) Election of Officers
- 5) Appointment of Liaisons and Alternates
- 6) Delegation of Authorities
- 7) Education and Examination Matters
- 8) Credentialing Matters
- 9) Practice Matters
- 10) Legislative and Policy Matters
- 11) Administrative Rule Matters
- 12) Liaison Reports
- 13) Board Liaison Training and Appointment of Mentors
- 14) Informational Items
- 15) Division of Legal Services and Compliance (DLSC) Matters
- 16) Presentations of Petitions for Summary Suspension
- 17) Petitions for Designation of Hearing Examiner
- 18) Presentation of Stipulations, Final Decisions and Orders
- 19) Presentation of Proposed Final Decisions and Orders
- 20) Presentation of Interim Orders
- 21) Petitions for Re-Hearing
- 22) Petitions for Assessments
- 23) Petitions to Vacate Orders
- 24) Requests for Disciplinary Proceeding Presentations
- 25) Motions
- 26) Petitions
- 27) Appearances from Requests Received or Renewed
- 28) Speaking Engagements, Travel, or Public Relation Requests, and Reports

H. Public Comments

**CONVENE TO CLOSED SESSION to deliberate on cases following hearing (s. 19.85(1)(a), Stats.); to consider licensure or certification of individuals (s. 19.85(1)(b), Stats.); to consider closing disciplinary investigations with administrative warnings (ss. 19.85(1)(b), and 440.205, Stats.); to consider individual histories or disciplinary data (s. 19.85(1)(f), Stats.); and to confer with legal counsel (s. 19.85(1)(g), Stats.).**

**I. Credentialing Matters**

- 1) **Application Reviews**
  - a. Miranda McGinn – Radiographer Renewal Applicant **(113-141)**

**J. Deliberation on Division of Legal Services and Compliance Matters**

- 1) **Administrative Warnings**
  - a. 19 RAD 004 – T.O.J. **(142-143)**
  - b. 20 RAD 005 – T.L.S. **(144-145)**

c. 20 RAD 006 – S.L.B. (146-147)

K. Deliberation of Items Added After Preparation of the Agenda

- 1) Education and Examination Matters
- 2) Credentialing Matters
- 3) DLSC Matters
- 4) Monitoring Matters
- 5) Professional Assistance Procedure (PAP) Matters
- 6) Petitions for Summary Suspensions
- 7) Petitions for Designation of Hearing Examiner
- 8) Proposed Stipulations, Final Decisions and Orders
- 9) Proposed Interim Orders
- 10) Administrative Warnings
- 11) Review of Administrative Warnings
- 12) Case Closings
- 13) Proposed Final Decisions and Orders
- 14) Matters Relating to Costs/Orders Fixing Costs
- 15) Board Liaison Training
- 16) Petitions for Assessments and Evaluations
- 17) Petitions to Vacate Orders
- 18) Remedial Education Cases
- 19) Motions
- 20) Petitions for Re-Hearing
- 21) Appearances from Requests Received or Renewed

L. Consulting with Legal Counsel

**RECONVENE TO OPEN SESSION IMMEDIATELY FOLLOWING CLOSED SESSION**

M. Vote on Items Considered or Deliberated Upon in Closed Session, if Voting is Appropriate

N. Open Session Items Noticed Above Not Completed in the Initial Open Session

**ADJOURNMENT**

**NEXT MEETING: MARCH 10, 2021**

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MEETINGS AND HEARINGS ARE OPEN TO THE PUBLIC, AND MAY BE CANCELLED WITHOUT NOTICE.

Times listed for meeting items are approximate and depend on the length of discussion and voting. All meetings are held at 4822 Madison Yards Way, Madison, Wisconsin, unless otherwise noted. In order to confirm a meeting or to request a complete copy of the board's agenda, please call the listed contact person. The board may also consider materials or items filed after the transmission of this notice. Times listed for the commencement of disciplinary hearings may be changed by the examiner for the convenience of the parties. Requests for interpreters for the deaf or hard of hearing, or other accommodations, are considered upon request by contacting the Affirmative Action Officer, 608-266-2112, or the Meeting Staff at 608-266-5439.

**RADIOGRAPHY EXAMINING BOARD  
MEETING MINUTES  
JULY 29, 2020**

**PRESENT:** Donald Borst, Paul Grebe, Tracy Marshall, Heidi Nichols

**STAFF:** Valerie Payne, Executive Director; Jameson, Whitney, Board Legal Counsel; Dale Kleven, Rule Coordinator; Megan Glaeser, Bureau Assistant; Daniel Betekhtin, Bureau Assistant; and other Department staff

**CALL TO ORDER**

Donald Borst, Chairperson, called the meeting to order at 9:06 a.m. A quorum of four (4) members was confirmed.

**ADOPTION OF AGENDA**

**Amendments to the Agenda:**

- Closed Session: Under item “J. Deliberation on Division of Legal Services and Compliance Matters; 2) Administrative Warnings” make the correction as outlined below:
  - 19 RAD 005 – K.J.K. & ~~R.T.R.~~

**MOTION:** Heidi Nichols moved, seconded by Paul Grebe, to adopt the Agenda as amended. Motion carried unanimously.

**APPROVAL OF MINUTES OF JULY 31, 2019**

**MOTION:** Tracy Marshall moved, seconded by Paul Grebe, to approve the Minutes of July 31, 2019 as published. Motion carried unanimously.

**INTRODUCTIONS, ANNOUNCEMENTS, AND RECOGNITION**

**Tim Szczykutowicz - Physician Member (Will Replace: Marshall)**

**MOTION:** Heidi Nichols moved, seconded by Donald Borst, to recognize and thank Tracy Marshall for her years of dedicated service to the Board and State of Wisconsin. Motion carried unanimously.

**MOTION:** Tracy Marshall moved, seconded by Donald Borst, to recognize and thank Heidi Nichols for her years of dedicated service to the Board and State of Wisconsin. Motion carried unanimously.

**PUBLIC HEARING: SCOPE STATEMENT SS 021-19 – RAD 7, RELATING TO REQUIREMENTS FOR LICENSE AND PERMIT RENEWAL REINSTATEMENT**

**MOTION:** Donald Borst moved, seconded by Paul Grebe, to affirm the Board has reviewed the public comments received concerning Scope Statement SS 021-19. Additionally, after considering the public comments received the Board approves Scope Statement SS 021-19 for implementation. Motion carried unanimously.

## ADMINISTRATIVE RULE MATTERS

### Pending or Possible Rule Making Projects

#### *Update on Rules Revising RAD 1 and 4, Relating to Scope of Practice*

**MOTION:** Heidi Nichols moved, seconded by Donald Borst, to request DSPS staff draft a Scope Statement revising RAD 1 and 4, relating to scope of practice, and to designate Donald Borst to advise DSPS staff. Motion carried unanimously.

**MOTION:** Heidi Nichols moved, seconded by Donald Borst, to authorize the Chairperson to approve the Scope Statement revising RAD 1 and 4, relating to scope of practice, for submission to the Department of Administration and Governor's Office and for publication. Additionally, the Board authorizes the Chairperson to approve the Scope Statement for implementation no less than 10 days after publication. If the Board is directed to hold a preliminary public hearing on the Scope Statement, the Chairperson is authorized to approve the required notice of hearing. Motion carried unanimously.

## ADMINISTRATIVE MATTERS

### Election of Officers

#### *Chairperson*

**NOMINATION:** Donald Borst nominated himself for the Office of Chairperson.

Valerie Payne, Executive Director, called for nominations three (3) times.

Donald Borst was elected as Chairperson by unanimous voice vote.

#### *Vice Chairperson*

**NOMINATION:** Donald Borst nominated Tracy Marshall for the Office of Vice Chairperson.

Valerie Payne, Executive Director, called for nominations three (3) times.

Tracy Marshall was elected as Vice Chairperson by unanimous voice vote.

#### *Secretary*

**NOMINATION:** Donald Borst nominated Heidi Nichols for the Office of Secretary.

Valerie Payne, Executive Director, called for nominations three (3) times.

Heidi Nichols was elected as Secretary by unanimous voice vote.

<b>ELECTION RESULTS</b>	
<b>Chairperson</b>	Donald Borst
<b>Vice Chairperson</b>	Tracy Marshall
<b>Secretary</b>	Heidi Nichols

**Appointment of Liaisons and Alternates**

<b>LIAISON APPOINTMENTS</b>	
<b>Credentialing Liaison(s)</b>	Donald Borst <i>Alternate: Tracy Marshall</i>
<b>Education and Exams Liaison(s)</b>	Heidi Nichols <i>Alternate: Donald Borst</i>
<b>Monitoring Liaison(s)</b>	Heidi Nichols <i>Alternate: Paul Grebe</i>
<b>Professional Assistance Procedure (PAP) Liaison(s)</b>	Tracy Marshall <i>Alternate: Paul Grebe</i>
<b>Legislative Liaison(s)</b>	Donald Borst <i>Alternate: Heidi Nichols</i>
<b>Travel Liaison</b>	Donald Borst <i>Alternate: Tracy Marshall</i>
<b>Practice Question Liaison(s)</b>	Heidi Nichols <i>Alternate: Donald Borst</i>
<b>Rules Liaison(s)</b>	Donald Borst <i>Alternate: Tracy Marshall</i>
<b>Website Liaison</b>	Donald Borst
<b>Screening Panel</b>	Donald Borst, Tracy Marshall <i>Alternate: Heidi Nichols</i>

**Delegation of Authorities**

***Document Signature Delegations***

**MOTION:** Paul Grebe moved, seconded by Heidi Nichols, to delegate authority to the Chairperson (or in absence of the Chairperson, the highest-ranking officer or longest serving board member in that succession) to sign documents on behalf of the Board in order to carry out its duties. Motion carried unanimously.

**MOTION:** Heidi Nichols moved, seconded by Tracy Marshall, in order to carry out duties of the Board, the Chairperson (or in absence of the Chairperson, the highest-ranking officer or longest serving board member in that succession) has the ability to delegate signature authority for purposes of facilitating the completion of assignments during or between meetings. The members of the Board hereby

delegate to the Executive Director or DPD Division Administrator, the authority to sign on behalf of a board member as necessary. Motion carried unanimously.

***Delegated Authority for Urgent Matters***

**MOTION:** Tracy Marshall moved, seconded by Heidi Nichols, that in order to facilitate the completion of urgent matters between meetings, the Board delegates its authority to the Chairperson (or, in the absence of the Chairperson, the highest-ranking officer or longest serving board member in that succession), to appoint liaisons to the Department to act in urgent matters. Motion carried unanimously.

***Delegation to Chief Legal Counsel Due to Loss of Quorum***

**MOTION:** Donald Borst moved, seconded by Tracy Marshall, to delegate the review of disciplinary cases to the Department's Chief Legal Counsel due to lack of/loss of quorum. Motion carried unanimously.

***Monitoring Delegation***

**MOTION:** Heidi Nichols moved, seconded by Paul Grebe, to adopt the "Roles and Authorities Delegated to the Monitoring Liaison and Department Monitor" as presented in the July 29, 2020 agenda materials on pages 114 and 115. Motion carried unanimously.

***Delegation of Authority to Credentialing Liaison (Denial Decisions)***

**MOTION:** Paul Grebe moved, seconded by Heidi Nichols, to delegate authority to the Credentialing Liaison(s) to serve as a liaison between DSPS and the Board and to act on behalf of the Board in regard to credentialing applications or questions presented to them except that potential denial decisions shall be referred to the full Board for final determination. Motion carried unanimously.

***Delegation of Authority to DSPS When Credentialing Criteria is Met***

**MOTION:** Tracy Marshall moved, seconded by Heidi Nichols, to delegate credentialing authority to DSPS to act upon applications that meet all credentialing statutory and regulatory requirements without Board or Board liaison review. Motion carried unanimously.

***Delegated Authority for Application Denial Reviews***

**MOTION:** Paul Grebe moved, seconded by Donald Borst, that the Department's Attorney Supervisors, DLSC Administrator, or their designee are authorized to serve as the Board's designee for purposes of reviewing and acting on requests for hearing as a result of a denial of a credential. Motion carried unanimously.

### *Pre-Screening Delegation to Open Cases*

- MOTION:** Donald Borst moved, seconded by Tracy Marshall, to delegate pre-screening decision making authority to the DSPS screening attorney for opening cases as outlined below:
1. OWIs of 3 or more that occurred in the last 5 years.
  2. Reciprocal discipline cases.
  3. Impairment and/or diversion at work that includes a positive drug/alcohol test or admission by respondent.
  4. Conviction of a misdemeanor or felony that the attorney believes is substantially related and is not otherwise excluded from consideration via Wis. Stat. ch. 111.
  5. No response from the respondent after intake requested a response (case would be opened for the failure to respond issue as well as the merits).
- Motion carried unanimously.

### *Pre-Screening Delegation to Close Cases*

- MOTION:** Donald Borst moved, seconded by Paul Grebe, to delegate pre-screening decision making authority to the DSPS screening attorney for closing cases as outlined below:
1. One OWI that is non-work related and if AODA assessment completed, assessment does not indicate dependency.
  2. Complaints that even if allegations are true, do not amount to a violation of law or rules.
- Motion carried unanimously.

### *Voluntary Surrenders*

- MOTION:** Heidi Nichols moved, seconded by Paul Grebe, to delegate authority to the assigned case advisor to accept or refuse a request for voluntary surrender pursuant to Wis. Stat. § 440.19 for a credential holder who has a pending complaint or disciplinary matter. Motion carried unanimously.

### *Education and Examination Liaison Delegation*

- MOTION:** Tracy Marshall moved, seconded by Heidi Nichols, to delegate authority to the Education and Examination Liaison(s) to address all issues related to education and examinations. Motion carried unanimously.

### *Authorization for DSPS to Provide Board Member Contact Information to National Regulatory Related Bodies*

- MOTION:** Heidi Nichols moved, seconded by Paul Grebe, to authorize DSPS staff to provide national regulatory related bodies with all board member contact information that DSPS retains on file. Motion carried unanimously.



### ***Optional Renewal Notice Insert Delegation***

**MOTION:** Donald Borst moved, seconded by Tracy Marshall, to designate the Chairperson (or, in the absence of the Chairperson, the highest-ranking officer or longest serving board member in that succession) to provide a brief statement or link relating to board-related business within the license renewal notice at the Board's or Board designee's request. Motion carried unanimously.

### ***Legislative Liaison Delegation***

**MOTION:** Heidi Nichols moved, seconded by Tracy Marshall, to delegate authority to the Legislative Liaisons to speak on behalf of the Board regarding legislative matters. Motion carried unanimously.

### ***Travel Delegation***

**MOTION:** Donald Borst moved, seconded by Paul Grebe, to delegate authority to the Travel Liaison to approve any board member travel. Motion carried unanimously.

### **CLOSED SESSION**

**MOTION:** Heidi Nichols moved, seconded by Tracy Marshall, to convene to Closed Session to deliberate on cases following hearing (s. 19.85(1)(a), Stats.); to consider licensure or certification of individuals (s. 19.85(1)(b), Stats.); to consider closing disciplinary investigations with administrative warnings (s. 19.85(1)(b), and 440.205, Stats.); to consider individual histories or disciplinary data (s. 19.85(1)(f), Stats.); and to confer with legal counsel (s. 19.85(1)(g), Stats.). Donald Borst, Chairperson, read the language of the motion aloud for the record. The vote of each member was ascertained by voice vote. Roll Call Vote: Donald Borst-yes; Paul Grebe-yes; Tracy Marshall-yes; and Heidi Nichols-yes. Motion carried unanimously.

The Board convened into Closed Session at 11:10 a.m.

### **DELIBERATION ON DLSC MATTERS**

#### **Proposed Stipulations, Final Decisions, and Orders**

##### ***18 RAD 007 – Stephanie A. Rouse, RTR***

**MOTION:** Donald Borst moved, seconded by Heidi Nichols, to adopt the Finding of Fact, Conclusions of Law and Order in the matter of disciplinary proceedings against Stephanie A. Rouse, RTR, DLSC Case Number 18 RAD 007. Motion carried unanimously.

#### **Administrative Warnings**

##### ***18 RAD 002 – R.A.S.***

**MOTION:** Donald Borst moved, seconded by Paul Grebe, to issue an Administrative Warning in the matter of R.A.S., DLSC Case Number 18 RAD 002. Motion carried unanimously.

**19 RAD 005 – K.J.K.**

**MOTION:** Heidi Nichols moved, seconded by Paul Grebe, to issue an Administrative Warning in the matter of K.J.K., DLSC Case Number 19 RAD 005. Motion carried unanimously.

**Case Closings**

**19 RAD 002 – Unknown**

**MOTION:** Tracy Marshall moved, seconded by Heidi Nichols, to close DLSC Case Number 19 RAD 002, against Unknown, for No Violation. Motion carried unanimously.

**RECONVENE TO OPEN SESSION**

**MOTION:** Heidi Nichols moved, seconded by Tracy Marshall, to reconvene in Open Session. Motion carried unanimously.

The Board reconvened in Open Session at 11:23 a.m.

**VOTE ON ITEMS CONSIDERED OR DELIBERATED UPON IN CLOSED SESSION**

**MOTION:** Heidi Nichols moved, seconded by Tracy Marshall, to affirm all motions made and votes taken in Closed Session. Motion carried unanimously.

*(Be advised that any recusals or abstentions reflected in the closed session motions stand for the purposes of the affirmation vote.)*

**RATIFICATION OF EXAMINATION RESULTS AND RATIFICATION OF LICENSES AND CERTIFICATES**

**MOTION:** Paul Grebe moved, seconded by Tracy Marshall, to delegate ratification of examination results to DSPS staff and to ratify all licenses and certificates as issued. Motion carried unanimously.

**ADJOURNMENT**

**MOTION:** Heidi Nichols moved, seconded by Donald Borst, to adjourn the meeting. Motion carried unanimously.

The meeting adjourned at 11:28 a.m.

**State of Wisconsin  
Department of Safety & Professional Services**

**AGENDA REQUEST FORM**

1) Name and Title of Person Submitting the Request: <b>Dale Kleven</b> <b>Administrative Rules Coordinator</b>		2) Date When Request Submitted: <b>11/27/20</b> Items will be considered late if submitted after 12:00 p.m. on the deadline date: ▪ 8 business days before the meeting	
3) Name of Board, Committee, Council, Sections: <b>Radiography Examining Board</b>			
4) Meeting Date: <b>12/9/20</b>	5) Attachments: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6) How should the item be titled on the agenda page? <b>Administrative Rule Matters – Discussion and Consideration</b> <b>1. RAD 7, Relating to Requirements for License and Permit Renewal and Reinstatement</b> a. Wisconsin Society of Radiologic Technologists’ Recommendations b. Preliminary Rule Draft <b>2. RAD 2 and 3, Relating to Requirements for Licenses and Permits</b> a. Additional Proposals for RAD 2 and 3 b. Preliminary Rule Draft <b>3. RAD 1 and 4, Relating to Scope of Practice</b> a. Wisconsin Society of Radiologic Technologists’ Recommendation b. Review of 2019 ASRT Practice Standards and Proposals for Updates to RAD 1 and 4 <b>4. Administrative Rules Reporting Requirement Under 227.29, Stats.</b> a. Review of Statutory Requirement and 2019 Report b. Proposals for 2021 Report <b>5. Pending or Possible Rulemaking Projects</b>	
7) Place Item in: <input checked="" type="checkbox"/> Open Session <input type="checkbox"/> Closed Session <input type="checkbox"/> Both		8) Is an appearance before the Board being scheduled? <input type="checkbox"/> Yes ( <a href="#">Fill out Board Appearance Request</a> ) <input checked="" type="checkbox"/> No	9) Name of Case Advisor(s), if required:
10) Describe the issue and action that should be addressed: <b>2.a. Additional Proposals for RAD 2 and 3</b> At its last meeting, the Board determined members would review chs. RAD 2 and 3 to determine if any additional issues should be addressed and bring any such issues to the next meeting for discussion.			
11) <b><i>Dale Kleven</i></b>		Authorization <b><i>November 27, 2020</i></b>	
Signature of person making this request		Date	
Supervisor (if required)		Date	
Executive Director signature (indicates approval to add post agenda deadline item to agenda)		Date	
Directions for including supporting documents: 1. This form should be attached to any documents submitted to the agenda. 2. Post Agenda Deadline items must be authorized by a Supervisor and the Policy Development Executive Director. 3. If necessary, Provide original documents needing Board Chairperson signature to the Bureau Assistant prior to the start of a meeting.			



# Wisconsin Society of Radiologic Technologists

12-11-19

Mr. Dale Kleven  
Administrative Rules Coordinator  
Department of Safety and Professional Services  
Division of Policy Development  
P.O Box 8366

The Wisconsin Society of Radiologic Technologists (WSRT) is the professional organization of radiologic technologists in the state of Wisconsin. The WSRT represents approximately 7,000 registered radiologic professionals. The WSRT is in strong support of the licensure of radiologic technologists and issuance of permits to qualified limited x-ray machine operators (LXMO). Chapter 462 of Wisconsin State Statutes was enacted in 2010 to ensure that patients receive only safety-conscious, cost-effective, and quality diagnostic imaging throughout the state.

