Valencia College

Radiologic & Imaging Sciences Program

RTE 4942L Computed Tomography Practicum

CT Objectives and Assignment

# Overview

This assignment is meant to provide experiences with producing images through CT scanning. The student is expected to be actively involved in all aspects of patient care while developing skills in the operation of the CT scanner and setting scan protocols. The student must demonstrate an understanding of imaging parameters as they relate to examination protocols.

The knowledge gained through the Advanced Imaging Modalities course and Anatomy for the Medical Imager courses should be integrated into an understanding of the concepts of computed tomography. The goal of the clinical experience is meant to prepare the student to perform scans according to the physician’s protocol, recognize anatomy, localize pathology and evaluate the scans for image quality.

# Objectives

The student will be able to:

1. Discuss the basic components or design of the CT unit.
2. Discuss the principles of image production.
3. Prepare the patient for the CT scan including:

* obtains a medical history;
* explains the procedure to the patient;
* provides comfort and safety to the patient;
* places patient at the appropriate isocenter for scout
* gives appropriate instructions to the patient.

1. Determine if laboratory values ar within acceptable limits for administration of the contrast medium.
2. Implement radiation safety to assure the least amount of exposure during the examination.
3. Enter the correct input regarding patient data, topo/scout and scanning protocol.
4. Plot the appropriate scan range based on the topo/scout scan and prescribed protocol.
5. Set the appropriate parameters for the automatic injector.
6. Select or input correct functions/commands for magnification, measurements/distance, ROI, windows and filming format of the images.
7. Prepare the appropriate scans with measurements of pathology, ROI, histogram or windows.
8. Prepare the images through reformation or 3-D reconstruction.
9. Initiate life support when the patient exhibits adverse reactions to the contrast medium or when his/her condition results in cardiac or respiratory arrest.
10. Evaluate the images for quality of contrast, noise, artifacts and spatial resolution.
11. Adjust the image quality with window level and window width.
12. Produce hard copies based on format protocol and recording devices.
13. Identify anatomy on the scans.
14. Retrieve and archive scans to PACS.
15. Recognize and respond to the patient’s needs.

19. Demonstrate competency in the performance of:

* Brain
* Routine Thorax with IV Contrast
* Routine Abdomen with IV Contrast
* Routine Pelvis with IV Contrast
* Routine Kidney
* Routine Spine