Limited Scope of Practice in Radiography

The purpose of the *Limited Scope of Practice in Radiography Examination*, which is developed and administered by *The American Registry of Radiologic Technologists (ARRT)* on behalf of state licensing agencies, is to assess the knowledge and cognitive skills underlying the intelligent performance of the tasks typically required of operators of radiographic equipment used to radiograph selected anatomic regions (chest, extremities, etc.). ARRT administers the examination to state approved candidates under contractual arrangement with the state and provides the results directly to the state. This examination is not associated with any type of certification and registration by the ARRT.

The knowledge and skills covered by the examination were determined by administering a comprehensive practice analysis survey to a nationwide sample of radiographers and adopting a subset of the tasks developed for the radiography task inventory as the limited scope task inventory. The task inventory appears in *Attachment C* of this document. The content specifications for the limited scope examination identify the knowledge areas underlying performance of the tasks on the limited scope task inventory. Every content category can be linked to one or more activities on the task inventory.

It is the philosophy of the ARRT that individuals licensed in limited scope radiography possess the same knowledge and cognitive skill, in their specific area of radiography, as radiographers. The modules covered by the examination are outlined below. Subsequent pages describe in detail the topics covered within each module. All candidates take the CORE module of the examination and one or more PROCEDURE modules, depending on the type of license for which they have applied.

Core Module	**Number of Scored Questions**[1]	**Testing Time**
Patient Care	18	
Patient Interactions and Management (18)		
Safety	40	
Radiation Physics and Radiobiology (12)		
Radiation Protection (28)		
Image Production	42	
Image Acquisition and Evaluation (20)		
Equipment Operation and Quality Assurance (22)		
Total for Core Module	100	1 hr, 55 min
Procedure Modules		
1. Chest	20	25 min
2. Extremities	25	30 min
3. Skull/Sinuses	20	25 min
4. Spine	25	30 min
5. Podiatric	20	25 min

[1] The core module includes an additional 15 unscored (pilot) questions. Each of the procedure modules has five additional unscored questions.

Patient Care

1. Patient Interactions and Management

A. Ethical and Legal Aspects
   1. patients' rights
      a. consent (*e.g., informed, oral, implied)
      b. confidentiality (HIPAA)
      c. American Hospital Association (AHA) Patient Care Partnership (Patients' Bill of Rights)
         1. privacy
         2. extent of care (e.g., DNR)
         3. access to information
         4. living will, health care proxy, advanced directives
         5. research participation
   2. legal issues
      a. verification (e.g., patient identification, compare order to clinical indication)
      b. common terminology (e.g., battery, negligence, malpractice, beneficence)
      c. legal doctrines (e.g., respondeat superior, res ipsa loquitur)
      d. positioning aids used to prevent motion artifact
      e. manipulation of electronic data (e.g., exposure indicator, processing algorithm, brightness and contrast, cropping or masking off anatomy)
      f. documentation (e.g., changes to order)
   3. Professional Ethics

B. Interpersonal Communication
   1. modes of communication
      a. verbal/written
      b. nonverbal (e.g., eye contact, touching)
   2. challenges in communication
      a. interactions with others
         1. language barriers
         2. cultural and social factors
         3. physical, sensory, or cognitive impairments
         4. age
         5. emotional status, acceptance of condition (e.g., stage of grief)
      b. explanation of medical terms
      c. strategies to improve understanding
   3. patient education (e.g., explanation of current procedure purpose, length of time, radiation dose)

C. Ergonomics and Monitoring
   1. body mechanics (e.g., balance, alignment, movement)
      a. patient transfer techniques
      b. safe patient handling devices (e.g., transfer board, gait belt)
   2. assisting patients with medical equipment (e.g., oxygen delivery systems, urinary catheters)
   3. patient monitoring and documentation
      a. vital signs
      b. physical signs and symptoms (e.g., motor control, severity of injury)
      c. fall prevention

D. Medical Emergencies
   1. allergic reactions (e.g., contrast media, latex)
   2. cardiac/respiratory arrest (e.g., CPR, AED)
   3. physical injury or trauma
   4. other medical disorders (e.g., seizures, diabetic reactions)

* The abbreviation "e.g.," is used to indicate that examples are listed in parentheses, but that it is not a complete list of all possibilities.