## **Background:**

Chapter 462 and its current rules were created to reflect the Articles of the Rules and Regulations of the American Registry of Radiologic Technologists (ARRT), representing the highest standards of radiologic practices and patient care. Wisconsin law ascribes to **ARRT Articles I-Certification and Registration, Article II -Qualifications for Certification and Registration, and to Article III Certification and Registration Process** to qualify for the Wisconsin radiographer license. **Articles IV and V, Qualifications for Continued Certification and Registration and the Certification and Registration Renewal Processes**, respectively, speak directly to maintaining one's ARRT certification, and therefore, eligibility for the Wisconsin radiographer license.

## **Recommendation:**

The WSRT is in support of the creation of a Statement of Scope for RAD 7, related to requirements for late renewal and reinstatement of a license for radiographer and a permit for the limited x-ray machine operator. In this endeavor, the WSRT advocates that the ARRT Rules serve as the template for this new policy. The **ARRT Rules in Section 5.03- Failure to Renew Certification and Registration** describe the ramifications of failing to comply with ARRT requirements to maintain one's registered status, including discontinuation of registration and certification. **ARRT Article VI, Qualifications for Reinstatement of Certification and Registration** details the methods for a registered technologist to restore their ARRT credentials, and therefore requalify for the Wisconsin radiographer license. The proposed state RAD 7

should naturally reflect **the ARRT Article VI** requirements, as Chapter 462 recognizes ARRT radiographer credentialing and registration as the qualifier for the Wisconsin radiographer license. The LXMO permittee should be held to the standards of **ARRT Article VI, Section 6.03 (a)(b)(c)(d).Education and/or Examination Requirements for Reinstatement where applicable.** This includes substituting 12 CE credits for the 24 required of the registered radiographer, according to the time periods described. Also the LXMO is not bound by ARRT Continuing Qualification Requirements CQR (10 year time limitations) in ARRT Article II Section 2.07). However, the board should consider that failure to request LXMO reinstatement more than 12 months after the CE biennium date should not be allowed without successful re-examination. This recommendation is in line with guidelines currently set for the radiographer by the ARRT. The LXMO practices radiography the same as a radiographer in all respects, limited to their scope of practice. The state and Radiography Examining Board should allow no lesser standard of radiologic practice among the two levels of patient care.

To be eligible for the Wisconsin LXMO permit Chapter 462 requires passage of the Limited X-ray Machine Operator examination developed by the American Registry of Radiologic Technologists (RAD 3.03), limited to the specific regions of the body of the applicant's practice, specified in the law. For renewal of the LXMO permit, **Chapter RAD 5 CONTINUING EDUCATION** requires that the LXMO ( and radiographer) "at the time of making an application for renewal of a license or permit, sign a statement on the application certifying the continuing education requirements under s. RAD 5.01 (1) or (2) have been satisfied." (**RAD 5.01 (1) and (2)** recognize the 24 hour continuing education (C.E) credit and 12 hour C.E credit for the radiographer and LXMO permittee respectively). **Chapter 462 Rad 5.01 (4) Credit for ARRT certification** states "the board shall accept active certification from the ARRT." As designed in the law, the ARRT serves as the automatic mechanism verifying compliance with credentialing requirements of the registered technologist which qualifies for the Wisconsin radiographer license. The LXMO is not credentialed by the ARRT, but rather permitted by the state to practice on a limited scope. The renewal of the LXMO permit relies on the applicant to maintain records of their 12 ARRT-approved continuing education credits attained in the previous biennium. Currently there is no automatic mechanism for positive verification by the state board of compliance with this LXMO continuing education requirement. Only under **RAD 5.04** "the board shall audit for compliance" with the CE requirements an individual who is "under investigation by the board for alleged misconduct." While it is noble to rely on the veracity of the individual, it would be ideal if the board had a simple method to verify the educational credits attained for the renewal of the LXMO permit under normal circumstances. Chapter 462 was enacted to ensure compliance with established high standards of radiologic care, in the interest of patient safety, regardless of the setting and scope of practice the radiography is performed.

Thank you for the opportunity to provide input on the proposed section RAD 7 of Chapter 462.

Respectfully submitted,

Sandra Helinski RTR, QM, MR  
WSRT Legislative Committee Chairperson  
1213 South 64 Street, West Allis, WI 53214

STATE OF WISCONSIN  
RADIOGRAPHY EXAMINING BOARD

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IN THE MATTER OF RULEMAKING	:	PROPOSED ORDER OF THE
PROCEEDINGS BEFORE THE	:	RADIOGRAPHY EXAMINING
RADIOGRAPHY EXAMINING	:	BOARD
BOARD	:	ADOPTING RULES
	:	(CLEARINGHOUSE RULE )

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PROPOSED ORDER

An order of the Radiography Examining Board to create ch. RAD 7, relating to requirements for license and permit renewal and reinstatement.

Analysis prepared by the Department of Safety and Professional Services.

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ANALYSIS

**Statutes interpreted:**

Sections 440.08 (3) (b) and 462.05, Stats.

**Statutory authority:** Sections 15.08 (5) (b) and 440.08 (3) (b), Stats.

**Explanation of agency authority:**

Section 15.08 (5) (b), Stats., provides that an examining board, such as the Radiography Examining Board, “shall promulgate rules for its own guidance and for the guidance of the trade or profession to which it pertains . . .”

Section 440.08 (3) (b), Stats., provides authority for the Radiography Examining Board to promulgate rules requiring the holder of a credential who fails to renew the credential within 5 years after its renewal date to complete requirements to restore the credential, in addition to the applicable requirements for renewal established under chs. 440 to 480, Stats., that the Board determines are necessary to protect the public health, safety, or welfare. The rules may not require the holder to complete educational requirements or pass examinations that are more extensive than the educational or examination requirements that must be completed to obtain an initial credential from the Board.

**Related statute or rule:**

Chapter RAD 5 provides the continuing education requirements for renewal of a radiographer license and a limited x-ray machine operator permit.

**Plain language analysis:**

The proposed rules specify requirements for late renewal of a radiographer license or limited x-ray machine operator permit and the requirements for reinstatement of a license or permit that has not been renewed within 5 years when the licensee or permit holder has unmet disciplinary requirements, or the license or permit has been denied at renewal, revoked, or surrendered.

**Summary of, and comparison with, existing or proposed federal regulation:**

None.

**Summary of public comments and feedback on the statement of scope and the Board's responses:**

The Board held a public comment period and conducted a public hearing on July 29, 2020. The Board received written comments concerning the statement of scope from the following individuals:

- Sandra Helinski, RTR, QM, MR - Wisconsin Society of Radiologic Technologists Legislative Committee Chairperson
- Daniel Vander Meulen - Clinical Instructor, University of Wisconsin School of Radiologic Technology and President Elect, Wisconsin Society of Radiologic Technologists

Both individuals expressed support of the scope statement's objective, which is to specify the requirements for renewal and reinstatement of a license as a radiographer or a limited x-ray machine operator permit, and recommended the requirements established by the Board reflect the qualifications for reinstatement of certification and registration in Article VI of the rules and regulations of the American Registry of Radiologic Technologists. The Board considered this recommendation when developing the proposed rule.

Both individuals also requested the Board to revise the statement of scope to include an expansion of the Board's ability to request verification of a limited x-ray machine operator's compliance with continuing education requirements. The Board's authority to request verification of compliance with continuing education requirements is under s. RAD 5.04, which is based on the provisions of s. 440.035 (2), Stats. Therefore, the Board did not revise the scope statement as the Board does not have the statutory authority to amend the provisions of s. RAD 5.04.

**Comparison with rules in adjacent states:**

**Illinois:**

Rules of the Illinois Emergency Management Agency provide for accreditation in the practice of medical radiation technology in Illinois (32 Ill. Admin. Code 401). If an individual's accreditation is not renewed, the credential holder has the right at any time to submit an application for renewal of accreditation. The application reviewed and processed in accordance with the requirements for timely renewal of an accreditation, except that an individual may not legally apply ionizing radiation to human beings until the Agency has acted to grant the application for renewal of accreditation [32 Ill. Admin. Code 401.140 c) 6)].

When an individual's accreditation is suspended, the individual must surrender the credential to the Agency until the termination of the suspension period [32 Ill. Admin. Code 401.120 d)]. An individual whose accreditation has been revoked may seek reinstatement of accreditation by filing a petition for reinstatement with the Agency. The

petition may be filed one year or more after the beginning of the revocation period. The individual must be afforded a hearing in accordance with 32 Ill. Adm. Code 200 and bears the burden of proof of establishing that the accreditation should be reinstated due to rehabilitation or other just cause [32 Ill. Admin. Code 401.120 e)].

**Iowa:**

641 IAC 42 provides for permits to operate ionizing radiation producing machines or administer radioactive materials in Iowa. A permit expires if it is not timely renewed, and may be reinstated if all of the following are submitted:

- An application to reinstate and a nonrefundable application fee.
- Any continuing education hours due at time of renewal.
- Proof that all stipulations of any order of disciplinary or enforcement action have been satisfied.

If a permit is expired 6 months or more, all requirements for applying for an initial permit must be met.

**Michigan:**

The State of Michigan does not license operators of x-ray machines, nor does it have any requirements relative to the licensure or credentialing of x-ray machine operators except for operators of mammography machines (Mich Admin Code, R 333.5630) and CT machines (Mich Admin Code, R 325.5705).

**Minnesota:**

Minn. Stat. 144.121, Subd. 5., provides the requirements for practicing as a limited x-ray machine operator. The statutes do not have any requirements for the licensure or credentialing of operators of x-ray machines.

**Summary of factual data and analytical methodologies:**

The proposed rules were developed by reviewing ss. 440.08 and 462.05, Stats., which provide requirements for renewal of a radiographer license and a limited x-ray machine operator permit, and the administrative rules concerning late renewal and reinstatement of a license that are administered by other licensing and credentialing boards.

**Analysis and supporting documents used to determine effect on small business or in preparation of economic impact analysis:**

The proposed rules will be posted for a period of 14 days to solicit public comment on the economic impact of the proposed rule, including how this proposed rule may affect businesses, local government units, and individuals.

**Effect on small business:**

These proposed rules do not have an economic impact on small businesses, as defined in s. 227.114 (1), Stats. The Department's Regulatory Review Coordinator may be contacted by email at Daniel.Hereth@wisconsin.gov, or by calling (608) 267-2435.



**Agency contact person:**

Dale Kleven, Administrative Rules Coordinator, Department of Safety and Professional Services, Division of Policy Development, P.O. Box 8366, Madison, Wisconsin 53708-8366; telephone 608-261-4472; email at DSPSAdminRules@wisconsin.gov.

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TEXT OF RULE

SECTION 1. Chapter RAD 7 is created to read:

CHAPTER RAD 7

RENEWAL AND REINSTATEMENT

**RAD 7.01 Biennial renewal.** As required under s. 462.05, Stats., each license and permit shall be renewed biennially with the board. Each licensee and permit holder shall complete a renewal application and submit it with the required fee to the department by the renewal date under s. 440.08 (2) (a) 39m. or s. 440.08 (2) (a) 64g., Stats., as applicable.

**RAD 7.02 Late renewal and reinstatement of a license or permit.** Failure to renew a license or permit as required under s. RAD 7.01 shall cause the license or permit to expire. A radiographer or LXMO who allows a license or permit to expire may apply to the board for late renewal or reinstatement of the license or permit by completing one of the following:

(1) LATE RENEWAL WITHIN 5 YEARS. If a radiographer or LXMO applies for renewal within 5 years after the renewal date, the license or permit shall be renewed upon submission of the completed application and fee required under s. RAD 7.01, payment of the late fee under s. 440.08 (3) (a), Stats., and fulfillment of the continuing education requirements under ch. RAD 5.

(2) LATE RENEWAL AFTER 5 YEARS. (a) If a radiographer or LXMO applies for renewal more than 5 years after the renewal date, the radiographer or LXMO shall satisfy the requirements under sub. (1) and the requirements to obtain a license or permit under s. 462.03 (2) or (3), Stats., as applicable. Except as provided under sub. (3) (a), this subsection does not apply to a radiographer or LXMO who has unmet disciplinary requirements or whose license or permit has been denied at renewal, surrendered, or revoked.

(b) The board may waive any of the educational or examination requirements under par. (a) based on evidence satisfactory to the board that granting renewal of the license or permit would adequately protect public health, safety, and welfare.

(3) REINSTATEMENT. A radiographer or LXMO who has unmet disciplinary requirements and failed to renew within 5 years of the renewal date or whose license or permit has been denied at renewal, surrendered, or revoked, may apply to have the license or permit reinstated. An application for reinstatement shall include all of the following:

(a) Evidence of completion of the requirements under sub. (2).

(b) Evidence of completion of disciplinary requirements, if applicable.

(c) Evidence of rehabilitation or change in circumstances warranting reinstatement of the license or permit.

**Note:** An application for renewal or reinstatement may be obtained from the department of safety and professional services at (608) 261-2112 or from the department's website at <http://dsps.wi.gov>.

SECTION 2. EFFECTIVE DATE. The rules adopted in this order shall take effect on the first day of the month following publication in the Wisconsin Administrative Register, pursuant to s. 227.22 (2) (intro.), Stats.

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(END OF TEXT OF RULE)  
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## Chapter RAD 2

### REQUIREMENTS FOR RADIOGRAPHER LICENSE

<p>RAD 2.01 Application.</p> <p>RAD 2.02 Approved course of study.</p> <p>RAD 2.03 Approved examination.</p>	<p>RAD 2.04 Licensure by endorsement.</p> <p>RAD 2.05 Cause for denial of application.</p> <p>RAD 2.06 Transitional period.</p>
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**RAD 2.01 Application.** The board shall grant a license to practice as a radiographer to a person who meets the requirements in s. 462.03 (1) and (2), Stats.

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 2.02 Approved course of study.** (1) The educational requirements for a license under this chapter shall be a board-approved formal course of study which includes a JRCERT-accredited degree in radiography or a formal education program that is ARRT approved.

(2) Active certification as a radiologic technologist from the ARRT shall be accepted as proof of completion of a board-approved course of study in radiography.

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 2.03 Approved examination.** (1) The board-approved examination required for a license under this chapter shall be the ARRT examination for radiologic technologists, or an examination by a successor organization approved by the board.

(2) Active certification as a radiologic technologist from the ARRT shall be accepted as proof of passage of the examination requirement.

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 2.04 Licensure by endorsement.** A person holding a radiographer license in another state or U.S. territory may obtain a license under this chapter by endorsement if the person submits the following:

(1) An application on a form provided by the department and pays the fee required under s. 440.05 (2), Stats.

(2) Evidence satisfactory to the board that the person, which includes:

(a) Active certification as a radiologic technologist from the ARRT, and;

(b) Verification of a credential from each state or jurisdiction in which the applicant holds or has held a license, permit, or credential.

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 2.05 Cause for denial of application.** The Board may deny an application for a radiographer license on the basis of the following:

(1) Termination from any employment related to the practice of radiography for reasons of negligence or incompetence.

(2) Conviction of an offense under s. 940.22, 940.225, 944.15, 944.17, 944.30, 944.31, 944.32, 944.33, 944.34, 948.02, 948.025, 948.08, 948.085, 948.09, 948.095 or 948.10, Stats., or a comparable offense under federal law or state law, or any crime the circumstances of which substantially relate to the practice of radiography.

(3) Any licensure encumbrances including surrender, suspension, revocation, limitation or reprimand.

(4) Failure to complete an application or comply with a request for information related to an application for a license within one year from the date of the filing of the application or request for information.

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 2.06 Transitional period.** (1) Notwithstanding s. 462.03 (3), Stats., the board shall issue a radiographer license to a person who satisfies the general requirements in s. 462.03 (1), Stats., and presents evidence satisfactory to the board of the following:

(a) Passage of the Wisconsin examination for radiography technologists.

(b) Practice of radiography as defined in s. 462.01, Stats., for at least 3 of the 5 years immediately preceding the date of application.

(2) Beginning March 1, 2012, applicants for a radiographer license shall satisfy the course of study and required examinations to qualify for the credential.

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11.

## Chapter RAD 3

### REQUIREMENTS FOR LIMITED X-RAY MACHINE OPERATOR (LXMO) PERMIT

RAD 3.01 Application.  
 RAD 3.02 Approved course of study.  
 RAD 3.03 Approved examination.  
 RAD 3.04 Notice of examination results.

RAD 3.05 Re-examination.  
 RAD 3.06 Transitional period.  
 RAD 3.07 Cause for denial of permit.

**RAD 3.01 Application.** The board shall grant a permit to practice as a LXMO to a person who meets the minimum requirements for a permit in s. 462.03 (1) and (3), Stats.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 3.02 Approved course of study.** The educational requirements for a permit under this chapter shall be board-approved course of study provided through a Joint Review Committee on Education in Radiologic Technology accredited program. An approved course of study shall include at minimum the American Society of Radiologic Technologists limited scope of practice curriculum.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 3.03 Approved examination.** The board-approved examination required for a permit under this chapter shall be the Wisconsin examination for limited scope of practice in radiography developed by the ARRT, or an examination from a successor organization approved by the board.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 3.04 Notice of examination results.** All applicants for a LXMO permit shall receive a passing grade determined by the board to represent the minimum competence to practice. The board may accept the passing grade recommendation of an approved testing agency.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 3.05 Re-examination.** A person who fails to achieve passing grades on the examinations required under this chapter may reapply for reexamination on forms provided by the department. No applicant may make more than 3 attempts to pass the examination within any 12 month period. A re-examination fee specified by the department shall be paid for each examination.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11.

**RAD 3.06 Transitional period. (1)** Notwithstanding s. 462.03 (3), Stats., the board shall issue a LXMO permit to a person who satisfies the general requirements in s. 462.03 (1), Stats., and presents evidence satisfactory to the board of the following:

(a) Passage of the Wisconsin examination for limited scope of practice in radiography.

(b) Practice of radiography or limited scope radiography as defined in s. 462.01, Stats., for at least 3 of the 5 years immediately preceding the date of application.

**(2)** Beginning March 1, 2012, a person who applies for a LXMO permit shall satisfy the full requirements of s. 462.03 (3), Stats., which requires completion of an approved course of study as determined by the board and successfully passes the examinations required by the board to obtain a permit.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11; correction in (2) made under s. 13.92 (4) (b)7., Stats., register February 2017 No. 734.

**RAD 3.07 Cause for denial of permit.** The Board may deny an application for a LXMO permit on the basis of any of the following:

**(1)** Termination from any employment related to the practice of a LXMO for reasons of negligence or incompetence.

**(2)** Conviction of an offense under s. 940.22, 940.225, 944.15, 944.17, 944.30, 944.31, 944.32, 944.33, 944.34, 948.02, 948.025, 948.08, 948.085, 948.09, 948.095, or 948.10, Stats., or a comparable offense under federal law or state law, or any crime the circumstances of which substantially relate to the practice of radiography.

**(3)** Any encumbrances including surrender, suspension, revocation, limitation, or reprimand of a LXMO permit by another credentialing body.

**(4)** Failure to complete an application or comply with a request for information related to an application for a permit within one year from the date of the filing of the application or request for information.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11.

STATE OF WISCONSIN  
RADIOGRAPHY EXAMINING BOARD

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IN THE MATTER OF RULEMAKING	:	PROPOSED ORDER OF THE
PROCEEDINGS BEFORE THE	:	RADIOGRAPHY EXAMINING
RADIOGRAPHY EXAMINING	:	BOARD
BOARD	:	ADOPTING RULES
	:	(CLEARINGHOUSE RULE )

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PROPOSED ORDER

An order of the Radiography Examining Board to **repeal** RAD 2.06 and 3.06; to **amend** RAD 2.05 (2), 3.01, 3.04, 3.05, and 3.07 (intro.) and (1) to (3); to **repeal and recreate** RAD 2.04; and to **create** RAD 2.01 (Note), 3.01 (Note), and 3.065, relating to requirements for licenses and permits.

Analysis prepared by the Department of Safety and Professional Services.

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ANALYSIS

**Statutes interpreted:**

Sections 440.09 and 462.06 (1) (a) and (b), Stats.

**Statutory authority:** Sections 15.08 (5) (b), 440.09 (5), and 462.06 (1) (a) and (b), Stats.

**Explanation of agency authority:**

Section 15.08 (5) (b), Stats., provides an examining board “[s]hall promulgate rules for its own guidance and for the guidance of the trade or profession to which it pertains. . .”

Section 440.09 (5), Stats., provides that “[t]he department or credentialing board, as appropriate, may promulgate rules necessary to implement this section.”

Section 462.06 (1) (a), Stats., provides the Radiography Examining Board shall promulgate rules that “[e]stablish standards for courses of study in radiography.”

Section 462.06 (1) (b), Stats., provides the Radiography Examining Board shall promulgate rules that “[e]stablish standards for examinations under s. 462.03 (2) and (3).”

**Related statute or rule:**

Section 440.09, Stats., specifies the requirements for issuing reciprocal credentials to service members, former service members, and the spouses of service members and former service members.

