Radiography

The purpose of the exam is to assess the knowledge and cognitive skills underlying the intelligent performance of the tasks typically required of the staff technologist at entry into the profession. The tasks typically performed were determined by administering a comprehensive practice analysis survey to a nationwide sample of radiographers.[1] An advisory committee then determined the knowledge and cognitive skills needed to perform the tasks on the task inventory and these are organized into the content categories within this document. Every content category can be linked to one or more tasks on the task inventory. The document is used to develop the examination. The *Task Inventory for Radiography* may be found on the ARRT's website (www.arrt.org).

The ARRT avoids content when there are multiple resources with conflicting perspectives. Educational programs accredited by a mechanism acceptable to ARRT offer education and experience beyond the minimum requirements specified in the content specifications and clinical competency requirements documents.

This document is not intended to serve as a curriculum guide. Although ARRT programs for certification and registration and educational programs may have related purposes, their functions are clearly different. Educational programs are generally broader in scope and address the subject matter that is included in these content specifications, but do not limit themselves to only this content.

The table below presents the major content categories and subcategories covered on the examination. The number of test questions in each category are listed in bold and the number of test questions in each subcategory in parentheses. Specific topics within each category are addressed in the content outline, which makes up the remaining pages of this document.

Content Category	**Number of Scored Questions[2]**
Patient Care	**33**
Patient Interactions and Management (33)	
Safety	**50**
Radiation Physics and Radiobiology[3] (21)	
Radiation Protection (29)	
Image Production	**51**
Image Acquisition and Evaluation (26)	
Equipment Operation and Quality Assurance (25)	
Procedures	**66**
Head, Spine and Pelvis Procedures (18)	
Thorax and Abdomen Procedures (20)	
Extremity Procedures (28)	
Total	**200**

[1] A special debt of gratitude is due to the hundreds of professionals participating in this project as committee members, survey respondents, and reviewers.
[2] Each exam includes an additional 30 unscored (pilot) questions.
[3] SI units are the primary (principle) units of radiation measurement used on the radiography examination.

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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. restraints versus positioning aids used to eliminate 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, medical event)
   3. ARRT Standards of 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
      a. explanation of current procedure (e.g., purpose, length of time, radiation dose)
      b. pre- and post-examination instructions (e.g., preparation, diet, medications and discharge instructions)
      c. respond to inquiries about other imaging modalities (e.g., dose differences, types of radiation, patient preps)

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, Hoyer lift, gait belt)
   2. assisting patients with medical equipment
      a. infusion catheters and pumps
      b. oxygen delivery systems
      c. other (e.g., nasogastric tubes, urinary catheters, tracheostomy tubes)
   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. non-contrast allergic reactions (e.g., 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
      e. safe injection practices
   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
      b. chemotherapy
   2. safety data sheet (material safety data sheet)

G. Pharmacology
   1. patient history
      a. medication reconciliation (current medications)
      b. premedications
      c. contraindications
      d. scheduling and sequencing examinations
   2. administration
      a. routes (e.g., IV, oral)
      b. supplies (e.g., enema kits, needles)
      c. procedural technique (e.g., venipuncture)
      d. contrast media dose calculation
   3. contrast media types and properties (e.g., iodinated, water soluble, barium, ionic versus non-ionic)
   4. appropriateness of contrast media to examination
      a. patient condition (e.g., perforated bowel)
      b. patient age and weight
      c. laboratory values (e.g., BUN, creatinine, eGFR)
   5. complications/reactions
      a. local effects (e.g., extravasation/infiltration, phlebitis)
      b. systemic effects
         1. mild
         2. moderate
         3. severe
      c. emergency medications
      d. radiographer's response and documentation