(Patient Care continues on the following page.)

Patient Care (continued)

E. Infection Control
   1. chain of infection (cycle of infection)
      a. pathogen
      b. reservoir
      c. portal of exit
      d. mode of transmission
         1. direct
            a. droplet
            b. direct contact
         2. indirect
            a. airborne
            b. vehicle borne (fomite)
            c. vector borne (mechanical or biological)
      e. portal of entry
      f. susceptible host
   2. asepsis
      a. equipment disinfection
      b. equipment sterilization
      c. medical aseptic technique
      d. sterile technique
   3. CDC Standard Precautions
      a. hand hygiene
      b. use of personal protective equipment (e.g., gloves, gowns, masks)
      c. safe handling of contaminated equipment/surfaces
      d. disposal of contaminated materials
         1. linens
         2. needles
         3. patient supplies
         4. blood and body fluids
   4. transmission-based precautions
      a. contact
      b. droplet
      c. airborne
   5. additional precautions
      a. neutropenic precautions (reverse isolation)
      b. healthcare associated (nosocomial) infections

F. Handling and Disposal of Toxic or Hazardous Material
   1. types of materials
      a. chemicals
   2. safety data sheet (material safety data sheet)

Safety

1. Radiation Physics and Radiobiology

A. Principles of Radiation Physics
   1. x-ray production
      a. source of free electrons (e.g., thermionic emission)
      b. acceleration of electrons
      c. focusing of electrons
      d. deceleration of electrons
   2. target interactions
      a. bremsstrahlung
      b. characteristic
   3. x-ray beam
      a. frequency and wavelength
      b. beam characteristics
         1. quality
         2. quantity
         3. primary versus remnant (exit)
      c. inverse square law
      d. fundamental properties (e.g., travel in straight lines, ionize matter)
   4. photon interactions with matter
      a. photoelectric
      b. Compton
      c. coherent (classical)
      d. attenuation by various tissues
         1. thickness of body part
         2. type of tissue (atomic number)

B. Biological Effects of Radiation
   1. SI units of measurement (NCRP Report #160)
      a. absorbed dose (Gy)
      b. dose equivalent (Sv)
      c. exposure (C/kg)
      d. effective dose (Sv)
   2. radiosensitivity
      a. dose-response relationships
      b. relative tissue radiosensitivities (e.g., LET, RBE)
      c. cell survival and recovery (LD_{50})
      d. oxygen effect
   3. somatic effects
      a. cells
      b. tissue (e.g., eye, thyroid, breast, skin, marrow, gonadal)
      c. embryo and fetus
      d. carcinogenesis
      e. early versus late or acute versus chronic
      f. deterministic (tissue reactions) versus stochastic
      g. acute radiation syndromes
         1. hemopoietic
         2. gastrointestinal (GI)
         3. central nervous system (CNS)

(Safety continues on the following page.)

Safety (continued)

2. Radiation Protection

A. Minimizing Patient Exposure
   1. exposure factors
      a. kVp
      b. mAs
   2. beam restriction
      a. purpose of primary beam restriction
      b. types (e.g., collimators)
   3. patient considerations
      a. positioning
      b. communication
      c. pediatric
      d. morbid obesity
   4. filtration
      a. effect on skin and organ exposure
      b. effect on average beam energy
      c. NCRP recommendations (NCRP Report #102, minimum filtration in useful beam)
   5. radiographic dose documentation
   6. image receptors
   7. grids
   8. dose area product (DAP) meter

B. Personnel Protection (ALARA)*
   1. sources of radiation exposure
      a. primary x-ray beam
      b. secondary radiation
         1. scatter
         2. leakage
      c. patient as source
   2. basic methods of protection
      a. time
      b. distance
      c. shielding
   3. protective devices
      a. types (e.g., aprons, barriers)
      b. attenuation properties
      c. minimum lead equivalent (NCRP Report #102)
   4. radiation exposure and monitoring
      a. dosimeters
         1. types
         2. proper use
      b. NCRP recommendations for personnel monitoring (NCRP Report #116)
         1. occupational exposure
         2. public exposure
         3. embryo/fetus exposure
         4. dose equivalent limits
         5. evaluation and maintenance of personnel dosimetry records

* Note: Although it is the responsibility of the individual licensed in limited scope radiography to apply radiation protection principles to minimize bioeffects for both patients and personnel, the ALARA concept is specific to personnel protection and is listed only for that section.

