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**AFSC 4R0X1/A/B/C
DIAGNOSTIC IMAGING
CAREER FIELD EDUCATION AND TRAINING PLAN**

Summary: This change is applicable to the electronically published 4R0X1/A/B/C CFETP, dated 18 March 2024, and is effective immediately.

1. Please remove existing 4R0X1 Specialty Training Standard and technical training references with the below replacement pages

2.

Page	Paragraph/Line	Old Phase	New Phase
30	Line Item 4.4	Training. The following actions are required for award of the 7-skill level AFSC: (a) Be trained on all STS core tasks (identified by an (7) in column 2 of the STS).	Training. The following actions are required for award of the 7-skill level AFSC: (a) Be trained on all STS core tasks (identified by an (7) in column 2 of the STS). (if applicable)

3. After necessary action, please file this sheet in the back of the CFETP.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

JOHN J. DEGOES
Lieutenant General, USAF, MC, FS
Surgeon General of the Air Force

Attachment:
4R0X1 Specialty Training Standard

4R0X1 Diagnostic Imaging Specialty Training Standard

This Block Is For Identification Purposes Only		
Name Of Trainee		
Printed Name (<i>Last, First, Middle Initial</i>)	Initials (Written)	SSAN
<i>Printed Name Of Certifying Official And Written Initials</i>		
<i>NI</i>	<i>NI</i>	
<i>NI</i>	<i>NI</i>	
<i>NI</i>	<i>NI</i>	
<i>NI</i>	<i>NI</i>	
<i>NI</i>	<i>NI</i>	
<i>NI</i>	<i>NI</i>	
<i>NI</i>	<i>NI</i>	
<i>NI</i>	<i>NI</i>	

QUALITATIVE REQUIREMENTS

Proficiency Code Key		
	Scale Value	Definition: The individual
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely Limited)
	2	Can do most parts of the task. Needs only help on hardest parts. (Partially Proficient)
	3	Can do all parts of the task. Needs only a spot check of completed work. (Competent)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (Highly Proficient)
*Task Knowledge Levels	a	Can name parts, tools, and simple facts about the task. (Nomenclature)
	b	Can determine step by step procedures for doing the task. (Procedures)
	c	Can identify why and when the task must be done and why each step is needed. (Operating Principles)
	d	Can predict, isolate, and resolve problems about the task. (Advanced Theory)
**Subject Knowledge Levels	A	Can identify basic facts and terms about the subject. (Facts)
	B	Can identify relationship of basic facts and state general principles about the subject. (Principles)
	C	Can analyze facts and principles and draw conclusions about the subject. (Analysis)
	D	Can evaluate conditions and make proper decisions about the subject. (Evaluation)

Explanations

* All tasks and knowledge items shown with a proficiency code are trained during war time.

** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.

- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.

X This mark is used alone in the course columns to show that training is required but not given due to limitations in resources.

NOTE 1: Training References (TRs) listed in Column 1 and in the bibliography are approved for use in formal course and MTP development.

NOTE 2: Tasks designated with a "5" or a "7" in Column 2 are core tasks for 5- or 7-level UGT respectively. If a core task is required for both skill levels, then "5/7" is posted.

NOTE 3: The AFCFM has determined that tasks will not require a third-party task certifier; therefore, column E does not need a Certifier's Initials for task completion.

NOTE Columns 4 (A1, A2) specify the level of training provided by the 3-skill level resident Phase I and Phase II courses. During OJT, tasks are trained and evaluated to the "Go" level