**Plain language analysis:**

The Radiography Examining Board conducted an evaluation of chs. RAD 2 and 3 to ensure consistency with current licensing and permitting practices, applicable Wisconsin statutes, and standards for drafting administrative rules. As a result, updates have been made to do all of the following:

- Create provisions under ss. RAD 2.04 and 3.065 to implement s. 440.09, Stats., as created by 2019 Wisconsin Act 143. Section 440.09, Stats., specifies the requirements for issuing reciprocal credentials to service members, former service members, and the spouses of service members and former service members.
- Revise ss. RAD 2.05 (2) and 3.07 (2) to reflect ss. 111.321, 111.322, and 111.335, Stats., which provide the circumstances under which a licensing agency may refuse to license an individual on the basis of the individual's arrest or conviction record.
- Repeal ss. RAD 2.06 and 3.06, which are no longer necessary as they contain requirements for applications filed prior to March 1, 2012.
- Make other changes to chs. RAD 2 and 3 to ensure consistency with current standards for drafting administrative rules.

**Summary of, and comparison with, existing or proposed federal regulation:**

None.

**Comparison with rules in adjacent states:****Illinois:**

Administrative rules of the Illinois Emergency Management Agency establish educational standards and an accreditation program applicable to persons who apply ionizing radiation to human beings (32 Ill. Admin. Code 401). The requirements for accreditation in the practice of medical radiation technology include minimum standards of preparatory education and experience, and examination requirements for certain categories of accreditation.

The Illinois Statutes provide for the expedited accreditation of service members and their spouses (20 ILCS 5/5-715). "Service member" includes a person whose active duty service concluded within the 2 years preceding application for licensure. A license issued to a service member or the spouse of a service member may be renewed.

**Iowa:**

Administrative rules of the Iowa Department of Public Health specify the permit requirements of individuals who operate or use ionizing radiation producing machines or administer radioactive materials on or to human patients or human research subjects for diagnostic or therapeutic purposes (641 IAC 42). The requirements for each specific class of permit include minimum formal education standards and an examination.

Rules of the Professional Licensure Division of the Iowa Department of Public Health provide for the expedited reciprocal licensure of a veteran or a spouse of an active duty service member (645 IAC 645.20.3). A reciprocal license issued to a veteran or a spouse of an active duty service member may be renewed.

**Michigan:**

The State of Michigan does not license operators of x-ray machines, nor does it have any requirements relative to the licensure or credentialing of x-ray machine operators except that radiologic technologists who perform mammographic examinations are required by rule (Mich Admin Code, R 333.5630) to be in compliance with the requirements under 21 CFR 900.12 (a) (2), “Radiologic technologists” (2000).

**Minnesota:**

Although the State of Minnesota does not license individuals who operate x-ray equipment, the Minnesota Statutes provide that an individual may not operate x-ray equipment unless the individual has passed an approved national examination for limited x-ray machine operators (Minn. Stat. 144.121, Subd. 5.).

**Summary of factual data and analytical methodologies:**

The proposed rules were developed by evaluating and updating chs. RAD 2 and 3 to ensure consistency with current licensing and permitting practices, applicable Wisconsin statutes, and standards for drafting administrative rules.

**Analysis and supporting documents used to determine effect on small business or in preparation of economic impact analysis:**

The proposed rules will be posted for a period of 14 days to solicit public comment on the economic impact of the proposed rule, including how this proposed rule may affect businesses, local government units, and individuals.

**Effect on small business:**

These proposed rules do not have an economic impact on small businesses, as defined in s. 227.114 (1), Stats. The Department’s Regulatory Review Coordinator may be contacted by email at Daniel.Hereth@wisconsin.gov, or by calling (608) 267-2435.

**Agency contact person:**

Dale Kleven, Administrative Rules Coordinator, Department of Safety and Professional Services, Division of Policy Development, P.O. Box 8366, Madison, Wisconsin 53708-8366; telephone 608-261-4472; email at DSPSAdminRules@wisconsin.gov.

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## TEXT OF RULE

SECTION 1. RAD 2.01 (Note) is created to read:

**RAD 2.01 (Note)** An application may be obtained from the department of safety and professional services at (608) 261-2112 or from the department's website at <http://dsps.wi.gov>.

SECTION 2. RAD 2.04 is repealed and recreated to read:

**RAD 2.04 Licensure by endorsement and reciprocity. (1)** An individual holding a radiographer license in another state or U.S. territory may obtain a license under this chapter by endorsement if the individual submits all of the following:

(a) An application on a form provided by the board.

(b) The fee required under s. 440.05 (2), Stats.

(c) Verification of active certification as a radiologic technologist from the ARRT.

(d) Verification of all credentials the individual holds or has held in another state or jurisdiction. Verification of a credential shall be submitted directly from the credentialing authority to the board.

(2) A reciprocal radiographer license shall be granted to a service member, former service member, or the spouse of a service member or former service member who the board determines meets all of the requirements under s. 440.09 (2), Stats. Subject to s. 440.09 (2m), Stats., the board may request verification necessary to make a determination under this subsection.

**Note:** Applications for licensure by endorsement or reciprocity may be obtained from the department of safety and professional services at (608) 261-2112 or from the department's website at <http://dsps.wi.gov>.

SECTION 3. RAD 2.05 (2) is amended to read:

**RAD 2.05 (2)** ~~Conviction~~ Subject to ss. 111.321, 111.322, and 111.335, Stats., conviction of an offense under s. 940.22, 940.225, 944.15, 944.17, 944.30, 944.31, 944.32, 944.33, 944.34, 948.02, 948.025, 948.08, 948.085, 948.09, 948.095 or 948.10, Stats., or a comparable offense under federal law or state law, or any crime the circumstances of which substantially relate to the practice of radiography.

SECTION 4. RAD 2.06 is repealed.

SECTION 5. RAD 3.01 is amended to read:

**RAD 3.01 Application.** The board shall grant a permit to practice as ~~a~~ an LXMO to a person who meets the minimum requirements for a permit in s. 462.03 (1) and (3), Stats.



SECTION 6. RAD 3.01 (Note) is created to read:

**RAD 3.01 (Note)** An application may be obtained from the department of safety and professional services at (608) 261-2112 or from the department's website at <http://dsps.wi.gov>.

SECTION 7. RAD 3.04 and 3.05 are amended to read:

**RAD 3.04 Notice of examination results.** All applicants for a an LXMO permit shall receive a passing grade determined by the board to represent the minimum competence to practice. The board may accept the passing grade recommendation of an approved testing agency.

**3.05 Re-examination.** A person who fails to achieve passing grades on the examinations required under this chapter may reapply for reexamination on forms provided by the department. No applicant may make more than 3 attempts to pass the examination within any ~~12-month~~ 12-month period. A re-examination fee specified by the department shall be paid for each examination.

SECTION 8. RAD 3.06 is repealed.

SECTION 9. RAD 3.065 is created to read:

**RAD 3.065 Reciprocal permits.** A reciprocal LXMO permit shall be granted to a service member, former service member, or the spouse of a service member or former service member who the board determines meets all of the requirements under s. 440.09 (2), Stats. Subject to s. 440.09 (2m), Stats., the board may request verification necessary to make a determination under this section.

**Note:** An application for a reciprocal permit may be obtained from the department of safety and professional services at (608) 261-2112 or from the department's website at <http://dsps.wi.gov>.

SECTION 10. RAD 3.07 (intro.) and (1) to (3) are amended to read:

**RAD 3.07 (intro.)** The ~~Board~~ board may deny an application for a an LXMO permit on the basis of any of the following:

(1) Termination from any employment related to the practice of a an LXMO for reasons of negligence or incompetence.

(2) ~~Conviction~~ Subject to ss. 111.321, 111.322, and 111.335, Stats., conviction of an offense under s. 940.22, 940.225, 944.15, 944.17, 944.30, 944.31, 944.32, 944.33, 944.34, 948.02, 948.025, 948.08, 948.085, 948.09, 948.095, or 948.10, Stats., or a comparable offense under federal law or state law, or any crime the circumstances of which substantially relate to the practice of radiography.

(3) Any encumbrances including surrender, suspension, revocation, limitation, or reprimand of a an LXMO permit by another credentialing body.

SECTION 11. EFFECTIVE DATE. The rules adopted in this order shall take effect on the first day of the month following publication in the Wisconsin Administrative Register, pursuant to s. 227.22 (2) (intro.), Stats.

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(END OF TEXT OF RULE)

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# Wisconsin Society of Radiologic Technologists

11/16/2020

Mr. Dale Kleven  
Administrative Rules Coordinator  
Department of Safety and Professional Services  
Division of Policy Development  
P.O Box 8366  
Madison, WI 53708-8366

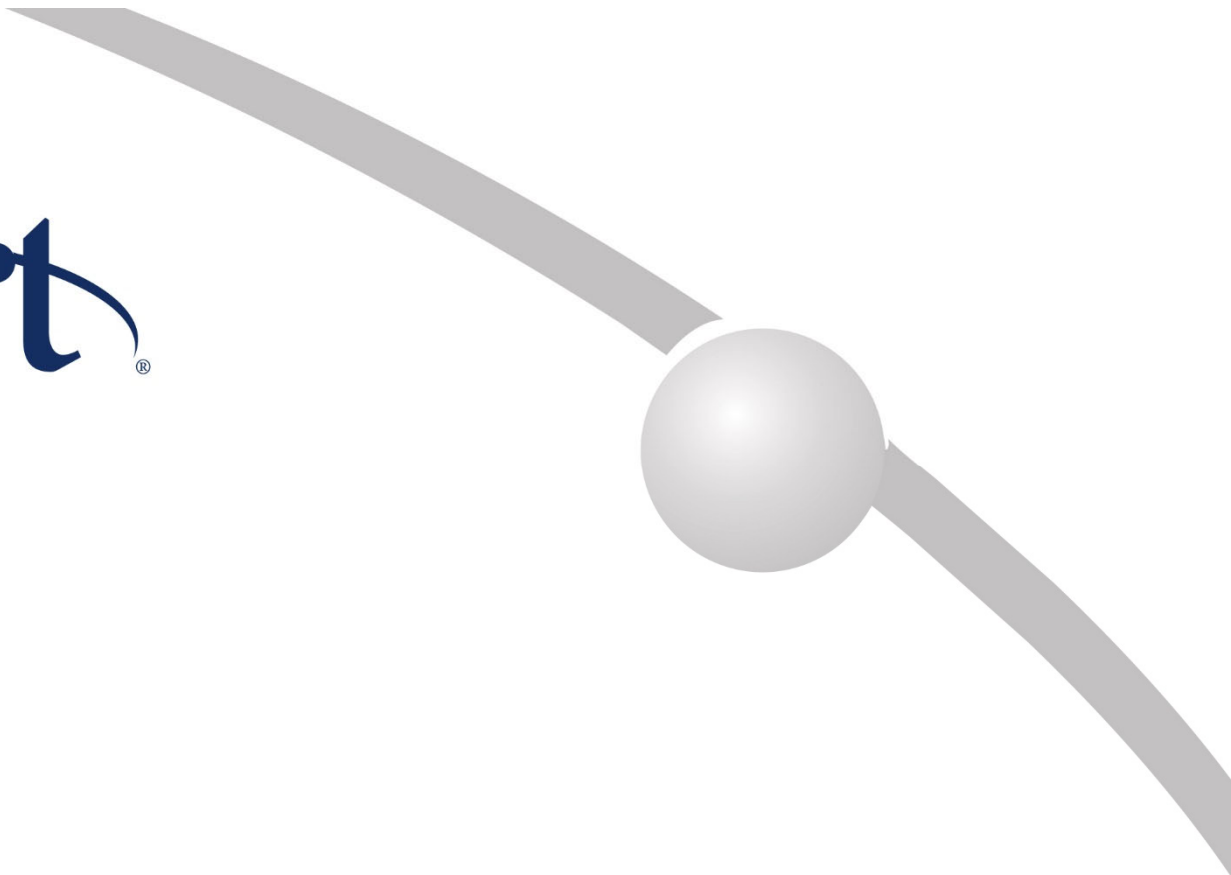
The Wisconsin Society of Radiologic Technologists (WSRT) is the professional organization of radiologic technologists in the state of Wisconsin. The WSRT represents approximately 7,000 registered radiologic professionals. The WSRT is in strong support of the licensure of radiologic technologists and issuance of permits to qualified limited x-ray machine operators (LXMO). Chapter 462 of Wisconsin State Statutes was enacted in 2010 to ensure that patients receive only safety-conscious, cost-effective, and quality diagnostic imaging throughout the state.

The Wisconsin Society of Radiologic Technologists is in support of the proposed update of the scope of radiologic practice standards, related to Chapters RAD 1 and 4 from the 2017 standards of practice adopted by the American Society of Radiologic Technologists (ASRT) to reflect those most recently adopted in 2019. Wisconsin's scope of practice standards for both the registered radiologic technologist and the limited x-ray machine operator are modeled according to the standards established by the ASRT, considered to be the gold standard in radiologic practices.

Respectfully submitted,

Sandra Helinski RTR, QM, MR  
WSRT Legislative Committee Chairperson

1213 South 64 Street  
West Allis, WI 53214  
414-339-0193



# The ASRT Practice Standards for Medical Imaging and Radiation Therapy

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## Preface

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 evaluating the quality of practice, service and education provided by individuals within the profession.

Practice standards can be used by individual facilities to develop job descriptions and practice parameters. Those outside the profession can use the standards as an overview of the role and responsibilities of individuals within the profession.

The medical imaging and radiation therapy professional and any individual who is legally authorized to perform medical imaging must be educationally prepared and clinically competent as a prerequisite to professional practice. The individual should, consistent with all applicable legal requirements and restrictions, exercise individual thought, judgment and discretion in the performance of the procedure. Federal and state statutes, regulations, accreditation standards and institutional policies could dictate practice parameters and may supersede these standards.

### Format

The ASRT Practice Standards for Medical Imaging and Radiation Therapy are divided into five sections:

- *Introduction* – defines the practice and the minimum qualifications for the education and certification of individuals in addition to an overview of the specific practice.
- *Medical Imaging and Radiation Therapy Scope of Practice* – delineates the parameters of the specific practice.
- *Standards* – incorporate patient assessment and management with procedural analysis, performance and evaluation. The standards define the activities of the individual responsible for the care of patients and delivery of medical imaging and radiation therapy procedures; in the technical areas of performance, such as equipment and material assessment safety standards and total quality management; and in the areas of education, interpersonal relationships, self-assessment and ethical behavior.
- *Glossary* – defines terms used in the practice standards document.
- *Advisory Opinion Statements* – provide interpretations of the standards intended for the clarification and guidance of specific practice issues.

The standards are numbered and followed by a term or set of terms that describes the standards. The next statement is the expected performance of the individual when performing the procedure or treatment. A rationale follows and explains why an individual should adhere to the particular standard of performance.

- *Criteria* – used to evaluate an individual's performance. Each standard is divided into two parts: the general criteria and the specific criteria. Both should be used when evaluating performance.
- *General Criteria* – written in a style that applies to medical imaging and radiation therapy professionals and should be used for the appropriate area of practice.
- *Specific Criteria* – meet the needs of the individuals in the various areas of professional

performance. Although many areas of performance within medical imaging and radiation therapy are similar, others are not. The specific criteria were developed with these differences in mind.

Within this document, all organizations are referenced by their abbreviation and spelled out within the glossary.

## Introduction

### Definition

The medical imaging and radiation therapy profession comprises health care professionals identified as a bone density technologist, cardiac-interventional and vascular-interventional technologist, computed tomography technologist, magnetic resonance technologist, mammographer, medical dosimetrist, nuclear medicine technologist, quality management technologist, radiation therapist, radiographer, radiologist assistant or sonographer who are educationally prepared and clinically competent as identified by these standards.

Furthermore, these standards apply to health care employees who are legally authorized to perform medical imaging and radiation therapy and who are educationally prepared and clinically competent as identified by these standards.

The complex nature of disease processes involves multiple imaging modalities. Medical imaging and radiation therapy professionals are vital members of a multidisciplinary team that forms a core of highly trained health care professionals, who each bring expertise to the area of patient care. They play a critical role in the delivery of health services as new modalities emerge and the need for medical imaging and radiation therapy procedures increases.

Medical imaging and radiation therapy integrates scientific knowledge, technical competence and patient interaction skills to provide safe and accurate procedures with the highest regard to all aspects of patient care. A medical imaging and radiation therapy professional recognizes elements unique to each patient, which is essential for the successful completion of the procedure.

Medical imaging and radiation therapy professionals are the primary liaison between patients, licensed practitioners and other members of the support team. These professionals 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, medical imaging and radiation therapy professionals participate in quality improvement processes and continually assess their professional performance.

Medical imaging and radiation therapy professionals 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, safety, public education, knowledge and technical competence.

### ***Bone Densitometry***

The practice of bone densitometry is performed by health care professionals responsible for the administration of ionizing radiation for diagnostic, therapeutic or research purposes. A bone densitometry technologist performs bone densitometry examinations and acquires and analyzes data needed for diagnosis at the request of and for interpretation by a licensed practitioner.

Bone densitometry technologists must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. They must maintain a high degree of accuracy



in positioning. Bone densitometry technologists must possess, use and maintain knowledge about radiation protection and safety. Bone densitometry technologists independently perform or assist the licensed practitioner in the completion of densitometric procedures.

### ***Cardiac-Interventional and Vascular-Interventional Technology***

This practice standards document for cardiac-interventional and vascular-interventional technology is inclusive of the practice areas of and cardiac-interventional and vascular-interventional technology.

The practice of cardiac-interventional and vascular-interventional technology is performed by health care professionals responsible for the administration of ionizing radiation for diagnostic, therapeutic or research purposes. A cardiac-interventional and vascular-interventional technologist performs radiographic, fluoroscopic and other procedures at the request of and for interpretation by a licensed practitioner. The cardiac-interventional and vascular-interventional technologist also acquires and analyzes data needed for diagnosis.

The cardiac-interventional and vascular-interventional technologist must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. They must maintain a high degree of accuracy in positioning and exposure technique for radiographic and fluoroscopic procedures. Cardiac-interventional and vascular-interventional technologists must possess, use and maintain knowledge about radiation protection and safety. Cardiac-interventional and vascular-interventional technologists independently perform or assist the licensed practitioner in the completion of cardiac-interventional and vascular-interventional technology procedures. Cardiac-interventional and vascular-interventional technologists prepare, administer and document activities related to medications and radiation exposure in accordance with federal and state laws, regulations or lawful institutional policy.

### ***Computed Tomography***

The practice of computed tomography is performed by health care professionals responsible for the administration of ionizing radiation for diagnostic, therapeutic or research purposes. A computed tomography technologist performs computed tomography procedures that create the images needed for interpretation and the performance of interventional and therapeutic procedures at the request of and for interpretation by a licensed practitioner.

Computed tomography technologists must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. They must maintain a high degree of accuracy in positioning and exposure technique. Computed tomography technologists must possess, use and maintain knowledge about radiation protection and safety. Computed tomography technologists independently perform or assist the licensed practitioner in the completion of computed tomography procedures. Computed tomography technologists prepare, administer and document activities related to medications and radiation exposure in accordance with federal and state laws, regulations or lawful institutional policy.

### ***Limited X-ray Machine Operator***

The operation of x-ray equipment in a limited scope is performed by health care employees responsible for the administration of ionizing radiation for diagnostic purposes. A limited x-ray machine operator performs radiographic procedures within the limited scope of practice, producing images at the request of and for interpretation by a licensed practitioner. A limited x-ray machine operator acquires additional images at the request of a licensed practitioner or radiographer.

Limited x-ray machine operators are individuals other than a radiographer who perform static diagnostic radiographic images on selected anatomical sites. They must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. Limited x-ray machine operators must possess, use and maintain a high degree of accuracy in radiographic positioning and exposure technique. They must possess, apply and maintain knowledge of radiation protection and safety.

Limited x-ray machine operators must remain sensitive to the needs of the patient through good communication, patient monitoring and patient care skills. As members of the health care team, limited x-ray machine operators participate in quality improvement processes and continually assess their performance.

Limited x-ray machine operators think critically and use independent and ethical judgment in all aspects of their work. They engage in ongoing education to include their area of practice to enhance patient care, public education, knowledge and technical competence.

### ***Magnetic Resonance***

The practice of magnetic resonance is performed by health care professionals responsible for the use of radiofrequencies within a magnetic field for diagnostic, therapeutic or research purposes. A magnetic resonance technologist performs magnetic resonance procedures that create the images needed for diagnosis at the request of and for interpretation by a licensed practitioner.

Magnetic resonance technologists must demonstrate an understanding of human anatomy, physiology, pathology, pharmacology and medical terminology. They must maintain a high degree of accuracy in positioning and magnetic resonance technique. Magnetic resonance technologists must possess, use and maintain knowledge about magnetic protection and safety. Magnetic resonance technologists independently perform or assist the licensed practitioner in the completion of magnetic resonance procedures. Magnetic resonance technologists prepare, administer and document activities related to medications in accordance with federal and state laws, regulations or lawful institutional policy.

### ***Mammography***

The practice of mammography is performed by health care professionals responsible for the administration of ionizing radiation and high-frequency sound waves for diagnostic, therapeutic or research purposes. A mammographer performs breast imaging procedures that create mammographic and sonographic images needed for diagnosis at the request of and for interpretation by a licensed practitioner.

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

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

Mammographers must comprehend the complexities of the appropriate federal and state laws, regulations and have knowledge of the quality control and quality assurance requirements for mammography and breast sonography.