Image Production

1. Image Acquisition and Evaluation

A. Factors Affecting Radiographic Quality
(X indicates topics covered on the examination.)

	1. Receptor Exposure	2. Spatial Resolution	3. Distortion
a. mAs	X		
b. kVp	X		
c. OID		X	X
d. SID	X	X	X
e. focal spot size		X	
f. tube filtration	X		
g. beam restriction	X		
h. motion		X	
i. anode heel effect	X		
j. patient factors (size, pathology)	X	X	X
k. angle (tube, part, or receptor)		X	X

B. Technique Charts
   1. anatomically programmed technique
   2. fixed versus variable kVp
   3. special considerations
      a. casts
      b. pathologic factors
      c. age (e.g., pediatric, geriatric)
      d. body mass index (BMI)
      e. grids
      f. OID

C. Digital Imaging Characteristics
   1. spatial resolution
      a. pixel characteristics (e.g., size, pitch)
      b. detector element (DEL) (e.g., size, pitch, fill factor)
      c. CCD, CMOS (e.g., size, pitch)
      d. sampling frequency (CR)
      e. modulation transfer function (MTF)
   2. contrast resolution
      a. bit depth
      b. detective quantum efficiency (DQE)
      c. grids
   3. image signal
      a. dynamic range
      b. quantum noise (quantum mottle)
      c. signal to noise ratio (SNR)

D. Image Identification
   1. methods (e.g., radiographic, electronic)
   2. legal considerations (e.g., patient data, examination data)

E. Criteria for Image Evaluation
   1. exposure indicator
   2. quantum noise (quantum mottle)
   3. gross exposure error (e.g., loss of contrast, saturation)
   4. spatial resolution
   5. distortion (e.g., size, shape)
   6. identification markers (e.g., anatomical side, patient, date)
   7. image artifacts
   8. radiation fog (CR)

(Image Production continues on the following page.)

Image Production (continued)

2. Equipment Operation and Quality Assurance

A. Imaging Equipment
1. x-ray generator
   a. basic principles
   b. phase, pulse, and frequency
   c. tube loading
2. components of radiographic unit (fixed or mobile)
   a. operating console
   b. x-ray tube construction
      1. electron source
      2. target materials
      3. induction motor
      4. filtration
   c. automatic exposure control (AEC)
      1. radiation detectors
      2. back-up timer
      3. exposure adjustment (e.g., density, +1 or -2)
      4. minimum response time
   d. manual exposure controls
   e. image receptors
      1. computed radiography
         a. plate (e.g., photo-stimulable phosphor (PSP))
         b. plate reader
      2. digital radiography (DR)
         a. direct conversion
         b. indirect conversion
            1. amorphous silicon (a-Si)
            2. charge coupled device (CCD)
            3. complementary metal oxide semiconductor (CMOS)
   f. beam restriction
3. accessories
   a. stationary grids
   b. Bucky assembly
   c. compensating filters

B. Image Processing and Display
1. raw data (pre-processing)
   a. analog-to-digital converter (ADC)
   b. quantization
   c. corrections (e.g., rescaling, flat fielding, dead pixel correction)
   d. histogram
2. corrected data for processing
   a. grayscale
   b. edge enhancement
   c. equalization
   d. smoothing
3. data for display
   a. values of interest (VOI)
   b. look-up table (LUT)
4. post-processing
   a. brightness
   b. contrast
   c. region of interest (ROI)
   d. electronic cropping or masking
   e. stitching
5. display monitors
   a. viewing conditions (e.g., viewing angle, ambient lighting)
   b. spatial resolution (e.g., pixel size, pixel pitch)
   c. brightness and contrast
6. imaging informatics
   a. information systems (e.g., HIS, RIS, EMR, EHR)
   b. networking
      1. PACS
      2. DICOM
   c. downtime procedures

C. Quality Control of Imaging Equipment and Accessories
1. beam restriction
   a. light field to radiation field alignment
   b. central ray alignment
2. recognition and reporting of malfunctions
3. digital imaging receptor systems
   a. maintenance (e.g., detector calibration, plate reader calibration)
   b. QC tests (e.g., erasure thoroughness, plate uniformity, spatial resolution)
   c. display monitor quality assurance (e.g., grayscale standard display function, luminance)
4. shielding accessories (e.g., testing lead apron, gloves)

Procedures

The specific positions and projections within each anatomic region that may be covered on the examination are listed in *Attachment A*. A guide to positioning terminology appears in *Attachment B*.