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase I	(1) Course	(2) CDC	(1) Course	(2) CDC
1. MEDICAL READINESS TR: AFI 41-106, <i>Medical Readiness Program</i> Note: Initial Medical Readiness training, directed by AFI 41-106, is provided for enlisted members in the Emergency Medical Readiness course conducted at the 59th Training Group, JBSA Ft Sam Houston, Texas. Completed training is documented on AF Form 1098 for each course graduate. Continuing/on-going Medical Readiness training for the individual is the responsibility of each medical facility.												
1.1. Contingency Operations												
1.1.1. Planning Process								-	-	-	-	-
1.1.1.1. Disaster Team Response							1a	-	-	-	-	-
1.1.1.2. Exercise planning/execution/AAR							1a	-	-	-	-	-
1.1.1.3. Memorandum of Understanding/Agreements (MOU/MOA) CMRP checklist/Gap Analysis							1a	-	-	-	-	-
1.1.1.4. Revise Contingency Plans							1a	-	-	-	-	-
2. CAREER LADDER PROGRESSION TR: Air Force Enlisted Classification Directory (AFECD); AFD 44-1, <i>Medical Operations</i> ; DAFMAN 36-2689, <i>Training Program</i> .												
2.1. USAF Medical Service								-	-	-	-	-
2.2. Strategy, Mission & Vision								-	-	-	-	-
2.3. Organization								-	-	-	-	-
2.4. Career Field Path								-	-	-	-	-
2.5. Skill Level Duties								-	-	-	-	-
2.6. Shreds Retraining and SEIs Opportunities								-	-	-	-	-
3. ORGANIZATIONAL SAFETY												
3.1. AFOSH Standards for AFSC 4R0X1 TR: DAFMAN 91-203, <i>Air Force Occupational Safety Fire and Health Standards</i>								-	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)						
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase I	(1) Course	(2) CDC	(1) Course	(2) CDC	
3.2. AF Radiation Protection TR: DAFMAN 48-125, <i>Personnel Ionizing Radiation Dosimetry</i> ; Bushong, S. C. (2019). <i>Radiologic science for technologists: Physics, biology, and protection</i> , 12th Ed. Mosby; Statkiewicz Sherer, M.A., Visconti, P. J., Ritenour, E. R. & Welch-Haynes, K. (2021). <i>Radiation Protection in Medical Radiography</i> , 9th Ed. Mosby.								-	-	-	-	-	-
3.3. Perform radiation protection procedures TR: AFMAN 48-148, <i>Ionizing Radiation Protection</i> ; DAFMAN 48-125, <i>Personnel Ionizing Radiation Dosimetry</i> ; Bushong, S. C. (2019). <i>Radiologic science for technologists: Physics, biology, and protection</i> , 12th Ed. Mosby; Statkiewicz Sherer, M.A., Visconti, P. J., Ritenour, E. R. & Welch-Haynes, K. (2021). <i>Radiation Protection in Medical Radiography</i> , 9th Ed. Mosby	*							2b	3c	-	-	-	-
3.4. INFECTION CONTROL TR: Lampignano, J. P. & Bontrager, K. L. (2014). <i>Textbook of radiographic positioning and related anatomy</i> , 8th Ed. Mosby Elsevier; Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , 8th Ed. Mosby.													
3.4.1. Concepts of Infection Control	*							A	B	-	-	-	-
3.4.2. Employ standard precautions	*							a	3c	-	-	-	-
3.4.3. Perform aseptic techniques	*							a	3c	-	-	-	-
3.4.4. Performs equipment cleaning	*							1b	3c	-	-	-	-
4. PATIENT CARE TR: Ehrlich, R. A., & Daly, J. A. (2009). <i>Patient care in radiography: With an introduction to medical imaging</i> , 7th Ed. Mosby Elsevier; Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , 8th Ed. Mosby; Wilson, B. G. (1997). <i>Ethics and basic law for medical imaging professionals</i> . 1st Ed. F.A. Davis; Williams, P. A. (2022). <i>Fundamental Concepts and Skills for Nursing</i> , 6th Ed. Saunders. Callaway, W. J. (2022).													
4.1. Professional standards of ethics								A	B	-	-	-	-
4.2. Professional relations with patients and medical personnel								A	B	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
4.3. Privacy Act and HIPAA TR: AFI 33-332, <i>Air Force Privacy and Civil Liberties Program</i> ; AFI 41-200, <i>Health Insurance Portability and Accountability Act (HIPAA)</i>							A	B	-	-	-	-
4.4. Demonstrate professional written and verbal communication skills							-	2b	-	-	-	-
4.5. Patient preparation and procedural education	*						A	B	-	-	-	-
4.6. Patient Assessment	*						A	B	-	-	-	-
4.7. Monitor vital signs	*						a	2b	-	-	-	-
4.8. Use proper body mechanics for patient movement	*						2b	3c	-	-	-	-
4.9. Assist patient to/from wheelchair, gurney & exam table	*						1a	3c	-	-	-	-
4.10. Transport patients	*						1a	3c	-	-	-	-
4.11. Use immobilization devices (Pigg-O- Stat, Velcro straps, etc...)							a	b	-	-	-	-
4.12. Use IV Precautions	*						a	2b	-	-	-	-
4.13. Monitor patients	*						a	2b	-	-	-	-
4.14. Assess patient lab results							-	2a	-	-	-	-
4.15. Perform cardiopulmonary resuscitation	*						3c	-	-	-	-	-
5. IMAGING SERVICE ADMINISTRATIVE DUTIES TR: AFI 33-332, <i>Air Force Privacy and Civil Liberties Program</i> ; AFI 44-102, <i>Medical Care Management</i>												
5.1 Diagnostic Imaging Reception Duties												
5.1.1. Process examination imaging requests (Scheduling, Arriving, Ordering, Departing patients - Activate, Start, and Complete)	*						a	2b	-	-	-	-
5.1.2. Navigates EHR applications	*						a	2b	-	-	-	-
5.2. Image Library Functions												
5.2.1. Demonstrate exam loan procedures							-	-	-	-	-	-
5.2.2. Import/Export images							-	1b	-	-	-	-
5.2.3. Understands timelines and disposition of												
5.2.3.1. Routine X-rays							-	A	-	-	-	-

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		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
5.2.3.2. Mammography Files							-	A	-	-	-	-
5.2.3.3. Medical-Legal Files							-	A	-	-	-	-
6. QUALITY MANAGEMENT TR: AFMAN 48-148, <i>Ionizing Radiation Protection</i> ; Bushong, S. C. (2019). <i>Radiologic science for technologists: Physics, biology, and protection</i> , 12th Ed. Mosby; Carlton, R. R. & Adler, A. M. (2019). <i>Principles of radiographic imaging: An art and a science</i> , 6th Ed. Cenage Learning; Papp, J. (2024). <i>Quality management in the imaging sciences</i> , 7th Ed. Mosby. Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , (8th Ed. or later Ed.) Mosby.												
6.1. Quality assurance							A	-	-	-	-	-
6.2. Quality control												
6.2.1. Monitoring equipment performance	*						a	2b	-	-	-	-
6.2.2. Inspect image receptors	*						a	2b	-	-	-	-
6.2.3. Perform lead protective devices check							-	2b	-	-	-	-
6.2.4. Perform image quality control							1a	2c	-	-	-	-
6.3. Clean image receptors	*						a	2c	-	-	-	-
6.4. Perform department repeat image analysis (Run report)							-	-	-	-	-	-
7. TECHNICAL ASPECTS OF RADIOLOGY TR: Bushong, S. C. (2019). <i>Radiologic science for technologists: Physics, biology, and protection</i> , 12th Ed. Mosby; Lampignano, J. P. & Bontrager, K. L. (2014). <i>Textbook of radiographic positioning and related anatomy</i> , 8th Ed. Mosby Elsevier; Selman, J. (2000). <i>The fundamentals of imaging physics and radiobiology: For the radiologic technologist</i> , 9th Ed. Charles C. Thomas Publishing; Carlton, R. R. & Adler, A. M. (2019). <i>Principles of radiographic imaging: An art and a science</i> , 6th Ed. Cenage Learning; Mace, J. D. & Kowalczyk, N. (2008). <i>Radiographic pathology for technologists</i> , 5th Ed. Mosby Elsevier; Rollins, J. H., Long, B. W., Smith, B. J., & Curtis, T. (2022). <i>Merrill's atlas of radiographic positioning and procedures, 1-3</i> , 15th Ed. Mosby; Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , 8th Ed. Mosby. Callaway, W. J. (2022).												