### ***Medical Dosimetry***

The practice of medical dosimetry is performed by health care professionals responsible for designing a treatment plan for use in the administration of ionizing radiation for the purpose of treating diseases, primarily cancer. Medical dosimetrists perform duties and complete responsibilities under the supervision of qualified medical physicists and radiation oncologists. It is typically the medical dosimetrist who generates an optimal treatment plan and ensures the appropriate transfer of data that the radiation therapist will use to treat the patient. The medical dosimetrist maintains a commitment to a high degree of accuracy, thoroughness and safety.

Medical dosimetrists must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. In addition, extensive knowledge of characteristics and clinical relevance of radiation oncology treatment machine and equipment, radiobiology, radiation physics, radiation safety and psychosocial aspects of cancer is required.

Medical dosimetrists must maintain a high degree of accuracy in treatment planning optimization, treatment techniques and positioning. Medical dosimetrists assist the radiation oncologist in localizing the treatment area, generate a treatment plan and actively communicate with the radiation oncology team to enable and ensure the appropriate transfer of information.

Medical dosimetrists are the primary liaison between the radiation therapist, medical physicist and radiation oncologist. Medical dosimetrists must remain sensitive to the physical and emotional needs of the patient through good communication and patient assessment. Radiation therapy often involves daily treatments extending over several weeks using highly sophisticated equipment. It requires thorough initial planning as well as constant patient care and monitoring.

### ***Nuclear Medicine***

The practice of nuclear medicine and molecular imaging is performed by health care professionals responsible for the administration of ionizing radiation (radioactive material and computed tomography) and nonionizing radiation and adjunctive medications for diagnostic, therapeutic or research purposes. Radioactive materials, medications and imaging and nonimaging equipment are used in nuclear medicine and molecular imaging to study various

organs, body systems and samples to aid in the diagnosis, treatment and treatment planning of various pathological conditions. A nuclear medicine technologist performs nuclear medicine and molecular imaging procedures or therapies at the request of and for interpretation by a licensed practitioner and under the supervision of an authorized user.

Nuclear medicine technologists must demonstrate an understanding of human anatomy and physiology, chemistry, physics and instrumentation, mathematics, medical terminology and pharmacology. Nuclear medicine technologists must maintain a high degree of accuracy in all aspects of the procedure. They must possess, use and maintain knowledge about radiation safety principles. Nuclear medicine technologists independently perform or assist the licensed practitioner and authorized user in the completion of nuclear medicine and molecular imaging procedures and treatments. Nuclear medicine technologists prepare, administer and document activities related to ionizing radiation (radioactive material and computed tomography) and nonionizing radiation, medications and radiation exposure in accordance with federal and state laws, regulations or lawful institutional policy.

### ***Quality Management***

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 health care 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 member of the health care team, which includes clinicians, management, support staff and customers.

Quality management has 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, change management, patient throughput, fiscal implications and the various information technologies present in medical imaging and radiation therapy departments.

Quality management technologists must maintain a high degree of accuracy. They must possess, use 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 federal and state laws, regulations or lawful institutional policy.

## ***Radiation Therapy***

The practice of radiation therapy is performed by health care professionals responsible for the administration of ionizing radiation for the purpose of treating diseases, primarily cancer. A radiation therapist performs radiation therapy procedures under the supervision of a radiation oncologist. It is typically the radiation therapist who administers the radiation to the patient throughout the course of treatment.

Radiation therapists must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. In addition, comprehension of oncology, radiobiology, radiation physics, radiation oncology techniques, radiation safety and the psychosocial aspects of cancer are required. They must maintain a high degree of accuracy in positioning and treatment techniques. Radiation therapists must possess, use and maintain knowledge about radiation protection and safety. Radiation therapists assist the radiation oncologist to localize the treatment area, participate in treatment planning and deliver high doses of ionizing radiation as prescribed by the radiation oncologist.

Radiation therapists are the primary liaison between patients and other members of the radiation oncology team. They also provide a link to other health care providers, such as social workers and dietitians. Radiation therapists must remain sensitive to the needs of the patient through good communication, patient assessment, patient monitoring and patient care skills. Radiation therapy often involves daily treatments extending over several weeks using highly sophisticated equipment. It requires thorough initial planning as well as constant patient care and monitoring.

## ***Radiography***

The practice of radiography is performed by health care professionals responsible for the administration of ionizing radiation for diagnostic, therapeutic or research purposes. A radiographer performs a full scope of radiographic and fluoroscopic procedures that create the images needed for diagnosis at the request of and for interpretation by a licensed practitioner.

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

Radiographers must maintain a high degree of accuracy in radiographic positioning and exposure technique. They must possess, apply and maintain knowledge of radiation protection and safety. Radiographers independently perform or assist the licensed practitioner in the completion of radiographic procedures. Radiographers prepare, administer and document activities related to medications and radiation exposure in accordance with federal and state laws, regulations or lawful institutional policy.

## ***Radiologist Assistant***

A radiologist assistant is an advanced-practice radiographer who practices under the supervision of a radiologist and enhances patient care in radiology services. As a member of the radiologist-directed team, the radiologist assistant performs invasive and noninvasive procedures at the request of and for interpretation by a licensed practitioner.

Radiologist assistants act as liaisons between patients, radiographers, radiologists and other members of the health care team. Radiologist assistants remain sensitive to the physical, cultural and emotional needs of patients through good communication, comprehensive patient assessment, continuous patient monitoring and advanced patient care skills.

Radiologist assistants maintain their radiographer credentials; therefore, both the radiologist assistant and radiography sections of the practice standards should be consulted when seeking practice information for the radiologist assistant. The clinical activities are delegated by the supervising radiologist in accordance with federal and state laws, regulations and lawful institutional policies.

### ***Sonography***

The practice of sonography is performed by 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 that create the images needed for diagnosis at the request of and for interpretation by a licensed practitioner.

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, use and maintain knowledge about biologic effects of high-frequency sound waves. Sonographers independently perform or assist the licensed practitioner in the completion of sonographic procedures. Sonographers prepare, administer and document activities related to medications in accordance with federal and state laws, regulations or lawful institutional policy.

### **Education and Certification**

The individual must be educationally prepared and clinically competent as a prerequisite to professional practice.

Medical imaging and radiation therapy professionals performing multiple modality hybrid imaging should be registered by certification agencies recognized by the ASRT and be educationally prepared and clinically competent in the specific modality(ies) they are responsible to perform. Medical imaging and radiation therapy professionals performing diagnostic procedures in more than one imaging modality will adhere to the general and specific criteria for each area of practice.

To maintain certification(s), medical imaging and radiation therapy professionals must complete appropriate continuing education requirements to sustain their expertise and awareness of changes and advances in practice.

### ***Bone Densitometry***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform bone

densitometry procedures.

Bone densitometry technologists prepare for their roles on the interdisciplinary team by successfully completing a program in radiography, nuclear medicine technology or radiation therapy that is programmatically accredited or part of an institution that is regionally accredited, and by attaining appropriate primary certification from the ARRT or NMTCB.

Eligibility to take the ARRT postprimary examination in bone densitometry requires appropriate primary certification, documentation of structured education and clinical experience at the time of application. Those passing the bone densitometry postprimary examination use the credential R.T.(BD).

The ISCD is another certifying agency. Individuals with the appropriate primary certification who pass the certified bone densitometry technologist examination use the credential CBDT.

### ***Cardiac-Interventional and Vascular-Interventional Technology***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform cardiac-interventional and vascular-interventional procedures.

Cardiac-interventional and vascular-interventional technologists prepare for their roles on the interdisciplinary team by successfully completing a program in radiography that is programmatically accredited or part of an institution that is regionally accredited, and by attaining appropriate primary certification from the ARRT.

Eligibility to take the ARRT postprimary examination in cardiac-interventional radiography or vascular-interventional radiography requires appropriate primary certification in radiography, documentation of structured education and clinical experience at the time of application. Those passing the cardiac-interventional radiography examination use the credentials R.T.(R)(CI), and those passing the vascular-interventional radiography examination use the credentials R.T.(R)(VI). Individuals with the appropriate primary certification in radiography who have passed the ARRT postprimary examination in cardiovascular-interventional radiography use the credentials R.T.(R)(CV).

CCI is another certifying agency. Individuals with primary certification in radiography who pass the cardiovascular invasive specialist examination as a postprimary certification use the credential RCIS.

### ***Computed Tomography***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform computed tomography procedures.

Computed tomography technologists prepare for their roles on the interdisciplinary team by successfully completing a program in radiography, radiation therapy or nuclear medicine technology that is programmatically accredited or part of an institution that is regionally

accredited, and by attaining appropriate primary certification from the ARRT or NMTCB.

Eligibility to take a postprimary examination in computed tomography requires appropriate primary certification, documentation of structured education and clinical experience at the time of application. Those passing the ARRT computed tomography examination use the credential R.T.(CT). Those passing the NMTCB computed tomography examination use the credential NMTCB(CT).

### ***Limited X-ray Machine Operator***

Limited x-ray machine operators prepare for their roles on the interdisciplinary team in several ways. Various education and training programs for limited x-ray machine operators exist throughout the United States.

Many states require the completion of a program of study prior to administering a state licensure exam for limited x-ray machine operators. Several states use some or all of the Limited Scope of Practice in Radiography state licensing exams developed by the ARRT. States that administer an exam and issue a license or certification may use various terminologies to designate a limited x-ray machine operator. The limited x-ray machine operator may have limitations in performing ionizing radiation procedures specific to their scope of practice and may be prohibited from performing other tasks.

### ***Magnetic Resonance***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform magnetic resonance procedures.

Magnetic resonance technologists prepare for their role on the interdisciplinary team through one of the following:

- Successfully completing a program in magnetic resonance technology that is programmatically accredited or part of an institution that is regionally accredited, and by attaining certification in magnetic resonance from the ARRT.

or

- Possessing appropriate primary certification from the ARRT or NMTCB, documentation of structured education and clinical experience at the time of application and by attaining certification in magnetic resonance from the ARRT.

Those passing the ARRT magnetic resonance examination use the credential R.T.(MR).

### ***Mammography***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform mammography and breast sonography procedures.

Mammographers prepare for their roles on the interdisciplinary team by successfully completing a program in radiography that is programmatically accredited or part of an



institution that is regionally accredited, and by attaining appropriate primary certification from the ARRT. Initial mammography training hours may be required at the federal or state level.

Eligibility to take the ARRT postprimary examination in mammography requires appropriate primary certification, documentation of structured education and clinical experience at the time of application. 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).

### ***Medical Dosimetry***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform medical dosimetry procedures.

Medical dosimetrists prepare for their roles on the interdisciplinary team by meeting the examination eligibility criteria established by the MDCB. Those passing the medical dosimetry examination use the credential CMD.

### ***Nuclear Medicine***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform nuclear medicine and molecular imaging procedures.

Nuclear medicine technologists prepare for their roles on the interdisciplinary team by successfully completing a program in nuclear medicine that is programmatically accredited or part of an institution that is regionally accredited, and by attaining appropriate primary certification from the ARRT or the NMTCB. Those passing the ARRT examination use the credential R.T.(N). Those passing the NMTCB examination use the credential CNMT.

Eligibility to take the NMTCB specialty examinations in nuclear cardiology, positron emission tomography and/or radiation safety requires appropriate primary certification and documentation of clinical experience at the time of the examination. Those who successfully complete these examinations may use the credentials NCT, PET and/or RS, respectively.

### ***Quality Management***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform quality management procedures.

Quality management technologists prepare for their roles on the interdisciplinary team by successfully completing a program in radiography, nuclear medicine technology or radiation therapy that is programmatically accredited or part of an institution that is regionally accredited,

and by attaining appropriate primary certification from the ARRT or the NMTCB.

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

### ***Radiation Therapy***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform radiation therapy procedures.

Radiation therapists prepare for their roles on the interdisciplinary team by successfully completing a program in radiation therapy that is programmatically accredited or part of an institution that is regionally accredited, and by attaining appropriate primary certification from the ARRT.

Those passing the ARRT radiation therapy examination use the credential R.T.(T).

### ***Radiography***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform radiographic procedures.

Radiographers prepare for their roles on the interdisciplinary team by successfully completing a program in radiography that is programmatically accredited or part of an institution that is regionally accredited, and by attaining appropriate primary certification from the ARRT.

Those passing the radiography examination use the credential R.T.(R).

### ***Radiologist Assistant***

Only radiographers who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform radiologist assistant procedures.

Radiologist assistants prepare for their roles as midlevel providers in medical imaging by attaining primary certification in radiography from the ARRT, successfully completing a recognized radiologist assistant education program and by attaining postprimary certification from the ARRT.

Those passing the registered radiologist assistant examination use the credential R.R.A.

### ***Sonography***

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform sonography procedures.

Sonographers prepare for their roles on the interdisciplinary team by successfully completing a program in sonography that is programmatically accredited or part of an institution that is regionally accredited, and by attaining appropriate primary certification from the ARRT, the ARDMS or CCI. Those passing the ARRT primary examination use the credential R.T.(S). Those passing the ARDMS examination(s) use the credentials RDMS, RDCS and/or RVT. Those passing the CCI examination(s) use the credentials RCS and/or RVS.

Eligibility to take the postprimary examinations in sonography requires appropriate primary certification, documentation of structured education and clinical experience at the time of application. Those passing these examinations use the credentials R.T.(S), R.T.(VS) and/or R.T.(BS).

## Medical Imaging and Radiation Therapy Scope of Practice

Scopes of practice delineate the parameters of practice and identify the boundaries for practice. A comprehensive procedure list for the medical imaging and radiation therapy professional is impractical because clinical activities vary by the practice needs and expertise of the individual. As medical imaging and radiation therapy professionals gain more experience, knowledge and clinical competence, the clinical activities may evolve.

The medical imaging and radiation therapy professional and any individual who is legally authorized to perform medical imaging must be educationally prepared and clinically competent as a prerequisite to professional practice. The individual should, consistent with all applicable legal requirements and restrictions, exercise individual thought, judgment and discretion in the performance of the procedure. Federal and state statutes, regulations, accreditation standards and institutional policies could dictate practice parameters and may supersede these standards.

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

- Administering medications parenterally through new or existing vascular access, enterally or through other appropriate routes as prescribed by a licensed practitioner.\*†
- Administering medications with an infusion pump or power injector as prescribed by a licensed practitioner.\*†
- Applying principles of ALARA to minimize exposure to patient, self and others.
- Applying principles of patient safety during all aspects of patient care.
- Assisting in maintaining medical records, respecting confidentiality and established policy.
- Corroborating a patient's clinical history with procedure and ensuring information is documented and available for use by a licensed practitioner.
- Educating and monitoring students and other health care providers.\*
- Evaluating images for proper positioning and determining if additional images will improve the procedure or treatment outcome.
- Evaluating images for technical quality and ensuring proper identification is recorded.
- Identifying and responding to emergency situations.
- Identifying, preparing and/or administering medications as prescribed by a licensed practitioner.\*†
- Performing ongoing quality assurance activities.
- Performing venipuncture as prescribed by a licensed practitioner.\*†
- Postprocessing data.
- Preparing patients for procedures.
- Providing education.
- Providing optimal patient care.
- Receiving, relaying and documenting verbal, written and electronic orders in the patient's medical record.\*
- Selecting the appropriate protocol and optimizing technical factors while maximizing patient safety.
- Starting, maintaining and/or removing intravenous access as prescribed by a licensed practitioner.\*†

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

- Verifying archival storage of data.
- Verifying informed consent for applicable procedures.\*

### ***Bone Densitometry***

- Performing and analyzing bone densitometry scans as prescribed by a licensed practitioner.

### ***Cardiac-Interventional and Vascular-Interventional***

- Assisting licensed practitioner with fluoroscopic and specialized interventional radiography procedures.
- Effectively panning the table during exposure.
- Maintaining intra-arterial access as prescribed by a licensed practitioner.
- Participating in physiologic monitoring of patients.
- Performing cardiovascular diagnostic/interventional procedures as prescribed by a licensed practitioner.
- Performing manual and mechanical hemostasis, including the use of vascular closure devices, as prescribed by a licensed practitioner.
- Performing noninterpretive fluoroscopic procedures as prescribed by a licensed practitioner.
- Placing, maintaining and removing peripherally inserted central catheters as prescribed by a licensed practitioner.

### ***Computed Tomography***

- Assisting a licensed practitioner with interventional computed tomography procedures.
- Performing computed tomography procedures as prescribed by a licensed practitioner.

### ***Limited X-ray Machine Operator***

- Assisting a licensed practitioner or radiographer during static radiographic procedures.
- Performing diagnostic radiographic procedures, as prescribed by a licensed practitioner, of a specific area of anatomical interest based on limited education, training and licensure/certification within the individual's scope of practice.

### ***Magnetic Resonance***

- Applying principles of magnetic resonance safety to minimize risk to patient, self and others.
- Assisting the licensed practitioner with interventional procedures.
- Performing procedures for diagnostic interpretation or therapeutic intervention as prescribed by a licensed practitioner.
- Selecting appropriate pulse sequences with consideration given to established protocols and other factors influencing data acquisition parameters.

\* Excludes limited x-ray machine operator

### ***Mammography***

- Imaging pathologic breast specimens as prescribed by a licensed practitioner.
- Performing breast ultrasound procedures as prescribed by a licensed practitioner.
- Performing mammographic procedures per facility policy or as prescribed by a licensed practitioner.
- Providing or assisting with physical breast inspections or palpation.

### ***Medical Dosimetry***

- Developing optimal treatment plans under the direction of a radiation oncologist.
- Evaluating treatment plans for accuracy.
- Monitoring, under the supervision of a radiation oncologist, doses to normal tissues within the irradiated volume to ensure tolerance levels are not exceeded.
- Obtaining and incorporating patient data from medical imaging procedures or manual methods to be used in simulation, treatment planning, treatment delivery and quality assurance.
- Participating in brachytherapy treatment planning and delivery.
- Participating in simulation under the supervision of a radiation oncologist.
- Performing dosimetric calculations.
- Performing or assisting with the fabrication of patient immobilization and other treatment devices.
- Transferring and documenting treatment planning data according to departmental policy.

### ***Nuclear Medicine***

- Identifying, preparing and/or administering ionizing radiation (radioactive material and computed tomography) and nonionizing radiation as prescribed by a licensed practitioner and under the supervision of an authorized user.
- Performing hybrid imaging, including PET-CT and SPECT-CT, for emission, transmission, and attenuation correction, anatomical location and for use in radiation therapy treatment planning when performed within hybrid imaging as prescribed by a licensed practitioner and under the supervision of an authorized user.
- Performing nuclear medicine procedures as prescribed by a licensed practitioner and under the supervision of an authorized user.

### ***Quality Management***

- Coordinating, performing and monitoring quality control procedures for all types of equipment.
- Creating policies and procedures to meet regulatory, accreditation and fiscal requirements.
- Determining and monitoring exposure factors and/or procedural protocols in accordance with ALARA principles and age-specific considerations.
- Ensuring adherence to accreditation, federal, state and local regulatory requirements.
- Facilitating change through appropriate management processes.
- Facilitating performance improvement processes.

- Facilitating the department's quality assessment and improvement plan.
- Performing physics surveys independently on general radiographic and fluoroscopic equipment, with medical physicist oversight.
- Providing assistance to staff for image optimization, including patient positioning, proper equipment use and image critique.
- Providing input for equipment and software purchase and supply decisions when appropriate or requested.
- Providing practical information regarding quality management topics.
- Serving as a resource regarding regulatory, accreditation and fiscal requirements.
- Supporting and assisting a medical physicist with modality physics surveys.

### ***Radiation Therapy***

- Constructing/preparing immobilization, beam directional and beam-modification devices.
- Delivering radiation therapy treatments as prescribed by a radiation oncologist.
- Detecting and reporting significant changes in patients' conditions and determining when to withhold treatment until the radiation oncologist is consulted.
- Monitoring, under the direction of a radiation oncologist, doses to normal tissues within the irradiated volume to ensure tolerance levels are not exceeded.
- Participating in brachytherapy procedures.
- Performing simulation, localization, treatment planning procedures and dosimetric calculations as prescribed by a radiation oncologist.
- Using imaging technologies for the explicit purpose of simulation, treatment planning and treatment delivery as prescribed by a radiation oncologist.

### ***Radiography***

- Assisting the licensed practitioner with fluoroscopic and specialized radiologic procedures.
- Performing diagnostic radiographic and noninterpretive fluoroscopic procedures as prescribed by a licensed practitioner.

### ***Radiologist Assistant***

- Assessing, monitoring and managing patient status, including patients under minimal and moderate sedation.
- Assisting with data collection and review for clinical trials or other research.
- Communicating the supervising radiologist's report to the appropriate health care provider consistent with the ACR Practice Guidelines for Communication of Diagnostic Imaging Findings.
- Completing patient history and physical.
- Emphasizing patient safety and verifying procedure appropriateness by analyzing and incorporating evidenced-based practices for optimal patient care.
- Evaluating images for completeness and diagnostic quality and recommending additional images.
- Obtaining images necessary for diagnosis and communicating initial observations to the supervising radiologist. The radiologist assistant does not provide image interpretation as

defined by the ACR.