PROCEDURE MODULE [1]		**# QUESTIONS PER MODULE** [2]
1. Chest		
A. Routine		16
B. Other		4
	TOTAL	**20**
2. Extremities		
A. Lower (toes, foot, calcaneus, ankle, tibia/ fibula, knee/ patella, and femur)		11
B. Upper (fingers, hand, wrist, forearm, elbow, and humerus)		11
C. Pectoral Girdle (shoulder, scapula, clavicle, and acromioclavicular joints)		3
	TOTAL	**25**
3. Skull/Sinuses		
A. Skull		8
B. Paranasal Sinuses		8
C. Facial Bones (orbits, nasal bones)		4
	TOTAL	**20**
4. Spine		
A. Cervical Spine		8
B. Thoracic Spine		6
C. Lumbar Spine		8
D. Sacrum, Coccyx, and Sacroiliac Joints		2
E. Scoliosis Series		1
	TOTAL	**25**
5. Podiatric		
A. Foot and Toes		14
B. Ankle		5
C. Calcaneus (os calcis)		1
	TOTAL	**20**

FOCUS OF QUESTIONS [3]

1. **Positioning** (e.g., topographic landmarks, body positions, path of central ray, positioning aids, respiration)

   emphasis: high

2. **Anatomy** (including physiology, basic pathology, and related medical terminology)

   emphasis: medium

3. **Evaluation of displayed anatomical structures** (e.g., patient positioning, tube-part-image receptor alignment)

   emphasis: medium

4. **Procedure adaptation** (e.g., body habitus, body mass index, trauma, pathology, age, limited mobility, casts, splints, soft tissue for foreign body, etc.)

   emphasis: low

5. **Equipment and Accessories** (grids or Bucky, compensating filter, automatic exposure control [AEC], automatic collimation)

   emphasis: low

Notes:

1. Candidates take one or more procedure modules, depending on the type of license they have applied for. Each procedure module has 20 or 25 scored test questions, depending on the module (see chart above). The number of questions within a module should be regarded as approximate values.
2. Each of the procedure modules has five additional unscored questions.
3. The procedure modules may include questions about the five areas listed under *FOCUS OF QUESTIONS* on the right side of the chart. The podiatric module does not include questions from the equipment and accessories section.

Attachment B
Standard Terminology for Positioning and Projection

Radiographic View: Describes the body part as seen by the image receptor. Restricted to the discussion of a *radiograph* or *image*.

Radiographic Position: Refers to a specific body position, such as supine, prone, recumbent, erect or Trendelenburg. Restricted to the discussion of the *patient's physical position*.

Radiographic Projection: Restricted to the discussion of the *path of the central ray*.

POSITIONING TERMINOLOGY

A. Lying Down

1. *supine* – lying on the back
2. *prone* – lying face downward
3. *decubitus* – lying down with a horizontal x-ray beam
4. *recumbent* – lying down in any position

B. Erect or Upright

1. *anterior position* – facing the image receptor
2. *posterior position* – facing the radiographic tube

C. Either Upright or Recumbent

1. oblique torso positions

   a. anterior oblique (facing the image receptor)

      i. *left anterior oblique (LAO)* — body rotated with the left anterior portion closest to the image receptor

      ii. *right anterior oblique (RAO)* — body rotated with the right anterior portion closest to the image receptor

   b. posterior oblique (facing the radiographic tube)

      i. *left posterior oblique (LPO)* — body rotated with the left posterior portion closest to the image receptor

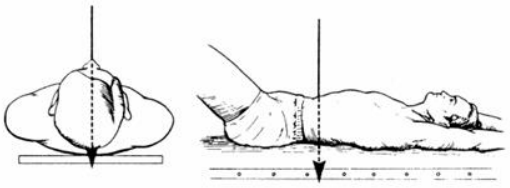
      ii. *right posterior oblique (RPO)* — body rotated with the right posterior portion closest to the image receptor