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
7.1. Radiation physics							A	B	-	-	-	-
7.2. X-Ray imaging systems	*						B	-	-	-	-	-
7.3. X-Ray production							A	B	-	-	-	-
7.4. Operate fixed radiographic equipment	*						2b	3c	-	-	-	-
7.5. Operate mobile radiographic equipment	*						2b	3c	-	-	-	-
7.6. Radiobiology							2b	3c	-	-	-	-
7.7. Beam Restriction							2b	3c	-	-	-	-
7.8. Control scatter radiation							2b	3c	-	-	-	-
7.9. Grids							A	B	-	-	-	-
7.10. Select prime exposure factors	*						2b	3c	-	-	-	-
7.11. Image quality evaluation							A	B	-	-	-	-
7.12. Digital radiography												
7.12.1. Computed radiography (CR)	*						A	B	-	-	-	-
7.12.2. Direct Radiography (DR)	*						A	B	-	-	-	-
7.12.3. Acquire images using digital radiography	*						2b	3c	-	-	-	-
7.13. Digital imaging process concepts							A	B	-	-	-	-
7.14. Process digital images							2b	3c	-	-	-	-
7.15. Fluoroscopy							A	B	-	-	-	-
8. ANATOMY, PHYSIOLOGY, AND PATHOLOGY TR: Tortora, G. J., & Derrickson, B. H. (2020). <i>Principles of anatomy and physiology</i> , 16th Ed. Wiley; Ettinger, A. G. & Burch, P. F. (2007). <i>Medical terminology: For health careers</i> , 2nd ed. Paradigm Publishing. Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , (8th Ed. or later Ed.) Mosby.												
8.1. Medical Terminology												
8.1.1. Root, prefix, and suffix							B	-	-	-	-	-
8.1.2. Common medical terms	*						B	-	-	-	-	-
8.2. Body Planes and Positioning	*						A	B	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
8.3. Organization of the body	*						A	B	-	-	-	-
8.4. Structure, function, and pathology of body systems												
8.4.1. Osteology	*						A	B	-	-	-	-
8.4.2. Muscular	*						A	B	-	-	-	-
8.4.3. Respiratory	*						A	B	-	-	-	-
8.4.4. Cardiovascular	*						A	B	-	-	-	-
8.4.5. Digestive							A	B	-	-	-	-
8.4.6. Urinary							A	B	-	-	-	-
8.4.7. Nervous							A	B	-	-	-	-
8.4.8. Endocrine							A	B	-	-	-	-
8.4.9. Reproductive							A	B	-	-	-	-
9. CONTRAST MEDIA ADMINISTRATION TR: Ehrlich, R. A., & Daly, J. A. (2009). <i>Patient care in radiography: With an introduction to medical imaging</i> , 7th Ed. Mosby Elsevier; Lampignano, J. P. & Bontrager, K. L. (2014). <i>Textbook of radiographic positioning and related anatomy</i> , 8th Ed. Mosby Elsevier; Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , 8th Ed. Mosby; Rollins, J. H., Long, B. W., Smith, B. J., & Curtis, T. (2022). <i>Merrill's atlas of radiographic positioning and procedures</i> , 1-3, 15th Ed. Mosby. Callaway, W. J. (2022).												
9.1. Properties of Contrast Media							A	B	-	-	-	-
9.2. Administer contrast media												
9.2.1. Oral							a	b	-	-	-	-
9.2.2. Rectal							a	b	-	-	-	-
9.2.3. Intravenous							a	b	-	-	-	-
9.3. Perform venipuncture							a	2b	-	-	-	-
9.4. Document contrast media administration (charting medications)							a	2b	-	-	-	-
9.5. Contrast media reactions							A	B	-	-	-	-
9.6. Perform contrast-media reaction procedures							-	2a	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
9.7. Prepare contrast media							-	2a	-	-	-	-
9.8. Assess patients for contraindications prior to contrast administration							a	2b	-	-	-	-
10. ROUTINE IMAGING TR: Lampignano, J. P. & Bontrager, K. L. (2014). <i>Textbook of radiographic positioning and related anatomy</i> , 8th Ed. Mosby Elsevier; Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , 8th Ed. Mosby; Rollins, J. H., Long, B. W., Smith, B. J., & Curtis, T. (2022). <i>Merrill's atlas of radiographic positioning and procedures, 1-3</i> , 15th Ed. Mosby. Callaway, W. J. (2022).												
10.1. Produce images of the:												
10.1.1. Upper extremities	*						2b	3c	-	-	-	-
10.1.2. Shoulder girdle							2b	3c	-	-	-	-
10.1.3. Lower extremities	*						2b	3c	-	-	-	-
10.1.4. Pelvic girdle	*						2b	3c	-	-	-	-
10.1.5. Chest	*						2b	3c	-	-	-	-
10.1.6. Abdomen	*						2b	3c	-	-	-	-
10.1.7. Vertebral column	*						2b	3c	-	-	-	-
10.1.8. Ribs							1b	2b	-	-	-	-
10.1.9. Sternum							1b	2b	-	-	-	-
10.1.10. Skull	*						1b	2b	-	-	-	-
10.1.11. Sinuses							1b	2b	-	-	-	-
10.1.12. Facial bones							1b	2b	-	-	-	-
10.1.13. Mastoids and petrous pyramids							-	-	-	-	-	-
10.1.14. Scoliosis surveys							a	-	-	-	-	-

