RADT A275: RADIOGRAPHIC POSITIONING AND CRITIQUE 4

Item	Value
Curriculum Committee Approval Date	11/17/2021
Top Code	122500 - Radiologic Technology
Units	2 Total Units
Hours	36 Total Hours (Lecture Hours 36)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S)

Course Description

Introduction to advanced imaging principles and procedures to include diagnostic specials, interventional angiography CT and MR sectional anatomy as related to these imaging procedures. Principles of mammographic imaging per California state (RHB) regulations. Introduction to quality assurance principles and techniques. Elements of professional development. PREREQUISITE: RADT A270. COREQUISITE: RADT A277. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Develop positioning skills applicable to specialized contrast exams studies.
2. Apply principles of image analysis to the examination in the course.
3. Demonstrate appropriate patient care skills and adherence to radiation protection practices.

Course Objectives

- 1. * - Demonstrate adherence to current RHB regulations regarding mammographic imaging.
- 2. ** - Identify the role and responsibilities of the mammographer and the Special imaging technologist.
- 3. * - Perform quality control tests to meet the criteria of a departmental Quality Assurance Program
- 4. * - Understand the manipulation of equipment and technical factors in special imaging radiography
- 5. * - Identify sectional anatomy and pathology associated with diagnostic special procedures and mammography.
- 6. ** - Evaluate and analyze quality of radiographic images.
- 7. ** - Apply knowledge of professional development to include employment seeking techniques, resume writing, and job interview skills.
- 8. * - Accurately identify exams and contrast medias relating to diagnostic special procedures to include CT, MR, and interventional angiography..
- 9. * - Adhere to the guideline for contrast media reaction responses.
- I SCAN SKILL IDENTIFICATION
- II * Competencies
- III ** Foundation Skills

Lecture Content

Introduction to the course, lecture and laboratory components. Orientation to classroom materials Sectional anatomy plates Pathology film file Processor QA tools and equipment Mammography History of mammography Basic equipment/procedures Changing psychology of mammography Breast Cancer Breast Health Breast disease/epidemiology Fears/emotions Laboratory Pathology films Sectional plates Processor QC tests Film/image evaluation and critique Breast Self - Examination Tape on BSE/American Cancer Society Facilitator skills session Breast Cancer treatment options Patient relations Mammographers responsibilities Modern mammographic equipment processing procedures film/screen combinations mammographic QA Patient positioning skills Base line mammography CC Medio - lateral oblique Advanced positions Breast anatomy and physiology Tissue classification Application of technical factors Special procedures Steriotactic biopsy Needle localization Ductography Glactography Specimen radiology Introduction to pharmacology of contrast media /portable and surgical procedures Ionic vs non -ionic Preparation Administration Emergency procedures Precautions Signs and Symptoms Types of reactions Responses Tape - Recognize and Respond Portable radiography Common procedures Patient care/protocols Surgical radiography Common procedures Sterile fields/protocols Central nervous system and spinal column Radiographic anatomy Physiology Sectional anatomy Film critique Exams of the CNS and contrast media Myelograms Diskography Pneumoencephalography Ventriculography CT and MR of the CNS Respiratory system and related exams/contrast media Radiographic anatomy Physiology Cross-sectional anatomy Film evaluation and critique Exams of the respiratory system and contrast media Bronchography CT and MR applications Pathology film critique The venous and the lymphatic systems, exams and contrast Radiographic anatomy Venous system: anatomy and physiology Lymphatic system: anatomy and physiology Cross-sectional analysis Film evaluation and critique Procedures Lymphangiogrpahy Adenography Lymphangioadenography Venography Contrast media utilized Pathology film evaluation and critique Introduction to venipuncture Male and female reproductive systems and related exams Female reproductive anatomy Physiology Cross-sectional anatomy Types of exams Hysterosalpingogram Vaginography Pelvimetry Fistula and sinus tracts Male reproductive anatomy Physiology Cross-sectional anatomy Types of male contrast exams Cavernosography Testiculography E pidimography Vesculogrpahy Prostatography Types and uses of contrast media Pathology film evaluation and critique Arthrography exams and contrast Anatomy of joints Physiology Classifications Common types of exams Knee arthrogram Hip arthrography Temporal - mandibular arthrography Shoulder arthrography Contrast media utilized Pathology film evaluation and critique Salivary gland and duct system exams and contrast Anatomy Physiology Cross-sectional studies Types of sialogram Parotid Sub maxillary Sub mandibular Contrast media used Pathology film evaluation and critique Arterial system and cardiovascular system exams and contrast Arterial system Anatomy Physiology Cross-sectional identification Related exams Cerebral angiography Carotid Vertebral Peripheral angiography upper extremity lower extremity Abdominal angiography Selective angiography pulmonary hepatic celiac Equipment and accessories Contrast used Cardiovascular system Anatomy Physiology Cross - sectional Related exams Ventriculography

Cardioangiography Cardioangioplasty Equipment and accessories Contrast used Pathology film evaluation and critique Resume and CV organization and writing/professional development and employment strategies Cover letter CV Resume Job interview Continued education and professional growth Current employment trends Administrative procedures Salaries Benefits CT and MRI imaging modalities/pediatric radiography Imaging principles Equipment components Common procedures Technologist responsibilities Common problems/precautions Pediatrics Positioning Patient care protocols Technical factors

Lab Content

1. Combo exposure factors 2. Collimation and its effect on contrast and exposure 3. Cassette size and resolution 4. Digital artifacts 5. AEC and digital imaging 6. Half Value Layer 7. Digital Quality Assurance 8. Fluoro check 9. Fluoro resolution 10. Fluoro Effect of magnification on dose 11. Fluoro Exposure Modes and dose rate 12. Fluoro Maximum Exposure Rate 13. Fluoro Image lag 14. Fluoro Target to panel distance and its effect on patient dose

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)

Instructional Techniques

1. Theory a. lecture b. guest speakers c. field trip d. videos/slides e. reading assignments 2. Laboratory instruction a. demonstration b. performance evaluation

Reading Assignments

2 hours per week 1. Some examinations and quizzes contain essay format questions 2. Written cover letter, CV and Resume

Writing Assignments

1.25 hours per week 1. Some examinations and quizzes contain essay format questions 2. Written cover letter, CV and Resume

Out-of-class Assignments

1.25 hours per week 1. Some examinations and quizzes contain essay format questions 2. Written cover letter, CV and Resume

Demonstration of Critical Thinking

1. Periodic Quizzes (including film critiques)2. Term test (some with written components)3. Final exam - comprehensive4. CV and Resume written assignments

Required Writing, Problem Solving, Skills Demonstration

1. Some examinations and quizzes contain essay format questions 2. Written cover letter, CV and Resume

Eligible Disciplines

Radiological technology: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Long, B. W., Hall Rollins, J, Smith, B. J.. Merrills Atlas of Radiographic Position and Procedures, 13th ed. Elsevier/Mosby, 2016 2. Required Long, B. W., Hall Rollins, J, Smith, B. J.. Radiographic Anatomy, Positioning and Procedures Workbook., ed. Elsevier/Mosby, 2016 3. Required McQuillen-Martensen, K. Radiographic Image Analysis, ed. Elsevier/Mosby, 2016 Rationale: -

Other Resources

1. Pathology Files, OCC Lab. Image Critique Files, OCC Lab. Computer Instructional programs.