- Participating in or obtaining informed consent.
- Participating in quality improvement activities within the radiology practice.
- Performing or assisting with invasive or noninvasive imaging procedures as delegated by the radiologist who is licensed to practice and has privileges for the procedure being performed by the radiologist assistant.
- Providing follow-up patient evaluation.
- Reviewing variances identified through preprocedural evaluation that may influence the expected outcome with the supervising radiologist prior to the procedure.

### ***Sonography***

- Collaborating with a licensed practitioner in the performance of interventional procedures.
- Ensuring equipment parameters for diagnostic and therapeutic procedures are of optimal technical and administrative quality as requested by a licensed practitioner.
- Performing diagnostic and therapeutic ultrasound procedures as prescribed by a licensed practitioner or during appropriate educational activities.



## Standards

### Standard One – Assessment

The medical imaging and radiation therapy professional collects pertinent data about the patient, procedure, equipment and work environment.

#### *Rationale*

Information about the patient's health status is essential in providing appropriate imaging and therapeutic services. The planning and provision of safe and effective medical services relies on the collection of pertinent information about equipment, procedures and the work environment.

The medical imaging and radiation therapy professional:

#### *General Criteria*

- Assesses and maintains the integrity of medical supplies.
- Assesses factors that may affect the procedure, such as medications, patient history, patient preparation or artifact-producing objects.
- Assesses patient lab values, medication list and risk for allergic reaction(s) prior to procedure and administration of medication.\*†
- Confirms that equipment performance, maintenance and operation comply with the manufacturer's specifications.
- Determines that services are performed in a safe environment, minimizing potential hazards.
- Maintains restricted access to controlled areas.
- Obtains and reviews relevant previous procedures and information from all available resources and the release of information as needed.
- Participates in ALARA, patient and personnel safety, risk management and quality management activities.
- Recognizes signs and symptoms of an emergency.
- Verifies patient identification and appropriateness of the procedure requested or prescribed.
- Verifies that the patient has consented to the procedure.
- Verifies that protocol and procedure manuals include recommended criteria and are reviewed and revised.
- Verifies the patient's pregnancy status.

#### *Specific Criteria*

#### **Bone Densitometry**

- Assesses patient compliance with prescribed treatment as it relates to the procedure.

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

### ***Computed Tomography***

Refer to general criteria.

### ***Limited X-ray Machine Operator***

- Complies with federal and state laws and regulations to minimize radiation exposure levels.
- Develops and maintains standardized exposure technique guidelines under the direction of a licensed practitioner or radiographer.
- Maintains and performs quality control on radiation safety equipment within the individual's scope of practice.
- Performs quality assurance activities under the direction of a licensed practitioner, radiographer or medical physicist.

### ***Magnetic Resonance***

- Assesses patient for factors that may contribute to anxiety or claustrophobia.
- Identifies and removes items that may affect patient's safety, damage the equipment or affect the image quality.
- Screens patient and others for potential magnetic resonance contraindications, either within the body or on their person, prior to entering the magnet room.

### ***Mammography***

- Assesses any potential patient limitations (body habitus, physical or mental capabilities) and modifies the performance of the procedure as necessary.
- Assesses the need for alternative procedures based on the patient's age, hormonal status and the presence of surgical implants.
- Assists in setting policy and procedures in the facility to meet certification and accreditation standards specific to breast imaging.
- Establishes all required quality assurance and quality control test criteria.

### ***Medical Dosimetry***

- Assesses the environment for any potential radiation hazards.
- Assesses the patient's need for information and reassurance.
- Reviews patient history for previous therapeutic treatments.

### ***Nuclear Medicine***

- Complies with federal and state laws to minimize radiation exposure levels.
- Maintains and performs quality control on radiation safety equipment according to regulatory agencies.

- Performs area monitoring and surveys to assess radiation exposure levels and contamination sites.
- Verifies the patient's lactation or breastfeeding status.
- Verifies the patient's menstrual cycle.

### ***Quality Management***

- Assesses policies, protocols and guidelines to improve safety, efficiency and patient care, and identify the potential impact to the facility.
- Identifies the customers served by medical imaging and radiation therapy.
- Identifies the processes used in customer service.
- Monitors compliance with universal precautions and standard precautions.
- Uses consistent and appropriate techniques to gather relevant information.

### ***Radiation Therapy***

- Assesses the environment for any potential radiation hazards.
- Assesses the patient's need for information and reassurance.
- Identifies and/or removes objects that could interfere with prescribed treatment.
- Inspects ancillary devices prior to use.
- Monitors and assesses patients throughout the treatment course and follow-up visits.
- Monitors doses to normal tissues.
- Monitors side effects and reactions to treatment.
- Monitors treatment unit operation during use.
- Recognizes the patient's need for referral to other care providers, such as a social worker, nurse or dietitian.
- Reviews treatment protocol criteria and assesses conditions affecting treatment delivery.
- Reviews treatment record prior to treatment or simulation.

### ***Radiography***

- Complies with federal and state laws and regulations to minimize radiation exposure levels.
- Develops and maintains standardized exposure technique guidelines for all equipment.
- Maintains and performs quality control on radiation safety equipment.
- Reviews digital images for the purpose of monitoring radiation exposure.

### ***Radiologist Assistant***

- Assesses the patient's level of anxiety and pain and informs the supervising radiologist.
- Interviews patient to obtain, verify and update medical history.
- Observes and assesses a patient who has received minimal and moderate sedation.
- Performs and documents a radiology-focused physical examination, analyzes data and reports findings to the supervising radiologist.

### ***Sonography***

Refer to general criteria.

## **Standard Two – Analysis/Determination**

The medical imaging and radiation therapy professional 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.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Consults appropriate medical personnel to determine a modified action plan.
- Determines that all procedural requirements are in place to achieve a quality diagnostic or therapeutic procedure.
- Determines the appropriate type and dose of contrast media to be administered based on established protocols.\*†
- Determines the course of action for an emergent situation.
- Determines the need for and selects supplies, accessory equipment, shielding, positioning and immobilization devices.
- Employs professional judgment to adapt imaging or therapeutic procedures to improve diagnostic quality or therapeutic outcomes.
- Evaluates and monitors services, procedures, equipment and the environment to determine if they meet or exceed established guidelines, and revises the action plan.
- Selects the most appropriate and efficient action plan after reviewing all pertinent data and assessing the patient's abilities and condition.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

- Analyzes and determines action plans in conjunction with the cardiovascular team.

#### ***Computed Tomography***

- Reviews the patient's medical record and the licensed practitioner's request to determine optimal scanning protocol for clinical indication.

#### ***Limited X-ray Machine Operator***

- Analyzes images to determine the use of appropriate imaging parameters.
- Analyzes the results of assessment activities under the direction of a licensed practitioner, radiographer and/or medical physicist.

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

- Verifies that exposure indicator data for digital radiographic systems has not been altered or modified and is included in the DICOM header and on images exported to media.

### ***Magnetic Resonance***

- Reviews the patient's medical record and licensed practitioner's request to determine optimal imaging parameters for clinical indications.
- Selects appropriate imaging coil.

### ***Mammography***

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

### ***Medical Dosimetry***

- Gathers and analyzes pertinent data relevant to the treatment planning and delivery process.
- Participates in reviewing patient treatment parameters and dose records to ensure treatment does not exceed the prescribed dose or normal tissue tolerances.
- Recommends the appropriate immobilization devices and positioning aids for simulation and treatment.
- Recommends when to hold treatment until a radiation oncologist is notified.
- Reviews the treatment record and verifies calculations before and/or after treatment delivery.
- Verifies the treatment summary and the mathematical accuracy of the prescription.

### ***Nuclear Medicine***

- Determines radiopharmaceutical dosage based on protocol, patient's age, weight, medical and physical status.
- Evaluates results of quality control testing on radioactive material.
- Reviews the patient's medical record and the examination request to determine optimal procedure parameters for clinical indications.
- Selects appropriate data acquisition equipment and accessories to perform the procedure.

### ***Quality Management***

- Assesses and prioritizes the current processes to improve quality while focusing on issues needing immediate response.
- Assesses proposed changes to minimize organizational disruption during implementation.
- Clarifies current steps in a process to minimize redundancy, reordering and improving service flow.
- Creates an effective action plan after reviewing all pertinent data while assessing possible options, fiscal impact and ease of implementation.
- Develops methods for minimizing hazards associated with medical imaging and radiation therapy procedures.
- Develops monitoring metrics.
- Establishes benchmarks and quality indicators to assess quality management issues.

- Monitors and develops methods to improve customer satisfaction.
- Monitors federal and state laws, regulations and accreditation standards that affect quality management in medical imaging and radiation therapy.

### ***Radiation Therapy***

- Determines when to contact the radiation oncologist or licensed practitioner regarding patient side effects or questions.
- Determines when to withhold treatment until a radiation oncologist is contacted.
- Ensures the appropriate imaging technique is chosen for image-guided radiation therapy procedures.
- Participates in decisions about appropriate simulation techniques and treatment positions.
- Reviews doses daily to ensure that treatment does not exceed prescribed dose, normal tissue tolerance or treatment protocol constraints.
- Reviews patient treatment plan and prescription prior to initial treatment delivery.
- Reviews patient treatment records prior to each treatment for prescription or treatment procedure changes.
- Reviews treatment record, calculations and/or treatment plan for accuracy prior to treatment delivery.
- Reviews verification images prior to treatment.
- Verifies the mathematical accuracy of the prescription and the daily treatment summary.

### ***Radiography***

- Analyzes images to determine the use of appropriate imaging parameters.
- Verifies that exposure indicator data for digital radiographic systems has not been altered or modified and is included in the DICOM header and on images exported to media.

### ***Radiologist Assistant***

- Reviews the patient's medical record and the licensed practitioner's request to determine optimal imaging procedure for clinical indications.

### ***Sonography***

- Monitors the patient's need for information and reassurance throughout the procedure.
- Selects appropriate equipment and scanning techniques to optimize the procedure.

## **Standard Three – Education**

The medical imaging and radiation therapy professional provides information about the procedure and related health issues according to protocol; informs the patient, public and other health care providers about procedures, equipment and facilities; and acquires and maintains current knowledge in practice.

### *Rationale*

Education and communication are necessary to establish a positive relationship and promote safe practices. Advancements in the profession and optimal patient care require additional knowledge and skills through education.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Advocates for and participates in continuing education related to area of practice, to maintain and enhance clinical competency.
- Advocates for and participates in vendor specific applications training to maintain clinical competency.
- Educates the patient, public and other health care providers about procedures and the associated biological effects.
- Elicits confidence and cooperation from the patient, the public and other health care providers by providing timely communication and effective instruction.
- Explains effects and potential side effects of medications.\*†
- Maintains credentials and certification related to practice.
- Provides an accurate explanation and instructions at an appropriate time and at a level the patient and their care providers can understand; addresses questions and concerns regarding the procedure.
- Provides information on certification or accreditation to the patient, other health care providers and the public.
- Provides information to patients, health care providers, students and the public concerning the role and responsibilities of individuals in the profession.
- Provides pre-, peri- and post-procedure education.
- Refers questions about diagnosis, treatment or prognosis to a licensed practitioner.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

- Maintains competency in the use of diagnostic/interventional devices.

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

### ***Computed Tomography***

- Maintains knowledge of the most current practices and technology used to minimize patient dose while producing diagnostic quality images.

### ***Limited X-ray Machine Operator***

- Maintains knowledge of the most current practices and technology used to minimize patient dose while producing diagnostic quality images.

### ***Magnetic Resonance***

- Provides magnetic resonance safety education to patient, health care providers and others.

### ***Mammography***

- Displays certificate(s) of compliance.
- Educates the patient about the need for adequate compression to achieve a quality mammogram and instructs the patient to communicate if the compression becomes intolerable.
- Educates the patient about the risk factors for breast cancer and the benefits of early detection.
- Educates the patient about the value and use of additional projections and alternative breast imaging procedures.
- Maintains clinical experience according to federal and state laws, regulations and guidelines.

### ***Medical Dosimetry***

- Addresses concerns from the patient and significant others about appropriate and essential uses of radiation in treatment of diseases.
- Explains the role and function of the medical dosimetrist in the overall treatment course.
- Reviews the treatment plan with the patient as requested by a radiation oncologist.

### ***Nuclear Medicine***

- Ensures radiation safety instruction information and limitations are provided to the patient following therapeutic procedures.
- Provides instruction to the patient and others regarding the reduction of radiation exposure during and after the procedure.

### ***Quality Management***

- Addresses questions and concerns regarding quality management.
- Develops and provides educational resources to improve the understanding of quality management in medical imaging and radiation therapy.
- Investigates and implements practices that enhance a safe environment.



### ***Radiation Therapy***

- Anticipates a patient's need for information and provides it throughout the treatment course.
- Instructs other health care providers about radiation protection procedures.
- Instructs patient in the maintenance of treatment markings.
- Provides information and instruction on proper skin care, diet and self-care procedures.

### ***Radiography***

- Maintains knowledge of the most current practices and technology used to minimize patient dose while producing diagnostic quality images.

### ***Radiologist Assistant***

- Provides precare and postcare instructions to the patient under the supervision of a radiologist.

### ***Sonography***

Refer to general criteria.

## **Standard Four – Performance**

The medical imaging and radiation therapy professional performs the action plan and quality assurance activities.

### *Rationale*

Quality patient services are provided through the safe and accurate performance of a deliberate plan of action. Quality assurance activities provide valid and reliable information regarding the performance of equipment, materials and processes.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Adheres to radiation safety rules and standards.
- Administers first aid or provides life support.†
- Applies principles of aseptic technique.†
- Assesses and monitors the patient’s physical, emotional and mental status.
- Consults with medical physicist or engineer in performing and documenting quality assurance tests.
- Explains to the patient each step of the action plan as it occurs and elicits the cooperation of the patient.
- Immobilizes patient for procedure.
- Implements an action plan.
- Maintains current information on equipment, materials and processes.
- Modifies the action plan according to changes in the clinical situation.
- Monitors the patient for reactions to medications. \*†
- Participates in safety and risk management activities.
- Performs ongoing quality assurance activities and quality control testing.
- Performs procedural timeout.
- Positions patient for anatomic area of interest, respecting patient ability and comfort.
- Uses accessory equipment.
- Uses an integrated team approach.
- When appropriate, wears one or more personal radiation monitoring devices at the location indicated on the personal radiation monitoring device or as indicated by the radiation safety officer or designee.

### *Specific Criteria*

#### **Bone Densitometry**

- Applies the concepts of accuracy and precision in bone densitometry.
- Confirms patient position matches the selected scan parameters.
- Scans alternate sites when indicated.

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

### ***Cardiac-Interventional and Vascular-Interventional***

- Coordinates and manages the collection and labeling of tissue and fluid specimens.
- Monitors electrocardiogram (ECG), blood pressure, respiration, oxygen saturation, level of consciousness and pain pre-, peri- and post-procedure.
- Provides a safe and sterile environment for patients and staff.

### ***Computed Tomography***

- Confirms patient position matches the selected scanning orientation parameters.
- Coordinates and manages the collection and labeling of tissue and fluid specimens.
- Determines optimum placement of electrocardiogram (ECG) electrodes and correctly identifies ECG wave trigger.
- Optimizes technical factors to minimize radiation exposure to the patient while maintaining diagnostic image quality.
- Uses radiation shielding devices.

### ***Limited X-ray Machine Operator***

- Performs assessment activities under the direction of a licensed practitioner, radiographer or medical physicist.
- Routinely reviews patient exposure records and reject analyses as part of the quality assurance program.
- Uses appropriate uniquely identifiable pre-exposure radiopaque markers for anatomical and procedural purposes.
- Uses pre-exposure collimation and proper field-of-view selection.

### ***Magnetic Resonance***

- Ensures that anyone who is pregnant is not in the magnetic resonance scanner bore or scan room during actual data acquisition or scanning, unless medically necessary.
- Identifies appropriate cardiac or respiratory triggers.
- Monitors the patient's specific absorption rate and other factors related to patient heating.
- Positions imaging coil.
- Provides hearing protection to patient and others.
- Uses appropriate positioning and/or insulation materials to protect the patient from excessive heating and burns.

### ***Mammography***

- Applies appropriate radiopaque markers to the breast to indicate anatomic landmarks, including nipples, scars and lumps.
- Coordinates and manages the collection and labeling of tissue and fluid specimens.
- Ensures correct annotation of images.
- Exercises clinical judgment in the application of adequate compression to acquire a quality mammographic image.
- Informs the patient of the right to receive a lay summary result in accordance with the Mammography Quality Standards Act of 1992 (MQSA).

### ***Medical Dosimetry***

- Adheres to established best practice protocols, guidelines and radiation oncologist directives.
- Calculates treatment unit parameters and doses to treatment volumes and points of interest.
- Collaborates with the radiation therapist and medical physicist to fabricate individualized immobilization, custom blocks and other beam-modifying devices.
- Collaborates with the radiation therapist, medical physicist and radiation oncologist regarding the simulation process and procedures.
- Demonstrates safe handling, storing and disposal of brachytherapy sources.
- Develops a manual or computer-generated brachytherapy treatment plan as prescribed by a radiation oncologist.
- Develops a treatment plan as directed and prescribed by the radiation oncologist.
- Ensures an independent machine-setting check is completed before treatment is delivered.
- Makes the recommendation to discontinue patient treatment until equipment is operating properly.
- Prepares and positions the patient for simulation and treatment using appropriate positioning aids and immobilization devices.
- Prepares or assists in preparing brachytherapy sources and equipment.
- Reviews simulation images with the radiation therapist, medical physicist and radiation oncologist.
- Reviews treatment planning data for accuracy and appropriateness prior to input into the patient's treatment record and initial treatment.

### ***Nuclear Medicine***

- Administers radioactive material and/or medication through existing vascular access devices.
- Coordinates and manages the collection and labeling of tissue and fluid specimens, including radiolabeling.
- Demonstrates safe handling, receipt, storage and disposal of radioactive materials.
- Determines optimum placement of electrocardiogram (ECG) electrodes and correctly identifies ECG wave trigger and/or pattern.
- Maintains security of radioactive material.
- Monitors shielding effectiveness.
- Uses radiation detecting equipment.
- Uses radiation shielding devices.
- Wears a ring badge on the dominant hand, with the label facing the radiation source.

### ***Quality Management***

- Assesses process flow.
- Collects and analyzes data using the standard tools associated with quality management.
- Identifies variables and implements changes to improve quality.

- Investigates sentinel events and continuously monitors measurements to minimize risk.
- Uses knowledge to modify current practices.

### ***Radiation Therapy***

- Achieves precision patient alignment using imaging and external markings.
- Assists the radiation oncologist in determining the optimum treatment field to cover the target volume.
- Calculates monitor units and treatment times.
- Consults with medical physicist and/or engineer in performing and documenting the quality assurance checks.
- Creates and manages simulation and verification images.
- Demonstrates safe handling, storage and disposal of brachytherapy sources.
- Makes the decision to discontinue patient treatment until equipment is operating properly.
- Monitors the patient visually and aurally during treatment.
- Monitors the treatment console during treatment.
- Obtains radiation oncologist's approval of simulation images prior to initiation of treatment.
- Performs clinically indicated pretreatment imaging.
- Performs quality assurance checks on simulator, treatment unit and appropriate equipment.
- Prepares or assists in preparing brachytherapy sources and equipment.
- Uses knowledge of biological effects of ionizing radiation on tissue to minimize radiation dose to normal tissues.
- Verifies that only the patient is in the treatment room prior to initiating treatment or any imaging procedures.

### ***Radiography***

- Coordinates and manages the collection and labeling of tissue and fluid specimens.
- Routinely reviews patient exposure records and reject analyses as part of the quality assurance program.
- Uses appropriate uniquely identifiable pre-exposure radiopaque markers for anatomical and procedural purposes.
- Uses pre-exposure collimation and proper field-of-view selection.

### ***Radiologist Assistant***

- Administers medications as approved by the supervising radiologist.
- Administers minimal and moderate sedation as prescribed by the supervising radiologist.
- Collects and documents tissue and fluid specimens.
- Monitors patient's physical condition during the procedure and responds to changes in patient vital signs, hemodynamics and level of consciousness.
- Participates in quality reporting measures for the purpose of improved patient care.
- Recognizes and responds to medical emergencies, activates emergency response systems and provides advanced life support intervention.

### ***Sonography***

- Coordinates and manages the collection and labeling of tissue and fluid specimens.
- Recognizes sonographic appearance of normal and abnormal tissue structures and physiological data.

## **Standard Five – Evaluation**

The medical imaging and radiation therapy professional determines whether the goals of the action plan have been achieved, evaluates quality assurance results and establishes an appropriate action plan.

### *Rationale*

Careful examination of the procedure is important to determine that expected outcomes have been met. Equipment, materials and processes depend on ongoing quality assurance activities that evaluate performance based on established guidelines.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Communicates the revised action plan to appropriate team members.
- Completes the evaluation process in a timely, accurate and comprehensive manner.
- Develops a revised action plan to achieve the intended outcome.
- Evaluates quality assurance results.
- Evaluates the patient, equipment and procedure to identify variances that might affect the expected outcome.
- Identifies exceptions to the expected outcome.
- Measures the procedure against established policies, protocols and benchmarks.
- Validates quality assurance testing conditions and results.

### *Specific Criteria*

#### ***Bone Densitometry***

- Evaluates and identifies unexpected serial bone mineral density changes.
- Reviews previous scan(s) and reanalyzes as necessary.
- Reviews T-scores and Z-scores to modify the action plan.