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		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase I	(1) Course	(2) CDC	(1) Course	(2) CDC
11. SPECIAL IMAGING TR: Lampignano, J. P. & Bontrager, K. L. (2014). <i>Textbook of radiographic positioning and related anatomy</i> , 8th Ed. Mosby Elsevier; Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , 8th Ed. Mosby; Rollins, J. H., Long, B. W., Smith, B. J., & Curtis, T. (2022). <i>Merrill's atlas of radiographic positioning and procedures, 1-3</i> , 15th Ed. Mosby. Callaway, W. J. (2022).												
11.1. Perform:												
11.1.1. Alimentary tract Procedures (Phase II must sign-off on UGI or Contrast Enema)							1b	2b	-	-	-	-
11.1.2. Biliary tract Procedures							-	-	-	-	-	-
11.1.3. Genitourinary tract Procedures							1b	-	-	-	-	-
11.1.4. Arthrogram Procedures							a	2b	-	-	-	-
11.1.5. Scanography Procedures							-	-	-	-	-	-
11.1.6. Fluoroscopy Procedures												
11.1.6.1. Perform mobile fluoroscopy procedures	*						a	3c	-	-	-	-
11.1.6.2. Assist with fixed fluoroscopy procedures							a	2b	-	-	-	-
11.2. Myelography Procedures							a	-	-	-	-	-
11.3. Bone Densitometry Procedures							-	a	-	-	-	-
12. COMPUTED TOMOGRAPHY (SEI 478) TR: Kelly, L. & Peterson, C. (2018). <i>Sectional Anatomy for Imaging Professionals</i> , 4th Ed. Mosby; Rollins, J. H., Long, B. W., Smith, B. J., & Curtis, T. (2022). <i>Merrill's atlas of radiographic positioning and procedures, 1-3</i> , 15th Ed. Mosby; Seeram, E. (2022). <i>Computed Tomography: Physical Principles, Clinical Applications, and Quality Control</i> , 5th Ed. Saunders. Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , (8th Ed. or later Ed.) Mosby.												
12.1 Safety												
12.1.1. Radiation	5						A	B	-	-	-	-
12.1.2. Mechanical	5						-	B	-	-	-	-
12.1.3. Laser	5						A	B	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
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		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase I	(1) Course	(2) CDC	(1) Course	(2) CDC
12.2. Contrast media administration TR: Ehrlich, R. A., & Daly, J. A. (2009). <i>Patient care in radiography: With an introduction to medical imaging</i> , 7th Ed. Mosby Elsevier; Lampignano, J. P. & Bontrager, K. L. (2014). <i>Textbook of radiographic positioning and related anatomy</i> , 8th Ed. Mosby Elsevier; Rollins, J. H., Long, B. W., Smith, B. J., & Curtis, T. (2022). <i>Merrill's atlas of radiographic positioning and procedures, 1-3</i> , 15th Ed. Mosby. Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , (8th Ed. or later Ed.) Mosby.												
12.2.1. Oral						a	-	-	-	-	-	-
12.2.2. Rectal						a	-	-	-	-	-	-
12.2.3. Intravenous						a	-	-	-	-	-	-
12.2.4. Perform venipuncture						a	2b	-	-	-	-	-
12.2.5. Document contrast media administration (charting medications)						a	2b	-	-	-	-	-
12.2.6. Perform contrast-media reaction procedures						-	2a	-	-	-	-	-
12.2.7. Prepare contrast media						-	2a	-	-	-	-	-
12.2.8. Assess patients for contraindications prior to contrast administration	5					-	-	-	-	-	-	-
12.3. Image Formation												
12.3.1. Imaging Parameters						-	-	-	-	-	-	-
12.3.2. Methods Of Data Acquisition						A	-	-	-	-	-	-
12.3.3. Image Reconstruction						-	-	-	-	-	-	-
12.3.4. Post Processing						-	-	-	-	-	-	-
12.3.5. Attenuation Coefficient						A	-	-	-	-	-	-
12.3.6. Data Processing						A	-	-	-	-	-	-
12.4. Image Evaluation and Archiving												
12.4.1. Image Display						-	-	-	-	-	-	-
12.4.2. Image Quality						-	-	-	-	-	-	-
12.4.3. Artifact Recognition And Reduction						-	-	-	-	-	-	-
12.5. CT Cross-Sectional Anatomy												

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
12.5.1. Head	5						A	B	-	-	-	-
12.5.2. Neck	5						A	B	-	-	-	-
12.5.3. Chest	5						A	B	-	-	-	-
12.5.4. Abdomen	5						A	B	-	-	-	-
12.5.5. Pelvis	5						A	B	-	-	-	-
12.5.6. Spine							A	B	-	-	-	-
12.5.7. Extremities							-	-	-	-	-	-
12.5.8. Vascular							-	-	-	-	-	-
12.5.9. Pathology							-	A	-	-	-	-
12.6. Scanner Operation												
12.6.1. Start CT Unit	5						-	2b	-	-	-	-
12.6.2. Shutdown CT Unit	5						-	2b	-	-	-	-
12.6.3. Perform Emergency Shutdown	5						-	2b	-	-	-	-
12.6.4. Perform Tube Warm-Up	5						-	2b	-	-	-	-
12.6.6. Transmit CT Images	5						-	2b	-	-	-	-
12.6.7. Perform CT Quality Assurance Tests	5						-	2b	-	-	-	-
12.6.8. Operate Power Injector	5						-	2b	-	-	-	-
12.7. Image Display												
12.7.1. Geometric, Distance, or Region of Interest (ROI) Measurements							-	-	-	-	-	-
12.7.2. Multiplanar Reconstruction (MPR)	5						1a	-	-	-	-	-
12.7.3. 3D Rendering (MIP, SSD, VR)							-	-	-	-	-	-
12.7.4. Retrospective Reconstruction With Different Parameters (E.G., DFOV, Algorithm, Slice Thickness)	5						1a	-	-	-	-	-
12.8. Quality Assurance And Quality Control												
12.8.1. Perform Calibration Checks	5						2b	-	-	-	-	-
12.8.2. CT Number And Standard Deviation (Water Phantom)							-	-	-	-	-	-
12.9. Obtain Images Of The:												

