

Virginia Western Community College

RAD 221

Radiographic Procedures II

Prerequisites:

Successful completion of RAD 121- Radiographic Procedures I

Course Description:

Introduces procedures for positioning the patient's anatomical structures relative to the x-ray beam and image receptor. Emphasizes procedures for routine examination of the skull, axial skeleton, contrast studies of GI & GU tracts & special procedures employed in the more complicated investigation of the human body.

Semester Credits: 4

Lecture Hours: 3

Lab/Clinical/Internship Hours: 3

Required Materials**Textbook:**

Radiographic Positioning & Related Anatomy. 11th ed. Kenneth L. Bontrager & John P. Lampignano. Elsevier ISBN: 9780323936132

Radiographic Positioning & Related Anatomy: 11th ed. Elsevier Workbook.

Supplementary Materials:

Several resource textbooks are located in the Radiography Lab.

Laboratory facilities are available to radiography students during the day.

Course Outcomes

At the completion of this course, the student should be able to:

- Understand human anatomy and the axial skeleton, skull & contrast studies as it relates to radiographic positioning.
- Perform radiographic positioning of the skull, axial skeleton, contrast studies of the GI & GU tract.
- Understand radiographic positioning concepts as they relate to the responsibilities of the clinical environment.
- Understand radiographic positioning terminology and patient care practices.

Topical Description

I	Radiographs of Cervical & thoracic
II	Radiographs of the Bony Thorax, sternum & ribs
III	Radiographs of the Biliary Tract & Upper GI system
IV	Radiographs of the Lower GI system
V	Radiographs of the Urinary system
VI	Radiographs of the Cranium(Skull)
VII	Radiographs of the Facial Bones
VIII	Radiographs of the Sinuses

Course Objectives

I: Cervical & Thoracic Spine

- List the correct routine projections, image receptor size and centering references for the Cervical & Thoracic Spine
Cervical spine: AP open mouth, AP axial, Anterior / Posterior obliques, Lateral Erect, Swimmers Lateral flexion& extension
Thoracic spine: AP, Lateral, Swimmers, Anterior/Posterior obliques
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Cervical & Thoracic Spine

II: Bony Thorax, Sternum & Ribs

- List the correct routine projections, image receptor size and centering references for the Bony Thorax, Sternum & Ribs
Sternum: RAO, Lateral
SC joints: PA, RAO & LAO
Ribs: AP/PA Bilateral, AP unilateral, Posterior or Anterior obliques
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Bony Thorax & Ribs

III: Radiographic Positioning of the Biliary Tract & Upper GI System

- List the correct routine projections, image receptor size and centering references for the following selected projections:
RAO/LAO esophagus
PA esophagus
RAO/LPO GI
Right LAT GI
PA/AP GI
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Upper GI System

IV: Radiographic Positioning of the Lower GI

- List the correct routine projections, image receptor size and centering references for the Lower GI:
AP/PA Timed Small Bowel Series
AP/PA Barium Enema
RAO/LAO BE or RPO/LPO
Lateral BE
LPO Oblique
AP/PA Sigmoid
RT/Left Lateral Decub
AP/PA Axial
AP/PA Erect
Post Evacuation Image
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Lower GI

V: Radiographic Positioning of the Urinary System

- List the correct routine projections, image receptor size and centering references for the Urinary System: IVP, cystogram, voiding cystogram
IVP: AP prelim abdomen
AP Bladder
AP tomo of kidneys
1min,2min,3min tomo of kidneys
5min AP of the Kidneys
10 min AP abdomen
15 min RPO/LPO abdomen
Post Void Erect abdomen
Cystogram: AP, RPO/LPO, & Lateral
Voiding Cystogram: AP, RPO
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the urinary system

VI: Radiographic Positioning of the cranium

- List the correct routine projections, image receptor size and centering references for the Cranium(skull)
Skull: AP/PA Axial, Lateral, SMV, PA
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the Skull

VII: Radiographic Positioning of the Facial Bones

- List the correct routine projections, image receptor size and centering references for the facial bones
Facial Bones: Lateral, Parietoacanthial, PA axial
Nasal Bones: Lateral, Parietoacanthial
Zygomatic Arches: SMV, Tangential
Orbits: Parietoacanthial, Rheese method

Mandible: Axialateral or Axialateral oblique, AP axial, PA/PA axial, SMV, Panoramic
TMJ: AP axial, Axialateral

- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the facial bones

VIII: Radiographic Positioning of the Sinuses

- List the correct routine projections, image receptor size and centering references for the sinuses
Sinus: Lateral, Parietoacanthial, PA, SMV
- Obtain satisfactory radiographs and be able to identify (critique) structures demonstrated on the sinuses

ADA Statement

https://www.viriniawestern.edu/wp-content/uploads/2024/12/Syllabus-Statement_ADA.pdf

Title IX Statement

https://www.viriniawestern.edu/wp-content/uploads/2024/12/Syllabus-Statement_Title-IX-2025.pdf

Note to Instructors

1. One-on-one tutorial sessions are available upon request.
2. Students may utilize the energized laboratory under supervision of a faculty member.
3. See Instructor's Notes within the Course Syllabus.