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 #160)
      a. absorbed dose (Gy)
      b. dose equivalent (Sv)
      c. exposure (C/kg)
      d. effective dose (Sv)
      e. air kerma (Gy)
   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, gonad)
      c. embryo and fetus
      d. carcinogenesis
      e. early versus late or acute versus chronic
      f. deterministic (tissue reactions) versus stochastic
      g. short-term versus long-term exposure
      h. 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
      c. automatic exposure control (AEC)
   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 #102, minimum filtration in useful beam)
   5. radiographic dose documentation
   6. image receptors
   7. grids
   8. fluoroscopy
      a. pulsed
      b. exposure factors
      c. grids
      d. positioning
      e. fluoroscopy time
      f. automatic brightness control (ABC) or automatic exposure rate control (AERC)
      g. receptor positioning
      h. magnification mode
      i. air kerma display
      j. last image hold
      k. dose or time documentation
      l. minimum source-to-skin distance (21 CFR)
   9. 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 #102)
   4. special considerations
      a. mobile units
      b. fluoroscopy
         1. protective drapes
         2. protective Bucky slot cover
         3. cumulative timer
         4. remote-controlled fluoroscopy
      c. guidelines for fluoroscopy and mobile units (NCRP #102, 21 CFR)
         1. fluoroscopy exposure rates (normal and high-level control)
         2. exposure switch guidelines
   5. radiation exposure and monitoring
      a. dosimeters
         1. types
         2. proper use
      b. NCRP recommendations for personnel monitoring (NCRP #116)
         1. occupational exposure
         2. public exposure
         3. embryo/fetus exposure
         4. dose equivalent limits
         5. evaluation and maintenance of personnel dosimetry records
   6. handling and disposal of radioactive material

* (August 24, 2016) Note: Although it is the radiographer's responsibility 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. grids*	X		
g. tube filtration	X		
h. beam restriction	X		
i. motion		X	
j. anode heel effect	X		
k. patient factors (size, pathology)	X	X	X
l. angle (tube, part, or receptor)		X	X

* Includes conversion factors for grids

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. contrast media
      f. grids
      g. OID

C. Automatic Exposure Control (AEC)
   1. effects of changing exposure factors on radiographic quality
   2. detector selection
   3. anatomic alignment
   4. exposure adjustment (e.g., density, +1 or –1)

D. Digital Imaging Characteristics
   1. spatial resolution
      a. pixel characteristics (e.g., size, pitch)
      b. detector element (DEL) (e.g., size, pitch, fill factor) CCD, CMOS (e.g., size, pitch)
      c. sampling frequency (CR)
      d. matrix size
      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)

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

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

Image Production (continued)

2. Equipment Operation and Quality Assurance

A. Imaging Equipment
1. x-ray generator, transformers and rectification system
   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 -1)
      4. minimum response time
   d. manual exposure controls
   e. image receptors
      1. computed radiography (CR)
         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. components of fluoroscopic unit (fixed or mobile)
   a. image receptors
      1. image intensifier
      2. flat panel
   b. viewing systems
   c. recording systems
   d. automatic brightness control (ABC) or automatic exposure rate control (AERC)
   e. magnification mode
   f. table
4. 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

Image Production (continued)

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

This section addresses imaging procedures for the anatomic regions listed below. Questions will cover the following topics:

1. Positioning (e.g., topographic landmarks, body positions, path of central ray, positioning aids, respiration).
2. Anatomy (e.g., including physiology, basic pathology, related medical terminology).
3. Procedure adaptation (e.g., body habitus, body mass index, trauma, pathology, age, limited mobility).
4. Evaluation of displayed anatomical structures (e.g., patient positioning, tube-part-image receptor alignment).

The specific radiographic 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*.