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		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
12.9.1. Head												
12.9.1.1 Head Without Contrast	5						-	2b	-	-	-	-
12.9.1.2. Head With Contrast							-	-	-	-	-	-
12.9.1.3. Trauma Head							-	-	-	-	-	-
12.9.1.4. Arteriography Head (CTA)							-	-	-	-	-	-
12.9.1.5. Venography Head (CTV)							-	-	-	-	-	-
12.9.1.6. Brain Perfusion							-	-	-	-	-	-
12.9.1.7. Temporal Bones/IAC							-	-	-	-	-	-
12.9.1.8. without contrast							-	-	-	-	-	-
12.9.1.9. Orbits with contrast							-	-	-	-	-	-
12.9.1.10. Orbits without contrast							-	-	-	-	-	-
12.9.1.11. Sinuses without contrast							-	-	-	-	-	-
12.9.1.12. Sinus with Contrast							-	-	-	-	-	-
12.9.1.13. Facial Bones/Mandible without contrast							-	-	-	-	-	-
12.9.1.14. Facial Bones/Mandible with contrast							-	-	-	-	-	-
12.9.2. Spine												
12.9.2.1. Cervical Spine without contrast	5						-	2b	-	-	-	-
12.9.2.2. Cervical Spine with contrast							-	-	-	-	-	-
12.9.2.3. Thoracic Spine without contrast							-	-	-	-	-	-
12.9.2.4. Thoracic Spine with contrast							-	-	-	-	-	-
12.9.2.5. Lumbar Spine without contrast							-	-	-	-	-	-
12.9.2.6. Lumbar Spine with contrast							-	-	-	-	-	-
12.9.2.7. Spinal Trauma							-	-	-	-	-	-
12.9.2.8. Sacrum/Coccyx							-	-	-	-	-	-
12.9.2.9. Post Myelography							-	-	-	-	-	-
12.9.3. Musculoskeletal												
12.9.3.1. Upper Extremity							-	-	-	-	-	-
12.9.3.2. Lower Extremity							-	-	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)						
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC	
12.9.3.3. Shoulder And/Or Scapula								-	-	-	-	-	-
12.9.3.4. Bony Pelvis And/Or Hips	5							-	2b	-	-	-	-
12.9.3.5. Musculoskeletal Trauma								-	-	-	-	-	-
12.9.3.6. Arteriography Extremity/Runoff (CTA)								-	-	-	-	-	-
12.9.3.7. Venography Extremity (CTV)								-	-	-	-	-	-
12.9.4. Neck													
12.9.4.1. Soft Tissue Neck								-	2b	-	-	-	-
12.9.4.2. Arteriography Neck (CTA)								-	-	-	-	-	-
12.9.4.3. Venography Neck (CTV)								-	-	-	-	-	-
12.9.5. Chest													
12.9.5.1. Chest Without Contrast	5							-	2b	-	-	-	-
12.9.5.2. Chest With Contrast	5							-	2b	-	-	-	-
12.9.5.3. HRCT								-	-	-	-	-	-
12.9.5.4. Low Dose Lung Screening								-	-	-	-	-	-
12.9.5.5. Chest Trauma								-	-	-	-	-	-
12.9.5.6. Pulmonary Angiography/PE Study (CTPA)								-	-	-	-	-	-
12.9.5.7. Vascular Chest (CTA, CTV, Aorta, SVC)								-	-	-	-	-	-
12.9.5.8. Heart (E.G., Coronary Angiography, TAVR, PVS)	5							-	-	-	-	-	-
12.9.5.9. Coronary Artery Calcium Scoring								-	-	-	-	-	-
12.9.6. Abdomen And Pelvis													
12.9.6.1. Abdomen/Pelvis Without Contrast	5							-	2b	-	-	-	-
12.9.6.2. Abdomen/Pelvis With Contrast	5							-	2b	-	-	-	-
12.9.6.3. Liver (Multi-Phase)								-	-	-	-	-	-
12.9.6.4. Kidneys (Multi-Phase)								-	-	-	-	-	-
12.9.6.5. Pancreas (Multi-Phase)								-	-	-	-	-	-
12.9.6.6. Adrenals (Multi-Phase)								-	-	-	-	-	-
12.9.6.7. Enterography Study								-	-	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase I	(1) Course	(2) CDC	(1) Course	(2) CDC
12.9.6.8. Appendicitis Study							-	-	-	-	-	-
12.9.6.9. Renal Stone Protocol (Without IV Contrast)							-	-	-	-	-	-
12.9.6.10. Abdominal Trauma							-	-	-	-	-	-
12.9.6.11. Arteriography Abdomen/Pelvis (CTA)							-	-	-	-	-	-
12.9.6.12. Venography Abdomen/Pelvis (CTV)							-	-	-	-	-	-
12.9.6.13. Urogram							-	-	-	-	-	-
12.9.6.14. Retrograde Cystogram							-	-	-	-	-	-
12.9.6.15. Pelvic Trauma							-	-	-	-	-	-
12.9.6.16. Colorectal Studies (Rectal Contrast)							-	-	-	-	-	-
12.9.7. Additional Procedures												
12.9.7.1. Biopsies							-	-	-	-	-	-
12.9.7.2. Drainages							-	-	-	-	-	-
12.9.7.3. Aspirations							-	-	-	-	-	-
12.9.7.4. Pediatric (12 And Under)							-	-	-	-	-	-
12.9.7.5. Arthrography							-	-	-	-	-	-
12.9.7.6. Ablations							-	-	-	-	-	-
12.9.7.7. Myelography							-	-	-	-	-	-
13. PICTURE ARCHIVING AND COMMUNICATION SYSTEM (PACS) TR: Carter, C. & Veale, B. (2022). <i>Digital Radiography and PACS</i> . 4th Ed. Mosby; Dreyer, K. J., Hirschorn, D. S., Thrall, J. H., & Mehta, A. (2005). <i>PACS: A guide to the digital revolution</i> 2nd Ed. Springer. Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , (8th Ed. or later Ed.) Mosby.												
13.1 Picture Archiving and Communication Systems (PACS)												
13.1.1. System Overview (Terminology/Topology)	5						B	-	-	-	-	-
13.1.2. Hospital Information System/Radiology Information Systems (HIS/RIS)	5						B	-	-	-	-	-
13.1.3. Workflow	5						B	-	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
13.1.4. Contingency Procedures	5						-	-	-	-	-	-
13.1.5. Perform Workflow Process	5						1a	2b	-	-	-	-
13.1.6. Perform System Functions	5						-	-	-	-	-	-
