# Intermediate Radiographic Procedures

A continuation of the study of proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of anatomy.

### **Course Learning Objectives**

- 1. Interpret and explain radiologic positioning terminology and considerations.(IA, D, E; IID, E, 3A,B,C, D)
  - 1. Identify 3 major planes in the human body
  - 2. Identify the quadrants of the human body.
  - 3. Identify the 4 body types.
  - 4. Identify tissues and skeletal structure.
  - 5. Identify anatomical placement via medical and positioning terminology.
  - 6. Demonstrate locating anatomical areas via medical and positioning terminology.
  - 7. Explain general positioning considerations.
  - 8. Discuss/explain patient care considerations
  - 9. Discuss/explain examination organizational routine.
  - 10. Discuss/explain radiation protection (ALARA concept).
  - 11. Discuss/explain the role as a member of the health care team.
  - 12. Discuss/explain emergency, trauma, mobile, and surgical radiographic procedures.
- 2. Manipulation of x-ray equipment in the examination room.(IA, C; IIB, C, D, E,F; IIIID;1C, E;2A,D)
  - 1. Demonstrate movement of tube in all positions and using locking mechanisms.
  - 2. Demonstrate appropriate use and placement of table or upright bucky for exam.
  - 3. Demonstrate/identify appropriate SID rules for specific anatomical examinations.
  - 4. Demonstrate room set-up for efficiency and safety.
  - 5. Demonstrate/identify proper cassette alignment with anatomical part.
  - 6. Apply critical thinking skills as it applies to patient condition and age.
- 3. Identify and describe anatomy of the human body.(IA, D;IID, 3A)
  - 1. Identify anatomical structures of the bony thorax.
  - 2. Identify anatomical structures of the cervical, thoracic, and lumbar spines.
  - 3. Identify anatomical structures of the sacrum and coccyx and sacroiliac joints.
  - 4. Identify anatomical structures of the skull and sinuses.
- D. Knowledge and demonstration of accurate manipulation of the human body and use of equipment

to achieve anatomically diagnostic images.(IA, C, E; IIB, C, D, E, F; IIID;1C, 2A; 5B)

- 1. Explain and demonstrate safe and proper positioning of the following bony thorax views:
- 1. 1. 1. AP/PA
  - 2. Lateral
  - 3. Obliques
  - 2. Explain and demonstrate safe and proper positioning of the following spine views as well as the nervous system.:
- 1. 1. 4. AP/PA
  - 5. Lateral (Odontoid or Spot views)
  - 6. Obliques
  - 7. Mobile/portable, wheelchair/stretcher, etc.
  - 3. Explain and demonstrate safe and proper positioning of the following sacrum, coccyx and

sacroiliac joint views:

- 1. 1. 8. AP/PA
  - 9. Ap axial
    - 10. Lateral
    - 11. Mobile/portable, wheelchair/stretcher, etc.

- 4. Explain and demonstrate safe and proper positioning of the following skull and sinus views:
  - I. AP/PA
  - m. Lateral
  - n. Caldwell (PA and PA axial)
  - o. AP axial Towne's
  - p. SMV
  - q. PA Water's
- E. Analyze and evaluate radiographic images for proper anatomic diagnostic quality.(IA, IIC, E; 3A, B,

C)

- 1. Evaluate and analyze images of the bony thorax for appropriate structures/positioning.
- 2. Evaluate and analyze images of the cervical, thoracic, and lumbar spines for appropriate

structures/positioning.

3. Evaluate and analyze images of the sacrum, coccyx, and sacroiliac joints for appropriate

structures/positioning.

4. Evaluate and analyze images of the skull and sinuses for appropriate

structures/positioning.

- 1. 5. Demonstrate proper identifying markers for the image.
  - F. Identify and describe cross-sectional anatomy relevant to Computed Tomography and MRI.
    - .(IA,D;IID,3A)
    - 1. Identify anatomical structures of the head in cross-section.
    - 2. Identify anatomical structures of the thorax in cross-section.
    - 3. Identify anatomical structures of the abdomen in cross-section.

#### **Required Textbooks**

Merrill's Atlas of Radiographic Positions & Procedures, Vol. I, II, & III, Rollins, Long, & Smith

\Merrill's Atlas of Radiographic Positions & Procedures Laboratory Workbook, Rollins, Long, Smith, & Curtis (Thirteenth Edition)

#### **Evaluation Standards**

Cognitive evaluation in the lecture portion will be conducted by written examination. The written exams will consist of a variety of question types including brief essay, multiple choice, and true/false. Workbooks will be due in class the day of test. There will be a final exam covering all sections at the end of the semester. Only 1 make-up exam will be allowed during the semester, it must be scheduled immediately upon return to class, and will begin with a score of 90. (Workbooks must be turned in on due date unless you are absent from class on that day. No late workbook assignments will be accepted.) Lab class will consist of three groups consisting of eight students. The students will rotate from the energized lab to the classroom and work on various assignments as noted. Explanation of up to fifty minutes may be necessary to prepare students for lab activities. The lab grade will be derived from the performance of mock competencies and class participation. During each competency there will be two students in the room – one will be the patient and one will be the

technologist. The student will perform the requested exam and then trade places with the other student. The student must make a grade of 90 on the mock competency. A grade lower than 90 will require the student to redo the mock competency and they will receive the original grade earned. The final performance competency will be a "pick it". This will consist of the student drawing a paper with an exam written on it from a cup. The student will perform the exam as if this were an actual patient. The mock comps are 75% and the "Pick It" 25% of the lab grade. This grade will be 25% of your didactic grade. Class participation in laboratory class will be mandatory.

#### Lecture:

Sectional written exa	ns45% of total grade	
	Final written exams	
	Laboratory demonstrations/comps25% of total g	rade
Lab:	Mock Competencies75% of total lab gra	ade
	Pick It25% of total lab grade	

#### Absences

Students are encouraged to attend all classes. It is the students responsibility to get missed materials and assignments from the instructor. A student who misses more than four classes will receive a 10% reduction in their final grade. Arriving one minute to fifteen minutes late will receive a tardy. Three tardies will constitute an absence. A student arriving more than fifteen minutes late will be counted absent. Disrespectful behavior in class is unacceptable and will not be tolerated.

#### **Instructional Methods**

Lecture, work groups, lab exercises, audio/visual media, handouts, return demonstration. Students will practice positioning each other while instructors assist. (This will require touching of each other as you would a patient.)

#### Disabilities

## **ADA Statement:**

Any student with a documented disability (e.g. learning, psychiatric, vision, hearing, etc.) may contact the Office on the Weatherford College Weatherford Campus to request reasonable accommodations. *Phone*: 817-598-6350 *Office Location*: Office Number 118 in the Student Services Building, upper floor. *Physical Address*: Weatherford College 225 College Park Drive Weatherford, TX.

#### **Academic Integrity**

Academic Integrity is fundamental to the educational mission of Weatherford College, and the College expects its students to maintain high standards of personal and scholarly conduct. Academic dishonesty of any kind will not be tolerated. Academic dishonesty includes, but is not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials including unauthorized use of Generative AI. Departments may adopt discipline specific guidelines on Generative AI usage approved by the instructional dean. Any student who is demonstrated to have engaged in any of these activities will be subject to immediate disciplinary action in accordance with institutional procedures.

## SCANS

This course continues the program's attention to the Secretary's Commission on Achieving Necessary Skills for the workforce. The 3 foundational competencies are labeled with Roman numerals and alpha item signifiers. The Five Competencies are labeled 1-5, with alpha item signifiers. (see attachment)