DMS 56A: VASCULAR SONOGRAPHY

Foothill College Course Outline of Record

Heading	Value
Units:	3
Hours:	3 lecture per week (36 total per quarter)
Prerequisite:	DMS 50A.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Identify and illustrate vascular anatomy.
- List pathological conditions altering vascular flow.
- Analyze doppler spectral waveforms of normal versus abnormal flow.

Description

Vascular terminology, principles including doppler physics. Interpretation of frequency spectral analysis. Intracranial, cerebrovascular and peripheral venous applications related to vascular technology. Normal, abnormal and pathologic states of the human vascular system. Intended for students in the Diagnostic Medical Sonography Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:
A. cite the genesis of the field of vascular sonography.
B. describe the difference between types of waveforms.
C. identify and illustrate vascular anatomy.
D. list pathological conditions altering vascular flow.
E. explain the risk factors for vascular disease.
F. explain the technical application to analyze doppler spectral waveforms of normal versus abnormal flow.
G. discuss the impact of disease on cultural and ethnic populations.

Course Content

A. Introduction to the field of vascular sonography
1. Cite the genesis of vascular sonography, including the discovery of and evolution to today's diagnostic practice
B. Wave forms and types
1. Components of the wave form
2. Analysis of the variations and abnormal waveform
3. Hemodynamics
4. Physical principles of vascular physics
C. Anatomy and physiology of the vascular system
1. Intracranial anatomy and physiology
2. Cerebrovascular
3. Peripheral venous
D. Various pathology affecting vascular flow
1. Intracranial anatomy and physiology
2. Cerebrovascular
3. Peripheral venous
E. Identify risk factors, clinical history, physical findings, and other diagnostic indicators
1. Disease processes, such as diabetes and smoking
2. Relevance to specific clinical history, physical findings of the patient and symptoms
F. Vascular/doppler technical applications
1. Assessing and obtaining pertinent clinical information
2. Components of the clinical report
3. Assessing relevant from non relevant data
4. Produce quality studies for the physician to interpret
5. Contrast diagnostic quality of examinations from suboptimal studies
6. Artifacts - determine useful artifacts from other types of artifacts
G. Discuss population/racial/cultural group tendencies toward vascular disease

Lab Content

Not applicable.

Special Facilities and/or Equipment

A. DVD/TV, internet access, computer, monitor, viewboxes.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

A. Written quizzes
B. Midterm exams
C. Comprehensive final

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

A. Lecture presentations
B. Classroom discussions

Representative Text(s) and Other Materials

Kupinski, Ann Marie. Diagnostic Medical Sonography: The Vascular System. 2nd ed. Baltimore, MD: Lippincott Williams, & Wilkins, 2018.
Garbani, N., R. Kendoll, and A. Kupinski. Workbook for Diagnostic Medical Sonography: A Guide to the Vascular System. 2nd ed. Baltimore, MD: Lippincott Williams, & Wilkins, 2018.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

A. Weekly reading of texts, as per syllabus - estimated at 20 pages per week.
B. Complete written sections from the syllabus and tests.

Discipline(s)

Diagnostic Medical Technology