

RADT-1410: INTERMEDIATE RADIOGRAPHIC POSITIONING

Cuyahoga Community College

Viewing: RADT-1410 : Intermediate Radiographic Positioning

Board of Trustees:

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Academic Term:

Fall 2022

Subject Code

RADT - Radiography

Course Number:

1410

Title:

Intermediate Radiographic Positioning

Catalog Description:

Essentials of radiographic procedures involving cerebral and facial cranium, vertebral column, thoracic cage, and specific projections of upper extremity articulations. Techniques and positioning variations for trauma, geriatric and age specific patients. Communication skills for patient-focused care, being mindful of standard precautions, and appropriate safety practices. Additional hours required for practicing radiographic positioning assignments under direct supervision of registered radiographer.

Credit Hour(s):

3

Lecture Hour(s):

2

Lab Hour(s):

2

Other Hour(s):

0

Requisites

Prerequisite and Corequisite

RADT-1400 Radiographic Positioning, and departmental approval: admission to program.

Outcomes

Course Outcome(s):

A. Provide intermediate patient and positioning techniques for individuals having radiographic procedures under direct supervision of qualified personnel.

Objective(s):

1. Displays appropriate verbal and non-verbal communication skills when interacting with patient to obtain patient identification and history.
2. Selects appropriate patient preparation for procedures including removal of earrings or clothing articles that will interfere with radiographic image.
3. Assures patient safety: before, during, and after procedures including immobilization techniques when necessary.
4. Applied radiation protection/shielding as appropriate to ensure as low as reasonably achievable exposure (ALARA).
5. Applied methods of standard precautions for infection control.

Course Outcome(s):

B. Performs intermediate radiologic examinations using variety of image receptors in accordance with safety protocols.

Objective(s):

1. Utilizes radiation safety and protection practices for all procedures.

2. Demonstrate competency in radiographic procedures and positioning skills to image the following procedures: skull, sinuses, mandible, temporomandibular joints, facial bones, nasal bones, orbits/optic foramina, zygomatic arches, scapula, acromioclavicular joints (A.C.), ribs, sternum, Sacroiliac Joints cervical spine, thoracic spine, lumbar spine, sacrum/coccyx.
3. Apply knowledge of radiographic baselines, positioning landmarks and general body planes.

Course Outcome(s):

C. Evaluate radiographic images to ensure quality.

Objective(s):

1. Displays knowledge of correct positioning and central ray placement.
2. Recognizes anatomy demonstrated.
3. Corrects technique for quality image.

Course Outcome(s):

D. Evaluate radiographic orders.

Objective(s):

1. Verifies correct procedure ordered.
2. Reviews patient's clinical history.
3. Recognizes chief complaint.
4. Assess pregnancy status.

Course Outcome(s):

E. Adapts to special situations including: atypical conditions, mobile procedures, surgical unit procedures including C-arm, age specific - pediatric, geriatric, adolescent, adult, special needs patients, trauma, obesity, cultural differences, and claustrophobia.

Objective(s):

1. Demonstrates proficiency in setting up and operating the C-arm.
2. Identifies methods to adapt for trauma situations.
3. Adapts positioning techniques for patients with special needs and varying body habitus.

Methods of Evaluation:

1. Class participation
2. Positioning Lab Pretests/competency
3. Quizzes
4. Assessment of clinical/lab projects
5. Midterm examination
6. Final examination

Course Content Outline:

1. Radiographic positioning for the skull/cranium
 - a. Posteroanterior (PA) Caldwell
 - b. Anteroposterior (AP) Townes
 - c. Haas
 - d. Submento vertex (SMV)
 - e. Lateral
 - f. P.A. (no angle)
 - g. Trauma cross-table lateral
 - h. Trauma A.P. 15 degrees cephalad
 - i. Trauma A.P. (no angle)
 - j. Trauma A.P. axial (Towne)
2. Radiographic positioning for the sinuses
 - a. P.A.
 - b. Parietocanthial (Water's)
 - c. Submento Vertical (SMV)
 - d. Lateral
 - e. Open mouth parietocanthial (Water's)