14. PACS ADMINISTRATOR (N-PREFIX, SEI 264) TR: Carter, C. & Veale, B. (2022). <i>Digital Radiography and PACS</i> . 4th Ed. Mosby; Dreyer, K. J., Hirschorn, D. S., Thrall, J. H., & Mehta, A. (2005). <i>PACS: A guide to the digital revolution</i> 2nd Ed. Springer. Callaway, W. J. (2022). Mosby's comprehensive review of radiography: The complete study guide and career planner, (8th Ed. or later Ed.) Mosby.												
14.1. Management							-	-	-	-	-	-
14.1.1. Understand applicable Service Maintenance Agreements (SMA)							-	-	-	-	-	-
14.1.2. Identify Radiology System Requirements							-	-	-	-	-	-
14.1.3. Network Security Requirements							-	-	-	-	-	-
14.1.4. System Security Requirements							-	-	-	-	-	-
14.1.5. Network Administration							-	-	-	-	-	-
14.1.6. Windows OS Administration							-	-	-	-	-	-
14.1.7. Database Administration							-	-	-	-	-	-
14.1.8. Digital Imaging Communications in Medicine (DICOM)							-	-	-	-	-	-
14.1.9. HL7							-	-	-	-	-	-
14.1.10. IHE							-	-	-	-	-	-
14.2. System Tasks												
14.2.1. Maintain System	5						-	-	-	-	-	-
14.2.2. Perform Contingency Procedures	5						-	-	-	-	-	-
14.2.3. Configure Security Protocol	5						-	-	-	-	-	-
14.2.4. Manage User Profiles	5						-	-	-	-	-	-
14.2.5. Perform System Security Check	5						-	-	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase I	(1) Course	(2) CDC	(1) Course	(2) CDC
15. INTERVENTIONAL RADIOGRAPHY (IR, SEI 479) TR: Kandarpa, K., Machan L., & Durham, J. D. (2016) <i>Handbook of Interventional Radiologic procedures</i> , 5th Ed. Lippincott, Williams, and Wilkins; Mauro, M.A., Kieran P. J., Thompson, K. R., Venbrux, A. C., & Morgan R. A. (2013). <i>Image-guided interventions: Expert radiology series</i> , 2nd Ed. Saunders; Rollins, J. H., Long, B. W., Smith, B. J., & Curtis, T. (2022). <i>Merrill's atlas of radiographic positioning and procedures, 1-3</i> , 15th Ed. Mosby. Callaway, W. J. (2022). <i>Mosby's comprehensive review of radiography: The complete study guide and career planner</i> , (8th Ed. or later Ed.) Mosby.												
15.1. Angiography equipment												
15.1.1. Operate							-	-	-	-	-	-
15.1.2 Image capturing							-	-	-	-	-	-
15.1.3. Manipulate single/biplane							-	-	-	-	-	-
15.1.4. 3D/axial rotation							-	-	-	-	-	-
15.1.5. Ultrasound guidance equipment							-	-	-	-	-	-
15.1.6. Thrombosis equipment							-	-	-	-	-	-
15.1.7. Ablation equipment							-	-	-	-	-	-
15.1.8. Perform start-up/shut down of angiography units							-	-	-	-	-	-
15.1.9. Emergency shut-down of angiography units							-	-	-	-	-	-
15.1.10. Perform single/bi-plane warm- up of angiography units							-	-	-	-	-	-
15.1.11. Operate power injector equipment							-	-	-	-	-	-
15.2. Procedure preparation/operation												
15.2.1. Procedure table							-	-	-	-	-	-
15.2.2. Embolics table							-	-	-	-	-	-
15.2.3. Prepare entry site/sterile field							-	-	-	-	-	-
15.2.4. Perform back table responsibilities							-	-	-	-	-	-
15.2.5. Perform room circulation							-	-	-	-	-	-
15.2.6. Perform scrub technician							-	-	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase I	(1) Course	(2) CDC	(1) Course	(2) CDC
15.2.7 Prepare procedural medication							-	-	-	-	-	-
15.2.8. Assess patients for contraindications prior to IV contrast or medication administration							-	-	-	-	-	-
15.3. Patient Care												
15.3.1. Apply dressing							-	-	-	-	-	-
15.3.2. Closure techniques/devices							-	-	-	-	-	-
15.3.3. Intravascular infusion pump							-	-	-	-	-	-
15.3.4. Perform patient care techniques under scope of providers							-	-	-	-	-	-
15.4. Cardiovascular anatomy							-	-	-	-	-	-
15.4.1. Extremities							-	-	-	-	-	-
15.4.2. Head/neck							-	-	-	-	-	-
15.4.3. Chest/abdomen/pelvis							-	-	-	-	-	-
15.5. Procedural familiarization												
15.5.1. Biopsy							-	-	-	-	-	-
15.5.2. Embolization							-	-	-	-	-	-
15.5.3. Vertebroplasty/kyphoplasty							-	-	-	-	-	-
15.5.4. Ablation							-	-	-	-	-	-
15.5.5 Drain/tube placement							-	-	-	-	-	-
15.5.6 Hemorrhage intervention							-	-	-	-	-	-
15.5.7 Central line placement							-	-	-	-	-	-
15.5.8 Thrombosis							-	-	-	-	-	-
15.5.9 Portacath placement							-	-	-	-	-	-
15.5.10. Stent placement							-	-	-	-	-	-
15.6. Product Familiarization							-	-	-	-	-	-
15.6.1. Needles							-	-	-	-	-	-
15.6.2. Guidelines							-	-	-	-	-	-
15.6.3. Catheters							-	-	-	-	-	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Phase	(2) Phase	(1) Course	(2) CDC	(1) Course	(2) CDC
15.6.4. Embolization materials							-	-	-	-	-	-
15.6.5. Stents							-	-	-	-	-	-
15.6.6. Balloons							-	-	-	-	-	-
15.6.7. Sheaths							-	-	-	-	-	-
15.6.8. Dilators							-	-	-	-	-	-
15.6.9. Fistulagram materials							-	-	-	-	-	-
15.6.10. Operate computed tomograph (CT) guided equipment							-	-	-	-	-	-
15.6.11. Vascular procedures							-	-	-	-	-	-
15.6.12. Musculoskeletal procedures							-	-	-	-	-	-
15.6.13. Pulmonary procedures							-	-	-	-	-	-
15.6.14. Gastrointestinal procedures							-	-	-	-	-	-

