Miami Dade College

Course Description

SON 1000L | Introduction to Sonography | 1 credits

This course is an introduction to the physical principles of diagnostic ultrasound. Bases of imaging with ultrasound are discussed as well as clinical units in the various areas of specialization. In conjunction with the lectures, supervised laboratory classes are conducted to familiarize students with operations of the equipment in each of the clinical areas. Topics include general medical terminology, ultrasound jargon and abbreviations, evaluation of the requisition, patient care and sonographer assistance during an ultrasound examination, basic technical skills, and major landmarks identification on adult echocardiography, OB-GYN and abdominal sonograms.

Course Competencies

Competency 1:

The student will demonstrate knowledge and comprehension of medical terminology, ultrasound jargon, and abbreviations by

a. Recognizing the definition of medical terms.
b. By identifying component parts (root, prefix, suffix).
c. Identifying the meaning of the root in each term.
d. Successfully passing medical terminology quizzes.
e. Defining basic ultrasound terms used in each of the specialties.
f. Identifying and defining medical abbreviations.

Learning Outcomes

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data

Competency 2:

The student will demonstrate knowledge and comprehension of the ultrasound machine by

a. Defining what is a transducer and sketching a typical single-element transducer.
b. Describing what is meant by ultrasonic field.
c. Briefly describing the basic modes of operation of an ultrasound instrument
d. Discussing the knobs on the machine and their use during an ultrasound exam.
e. Identifying the different transducer types and correlating the shape seen on the monitor to the transducer type.
f. Identifying proper transducer selection for each specialty and modality.
g. Distinguishing types of color flow Doppler
h. Differentiating between Pulse wave and Continuous wave Doppler.

Identifying image acquisition and storage techniques (example: Film types)

Learning Outcomes

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data

Competency 3:

The student will demonstrate knowledge and comprehension of specialties of diagnostic medical sonography by

a. Defining some protocols and requests for each modality.
b. Identifying anatomy and landmarks of basic normal ultrasound images in each.
c. specialty.
d. Describing instruments and transducers used for each specialty.
e. Describing special procedures performed in each specialty.
f. Identifying routine measurement techniques used in imaging protocols.
g. Identifying indications ultrasound scans and Doppler studies.

Learning Outcomes

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data

Competency 4:

The student will demonstrate knowledge and comprehension of patient care within each specialty by:

a. Describing how to attain information from the patient charts or requisition.
b. Discussing indications for each specialty.
c. Listing the preparation of each patient for each modality and specialty.
d. Describing some invasive procedures used in each modality. (example: biopsy
e. and genetic amniocentesis)
f. Discussing expectations of students in the clinical area and reviewing evaluation.
g. forms.
h. Discussing patient identification.
i. Discussing attention to patient's needs and sonographer's responsibilities.
j. Discussing patient safety.
k. Discussing the patient's right to privacy.
l. Discussing professional and ethical conduct in the clinical area.
m. Discuss current trends in sonographic technology and techniques

Learning Outcomes

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data