#### ***Cardiac-Interventional and Vascular-Interventional***

- Evaluates access site for complications requiring intervention or further treatment.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

- Evaluates images for overall image quality of a specific area of anatomical interest based on limited education, training and licensure/certification within the individual's scope of practice.
- Seeks assistance from a licensed practitioner or radiographer to improve the quality of the procedure.

### ***Magnetic Resonance***

Refer to general criteria.

### ***Mammography***

- Collaborates with the lead interpreting physician and medical physicist to maintain equipment and comply with federal and state regulations and guidelines.
- Evaluates required quality control tests before breast imaging is performed.
- Reviews the inspection and medical physicist's reports to assess the quality of the breast imaging equipment's performance.

### ***Medical Dosimetry***

- Acquires data necessary to perform accurate patient protocol plans and participates in implementation of the plan.
- Ensures treatment parameters have been transferred correctly to the oncology information system.
- Reviews treatment calculations and ensures the validity of the treatment plan.
- Reviews treatment variances and assists in determining possible causes and solutions.

### ***Nuclear Medicine***

- Consults with a licensed practitioner to confirm diagnostic completeness.
- Reviews procedure to determine if additional images or data will enhance the diagnostic value.

### ***Quality Management***

- Confirms data is accurate and complete.
- Evaluates customer satisfaction.
- Evaluates measured processes and results against established policies, protocols, guidelines and benchmarks.
- Evaluates sentinel events to minimize risk.

### ***Radiation Therapy***

- Checks treatment calculations and/or treatment plan.
- Compares verification images to simulation images using anatomical landmarks or fiducial markers.
- Evaluates the patient daily for any side effects, reactions and therapeutic responses.
- Performs treatment chart checks.
- Reviews treatment discrepancies, determines causes and assists with the action plan.
- Reviews verification images for quality and accuracy.
- Verifies the accuracy of the patient setup prior to treatment delivery.
- Verifies treatment console readouts and settings prior to initiating treatment and upon termination of treatment.



***Radiography***

- Evaluates images for positioning to demonstrate the anatomy of interest.

***Radiologist Assistant***

Refer to general criteria.

***Sonography***

Refer to general criteria.

## **Standard Six – Implementation**

The medical imaging and radiation therapy professional implements the revised action plan based on quality assurance results.

### *Rationale*

It may be necessary to make changes to the action plan based on quality assurance results to promote safe and effective services.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Adjusts imaging parameters, patient procedure or additional factors to improve the outcome.
- Bases the revised plan on the patient's condition and the most appropriate means of achieving the expected outcome.
- Implements the revised action plan.
- Notifies the appropriate health care provider when immediate clinical response is necessary, based on procedural findings and patient condition.
- Obtains assistance to support the quality assurance action plan.
- Takes action based on patient and procedural variances.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

- Performs additional images that will produce the expected outcome based on patient's condition and procedural variance under the direction of a licensed practitioner or radiographer.

#### ***Magnetic Resonance***

Refer to general criteria.

#### ***Mammography***

- Initiates procedures only when breast imaging equipment meets quality assurance and quality control requirements, and results are in compliance.

### ***Medical Dosimetry***

- Assists in supporting the quality assurance action plan.
- Develops additional treatment plans to achieve an optimal dose distribution.
- Ensures accuracy in the transfer and documentation of treatment parameters, according to departmental policies.
- Reviews and implements treatment field changes indicated on simulation or verification images as directed by a radiation oncologist.

### ***Nuclear Medicine***

- Employs devices to minimize radiation levels.
- Manages radioactive contamination and uses decontamination procedures.
- Performs additional images or data collections as needed.

### ***Quality Management***

- Develops policies, protocols and guidelines in collaboration with other health care providers.

### ***Radiation Therapy***

- Collaborates with radiation oncologists, medical physicists and medical dosimetrists to compensate for treatment inaccuracies.
- Establishes congruence between verification images and simulation images, digitally reconstructed radiographs and/or treatment volumes as defined by the radiation oncologist.
- Formulates recommendations for process improvements to minimize treatment discrepancies.
- Implements treatment plan or treatment field changes as directed by the radiation oncologist.
- Reports deviations from the standard or planned treatment.

### ***Radiography***

Refer to general criteria.

### ***Radiologist Assistant***

Refer to general criteria.

### ***Sonography***

Refer to general criteria.

## **Standard Seven – Outcomes Measurement**

The medical imaging and radiation therapy professional reviews and evaluates the outcome of the procedure according to quality assurance standards.

### *Rationale*

To evaluate the quality of care, the medical imaging and radiation therapy professional compares the actual outcome with the expected outcome. Outcomes assessment is an integral part of the ongoing quality management action plan to enhance services.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Assesses the patient's physical, emotional and mental status prior to discharge.
- Determines that actual outcomes are within established criteria.
- Evaluates the process and recognizes opportunities for future changes.
- Measures and evaluates the results of the revised action plan.
- Reviews all data for completeness and accuracy.
- Reviews and evaluates quality assurance processes and tools for effectiveness.
- Reviews the implementation process for accuracy and validity.
- Uses evidence-based practice to determine whether the actual outcome is within established criteria.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

Refer to general criteria.

#### ***Magnetic Resonance***

Refer to general criteria.

#### ***Mammography***

- Prepares the annual medical outcomes audit and provides results to the lead interpreting physician.

***Medical Dosimetry***

Refer to general criteria.

***Nuclear Medicine***

Refer to general criteria.

***Quality Management***

- Assesses differences between expected and actual outcomes.
- Assesses implemented changes for improvement.
- Develops methods to demonstrate continuous improvement.
- Develops strategies for maintaining improvement.
- Evaluates the effectiveness of and supports changes to processes.
- Performs procedural analysis.

***Radiation Therapy***

- Monitors patient status during procedures, throughout the treatment course and for follow-up care.

***Radiography***

Refer to general criteria.

***Radiologist Assistant***

- Performs follow-up patient evaluation and communicates findings to the supervising radiologist.

***Sonography***

Refer to general criteria.

## **Standard Eight – Documentation**

The medical imaging and radiation therapy professional documents information about patient care, procedures and outcomes.

### *Rationale*

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

The medical imaging and radiation therapy professional:

### *General Criteria*

- Archives images or data.
- Documents diagnostic, treatment and patient data in the medical record in a timely, accurate and comprehensive manner.
- Documents procedural timeout.
- Documents unintended outcomes or exceptions from the established criteria.
- Maintains documentation of quality assurance activities, procedures and results.
- Provides pertinent information to authorized individual(s) involved in the patient's care.
- Records information used for billing and coding procedures.
- Reports any out-of-tolerance deviations to the appropriate personnel.
- Verifies patient consent is documented.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

- Documents administered medications.
- Documents or assists in documenting patient medical history related to the procedure.
- Documents radiation exposure parameters and initiates further action as needed.
- Documents use of sedation.
- Maintains documentation for tracking implantable devices.

#### ***Computed Tomography***

- Documents the use of shielding devices and proper radiation safety practices.

#### ***Limited X-ray Machine Operator***

- Documents radiation exposure.
- Documents the use of shielding devices and proper radiation safety practices.

### ***Magnetic Resonance***

Refer to general criteria.

### ***Mammography***

- Documents and provides evidence of quality assurance and quality control outcomes according to established guidelines.
- Documents the location of previous breast imaging procedures and obtains authorization for the release of prior studies.

### ***Medical Dosimetry***

- Reports any treatment variances in accordance with departmental, institutional and national quality assurance guidelines.

### ***Nuclear Medicine***

- Documents administered dosage and route of administration in patient records.
- Documents instrumentation quality testing procedures and maintains results for review.
- Documents radioactive materials quality testing procedures and maintains results for inspection.
- Documents the implementation, evaluation and modification of the radiation safety plan under the authority of the radiation safety officer.
- Maintains records of the receipt, administration and disposal of radioactive materials.

### ***Quality Management***

- Documents goals and outcomes based on data analysis.
- Documents process flow variances and justifies exceptions.
- Documents steps used to improve processes.
- Maintains institutional policies, protocols and guidelines by continuously evaluating compliance issues.
- Provides reports as required by institutional policy, accrediting bodies and federal and state regulations.

### ***Radiation Therapy***

- Documents radiation exposure parameters.
- Maintains imaging and treatment records according to institutional policy.
- Reports any treatment discrepancies to appropriate personnel.

### ***Radiography***

- Documents fluoroscopic time.
- Documents radiation exposure.
- Documents the use of shielding devices and proper radiation safety practices.

***Radiologist Assistant***

- Communicates and documents radiologist's order to other health care providers.
- Documents administration of medications.
- Documents and assists radiologist in quality reporting measures for the purpose of improved patient care.
- Documents use of minimal and moderate sedation.
- Reports clinical and imaging observations and procedure details to the supervising radiologist.

***Sonography***

- Documents initial impressions and technical data.



## **Standard Nine – Quality**

The medical imaging and radiation therapy professional strives to provide optimal care.

### *Rationale*

Patients expect and deserve optimal care during diagnosis and treatment.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Adheres to standards, policies and established guidelines.
- Anticipates, considers and responds to the needs of a diverse patient population.
- Applies professional judgment and discretion while performing the procedure.
- Collaborates with others to elevate the quality of care.
- Participates in ongoing quality assurance programs.

### *Specific Criteria*

#### ***Bone Densitometry***

- Advocates that facilities determine precision error and calculate the least significant change.

#### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

Refer to general criteria.

#### ***Magnetic Resonance***

- Advocates the need for a minimum of one registered magnetic resonance technologist and one trained magnetic resonance safety personnel as the standard for safe and efficient delivery of magnetic resonance procedures.

#### ***Mammography***

Refer to general criteria.

#### ***Medical Dosimetry***

Refer to general criteria.

***Nuclear Medicine***

- Performs procedures in accordance with the NRC and/or in agreement with state regulations.

***Quality Management***

- Verifies the achievement of goals and identifies exceptions.

***Radiation Therapy***

- Advocates the need for a minimum of two credentialed radiation therapists to be present for any external beam patient treatment.

***Radiography***

Refer to general criteria.

***Radiologist Assistant***

Refer to general criteria.

***Sonography***

Refer to general criteria.

## **Standard Ten – Self-Assessment**

The medical imaging and radiation therapy professional evaluates personal performance.

### *Rationale*

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

The medical imaging and radiation therapy professional:

### *General Criteria*

- Assesses personal work ethics, behaviors and attitudes.
- Evaluates performance, applies personal strengths and recognizes opportunities for educational growth and improvement.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

- Investigates avenues to continue progress to become a registered radiographer.

#### ***Magnetic Resonance***

Refer to general criteria.

#### ***Mammography***

Refer to general criteria.

#### ***Medical Dosimetry***

Refer to general criteria.

#### ***Nuclear Medicine***

Refer to general criteria.

#### ***Quality Management***

Refer to general criteria.

***Radiation Therapy***

Refer to general criteria.

***Radiography***

Refer to general criteria.

***Radiologist Assistant***

Refer to general criteria.

***Sonography***

Refer to general criteria.

## **Standard Eleven – Collaboration and Collegiality**

The medical imaging and radiation therapy professional 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.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Develops and maintains collaborative partnerships to enhance quality and efficiency.
- Informs and instructs others about radiation safety.
- Promotes understanding of the profession.
- Shares knowledge and expertise with others.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

Refer to general criteria.

#### ***Magnetic Resonance***

Refer to general criteria.

#### ***Mammography***

Refer to general criteria.

#### ***Medical Dosimetry***

Refer to general criteria.

#### ***Nuclear Medicine***

Refer to general criteria.

***Quality Management***

Refer to general criteria.

***Radiation Therapy***

Refer to general criteria.

***Radiography***

Refer to general criteria.

***Radiologist Assistant***

Refer to general criteria.

***Sonography***

Refer to general criteria.

## **Standard Twelve – Ethics**

The medical imaging and radiation therapy professional 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.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Accepts accountability for decisions made and actions taken.
- Acts as a patient advocate.
- Adheres to the established ethical standards of recognized certifying agencies.
- Adheres to the established practice standards of the profession.
- Delivers patient care and service free from bias or discrimination.
- Provides health care services with consideration for a diverse patient population.
- Respects the patient’s right to privacy and confidentiality.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

Refer to general criteria.

#### ***Magnetic Resonance***

Refer to general criteria.

#### ***Mammography***

Refer to general criteria.

#### ***Medical Dosimetry***

Refer to general criteria.

***Nuclear Medicine***

Refer to general criteria.

***Quality Management***

- Promotes and monitors adherence to radiation safety standards.

***Radiation Therapy***

Refer to general criteria.

***Radiography***

Refer to general criteria.

***Radiologist Assistant***

Refer to general criteria.

***Sonography***

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



## **Standard Thirteen – Research, Innovation and Professional Advocacy**

The medical imaging and radiation therapy professional participates in the acquisition and dissemination of knowledge and the advancement of the profession.

### *Rationale*

Participation in professional organizations and scholarly activities such as research, scientific investigation, presentation and publication advance the profession.

The medical imaging and radiation therapy professional:

### *General Criteria*

- Adopts new best practices.
- Investigates innovative methods for application in practice.
- Monitors changes to federal and state law, regulations and accreditation standards affecting area(s) of practice.
- Participates in data collection.
- Participates in professional advocacy efforts.
- Participates in professional societies and organizations.
- Pursues lifelong learning.
- Reads and evaluates research relevant to the profession.
- Shares information through publication, presentation and collaboration.

### *Specific Criteria*

#### ***Bone Densitometry***

Refer to general criteria.

#### ***Cardiac-Interventional and Vascular-Interventional***

Refer to general criteria.

#### ***Computed Tomography***

Refer to general criteria.

#### ***Limited X-ray Machine Operator***

Refer to general criteria.

#### ***Magnetic Resonance***

Refer to general criteria.

#### ***Mammography***

Refer to general criteria.

***Medical Dosimetry***

Refer to general criteria.

***Nuclear Medicine***

Refer to general criteria.

***Quality Management***

Refer to general criteria.

***Radiation Therapy***

Refer to general criteria.

***Radiography***

Refer to general criteria.

***Radiologist Assistant***

Refer to general criteria.

***Sonography***

Refer to general criteria.

## Glossary

The glossary is an alphabetical list of defined terms or words specifically found in the ASRT Practice Standards for Medical Imaging and Radiation Therapy. The terms or words have meaning that might not be general knowledge. The definitions are formulated using evidentiary documentation and put into place following extensive review and subsequent approval. The glossary is not all-inclusive. New terms and new usage of existing terms will emerge with time and advances in technology.

**AAPM** – American Association of Physicists in Medicine

**ACR** – American College of Radiology

**advanced-practice radiographer** – A registered technologist who has gained additional knowledge and skills through the 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 advanced-practice radiologic technology.

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

**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, while 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 the use 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.

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

**archive (archival)** – The storage of data in either hard (film) or soft (digital) form.

**ARDMS** – American Registry for Diagnostic Medical Sonography

**ARRT** – American Registry of Radiologic Technologists

**artifact** – Extraneous information on the image that interferes with or distracts from image quality.

**ASRT** – American Society of Radiologic Technologists

**authorized user** – A physician, dentist or podiatrist who meets the requirements as defined by the United States Nuclear Regulatory Commission.

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

**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.

**CCI** – Cardiovascular Credentialing International

**change management** – Systematic approach to preparing for, implementing and sustaining a change in process.

**clinical** – Pertaining to or founded on actual observations and treatments of patients.

**clinically competent** – The ability to perform a clinical procedure in a manner that satisfies the demands of a situation, as assessed and documented by a qualified individual.

**contrast media** – A substance administered during a medical imaging procedure for the purpose of enhancing the contrast between an internal structure or fluid and the surrounding tissue.

**cropping** – The process of selecting and removing a portion of the image.

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

**DICOM** – Acronym for “Digital Imaging and Communications in Medicine.” The DICOM standards are a complex set of instructions to exchange and present medical image information.

**dose distribution** – Spatial representation of the magnitude of the dose produced by a source of radiation. It describes 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.

**educationally prepared** – The successful completion of didactic and clinical education necessary to properly perform a procedure in accordance with accepted practice standards.

**electronic masking** – Electronic collimation or cropping of the digital radiographic image that occurs during postprocessing of the acquired image and does not alter the size of the irradiated field.

**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.

**GRADE** – Grading of Recommendations Assessment, Development and Evaluation

**hybrid imaging** – The combination of imaging technologies that allows information from different modalities to be presented as a single set of images.

**image-guided radiation therapy** – A process of using various imaging techniques to localize the target and critical tissues and, if needed, reposition the patient just before or during the delivery of radiotherapy.

**immobilization device** – Device that assists in maintaining or reproducing the position while restricting patient movement.

**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 a licensed practitioner.

**interventional procedures** – Invasive medical imaging guidance methods used to diagnose

and/or treat certain conditions.

**ISCD** – International Society for Clinical Densitometry

**JRC-DMS** – Joint Review Committee on Education in Diagnostic Medical Sonography

**least significant change** – The least amount of bone mineral densitometry change that can be considered statistically significant.

**licensed practitioner** – A medical or osteopathic physician, chiropractor, podiatrist or dentist who has education and specialist training in the medical or dental use of radiation and is deemed competent to perform independently or supervise medical imaging or radiation therapy procedures by the respective state licensure board.

**MDCB** – Medical Dosimetrist Certification Board

**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 diagnostic and therapeutic purposes. An individual is 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.

**minimal sedation (anxiolysis)** – A drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.

**moderate sedation** – A drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

**molecular imaging** – A biomedical discipline enabling the visualization, characterization and quantification of biologic processes taking place at the cellular and subcellular levels within intact living subjects.

**monitor units** – Unit of output measure used for linear accelerators, sometimes indicated with the abbreviation MU. Accelerators are calibrated so that 1 MU delivers 1 cGy for a standard reference field size at a standard reference depth at a standard source to calibration point.

**NECS** – National Education Curriculum for Sonography

**NMTCB** – Nuclear Medicine Technology Certification Board

**noninterpretive fluoroscopic procedures** – Use of fluoroscopic imaging under the direction of a licensed practitioner for purposes other than interpretation.

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

**NRC** – U.S. Nuclear Regulatory Commission

**panning** – Movement of the imaging equipment during image acquisition to maintain visualization of an anatomic region of interest.

**personal radiation monitoring devices** – Devices designed to be worn or carried by an individual for the purpose of measuring the dose of radiation received.

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

**postprocessing** – Computerized processing of data sets after acquisition to create a diagnostic or therapeutic image.

**procedure** – Specific course of action intended to result in an imaging study, treatment or other outcome.

**protocol** – The plan for carrying out a procedure, scientific study or a patient’s treatment regimen.

**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. Sometimes indicated with the abbreviation QA.

**quality control** – The routine performance of techniques used in monitoring or testing and maintenance of components of medical imaging and radiation therapy equipment. This includes the interpretation of data regarding equipment function and confirmation that corrective actions are/were taken. Sometimes indicated with the abbreviation QC.

**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.

**radioactive material** – A substance composed of unstable atoms that decay with the spontaneous emission of radioactivity. Includes radiopharmaceuticals, unsealed sources (open, frequently in liquid or gaseous form) and sealed sources (permanently encapsulated, frequently in solid form).

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

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

**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.

**shuttering** – A postprocessing technique that may be used to eliminate ambient light around an image for the sole purpose of improving the quality of the displayed image. It should not be used as a substitute for insufficient collimation of the irradiated field.

**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.

**SNMMI** – Society of Nuclear Medicine and Molecular Imaging

**static** – Any medical image that is fixed or frozen in time.

**supervising radiologist** – A board-certified radiologist who oversees duties of the radiologist assistant and has appropriate clinical privileges for the procedure performed by the radiologist assistant.

**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, including simulation through completion of the treatment summary.

**treatment record** – Documents the delivery of treatments, recording of 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 gender-matched young normal peak bone mass.

**vascular access device** – Apparatus inserted into the peripheral or central vasculature for diagnostic or therapeutic purposes.

**vascular closure device** – Active or passive medical devices used to achieve hemostasis after a cardiovascular or endovascular procedure that requires catheterization.

**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.

**verification images** – Images produced to confirm accurate treatment positioning and accurate treatment portals.

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

## Advisory Opinion Statements

Advisory opinion statements are interpretations of the practice standards. They are intended for clarification and guidance for specific practice issues.

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 medical imaging and radiation therapy professionals who wish to 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.

The profession holds medical imaging and radiation therapy professionals 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 that 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 clinical proficiency to perform those acts in a safe and effective manner.

The medical imaging and radiation therapy professional's performance should be evidence-based and consistent with federal and state laws, regulations, established standards of practice, facility policies and procedures. Links to external websites may change without notice.

Each medical imaging and radiation therapy professional must exercise professional and prudent judgment when determining whether the performance of a given act is within the scope of practice for which the individual is licensed, if applicable within the jurisdiction in which the person is employed, educationally prepared and clinically competent to perform.

The ASRT's position is to determine the practice standards and scopes of practice for medical imaging and radiation therapy professionals. The practice standards emphasize the importance of an individual being educationally prepared and clinically competent to practice in the profession of medical imaging and radiation therapy.



## **Guidance for the Communication of Clinical and Imaging Observations and Procedure Details by Radiologist Assistants to Supervising Radiologists**

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 ASRT, the ASRT issued opinions contained herein.