2. oblique extremity positions

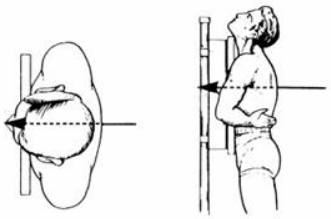
   a. lateral (external) rotation — outward rotation of the extremity

   b. medial (internal) rotation — inward rotation of the extremity

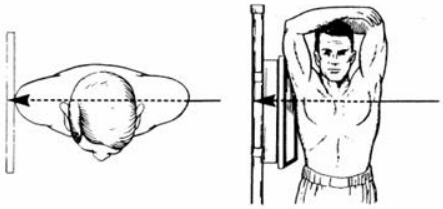
Anteroposterior Projection



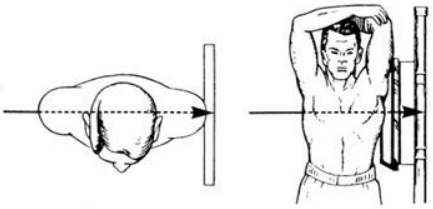
Posteroanterior Projection



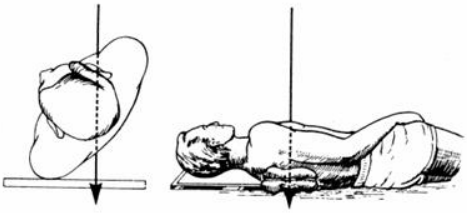
Right Lateral Position



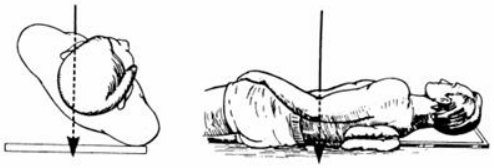
Left Lateral Position



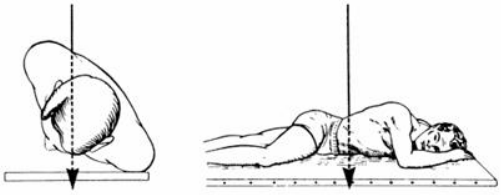
Left Posterior Oblique Position



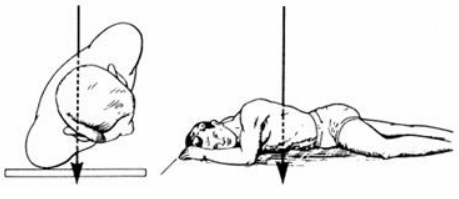
Right Posterior Oblique Position



Left Anterior Oblique Position



Right Anterior Oblique Position



Attachment C

Task Inventory for Limited Scope of Practice in Radiography Examination

Activity		Content Categories Legend: PC = Patient Care, S = Safety, IP = Image Production, P = Procedures
1.	Verify the patient's identity.	PC.1.A.2.A., PC.1.B., IP.1.D.
2.	Evaluate the patient's ability to understand and comply with requirements for the requested examination.	PC.1.B.
3.	Obtain pertinent medical history.	PC.1.A.2.A., PC.1.B., PC.1.C.3.
4.	Manage interpersonal interactions in an effective manner.	PC.1.B., PC.1.C.
5.	Review the examination request to verify information is accurate, appropriate, and complete (e.g., patient history, clinical diagnosis, physician's orders).	PC.1.A.2.A., PC.1.A.2.F.
6.	Explain the procedure instructions to patient, patient's family, or authorized representative (e.g., pre-procedure, post procedure).	PC.1.B.3.
7.	Respond as appropriate to procedure inquiries from the patient, patient's family, or authorized representative (e.g., scheduling delays, exam duration).	PC.1.B.
8.	Monitor the patient's auxiliary medical equipment (e.g., IVs, oxygen) during a procedure.	PC.1.C.2.
9.	Follow environmental protection standards for handling and disposing of bio-hazardous materials (e.g., sharps, blood, body fluids).	PC.1.E.3., PC.1.F.
10.	Follow environmental protection standards for handling and disposing of hazardous materials (e.g., disinfectant)	PC.1.E.3., PC.1.F.
11.	Provide for the patient's safety, comfort, and modesty.	PC.1.B., PC.1.C., S.2.A.
12.	Notify appropriate personnel of adverse events or incidents (e.g., patient fall, wrong patient imaged).	PC.1.A.2., PC.1.C.3.
13.	Demonstrate and promote professional and ethical behavior (e.g., confidentiality, regulation compliance).	PC.1.A., PC.1.B.
14.	Verify informed consent as necessary.	PC.1.A.1.A., PC.1.B.
15.	Communicate relevant information to appropriate members of the care team.	PC.1.A., PC.1.B., PC.1.C.3.
16.	Practice Standard Precautions.	PC.1.E.3.
17.	Follow appropriate procedures when caring for patients with communicable diseases.	PC.1.E.3., PC.1.E.4., PC.1.E.5.
18.	Use positioning aids, as needed, to reduce patient movement, and/or promote patient safety.	PC.1.A.2.D., P.
19.	Use proper body mechanics and/or patient ergonomic devices to promote personnel safety.	PC.1.C.1.