4R0X1 Training References Commercial & Other Service Publications

Computed Tomography:

- DeMaio, D. N. (2018). *Mosby's Exam Review for Computed Tomography* (3rd ed. or later). Elsevier.
- Grey, M. L., & Ailinani, J. M. (2018). *CT & MRI Pathology: A Rocket Atlas* (3rd ed. or later). McGraw-Hill Education
- Romans, L. E. (2019). *Computed Tomography for Technologists: A Comprehensive Text* (2nd ed. or later). Wolters Kluwer.
- Seeram, E. (2023). *Computed Tomography: Physical Principles, Clinical Applications, and Quality Control* (5th ed. or later ed.) St. Louis, Missouri: Elsevier

Diagnostic Imaging Phase I:

- Bushong, S. C. (2021). *Radiologic Science for Technologists: Physics, Biology, and Protection* (12th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.
- Carlton, R. R., & Adler, A. M. (2006). *Principles of Radiographic Imaging: An Art and a Science* (4th ed. or later ed). Clifton Park, New York: Thomson Delmar Learning.
- Ehrlich, R. A., & Coakes, D.M. (2021). *Patient Care in Radiography: With an Introduction to Medical Imaging* (10th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.
- Ettinger, A. G., & Burch, P. F. (2007). *Medical Terminology: For Health Careers* (2nd ed. or later ed). St. Paul, Minnesota: Paradigm Publishing.
- Lampignano, J. P., & Kendrick, L.E. (2025). *Textbook of Radiographic Positioning and Related Anatomy* (11th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.
- Kowalczyk, N. (2022). *Radiographic Pathology for Technologists* (8th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.
- Papp. (2011). *Quality Management* (4th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.
- Selman, J. (2000). *The fundamentals of imaging physics and radiobiology* (9th ed. or later ed). Springfield, Illinois: Charles C. Thomas.
- Rollins, J. H., Long, B. W., Curtis, T., & Merrill, V. (2023). *Merrill's Atlas of Radiographic Positioning & Procedures* (15th ed. or later ed, Vols. I, II, III). St. Louis, Missouri: Mosby Elsevier.
- Tortora, G. J., & Derrickson, B. (2009). *Principles of Anatomy and Physiology* (12th ed. or later ed). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Wilson, B. G. (1997). *Ethics and Basic Law for Medical Imaging Professionals*. Philadelphia, Pennsylvania: F.A. Davis.

Diagnostic Imaging Phase II:

- Bushong, S. C. (2021). *Radiologic Science for Technologists: Physics, Biology, and Protection* (12th ed. or later ed.). St. Louis,

Missouri: Mosby Elsevier.

Dewit, S. C. (2001). *Fundamental Concepts and Skills for Nursing*. St. Louis Missouri: W. B. Saunders Co.

Carter, C. & Veale, B. (2014). *Digital Radiography and PACS* (2nd ed. or later ed.). Philadelphia, Pennsylvania: Mosby Elsevier

Ehrlich, R. A., & Coakes, D.M. (2021). *Patient Care in Radiography: With an Introduction to Medical Imaging* (10th ed. or later ed.). St. Louis, Missouri: Mosby Elsevier.

Kelly, L. & Peterson, C. (2013). *Sectional Anatomy for Imaging Professionals* (3rd ed. or later ed.) Mosby Elsevier

Lampignano, J. P., & Bontrager, K. L. (2014). *Textbook of Radiographic Positioning and Related Anatomy* (8th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.

Statkiewicz Sherer, M.A., Visconti, P., Ritenour, R. & Welch Haynes, K. (2014). *Radiation Protection in Medical Radiography* (7th ed. or later ed.) Maryland Heights, Missouri: Mosby Elsevier

Rollins, J. H., Long, B. W., Curtis, T., & Merrill, V. (2023). *Merrill's Atlas of Radiographic Positioning & Procedures* (15th ed. or later ed, Vols. I, II, III). St. Louis, Missouri: Mosby Elsevier.

Tortora, G. J., & Derrickson, B. (2005). *Principles of Anatomy and Physiology* (11th ed. or later ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.

Diagnostic Medical Sonography:

Curry, Reva A and Tempkin, Betty Bates., et al. *Sonography: An Introduction to Normal Structure and Function*. (Current edition). St. Louis, Missouri: W. B. Saunders.

Edelman, Sidney K., PhD. (2012). *Understanding Ultrasound Physics.*, (4th ed. or later ed). KnowledgeMasters, Inc.