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1. Head, Spine and Pelvis Procedures

A. Head
   1. skull
   2. facial bones
   3. mandible
   4. temporomandibular joints
   5. nasal bones
   6. orbits
   7. paranasal sinuses

B. Spine and Pelvis
   1. cervical spine
   2. thoracic spine
   3. scoliosis series
   4. lumbar spine
   5. sacrum and coccyx
   6. myelography
   7. sacroiliac joints
   8. pelvis and hip

2. Thorax and Abdomen Procedures

A. Thorax
   1. chest
   2. ribs
   3. sternum
   4. soft tissue neck
   5. sternoclavicular joints

B. Abdomen and GI Studies
   1. abdomen
   2. esophagus
   3. swallowing dysfunction study
   4. upper GI series, single or double contrast
   5. small bowel series
   6. contrast enema, single or double contrast
   7. surgical cholangiography
   8. ERCP

C. GU Studies
   1. cystography
   2. cystourethrography
   3. intravenous urography
   4. retrograde urography
   5. hysterosalpingography

3. Extremity Procedures

A. Upper Extremities
   1. fingers
   2. hand
   3. wrist
   4. forearm
   5. elbow
   6. humerus
   7. shoulder
   8. scapula
   9. clavicle
   10. acromioclavicular joints

B. Lower Extremities
   1. toes
   2. foot
   3. calcaneus
   4. ankle
   5. tibia/fibula
   6. knee/patella
   7. femur
   8. long bone measurement

C. Other
   1. bone age
   2. bone survey (e.g., metastatic, non-accidental trauma)
   3. arthrography

Attachment A

Radiographic Positions and Projections

1. **Head, Spine and Pelvis**
   - **A. Head**
     1. Skull
        a. AP axial (Towne)
        b. lateral
        c. PA axial (Caldwell)
        d. PA
        e. submentovertex (full basal)
        f. trauma cross-table (horizontal beam) lateral
        g. trauma AP axial (reverse Caldwell)
        h. trauma AP
        i. trauma AP axial (Towne)
     2. Facial Bones
        a. lateral
        b. parietoacanthial (Waters)
        c. PA axial (Caldwell)
        d. modified parietoacanthial (modified Waters)
     3. Mandible
        a. axiolateral oblique
        b. PA
        c. AP axial (Towne)
        d. PA axial
        e. PA (modified Waters)
        f. submentovertex (full basal)
     4. Temporomandibular Joints
        a. axiolateral oblique (modified Law)
        b. axiolateral (modified Schuller)
        c. AP axial (modified Towne)
     5. Nasal Bones
        a. parietoacanthial (Waters)
        b. lateral
        c. PA axial (Caldwell)
     6. Orbits
        a. parietoacanthial (Waters)
        b. lateral
        c. PA axial (Caldwell)
        d. modified parietoacanthial (modified Waters)
     7. Paranasal Sinuses
        a. lateral, horizontal beam
        b. PA axial (Caldwell), horizontal beam
        c. parietoacanthial (Waters), horizontal beam
        d. submentovertex (full basal), horizontal beam
   - **B. Spine and Pelvis**
     1. Cervical Spine
        a. AP axial
        b. AP open mouth
        c. lateral
        d. cross-table (horizontal beam) lateral
        e. PA axial obliques
        f. AP axial obliques
        g. lateral swimmers
        h. lateral flexion and extension
        i. AP dens (Fuchs)
     2. Thoracic Spine
        a. AP
        b. lateral, breathing
        c. lateral, expiration
     3. Scoliosis Series
        a. AP or PA
        b. lateral
     4. Lumbar Spine
        a. AP
        b. PA
        c. lateral
        d. L5-S1 lateral spot
        e. posterior oblique
        f. anterior oblique
        g. AP axial L5-S1
        h. AP right and left bending
        i. lateral flexion and extension
     5. Sacrum and Coccyx
        a. AP axial sacrum
        b. AP axial coccyx
        c. lateral sacrum and coccyx, combined
        d. lateral sacrum or coccyx, separate
     6. Myelography
     7. Sacroiliac Joints
        a. AP axial
        b. posterior oblique
        c. anterior oblique
     8. Pelvis and Hip
        a. AP hip only
        b. cross-table (horizontal beam) lateral hip
        c. unilateral frog-leg, non-trauma
        d. axiolateral inferosuperior, trauma (Clements-Nakayama)
        e. AP pelvis
        f. AP pelvis, bilateral frog-leg
        g. AP pelvis, axial anterior pelvic bones (inlet, outlet)
        h. posterior oblique pelvis, acetabulum (Judet)
2. **Thorax and Abdomen**
   - **A. Thorax**
     1. Chest
        a. PA or AP upright
        b. lateral upright
        c. AP lordotic
        d. AP supine
        e. lateral decubitus
     2. Ribs
        a. AP and PA, above and below diaphragm
        b. anterior and posterior obliques
     3. Sternum
        a. lateral
        b. RAO
     4. Soft Tissue Neck
        a. AP upper airway
        b. lateral upper airway
     5. Sternoclavicular joints
        a. PA
        b. LAO and RAO
   - **B. Abdomen and GI Studies**
     1. Abdomen
        a. AP supine
        b. AP upright
        c. lateral decubitus
        d. dorsal decubitus
     2. Esophagus
        a. RAO
        b. left lateral
        c. AP
        d. PA
        e. LAO
     3. Swallowing Dysfunction Study
     4. Upper GI series*
        a. AP or PA scout
        b. RAO
        c. PA
        d. right lateral
        e. LPO
        f. AP
     5. Small Bowel Series
        a. PA scout
        b. PA (follow through)
        c. ileocecal spots
     6. Contrast Enema*
        a. left lateral rectum
        b. left lateral decubitus
        c. right lateral decubitus
        d. LPO and RPO
        e. PA
        f. RAO and LAO
        g. AP axial (sigmoid)
        h. PA axial (sigmoid)
        i. PA or AP post-evacuation
     7. Surgical Cholangiography
     8. ERCP