Activity		**Content Categories** Legend: PC = Patient Care, S = Safety, IP = Image Production, P = Procedures
20.	Use sterile or aseptic technique when indicated.	PC.1.E.2.
21.	Obtain vital signs.	PC.1.C.3.A.
22.	Recognize and communicate the need for prompt medical attention.	PC.1.C.3., PC.1.D.
23.	Assist with providing emergency care (e.g., CPR).	PC.1.C.2., PC.1.C.3., PC.1.D.
24.	Clean and disinfect, or sterilize facilities and equipment .	PC.1.E.2., PC.1.E.3
25.	Document required information on the patient's medical record (e.g., imaging procedure documentation, images, adverse events).	PC.1.A.2.F., PC.1.B.1.A., PC.1.C.3., IP.1.D., IP.2.B.6.
26.	Evaluate the need for and use of protective shielding.	S.2.B.3.
27.	Take appropriate precautions to minimize radiation exposure to the patient.	S.2.A.
28.	Screen female patients of child bearing age for the possibility of pregnancy and take appropriate action (e.g., document response, contact physician).	PC.1.A.2.F., PC.1.B., S.1.B.3.
29.	Restrict beam to the anatomical area of interest.	S.2.A.2., IP.1.A.1.G., IP.2.A.2.F.
30.	Set technical factors to produce optimal images and minimize patient dose.	S.2.A., IP.1.A., IP.1.B.
31.	Document radiographic procedure dose.	PC.1.A.2.F., S.2.A.5., IP.2.B.6.A.
32.	Keep all unnecessary persons out of the immediate area during radiation exposure.	S.2.B.2., S.2.B.4.B.
33.	Take appropriate precautions to minimize occupational radiation exposure.	S.2.B.
34.	Advocate radiation safety and protection.	S.1.B., S.2.A., S.2.B.
35.	Describe the potential risk of radiation exposure when asked.	PC.1.B.3., S.1.B.
36.	Wear a radiation monitoring device while on duty.	S.2.B.4.
37.	Evaluate individual occupational exposure reports to determine if values for the reporting period are within established limits.	S.2.B.4.B.
38.	Select appropriate radiographic exposure factors using the following: a. Fixed kVp technique chart b. Variable kVp technique chart c. Automatic Exposure Control (AEC) d. Anatomically programmed technique*	IP.1.A., IP.1.B.
39.	Operate radiographic unit and accessories including: a. Fixed unit b. Mobile unit	IP.2.A.1., IP.2.A.2., IP.2.A.3., IP.2.B.

