Vascular Technology (VT) Tasks
Anatomy & physiology 20%
Cerebrovascular
Cerebrovascular normal anatomy
Evaluate the cerebrovascular vessels
Cerebrovascular hemodynamics
Evaluate the cerebrovascular vessels for normal perfusion
Venous
Venous normal anatomy
Evaluate the veins of upper extremities
Evaluate the veins of lower extremities
Evaluate the central venous system
Venous hemodynamics
Evaluate the effects of limb augmentation maneuvers on venous flow
Evaluate the effects of respiration on venous flow
Peripheral arterial
Peripheral arterial normal anatomy
Evaluate the upper extremity arteries for obstruction
Evaluate the lower extremity arteries for obstruction
Peripheral arterial hemodynamics
Assess pressure changes following exercise
Assess segmental pressure gradients
Abdominal/visceral
Abdominal/visceral normal anatomy
Evaluate the abdominal/visceral vessels
Abdominal/visceral hemodynamics
Evaluate the abdominal/visceral vasculature for perfusion
Pathology 19%
Cerebrovascular
Cerebrovascular abnormal perfusion and physiology
Evaluate the cerebrovascular vessels for disease
Cerebrovascular postoperative (surgically corrected) anatomy
Evaluate the carotid arteries following endovascular repair
Venous
Venous abnormal perfusion and physiology
Evaluate the veins of the upper extremity for disease
Evaluate the veins of the lower extremity for disease
Evaluate the central veins for disease
Venous postoperative (surgically corrected) anatomy
Assess dialysis access (i.e., fistula or graft)
Peripheral arterial
Peripheral arterial abnormal perfusion and physiology
Evaluate the arteries of the upper extremity for disease
Evaluate the arteries of the lower extremity for disease

Peripheral arterial postoperative (surgically corrected) anatomy
Evaluate vessels post intervention (e.g., angioplasty, stents)
Evaluate postoperative bypass grafts
Abdominal/visceral
Abdominal/visceral abnormal perfusion and physiology
Evaluate the abdominal/visceral vessels for disease
Abdominal/visceral postoperative (surgically corrected) anatomy
Evaluate the abdominal/visceral vessels post-endovascular repair or bypass
Evaluate transplant organs
Patient care 4%
Communication
Educate the public and other health care professionals in the application of vascular tests
Interact with supervising physician as to procedures to be followed for examination
Use a computer for patient scheduling
Use a computer for report generation
Use a computer for storage of demographic data
Integration of data 10%
Cerebrovascular
Cerebrovascular incorporate outside data (Clinical assessment, Health & Physical [H&P], Lab values)
Obtain pertinent clinical history and physical findings from patient and medical record
Cerebrovascular interpretation (Differential diagnosis)
Compare results with previous studies
Provide preliminary interpretation of test results verbally or in writing to referring physician
Report the limitations of the exam
Venous
Venous incorporate outside data (Clinical assessment, Health & Physical [H&P], Lab values)
Obtain pertinent clinical history and physical findings from patient and medical record
Venous interpretation (Differential diagnosis)
Compare results with previous studies
Provide preliminary interpretation of test results verbally or in writing to referring physician
Report the limitations of the exam
Peripheral arterial
Peripheral arterial incorporate outside data (Clinical assessment, Health & Physical [H&P], Lab values)
Obtain pertinent clinical history from patient and medical record
Peripheral arterial interpretation (Differential diagnosis)
Compare results with previous studies
Provide preliminary interpretation of test results verbally or in writing to referring physician
Report the limitations of the exam
Abdominal/visceral
Abdominal/visceral incorporate outside data (Clinical assessment, Health & Physical [H&P], Lab values)
Obtain pertinent clinical history and physical findings from patient and medical record
Abdominal/visceral interpretation (Differential diagnosis)
Compare results with previous studies
Provide preliminary interpretation of test results verbally or in writing to referring physician

Report the limitations of the exam
Protocols 33%
Cerebrovascular
Cerebrovascular clinical standards and guidelines
Evaluate the cerebrovascular vessels
Cerebrovascular measurement techniques
Analyze Doppler waveforms
Venous
Venous clinical standards and guidelines
Evaluate the veins of the upper extremity for obstruction
Evaluate the veins of the lower extremity for obstruction
Evaluate the central veins for obstruction
Evaluate veins for vessel mapping
Venous measurement techniques
Analyze Doppler waveforms
Assess venous valvular competency with cuff inflation techniques
Assess venous valvular competency with tilt table techniques
Use tourniquet techniques when evaluating for venous reflux
Venous non-sonographic techniques
Use plethysmography for valvular competence
Peripheral arterial
Peripheral arterial clinical standards and guidelines
Evaluate the arteries of the upper extremity for obstruction
Evaluate the arteries of the lower extremity for obstruction
Evaluate arteries for vessel mapping
Peripheral arterial measurement techniques
Analyze Doppler waveforms
Calculate pressure indices
Determine systolic pressure
Peripheral arterial non-sonographic techniques
Assess the palmar arch for patency with digital pressures or waveforms
Evaluate for cold sensitivity
Perform digital photoplethysmography
Perform volume pulse recording
Abdominal/visceral
Abdominal/visceral clinical standards and guidelines
Evaluate the abdominal/visceral vessels for obstruction
Abdominal/visceral measurement techniques
Analyze Doppler waveforms
Perform acceleration time calculations
Perform resistive indices calculations
Physics & instrumentation 5%
Artifacts
Recognize the presence of imaging artifacts

Imaging instruments
Record images using digital storage
Use a linear array transducer
Use a phased array transducer
Quality assurance/ Statistics
Compute statistics on lab data to document accuracy of testing
Perform quality assurance checks on equipment
Perform validation studies (e.g., review venograms and/or arteriograms)
Treatment 7%
Cerebrovascular
Cerebrovascular intraoperative procedures
Provide intraoperative duplex assessment
Provide intraoperative monitoring via transcranial Doppler
Venous
Venous intraoperative procedures
Provide intraoperative duplex assessment during venous ablation procedures
Peripheral arterial
Peripheral arterial intraoperative procedures
Provide intraoperative duplex assessment during percutaneous angioplasty
Provide intraoperative monitoring during bypass procedures
Peripheral arterial sonographer role in procedures
Assist in ultrasound guided pseudoaneurysm thrombin treatment
Perform pseudoaneurysm compression
Abdominal/visceral
Abdominal/visceral intraoperative procedures
Provide intraoperative monitoring during abdominal surgery
Provide intraoperative monitoring via intravenous ultrasound (IVUS)
Other 2%
Traumatic injury
Evaluate vessel injury following trauma
Miscellaneous conditions/tests
Evaluate thoracic outlet syndrome
Identify cysts

Incorporate outside data (Clinical assessment, Health & Physical [H&P], Lab values)							

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