Hagen-Ansert, S.L. (2012). *Textbook of Diagnostic Sonography. Vol's 1 & 2* (Current edition). St. Louis, Missouri: Mosby Elsevier.

Interventional Radiography:

Rollins, J. H., Long, B. W., Curtis, T., & Merrill, V. (2023). *Merrill's Atlas of Radiographic Positioning & Procedures* (15th ed. or later ed, Vols. I, II, III). St. Louis, Missouri: Mosby Elsevier.

Mauro, M.A. (2014) *Image-Guided Interventions: Expert Radiology Series* (2nd ed. or later ed.)

Kandarpa, K. (2016) *Handbook of Interventional Radiologic Procedures* ((5th ed. or later ed.))

Magnetic Resonance Imaging:

Kelley, L. & Petersen, C.M. (2013). *Sectional Anatomy for Imaging Professionals* (3rd ed. or later ed.). Mosby Elsevier.

Westbrook, C., Talbot, J., & Roth, C. K. (2011). *MRI in Practice* (4th ed. or later ed.). Malden, Massachusetts: Wiley-Blackwell.

Mammography:

Hologic (2015). *Selenia Dimensions: Quality Control Manual (MAN-03706. Revision 4)*. Danbury, CT: Hologic Inc.

Making mammography inclusive for patients with disabilities. Andersen, Lene et al. *Journal of Medical Imaging and Radiation Sciences*, Volume 54, Issue 4, S10 – S 14. Link: [https://www.jmirs.org/article/S1939-8654\(23\)01818-0/fulltext](https://www.jmirs.org/article/S1939-8654(23)01818-0/fulltext)

Todd A, Stuijbergen A. Breast cancer screening barriers and disability. *Rehabil Nurs*. 2012 Mar-Apr;37(2):74-9. doi: 10.1002/RNJ.00013. Erratum in: *Rehabil Nurs*. 2012 Sep- Oct;37(5):266. PMID: 22434617; PMCID: PMC4521895. Link: <https://pubmed.ncbi.nlm.nih.gov/articles/PMC4521895/>

Women with Disabilities and Breast Cancer. Susan G. Komen, 2021.
Link: <https://www.komen.org/wp-content/uploads/Women-with-Disabilities-1.pdf>

<https://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm094441.pdf>
Mammography Quality Control Manual (2016) U.S. Department of Health and Human Services; Food & Drug Administration

Nuclear Medicine:

Bureau of Radiological Health and the Training Institute Environmental Control Administration. (1970). *Radiological Health Handbook*. Rockville, Maryland: US Department of Health, Education and Welfare.

Bushong, S. C. (2021). *Radiologic Science for Technologists: Physics, Biology, and Protection* (12th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.

English, R. J. (1986). *SPECT Single-Photon Emission Computed Tomography: A Primer* (3rd ed. or later ed). Reston, Virginia: The Society of Nuclear Medicine.

Kowalczyk, N., & Donnett, K. (1996). *Integrated Patient Care for the Imaging Professional*. St. Louis, Missouri: Mosby.

Kowalsky, R. J., & Falen, S. W. (2004). *Radiopharmaceuticals in Nuclear Pharmacy and Nuclear Medicine* (2nd ed. or later ed). Washington, District of Columbia: APhA.

Lee, K. (1991). *Computers in Nuclear Medicine: A Practical Approach*. New York, New York: The Society of Nuclear Medicine.

Mascetta, J. A. (1996). *Chemistry: The Easy Way* (3rd ed. or later ed). Hauppauge, New York: Barron's Educational Series, Inc.

Mettler, F. A., & Guiberteau, M. J. (2012). *Essentials of Nuclear Medicine Imaging* (6th ed. or later ed). Philadelphia, Pennsylvania: Elsevier Saunders.

Miller, T. R., Knox, H. D., & Baum, E. M. (Eds.). (2002). *Nuclides and Isotopes: Chart of the Nuclides* (16th ed. or later ed). KAPL, Inc. & Lockheed Martin.

Naval Education Training Command. (1985). *Mathematics, Volume 1: NAVEDTRA 10069-D1* (Vol. I). Washington DC: US Government Printing Office.

- Powsner, E. R., & Powsner, R. A. (2006). *Essential Nuclear Medicine Physics* (2nd ed. or later ed). Malden, Massachusetts: Blackwell Publishing Ltd.
- Saha, G. B. (2004). *Fundamentals of Nuclear Pharmacy* (5th ed. or later ed). New York, New York: Springer Science + Business Media, Inc.
- Scott-Ennis, R. J., Hill, J. W., & Baum, S. J. (2000). *Chemistry and Life: An Introduction to General, Organic, and Biological Chemistry* (6th ed. or later ed). Upper Saddle River, New Jersey: Prentice Hall.
- Sodee, B. D., & Early, P. J. (1995). *Principles and Practice of Nuclear Medicine* (2nd ed. or later ed). St. Louis, Missouri: Mosby.
- Sorenson, J. A., Phelps, M. E., & Cherry, S. R. (2003). *Physics in Nuclear Medicine* (3rd ed. or later ed). Philadelphia, Pennsylvania: Saunders.
- Tortora, G. J., & Derrickson, B. H. (2005). *Principles of Anatomy and Physiology* (11th ed. or later ed). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Trefzger, J. E., Gary, J. S., & Ewen, D. (2005). *Technical Mathematics* (2nd ed. or later ed). Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Visconti, P. J., Statkiewicz Sherer, M. A., & Ritenour, E. R. (2002). *Radiation Protection in Medical Radiography* (4th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.
- Waterstram-Rich, K. M., & Christian, P. E. (Eds.). (2007). *Nuclear Medicine and PET/CT: Technology and Techniques* (6th ed. or later ed). St. Louis, Missouri: Mosby Elsevier.
- Watson, S., Warner, G., Snyder, W., & Ford, M. (1975). *MIRD Pamphlet No. 11* (11 ed. or later ed). New York, New York: Society of Nuclear Medicine.