### **Advisory Opinion**

It is the opinion of the ASRT that based upon current literature, curricula set forth by the ASRT, entry-level clinical activities by the ARRT, regulatory requirements and where federal or state law and/or institutional policy permits that:

1. Communication of clinical and imaging observations and procedure details by the radiologist assistant to the supervising radiologist is an integral part of radiologist assistant practice. Without clear, consistent, appropriate and ascribed communication between members of the radiology team, there is a possibility of inadequate patient care, incomplete reports and diminished departmental productivity. To create a safe and productive radiology environment, communication between the radiologist assistant and supervising radiologist must be free-flowing, consistent and relevant to the patient examination or procedure. This communication can take many forms, including verbal, written and electronic correspondence. These communications may be included and taken into consideration by the radiologist in creating a final report. However, initial clinical and imaging observations and procedure details communicated from the radiologist assistant to the radiologist are only intended for the radiologist's use and do not substitute for the final report created by the radiologist. These communications should be considered and documented as "initial clinical and imaging observations or procedure details."
2. While assisting radiologists in the performance of imaging procedures or during the performance of procedures under radiologist supervision, the radiologist assistant must be able to communicate and document procedure notes, observations, patient responses and other types of information relevant to the radiologist's interpretation and creation of the final report. Radiologist assistants do not independently "report findings" or "interpret" by dictation or by any other means; and to avoid any confusion, these terms should not be used to refer to the activities of the radiologist assistant. However, radiologist assistants may add to the patient record (following the policies and procedures of the facility) in a manner similar to any other dependent nonphysician practitioner. Radiologist assistants who are authorized to communicate initial observations to the supervising radiologist using a voice recognition dictation system or other electronic means must adhere to institutional protocols ensuring that initial observations can be viewed or accessed only by the supervising radiologist. Initial clinical or imaging observations or procedure details created by the radiologist assistant resulting from the radiologist assistant's involvement in the performance of the procedure that are included in the final report should be carefully reviewed by the supervising radiologist and should be incorporated at the supervising radiologist's discretion.

With proper education and proven competence, the communication of clinical and imaging observations and procedure details by radiologist assistants to supervising radiologists provides

quality patient services in a safe environment.  
GRADE: Strong

### **Definitions**

The following definitions can be found in the glossary to the ASRT Practice Standards for Medical Imaging and Radiation Therapy:

- clinically competent
- educationally prepared

### **Evidentiary Documentation**

#### *Current Literature*

Not applicable

#### *Curricula*

- Radiologist Assistant Curriculum (ASRT, 2015)

## **Communication of Findings and Validation of Clinical Practice**

### **Description**

Content introduces guidelines for communicating initial observations made by the radiologist assistant during imaging procedures and image assessments. The radiologist assistant's role focuses on the systematic analysis of clinical practice—the diagnosis and treatment, resources, evidence-based decision making, procedures and resulting outcomes, including the patient's quality of life.

### **Objectives**

1. Communicate initial observations to the radiologist based on practice guidelines.
2. Identify the required legal components of a report of findings following diagnostic testing.
3. Establish and evaluate benchmarks as they apply to diagnostic imaging.
4. Explain the rationale for performing clinical audits.
5. Identify audit schemes applied to the clinical setting.
6. Identify measurement criteria and instruments employed during a clinical audit.
7. Describe how sensitivity and specificity measurements apply to diagnostic imaging.
8. Distinguish between positive and negative predictive values when evaluating the results of diagnostic imaging.
9. Discuss the importance of sampling and biases on the internal and external validity of audits of diagnostic accuracy.
10. Participate in specialty presentations.

### **Content**

#### **I. Clinical Reporting**

- A. Legal considerations and requirements
- B. Composing, recording and archiving a report of initial observations

## II. Evaluation of Diagnostic Accuracy

- A. Benchmarks
- B. Sensitivity and specificity
- C. Predictive values
- D. Prior probability
- E. Bias

## III. Clinical Audit

- A. Rationale
- B. Audit schemes
  - 1. External quality assessment
  - 2. Internal quality assessment
  - 3. Accreditation
  - 4. Clinical governance (i.e., credentialing)
- C. Audit categories
  - 1. Access
  - 2. Process
  - 3. Output
  - 4. Outcome
  - 5. Use of resources
- D. Measurement criteria and instruments (i.e., ACR Appropriateness Criteria)

QUALITY OF EVIDENCE: High

### *Certification Agency Entry-Level Clinical Activities*

- Registered Radiologist Assistant Entry-Level Clinical Activities (ARRT, 2018)

The document states that radiologist assistants may “Review imaging procedures, make initial observations, and communicate observations **ONLY** [*emphasis added*] to the radiologist; record initial observations of imaging procedures following radiologist approval; communicate radiologist’s report to appropriate health care provider consistent with the ACR Practice Parameter for Communication of Diagnostic Imaging Findings.”

QUALITY OF EVIDENCE: High

### *Scopes of Practice and Practice Standards Reference*

- Scope of Practice
  - Communicating the supervising radiologist’s report to the appropriate health care provider consistent with the American College of Radiology Practice Guidelines for Communication of Diagnostic Imaging Findings.
  - Evaluating images for completeness and diagnostic quality and recommending additional images.
  - Obtaining images necessary for diagnosis and communicating initial observations to the supervising radiologist. The radiologist assistant does not provide image interpretation as defined by the American College of Radiology.

- Providing follow-up patient evaluation.
- The ASRT Practice Standards for Medical Imaging and Radiation Therapy
  - Performs follow-up patient evaluation and communicates findings to the supervising radiologist. (Standard Seven, radiologist assistant only)
  - Reports clinical and imaging observations and procedure details to the supervising radiologist. (Standard Eight, radiologist assistant only)
  - Maintains documentation of quality assurance activities, procedures and results. (Standard Eight)
  - Documents in a timely, accurate and comprehensive manner. (Standard Eight)
  - Documents and assists radiologist in quality reporting measures for the purpose of improved patient care. (Standard Eight, radiologist assistant only)

QUALITY OF EVIDENCE: High

*Federal and State Statute References*

Not applicable

*Other*

Not applicable

Approved: June 19, 2011

Amended, Main Motion, C-13.21 & C13.23, 2013

Amended, Main Motion, C-16.11, 2016

Amended, Main Motion, C-18.07, 2018

ASRT House of Delegates

## **Medication Administration by Medical Imaging and Radiation Therapy Professionals**

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 ASRT, the ASRT issued opinions contained herein.

### **Advisory Opinion**

It is the opinion of the ASRT that based upon current literature; curricula set forth by the ASRT, SNMMI and the NECS; certification examination specifications by the ARRT, NMTCB and CCI; recommendations by the ACR and Centers for Medicare & Medicaid Services; and where federal or state law and/or institutional policy permits that:

1. It is within the scope of practice for medical imaging and radiation therapy professionals to perform the parenteral administration of contrast media and other medications.
2. The parenteral administration of contrast media and other medications by medical imaging and radiation therapy professionals shall be performed only when a licensed practitioner is immediately available to ensure proper diagnosis and treatment of adverse events.

With proper education and proven competence, the parenteral administration of contrast media and other medications by medical imaging and radiation therapy professionals provides quality patient services in a safe environment when a licensed practitioner is immediately available to ensure proper diagnoses and treatment of possible adverse events.

GRADE: Strong

### **Definitions**

The following definitions can be found in the glossary to the ASRT Practice Standards for Medical Imaging and Radiation Therapy:

- adverse event
- clinically competent
- educationally prepared
- licensed practitioner
- medication

### **Evidentiary Documentation**

#### *Current Literature*

- ACR Committee on Contrast Media. *ACR Manual on Contrast Media*. Version 10.3. Reston, VA: American College of Radiology; 2017. Accessed November 29, 2018.
- American College of Radiology. ACR accreditation facility toolkit for validation site surveys. Revised April 9, 2018. Accessed November 29, 2018.
- American College of Radiology. ACR practice parameter for performing and interpreting magnetic resonance imaging (MRI). Revised 2017. Accessed November 29, 2018.

- American College of Radiology. ACR-SAR practice parameter for the performance of excretory urography. Revised 2014. Accessed November 29, 2018.
- American College of Radiology. ACR-SPR practice parameter for the use of intravascular contrast media. Revised 2017. Accessed November 29, 2018.
- American College of Radiology. ACR-SPR technical standard for therapeutic procedures using radiopharmaceuticals. Revised 2016. Accessed November 29, 2018.
- Covered medical and other health services. In: *Medicare Benefit Policy Manual*. Baltimore, MD: Centers for Medicare & Medicaid Services; 2017. Accessed November 29, 2018.

QUALITY OF EVIDENCE: High

### *Curricula*

The ASRT curricula for all practice areas were reviewed.

- Cardiac-Interventional and Vascular-Interventional Curriculum (ASRT, 2014)
- Computed Tomography Curriculum (ASRT, 2018)
- Magnetic Resonance Curriculum (ASRT, 2015)
- Mammography Curriculum (ASRT, 2018)
- National Education Curriculum for Sonography (JRC-DMS, 2016)
- NEC Common Curricula (JRC-DMS, 2016)
- Nuclear Medicine Technology Competency-Based Curriculum Guide (SNMMI, 2013)
- Radiation Therapy Professional Curriculum (ASRT, 2014)
- Radiography Curriculum (ASRT, 2017)
- Radiologist Assistant Curriculum (ASRT, 2015)

QUALITY OF EVIDENCE: High

### *Certification Agency Examination Content Specifications*

- Cardiac Interventional Radiography (ARRT, 2017)
- Computed Tomography (ARRT, 2017)
- Magnetic Resonance Imaging (ARRT, 2017)
- Nuclear Medicine Technology (ARRT, 2017)
- Radiation Therapy (ARRT, 2017)
- Radiography (ARRT, 2017)
- Registered Radiologist Assistant (ARRT, 2018)
- Vascular Interventional Radiography (ARRT, 2017)

### *Other Certification Agency Content Specifications*

- Components of Preparedness (NMTCB, 2017)
- Examination Overview: Registered Cardiovascular Invasive Specialist (CCI, 2018)

QUALITY OF EVIDENCE: High

### *Scopes of Practice and Practice Standards Reference*

- Scope of Practice\*†
  - Identifying, preparing and/or administering medications as prescribed by a licensed practitioner.

QUALITY OF EVIDENCE: High

*Federal and State Statute References*

Not applicable

*Other*

Not applicable

Approved: July 1, 2012

Amended, Main Motion, C-13.21 and C13.23, 2013

Amended, Main Motion, C-16.13, 2016

Amended, Main Motion, C-17.09, 2017

Amended, Main Motion, C-18.11, 2018

ASRT House of Delegates

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

## **Medication Administration in Peripherally Inserted Central Catheter Lines or Ports With a Power Injector**

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 ASRT, the ASRT issued the opinions contained herein.

### **Advisory Opinion**

It is the opinion of the ASRT that based upon current literature; curricula set forth by the ASRT, ASRT Practice Standards for Medical Imaging and Radiation Therapy and SNMMI; certification examination specifications by the ARRT and NMTCB; and where federal or state law and/or institutional policy permits that:

1. It is within the scope of practice for medical imaging and radiation therapy professionals to access and use a Food and Drug Administration–approved peripherally inserted central catheter (PICC) line or port designated for use with power injectors, when manufacturer guidelines regarding infusion rate and pressure are followed and where federal or state law and/or institutional policy permits.

With proper education and proven competence, the use of power injectors with PICC lines or ports provides quality patient services in a safe environment.

GRADE: Strong

### **Definitions**

access – The process of inserting the designated needle through the access point of an existing vascular access device to deliver intravenous (IV) fluids or medication.

The following definitions can be found in the glossary to the ASRT Practice Standards for Medical Imaging and Radiation Therapy:

- educationally prepared
- clinically competent

### **Evidentiary Documentation**

#### *Current Literature*

Not applicable

#### *Curricula*

- Computed Tomography Curriculum (ASRT, 2018)
- Magnetic Resonance Curriculum (ASRT, 2015)
- Nuclear Medicine Technology Competency-Based Curriculum Guide (SNMMI, 2013)
- Radiography Curriculum (ASRT, 2017)
- Radiologist Assistant Curriculum (ASRT, 2015)

QUALITY OF EVIDENCE: High



*Certification Agency Examination Content Specifications*

- Components of Preparedness (NMTCB, 2017)
- Computed Tomography (ARRT, 2017)
- Vascular Interventional Radiography (ARRT, 2017)

*Other Certification Agency Content Specifications*

- Components of Preparedness (NMTCB, 2017)
- Positron Emission Tomography (PET) Specialty Examination Content Outline (NMTCB, 2016)

QUALITY OF EVIDENCE: High

*Scopes of Practice and Practice Standards Reference*

- Scope of Practice\*†
  - Administering medications parenterally through new or existing vascular access, enterally or through other appropriate routes as prescribed by a licensed practitioner.
  - Administering medications with an infusion pump or power injector as prescribed by a licensed practitioner.
  - Identifying, preparing and/or administering medications as prescribed by a licensed practitioner.
- The ASRT Practice Standards for Medical Imaging and Radiation Therapy\*†
  - Uses accessory equipment. (Standard Four)

QUALITY OF EVIDENCE: High

*Federal and State Statute Reference(s)*

Not Applicable

*Other*

Approved: June 19, 2011  
Amended, Main Motion, C-13.21 and C13.23, 2013  
Amended, Main Motion, C-16.12, 2016  
Amended, Main Motion, C-17.08, 2017  
Amended, Main Motion, C-18.08, 2018  
ASRT House of Delegates

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

## **Medication Administration Through Existing Vascular Access**

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 ASRT, the ASRT issued opinions contained herein.

### **Advisory Opinion**

It is the opinion of the ASRT that based upon current literature; curricula set forth by the ASRT, SNMMI and the NECS; certification examination specifications by the ARRT, NMTCB and CCI; recommendations by the ACR; and where federal or state law and/or institutional policy permits that:

1. It is within the scope of practice for medical imaging and radiation therapy professionals to access and administer medications through existing vascular access.

With proper education and proven competence, accessing and administering medications through existing vascular access provides quality patient services in a safe environment.

GRADE: Strong

### **Definitions**

access – The process of inserting the designated needle through the access point of an existing vascular access device to deliver IV fluids or medication.

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.

The following definitions can be found in the glossary to the ASRT Practice Standards for Medical Imaging and Radiation Therapy:

- clinically competent
- educationally prepared
- medication

### **Evidentiary Documentation**

#### *Current Literature*

- ACR Committee on Contrast Media. *ACR Manual on Contrast Media*. Version 10.3. Reston, VA: American College of Radiology; 2017. Accessed November 29, 2018.
- American College of Radiology. ACR practice parameter for performing and interpreting diagnostic computed tomography (CT). Revised 2017. Accessed November 30, 2018.
- American College of Radiology. ACR practice parameter for performing and interpreting magnetic resonance imaging (MRI). Revised 2017. Accessed November 30, 2018.
- American College of Radiology. ACR-SPR practice parameter for the use of intravascular contrast media. Revised 2017. Accessed November 30, 2018.
- Rockwell D. A competency for central line use in radiology. *J Radiol Nurs*. 2008;27(2):84. doi:10.1016/j.jradnu.2008.04.016

QUALITY OF EVIDENCE: High

*Curricula*

- Cardiac-Interventional and Vascular-Interventional Curriculum (ASRT, 2014)
- Computed Tomography Curriculum (ASRT, 2018)
- Magnetic Resonance Curriculum (ASRT, 2015)
- Mammography Curriculum (ASRT, 2018)
- National Education Curriculum for Sonography (JRC-DMS, 2016)
- NEC Common Curricula (JRC-DMS, 2016)
- Nuclear Medicine Technology Competency-Based Curriculum Guide (SNMMI, 2013)
- Radiation Therapy Professional Curriculum (ASRT, 2014)
- Radiography Curriculum (ASRT, 2017)
- Radiologist Assistant Curriculum (ASRT, 2015)

QUALITY OF EVIDENCE: High

*Certification Agency Examination Content Specifications*

- Computed Tomography (ARRT, 2017)
- Magnetic Resonance Imaging (ARRT, 2017)
- Nuclear Medicine Technology (ARRT, 2017)
- Radiography (ARRT, 2017)
- Registered Radiologist Assistant (ARRT, 2018)
- Vascular Interventional Radiography (ARRT, 2017)

*Other Certification Agency Content Specifications*

- Components of Preparedness (NMTCB, 2017)
- Examination Overview: Registered Cardiovascular Invasive Specialist (CCI, 2018)

QUALITY OF EVIDENCE: High

*Scopes of Practice and Practice Standards Reference*

- Scope of Practice\*†
  - Administering medications parenterally through new or existing vascular access, enterally or through other appropriate routes as prescribed by a licensed practitioner.
  - Identifying, preparing and/or administering medications as prescribed by a licensed practitioner.
  - Performing venipuncture as prescribed by a licensed practitioner.
  - Starting, maintaining and/or removing intravenous access as prescribed by a licensed practitioner.

QUALITY OF EVIDENCE: High

*Federal and State Statute References*

Not applicable

\* Excludes limited x-ray machine operator

† Excludes medical dosimetry

Other

Not applicable

Approved: July 1, 2012

Amended, Main Motion, C-13.21 and C13.23, 2013

Amended, Main Motion, C-16.14, 2016

Amended, Main Motion, C-17.10, 2017

Amended, Main Motion, C-18.12, 2018

ASRT House of Delegates

## 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 ASRT, the ASRT issued opinions contained herein.

### Advisory Opinion

It is the opinion of the ASRT that based upon current literature; curricula set forth by the ASRT and SNMMI; certification examination specifications by the ARRT and NMTCB; 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 monitor may be indicated. This monitor should be worn on the dominant hand with the label facing the radiation source.

With proper education and proven competence, the determination of proper use of personal monitoring devices provides quality patient services in a safe environment.

GRADE: Strong

### Definitions

The following definition can be found in the glossary to the ASRT Practice Standards for Medical Imaging and Radiation Therapy:

- personal radiation monitoring device

### Evidentiary Documentation

#### *Current Literature*

- Bushong S. Occupational radiation dose management. In: *Radiologic Science for Technologists: Physics, Biology, and Protection*. 11th ed. St Louis, MO: Elsevier; 2017:581-598.
- By standards number: 1910.1096(d)(3)(i) – ionizing radiation. Occupational Safety and Health Administration website. Accessed November 30, 2018.
- Statkiewicz-Sherer MA, Visconti PJ, Ritenour ER, Welch-Haynes K. Radiation monitoring. In: *Radiation Protection in Medical Radiography*. 8th ed. St Louis, MO: Elsevier; 2018:75-92.

QUALITY OF EVIDENCE: High

#### *Curricula*

- Bone Densitometry Curriculum (ASRT, 2014)
- Limited X-ray Machine Operator Curriculum (ASRT, 2015)

- Positron Emission Tomography (PET)-Computed Tomography (CT) Curriculum (ASRT, 2004)
- Nuclear Medicine Technology Competency-Based Curriculum Guide (SNMMI, 2013)
- Radiation Therapy Professional Curriculum (ASRT, 2014)
- Radiography Curriculum (ASRT, 2017)
- Radiologist Assistant Curriculum (ASRT, 2015)

QUALITY OF EVIDENCE: High

*Certification Agency Examination Content Specifications*

- Cardiac Interventional Radiography (ARRT, 2017)
- Limited Scope of Practice in Radiography (ARRT, 2018)
- Nuclear Medicine Technology (ARRT, 2017)
- Radiation Therapy (ARRT, 2017)
- Radiography (ARRT, 2017)
- Registered Radiologist Assistant (ARRT, 2018)
- Vascular Interventional Radiography (ARRT, 2017)

*Other Certification Agency Content Specifications*

- Components of Preparedness (NMTCB, 2017)

QUALITY OF EVIDENCE: High

*Scopes of Practice and Practice Standards Reference*

Not applicable

*Federal and State Statute References*

- § 19.12 Instruction to Workers (NRC, 2018)
- § 20.1208 Dose Equivalent to an Embryo/Fetus (NRC, 2018)
- § 20.1502 Conditions Requiring Individual Monitoring of External and Internal Occupational Dose (NRC, 2018)
- Regulatory Guide 8.34: Monitoring Criteria and Methods to Calculate Occupational Radiation Doses (NRC, 1992)
- Regulatory Guide 8.36: Radiation Dose to the Embryo/Fetus (NRC, 2018)
- Regulatory Guide 8.7: Instructions for Recording and Reporting Occupational Radiation Exposure Data (NRC, 2016)

QUALITY OF EVIDENCE: High

*Other*

AAPM Report No. 58: Managing the Use of Fluoroscopy in Medical Institutions. Appendix A: Radiation Safety/Quality Assurance Program

QUALITY OF EVIDENCE: High

pproved: July 1, 2012  
Amended, Main Motion, C-13.21 & C13.23, 2013  
Amended, Main Motion, C-16.15, 2016  
Amended, Main Motion, C-18.09, 2018  
ASRT House of Delegates

## **Use of Postexposure Shuttering, Cropping and Electronic Masking in Radiography**

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 ASRT, the ASRT issued opinions contained herein.