*single or double contrast

C. GU Studies
1. Cystography
   a. AP
   b. LPO and RPO
   c. lateral
   d. AP axial
2. Cystourethrography
   a. AP voiding cystourethrogram female
   b. RPO voiding cystourethrogram male
3. Intravenous Urography
   a. AP, scout, and series
   b. RPO and LPO
   c. post-void
4. Retrograde Urography
   a. AP scout
   b. AP pyelogram
   c. AP ureterogram
5. Hysterosalpingography

3. Extremities

A. Upper Extremities
I. Fingers
   a. PA entire hand
   b. PA finger only
   c. lateral
   d. medial and/or lateral oblique
   e. AP thumb
   f. medial oblique thumb
   g. lateral thumb
2. Hand
   a. PA
   b. lateral
   c. lateral oblique
3. Wrist
   a. PA
   b. lateral oblique
   c. lateral
   d. PA–ulnar deviation
   e. PA axial (Stecher)
   f. tangential carpal canal (Gaynor-Hart)
4. Forearm
   a. AP
   b. lateral
5. Elbow
   a. AP
   b. lateral
   c. lateral oblique
   d. medial oblique
   e. AP partial flexion
   f. trauma axial laterals (Coyle)
6. Humerus
   a. AP
   b. lateral
   c. neutral
   d. transthoracic lateral
7. Shoulder
   a. AP internal and external rotation
   b. inferosuperior axial (Lawrence)
   c. posterior oblique (Grashey)
   d. AP neutral
   e. PA oblique (scapular Y)
   f. supraspinatus outlet (Neer)
8. Scapula
   a. AP
   b. lateral
9. Clavicle
   a. AP or PA
   b. AP axial
   c. PA axial
10. Acromioclavicular Joints – AP bilateral with and without weights

B. Lower Extremities
1. Toes
   a. AP, entire forefoot
   b. AP or AP axial toe
   c. oblique toe
   d. lateral toe
   e. sesamoids, tangential
2. Foot
   a. AP axial
   b. medial oblique
   c. lateral oblique
   d. lateral
   e. AP axial weight bearing
   f. lateral weight bearing
3. Calcaneus
   a. lateral
   b. plantodorsal, axial
   c. dorsoplantar, axial
4. Ankle
   a. AP
   b. mortise
   c. lateral
   d. medial oblique
   e. AP stress
   f. AP weight bearing
   g. lateral weight bearing
5. Tibia/Fibula
   a. AP
   b. lateral
6. Knee/patella
   a. AP
   b. lateral
   c. AP weight bearing
   d. lateral oblique
   e. medial oblique
   f. PA axial–intercondylar fossa (Holmblad)
   g. PA axial–intercondylar fossa (Camp Coventry)
   h. AP axial–intercondylar fossa (Béclère)
   i. PA patella
   j. tangential (Merchant)
   k. tangential (Settegast)
7. Femur
   a. AP
   b. lateral
8. Long Bone Measurement