* Applies to specific modules

Activity		Content Categories Legend: PC = Patient Care, S = Safety, IP = Image Production, P = Procedures
40.	Operate digital imaging devices and information technology systems including: a. Computed radiography (CR) b. Digital radiography (DR) c. Picture Archiving and Communication System (PACS) d. medical information systems (e.g., HIS, RIS, EMR, EHR)	IP.2.A.2., IP.2.B.
41.	Recognize and report malfunctions in the information technology systems (e.g., downtime procedures).	IP.2.B.6., IP.2.C.2.
42.	Remove radiopaque materials that could interfere with the image from the exposure field (e.g., clothing, jewelry).	PC.1.B.3., IP.1.E.7.
43.	Use radiopaque anatomical side markers at the time of image acquisition.	IP.1.D., IP.1.E.6.
44.	Select imaging accessories (e.g., grid*, compensating filter*) for the examination requested.	S.2.A.2., IP.2.A.3., P.
45.	Align central ray to body part and image receptor to demonstrate the desired anatomy.	S.2.A.6., IP.1.A., IP.1.E., IP.2.A.2.E., P.
46.	Explain breathing instructions prior to making the exposure.*	PC.1.B., IP.1.A.2.H., P.
47.	Position patient to demonstrate the desired anatomy using anatomical landmarks.	P.
48.	Modify exposure factors for circumstances such as involuntary motion, casts and splints*, pathological conditions, or patient's inability to cooperate.	IP.1.A.2.H., IP.1.A.2.J., IP.1.A.3.J. IP.1.B., P.
49.	Adapt procedures for: a. Patient condition (e.g., age, size, trauma, pathology) b. Location (e.g., mobile, surgical, isolation).	PC.1.C.3., PC.1.E., S.2.A.3., IP.1., P.
50.	Select appropriate geometric factors (e.g., SID, OID, focal spot size, tube angle).	IP.1.A., IP.1.B.
51.	Evaluate images for diagnostic quality.	IP.1.D., IP.1.E., IP.2.C., P.
52.	Respond appropriately to digital exposure indicator values.	IP.1.E.1.
53.	Verify accuracy of patient identification associated with images.	IP.1.D., IP.1.E.6., P.
54.	Add electronic annotations on images to indicate position or other relevant information (e.g., time, upright, decubitus).	IP.1.D., IP.1.E.6., P.
55.	Perform post-processing on digital images in preparation for interpretation.	IP.2.B., P.
56.	Determine corrective measures if image is not of diagnostic quality and take appropriate action.	IP.1.E., IP.2.C., P.
57.	Identify image artifacts and make appropriate corrections as needed.	PC.1.B.3., IP.1.E.7.
58.	Store and handle image receptor in a manner which will reduce the possibility of artifact production.	IP.1.E.7., IP1.E.8., IP.2.A.2.E., IP.2.C.3

* Applies to specific module

Activity	Content Categories Legend: PC = Patient Care, S = Safety, IP = Image Production, P = Procedures
59. Recognize and report malfunctions in the imaging unit and accessories.	IP.1.E.7., IP.2.C.
60. Recognize the need for periodic maintenance and evaluation of radiographic equipment affecting image quality and radiation safety (e.g., shielding, image display monitor, light field, central ray detector calibration).	IP.2.C.
61. Perform routine maintenance on digital equipment including: a. Detector calibration b. CR plate erasure c. Equipment cleanliness d. Test images	IP.2.C.
Perform the following diagnostic examinations:	
62. Chest	P.1.A
63. Cervical spine	P.4.A.
64. Thoracic spine	P.4.B.
65. Scoliosis series	P.4.E.
66. Lumbar spine	P.4.C.
67. Sacrum/coccyx	P.4.D.
68. Sacroiliac joints	P.4.D.
69. Skull	P.3.A.
70. Facial bones	P.3.C.
71. Nasal bones	P.3.C.
72. Orbits	P.3.C.
73. Paranasal sinuses	P.3.B.
74. Toes	P.2.A., P.5.A.
75. Foot	P.2.A., P.5.A.
76. Calcaneus	P.2.A., P.5.C.
77. Ankle	P.2.A., P.5.B.
78. Tibia/fibula	P.2.A.
79. Knee/patella	P.2.A.
80. Femur	P.2.A.
81. Fingers	P.2.B.
82. Hand	P.2.B.
83. Wrist	P.2.B.
84. Forearm	P.2.B.

* Applies to specific modules

Activity		**Content Categories** Legend: PC = Patient Care, S = Safety, IP = Image Production, P = Procedures
85.	Elbow	P.2.B.
86.	Humerus	P.2.B.
87.	Shoulder	P.2.C.
88.	Scapula	P.2.C.
89.	Clavicle	P.2.C.
90.	Acromioclavicular joints	P.2.C.