### **Advisory Opinion**

It is the opinion of the ASRT that based upon current literature, curricula set forth by the ASRT, certification examination specifications by the ARRT, and recommendations by the ACR that:

1. It is within the scope of practice of a radiologic technologist to determine and apply appropriate pre-exposure collimation to individual projections of examinations to comply with the principle of ALARA. Postexposure shuttering, cropping, electronic collimation or electronic masking to eliminate the visibility of large regions of brightness are acceptable, where automatic processing fails to do so.
2. It is outside of the scope of practice of a radiologic technologist to use postexposure shuttering, cropping, electronic collimation or electronic masking to eliminate any anatomical information. This information is a part of the patient's permanent medical record and should therefore be presented to the licensed practitioner to determine whether the exposed anatomy obtained on any image is significant or of diagnostic value.
3. It is outside the scope of practice of a radiologic technologist to use postexposure shuttering, cropping, electronic collimation or electronic masking to duplicate and use any acquired image for more than one prescribed view or projection on any exam. Facilities acquiring digital images are legally required to retain information in the DICOM information of each image that identifies the selected view or projection at the time of image acquisition. Using the same acquired image to represent two different prescribed views or projections is a falsification of the information in the patient medical record and imaging study made available to the licensed practitioner.

With proper education and proven competence, the elimination of improper use of postexposure shuttering, cropping and electronic masking provides quality patient services in a safe environment.

GRADE: Strong

### **Definitions**

- processing: Manipulation of the raw data just after acquisition.

The following definitions can be found in the glossary to the ASRT Practice Standards for Medical Imaging and Radiation Therapy:

- cropping
- DICOM
- electronic masking
- shuttering



**Evidentiary Documentation***Current Literature*

- American College of Radiology. ACR-AAPM-SIIM-SPR practice parameter for digital radiography. Revised 2017.
- Bomer J, Wiersma-Deijl L, Holscher HC. Electronic collimation and radiation protection in paediatric digital radiography: revival of the silver lining. *Insights Imaging*. 2013;4(5):723-727. doi:10.1007/s13244-013-0281-5
- Carroll QB. *Radiography in the Digital Age*. 2nd ed. Springfield, IL: Charles C Thomas; 2014.
- Carter C, Vealé B. *Digital Radiography and PACS*. 2nd ed. Maryland Heights, MO: Elsevier; 2014.
- Chalazonitis AN, Koumarios D, Tzovara J, Chronopoulos P. How to optimize radiological images captured from digital cameras, using the Adobe Photoshop 6.0 program. *J Digit Imaging*. 2003;16(2):216-229.
- Don S, Macdougall R, Strauss K, et al. Image Gently campaign back to basics initiative: ten steps to help manage radiation dose in pediatric digital radiography. *AJR Am J Roentgenol*. 2013;200(5):W431-W436. doi:10.2214/AJR.12.9895
- Fauber TL, Dempsey MC. X-ray field size and patient dosimetry. *Radiol Technol*. 2013;85(2):155-161.
- Fauber TL. *Radiographic Imaging and Exposure*. 5th ed. St Louis, MO: Elsevier; 2016.
- Goske MJ, Charkot E, Herrmann T, et al. Image Gently: challenges for radiologic technologists when performing digital radiography in children. *Pediatr Radiol*. 2011;41(5):611-619. doi:10.1007/s00247-010-1957-3
- Herrmann TL, Fauber TL, Gill J, et al; American Society of Radiologic Technologists. Best practices in digital radiography. Published 2012.
- Lo WY, Puchalski SM. Digital image processing. *Vet Radiol Ultrasound*. 2008;49(1 suppl 1):S42-S47. doi:10.1111/j.1740-8261.2007.00333.x
- Russell J, Burbridge BE, Duncan MD, Tynan J. Adult fingers visualized on neonatal intensive care unit chest radiographs: what you don't see. *Can Assoc Radiol J*. 2013;64(3):236-239. doi:10.1016/j.carj.2012.04.004
- Seeram E. *Digital Radiography: An Introduction*. Boston, MA: Cengage Learning; 2011.
- Uffmann M, Schaefer-Prokop C. Digital radiography: the balance between image quality and required radiation dose. *Eur J Radiol*. 2009;72(2):202-208. doi:10.1016/j.ejrad.2009.05.060
- Willis CE. Optimizing digital radiography of children. *Eur J Radiol*. 2009;72(2):266-273. doi:10.1016/j.ejrad.2009.03.003
- Zetterberg LG, Espeland A. Lumbar spine radiography—poor collimation practices after implementation of digital technology. *Br J Radiol*. 2011;84(1002):566-9. doi:10.1259/bjr/74571469

QUALITY OF EVIDENCE: High

*Curricula*

Not applicable

*Certification Agency Content Specifications*

Not applicable

*Scopes of Practice and Practice Standards Reference*

- Scope of Practice
  - Applying principles of ALARA to minimize exposure to patient, self and others.
- The ASRT Practice Standards for Medical Imaging and Radiation Therapy
  - Analyzes digital images to determine the use of appropriate imaging parameters. (Standard Two)
  - Optimizing technical factors in accordance with the principles of ALARA. (Standard Two)
  - Verifies that exposure indicator data for digital radiographic systems has not been altered or modified and is included in the DICOM header and on images exported to media. (Standard Two)
  - Employs proper radiation safety practices. (Standard Four)
  - Optimizes technical factors according to equipment specifications to meet the ALARA principle. (Standard Four)
  - Positions patient for anatomic area of interest, respecting patient ability and comfort. (Standard Four)
  - Uses pre-exposure collimation and proper field-of-view selection. (Standard Four)
  - Adheres to the established practice standards of the profession. (Standard Five)
  - Evaluates images for overall image quality of a specific area of anatomical interest based on limited education, training and licensure/certification within the scope of practice. (Standard Five, limited x-ray machine operator only)
  - Evaluates images for optimal technical exposure factors. (Standard Five, radiography only)
  - Evaluates images for positioning to demonstrate the anatomy of interest. (Standard Five, radiography only)
  - Recognizes the need to adjust patient position or technical exposure factors to improve the quality of the procedure. (Standard Five, limited x-ray machine operator only)
  - Reviews images to determine if additional images will enhance the diagnostic value of the procedure. (Standard Five, radiography only)
  - Performs additional images that will produce the expected outcomes based upon patient condition and procedural variances. (Standard Six, radiography only)
  - Performs additional images that will produce the expected outcome based on patient's condition and procedural variance under the direction of a licensed practitioner or radiographer. (Standard Six, limited x-ray machine operator only)

QUALITY OF EVIDENCE: High

*Federal and State Statute References*  
Not applicable

*Other*  
Not applicable

Approved: June 28, 2015  
Adopted, Main Motion, C-15.23, 2015  
Amended, Main Motion, C-18.10, 2018  
ASRT House of Delegates

## Chapter RAD 1

### AUTHORITY AND DEFINITIONS

RAD 1.01 Authority.

RAD 1.02 Definitions.

**RAD 1.01 Authority.** The rules in this chapter are adopted pursuant to ss. 15.08 (5), 440.08 (2) (a) 39m. and 64g., and 462.06, Stats.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11; correction made under s. 13.92 (4) (b) 7., Stats., Register August 2011 No. 668.

**RAD 1.02 Definitions.** In this chapter and chs. RAD 2 to 6:

(1) “ARRT” means American Registry of Radiologic Technologists.

(1m) “As Low As Reasonably Achievable” or “ALARA” 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, while 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 the use of nuclear energy and licensed materials in the public interest.

(2) “Board” means the Radiography Examining Board.

(3) “Bone densitometry” means the quantitative assessment of bone mass using single or dual energy x-ray absorptiometry.

(4) “Course of study” means a curriculum and associated training and testing materials which the board has determined are adequate to train persons to meet the requirements of this chapter.

(5) “Continuing education” means a board-approved planned learning activity in sufficient depth and scope to enhance the knowledge and skills underlying the performance of radiography.

(6) “Continuing education credit” means a unit of measurement for continuing education activities. One continuing education credit is awarded for 50 minutes of educational activities.

(7) “Department” means the department of safety and professional services.

(8) “Examination” means a written examination administered by the ARRT, or a successor organization, which is designed to assess knowledge, skills and competence in the application of X-rays to the human body, radiographic positioning, radiographic techniques, and the principles of radiation protection.

(9) “JRCERT” means Joint Review Committee on Education in Radiologic Technology.

(10) “License” means a license to practice radiography issued by the board.

(11) “Licensee” means a person who is licensed by the board as a radiographer.

(12) “Licensed practitioner” means any of the following:

(a) A physician licensed under s. 448.04 (1), Stats.

(b) A dentist licensed under s. 447.04 (1), Stats.

(c) A podiatrist licensed under s. 448.63, Stats.

(d) A chiropractor licensed under s. 446.02, Stats.

(e) An advance practice nurse prescriber certified under s. 441.16 (2), Stats.

(f) A physician assistant licensed under s. 448.04 (1) (f), Stats.

(g) A physical therapist licensed under s. 448.53, Stats., who satisfies one of the qualifications under s. 448.56 (7) (a), Stats.

(h) A health care provider who is defined as a licensed practitioner.

(13) “Limited x-ray machine operator” (LXMO) means a person who is issued a permit to perform radiography of one or more of four portions of the human body except that the practice may not include fluoroscopy.

(14) “Radiography” means the imaging of anatomical structures, produced by the combined application of x-rays to the human body and the application of knowledge in the fields of anatomy, radiographic positioning, and radiographic techniques, and the knowledge of principles of radiation protection, for the purpose of medical diagnosis, except that the “practice of radiography” does not include bone densitometry.

(15) “Radiographer” is a person who is issued a license to practice radiography.

(16) “Direct supervision” means immediate availability to continually coordinate, direct and inspect the practice of another and to give assistance if required during the performance of the procedure.

**History:** CR 11-016: cr. Register August 2011 No. 668, eff. 9-1-11; correction in (7) made under s. 13.92 (4) (b) 6., Stats., Register August 2011 No. 668; CR 16-091: renum. (12) to (12) (intro.) and am., cr. (12) (a) to (h) Register August 2017 No. 740, eff. 9-1-17; CR 19-084: am. (intro.), cr. (1m), am. (12) (intro.), (h) Register February 2020 No. 770, eff. 3-1-20.

## Chapter RAD 4

### SCOPE OF PRACTICE

**RAD 4.01** Radiographer scope of practice.

**RAD 4.02** Limited X-ray machine operator scope of practice.

**RAD 4.01 Radiographer scope of practice. (1) GENERAL SCOPE OF PRACTICE.** The practice of a radiographer involves the performance of radiography and radiographic procedures and related techniques to produce images for the interpretation by, or at the request of, a licensed independent practitioner. Radiographers perform the radiographic examination to create the images needed for medical diagnosis and apply scientific knowledge, technical skills, patient interaction, and care necessary to obtain diagnostic information. Radiographers may apply radiation to any part of the human body, may administer contrast agents and related substances for diagnostic purposes.

**(2) APPLICABLE STANDARDS.** The scope of practice of a licensed radiographer includes all of the following, as defined in the Radiography Practice Standards, Practice Standards for Medical Imaging and Radiation Therapy, 2017 American Society of Radiologic Technologists:

- (a) Providing optimal patient care.
- (b) Receiving, relaying, and documenting verbal, written, and electronic orders in the patient's medical record.
- (c) Corroborating a patient's clinical history with procedure and ensuring information is documented and available for use by a licensed practitioner.
- (d) Verifying informed consent for applicable procedures.
- (e) Assuming responsibility for patient needs during procedures.
- (f) Preparing patients for procedures.
- (g) Applying principles of ALARA, or As Low As Reasonably Achievable, to minimize exposure to patient, self, and others.
- (h) Performing venipuncture as prescribed by a licensed practitioner.
- (i) Starting, maintaining, and removing intravenous access as prescribed by a licensed practitioner.
- (j) Identifying, preparing, and administering medications as prescribed by a licensed practitioner.
- (k) Evaluating images for technical quality and ensuring proper identification is recorded.
- (L) Identifying and responding to emergency situations.
- (m) Providing education.
- (n) Educating and monitoring students and other health care providers.
- (o) Performing ongoing quality assurance activities.
- (p) Applying the principles of patient safety during all aspects of patient care.
- (q) Performing diagnostic radiographic and noninterpretive fluoroscopic procedures as prescribed by a licensed practitioner.
- (r) Optimizing technical exposure factors in accordance with the principles of ALARA.

(s) Assisting the licensed practitioner with fluoroscopic and specialized radiologic procedures.

**Note:** The standard is available from the American Society of Radiologic Technologists' website at [www.asrt.org](http://www.asrt.org).

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11; CR 16-030: am. (2) Register January 2018 No. 745, eff. 2-1-18; CR 17-082: cr. (1) (title), renum. (2) to (2) (intro.) and am., cr. (2) (a) to (s) Register September 2018 No. 753, eff. 10-1-18; CR 19-084: am. (2) (intro.), (c), (h) to (k), (q) to (s) Register February 2020 No. 770, eff. 3-1-20.

**RAD 4.02 Limited X-ray machine operator scope of practice. (1) GENERAL SCOPE OF PRACTICE.** The LXMO performs radiographic procedures and related techniques within the practice of radiography under the supervision of a licensed radiography or other health care provider, consistent with the LXMO's limited scope education, training and examination.

**(2) APPLICABLE STANDARDS.** The scope of practice of an LXMO includes all of the following, as defined in the Limited X-ray Machine Operator Practice Standards, Practice Standards for Medical Imaging and Radiation Therapy, 2017 American Society of Radiologic Technologists:

- (a) Providing optimal patient care.
- (b) Corroborating a patient's clinical history with procedure and ensuring information is documented and available for use by a licensed practitioner.
- (c) Preparing patients for procedures.
- (d) Assuming responsibility for patient needs during procedures.
- (e) Applying principles of ALARA, or As Low As Reasonably Achievable, to minimize exposure to patient, self, and others.
- (f) Evaluating images for technical quality and ensuring proper identification is recorded.
- (g) Identifying and responding to emergency situations.
- (h) Providing education.
- (i) Performing ongoing quality assurance activities.
- (j) Applying the principles of patient safety during all aspects of patient care.
- (k) Performing diagnostic radiographic procedures prescribed by a licensed practitioner of a specific area of anatomical interest based on limited education, training, and licensure or certification within the LXMO's scope of practice.
- (L) Assisting a licensed practitioner or radiographer during static radiographic procedures.
- (m) Optimizing technical exposure factors in accordance with the principles of ALARA.
- (n) Evaluating images for overall diagnostic quality.

**Note:** The standard is available from the American Society of Radiologic Technologists' website at [www.asrt.org](http://www.asrt.org).

**History:** CR 11-016; cr. Register August 2011 No. 668, eff. 9-1-11; CR 16-030: am. (2) Register January 2018 No. 745, eff. 2-1-18; CR 17-082: cr. (1) (title), renum. (2) to (2) (intro.) and am., cr. (2) (a) to (o) Register September 2018 No. 753, eff. 10-1-18; CR 19-084: am. (2) (intro.), (b), (k), (L), (m), r. (2) (o) Register February 2020 No. 770, eff. 3-1-20.

on which the petition and proposed rule were submitted to the committee.

3. Following receipt of the petition and proposed rule submitted by the legislative council staff under subd. 2., the joint committee for review of administrative rules shall review the petition and proposed rule and may do any of the following:

a. Approve the agency's petition if the committee determines that the proposed rule would repeal an unauthorized rule.

b. Deny the agency's petition.

c. Request that the agency make changes to the proposed rule and resubmit the petition and proposed rule under subd. 1.

4. The committee shall inform the agency in writing of its decision as to the petition.

(c) If the joint committee for review of administrative rules approves a petition to repeal an unauthorized rule as provided in par. (b) 3. a., the agency shall promulgate the proposed rule by filing a certified copy of the rule with the legislative reference bureau under s. 227.20, together with a copy of the committee's decision.

**SECTION 7.** 227.29 of the statutes is created to read:

**227.29 Agency review of rules and enactments. (1)**

By March 31 of each odd-numbered year, each agency with any rules published in the code shall submit a report to the joint committee for review of administrative rules listing all of the following rules promulgated or otherwise administered by that agency:

(a) Unauthorized rules, as defined in s. 227.26 (4) (a), together with a description of the legislation that eliminated the agency's authority to promulgate any such rule.

(b) Rules for which the authority to promulgate has been restricted, together with a description of the legislation that restricted that authority.

(c) Rules that are obsolete or that have been rendered unnecessary, together with a description of why those rules are obsolete or have been rendered unnecessary.

(d) Rules that are duplicative of, superseded by, or in conflict with another rule, a state statute, a federal statute or regulation, or a ruling of a court of competent jurisdiction, together with a citation to or the text of any such statute, regulation, or ruling.

(e) Rules that the agency determines are economically burdensome.

(2) The report under sub. (1) shall also include all of the following:

(a) A description of the agency's actions, if any, to address each rule listed in the report. If the agency has not taken any action to address a rule listed in the report, the agency shall include an explanation for not taking action.

(b) A description of the status of each rule listed in the previous year's report not otherwise listed.

(c) If the agency determines that there is no rule as described under sub. (1) (a), (b), (c), (d), or (e), a statement of that determination.

(3) If an agency identifies an unauthorized rule under sub. (1) (a) and is not otherwise in the process of promulgating a rule that repeals the unauthorized rule, the agency shall, within 30 days after the agency submits the report, submit a petition to the legislative council staff under s. 227.26 (4) (b) 1. to repeal the unauthorized rule if the agency has not previously done so.

(4) (a) In this subsection, "enactment" means an act or a portion of an act that is required to be published under s. 35.095 (3) (a).

(b) Each agency shall review enactments to determine whether any part of an enactment does any of the following:

1. Eliminates or restricts the agency's authority to promulgate any rules promulgated or otherwise administered by that agency.

2. Renders any rules promulgated or otherwise administered by that agency obsolete or unnecessary.

3. Renders, for any reason, any rules promulgated or otherwise administered by that agency not in conformity with or superseded by a state statute, including due to statutory numbering or terminology changes in the enactment.

4. Requires or otherwise necessitates rule making by the agency.

(c) If an agency determines that any consequence specified in par. (b) 1. to 4. results from an enactment or part of an enactment, within 6 months after the applicable effective date for the enactment or part of the enactment, the agency shall do one or more of the following, as applicable, to address the consequence identified by the agency and notify the joint committee for review of administrative rules of its action:

1. Submit a statement of the scope of a proposed rule under s. 227.135 (2), unless the enactment requires otherwise or unless the agency submits a notice to the committee explaining why it is unable to submit the statement of scope within that time period and an estimate of when the agency plans to submit the statement of scope.

2. In the case of an affected rule that the agency determines is an unauthorized rule, as defined in s. 227.26 (4) (a), submit a petition to the legislative council staff under s. 227.26 (4) (b) 1.

3. In the case of a consequence specified under par. (b) 3. that can be addressed by the legislative reference bureau using its authority under s. 13.92 (4) (b), submit a request to the legislative reference bureau to use that authority.

**SECTION 8. Initial applicability.**

(1) The treatment of section 227.29 (4) of the statutes first applies to enactments published by the legislative

**Donald A. Borst**  
Chairperson

**Tracy Marshall**  
Vice Chairperson

**Michele S.  
Goodweiler**  
Secretary

## RADIOGRAPHY EXAMINING BOARD



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March 21, 2019

Senator Stephen Nass, Senate Co-Chairperson  
Joint Committee for Review of Administrative Rules  
Room 10 South, State Capitol  
Madison, WI 53702

Representative Joan Ballweg, Assembly Co-Chairperson  
Joint Committee for Review of Administrative Rules  
Room 210 North, State Capitol  
Madison, WI 53702

RE: Report Submitted in Compliance with s. 227.29 (1), Stats.

Dear Senator Nass and Representative Ballweg:

This report has been prepared and submitted in compliance with s. 227.29 (1), Stats.

### **I. Unauthorized rules, as defined in s. 227.26 (4) (a), Stats.:**

After careful review of the Board's administrative rules, the Board has determined that no promulgated rules are unauthorized.

### **II. Rules for which the authority to promulgate has been restricted:**

Rule	Description of the legislation that restricted the authority	Action taken to address or reason for not taking an action
RAD 5.04	The Board's authority to request verification of compliance with continuing education requirements has been restricted by 2017 Act 59, s. 1929.	Final draft rule (CR 18-073) pending approval from the Legislature.

### **III. Rules that are obsolete or that have been rendered unnecessary:**

Rule	Description of why the rule is obsolete or has been rendered unnecessary	Action taken to address or reason for not taking an action
RAD 2.06 RAD 3.06	These sections contain provisions for applications filed prior to March 1, 2012.	A scope statement has been drafted and is pending the Board's approval.

**IV. Rules that are duplicative of, superseded by, or in conflict with another rule, a state statute, a federal statute or regulation, or a ruling of a court of competent jurisdiction:**

After careful review of the Board's administrative rules, the Board has determined that no promulgated rules are duplicative of, superseded by, or in conflict with another rule, a state statute, a federal statute or regulation, or a ruling of a court of competent jurisdiction.

**V. Rules that are economically burdensome:**

After careful review of the Board's administrative rules, the Board has determined that no promulgated rules are economically burdensome.

Thank you.

Sincerely,

Donald A. Borst  
Chairperson  
Radiography Examining Board