C. Other
1. Bone Age
2. Bone Survey
3. Arthrography

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

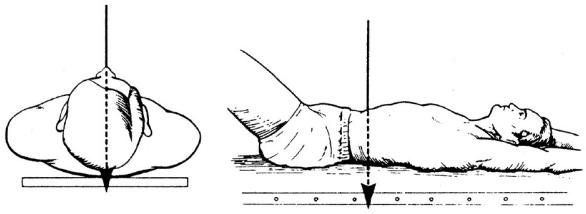
      ii. *right posterior oblique (RPO)* — body rotated with the right posterior portion closest to the image receptor

2. oblique extremity positions

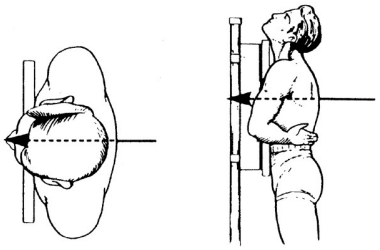
   a. lateral (external) rotation — from either prone or supine, outward rotation of the extremity

   b. medial (internal) rotation — from either prone or supine, inward rotation of the extremity

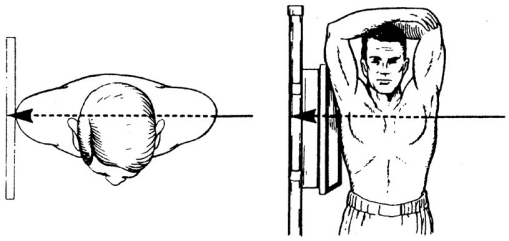
Anteroposterior Projection



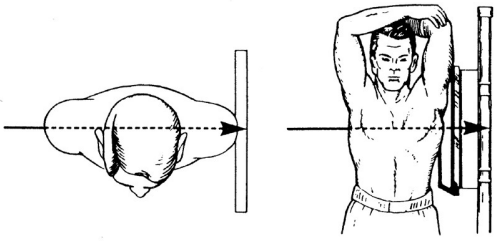
Posteroanterior Projection



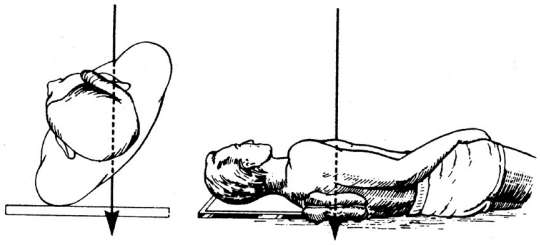
Right Lateral Position



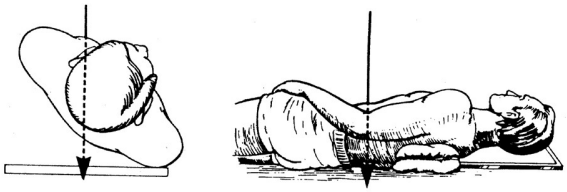
Left Lateral Position



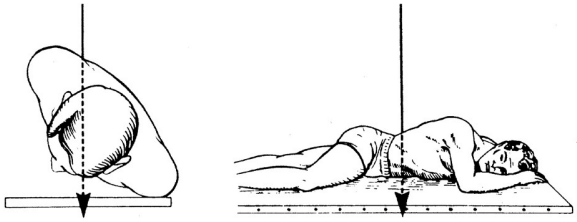
Left Posterior Oblique Position



Right Posterior Oblique Position



Left Anterior Oblique Position



Right Anterior Oblique Position