3. Radiographic positioning for the mandible
 - a. P.A. (no angle)
 - b. Axiolateral oblique(s)
 - c. Submento vertical (SMV)
 - d. A.P. axial (Towne)
 - e. P.A. semiaxial 20-20 degrees cephalad
4. Radiographic positioning for the temporomandibular articulations
 - a. Lateral (Law)
 - b. Lateral (Schuller)
 - c. AP axial (Towne)
5. Radiographic positioning for the facial bones
 - a. P.A.
 - b. Routine Water's
 - c. Reverse Water's (modified)
 - d. Lateral affected side.
6. Radiographic positioning for the nasal bone
 - a. Water's (Parietocanthial)
 - b. Lateral(s)
 - c. P.A. (Caldwell)
7. Radiographic positioning for the orbits
 - a. P.A.
 - b. Lateral
 - c. Water's - blow-out fractures
8. Radiographic positioning for the vertebral column cervical spine
 - a. A. P. (axial) angle cephalad
 - b. Lateral (s): flexion and extension\
 - c. Obliques
 - d. Odontoid views/A.P. dens (Fuchs) P.A. dens (Judd)
9. Radiographic positioning for the thoracic spine
 - a. A. P.
 - b. Lateral(s) breathing/expiration
 - c. Cervicothoracic lateral: Twinning method/swimmers
10. Radiographic positioning for the lumbar spine
 - a. A. P.
 - b. P.A.
 - c. Lateral(s)
 - d. Oblique/posterior anterior and anterior posterior
 - e. L5 S1
 - f. A.P. right and left bending
 - g. Lateral flexion and extension
11. Radiographic positioning for the sacrum\
 - a. A. P. axial 15-25 degrees cephalad
 - b. Lateral\
12. Radiographic positioning for the coccyx
 - a. A. P. axial 10-20 degrees caudad
 - b. Lateral
13. Radiographic positioning for the sacro-iliac articulations
 - a. A. P. Modified Ferguson's view
 - b. Obliques/posterior anterior and anterior posterior
 - c. P. A.
14. Radiographic positioning for scoliosis and spinal fusion
 - a. P. A. erect
 - b. Lateral erect
 - c. Bending
15. Radiographic positioning for the upper extremity
 - a. Scapula
 - i. A. P.
 - ii. Lateral (scapular Y)
 - b. Acromioclavicular articulations

- i. A. P. with weights
 - ii. A. P. without weights
16. Radiographic positioning Bony Thorax
 - a. Sternum
 - i. R. A. O./L.P.O Breathing technique
 - ii. Lateral inspiration
 - b. Ribs
 - i. A. P. or P. A.
 - ii. Obliques
 - iii. P. A. chest
 - c. Sterno-Clavicular Joints\
 - i. Bilateral PA
 - ii. PA obliques
17. Radiographic positioning for mobile radiography
 - a. Trauma victims
 - b. Head injury or spinal injury
 - c. Orthopedic traction
 - d. Special conditions of patients with pacemakers, tracheostomy placement, nasogastric tube, Dobhoff tube, chest tubes, central venous pressure line, Swan-Ganz catheters
18. Surgical Radiography/Introduction to C-arm
 - a. Proper surgical attire
 - b. Understanding and maintaining the sterile field
 - c. Introduction to C-arm
 - i. Function
 - ii. Capabilities
 - iii. Knobology of the C-arm
 - d. Cardiothoracic Radiological procedures
 - e. Orthopedic Radiological procedures
 - f. Urological Radiological procedures
 - g. Vascular Radiological procedures

Resources

Ballinger, Phillip W. *Merrill's Atlas of Radiographic Positions and Radiologic Procedures*. 14th ed. 3 volumes. Elsevier, 2019.

Ballinger, Phillip W. & Frank Merrill's. *Atlas of Radiographic Positioning & Procedures Workbook*. 14th ed. Elsevier, 2019.

"Radiography Program-Clinical Affiliate's Procedure Manuals"

Resources Other

- <http://www.medtechcon.com/imaginglinks.html>
- <http://www.winkingskull.com> (<http://www.winikingskull.com/>)
- <http://www.getbodysmart.com> (<http://www.getbodysmart.com/>)
- http://www.gwc.maricopa.edu/home_pages/crimando/Tutorial_Big.htm
- <http://www.asrt.org> (<http://www.asrt.org/>) American Society of Radiologic Technologists Radiography Curriculum
- <http://www.arrt.org> (<http://www.arrt.org/>) American Registry of Radiologic Technologists Certification examination content specifications

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