

## UW HEALTH JOB DESCRIPTION

### Student Echo and Vascular Sonographer

<b>Job Code:</b> 520010	<b>FLSA Status:</b> Non-Exempt	<b>Mgt. Approval:</b> M. Chivington	<b>Date:</b> October 2023
<b>Department:</b> Echo/Vascular Lab 3032105		<b>HR Approval:</b> D. Ripp	<b>Date:</b> October 2023

### JOB SUMMARY

The Student Echo and/or Vascular sonographer will report directly to the Imaging Lab Manager. The student will work under the direction of a registered sonographer. The sonographers will perform a variety of cardiac and/or vascular studies as outlined in the responsibility section. The student sonographer will perform a variety of non-invasive studies as appropriate. The results of these examinations are used to direct the course of patient and family care. This position requires direction from a credentialed sonographer with advanced knowledge in ultrasound imaging (anatomy, physiology, and disease states).

The student may encounter difficult problems related to examination evaluations daily and must resolve them with supervision. The incumbent can assist with echo and vascular imaging procedures listed below. The student acts as a clinical resource for other staff.

### MAJOR RESPONSIBILITIES

**Clinical Activities overseen by a Registered Sonographer may be one or more of the following activity areas –**

#### Peripheral Vascular Activities:

- Perform non-arterial Doppler studies using plethysmographic and Doppler wave forms and segmental blood pressures at various levels in the arms and legs, at rest, and after stress testing to evaluate arterial circulation.
- Perform venous examinations of arms and legs with Doppler and color duplex scanning, using compression maneuvers and imaging, for detection of deep vein thrombosis and/or valvular incompetence. Map the superficial veins prior to bypass (heart or leg) for patency and size of vessels. Pre-operatively, mark incompetent perforators.
- Perform carotid duplex examinations using a scanner to directly interrogate the carotid and vertebral vessels with both real time imaging and spectral analysis using color capabilities. Velocity measurements will be dependent on accuracy of angle of insonation and visualization of vessels. Record plaque characteristics and anomalies.
- Perform other vascular examinations using color duplex scanning and Doppler to help the physician define disease of aortic aneurysm, thoracic outlet syndrome, popliteal entrapment, Raynaud's Syndrome, graft patency, and post angioplasty results.
- Identify pseudoaneurysms and arterial venous fistulas with duplex scanning. Under direction, manually apply ultrasound- guided compressions to occlude abnormality.
- Assist the physician with thrombin injections of pseudoaneurysms with ultrasound guidance during procedure, gathering necessary materials and properly disposing of used supplies.
- Assist in gathering and setting up the necessary equipment needed for compartment measurements of the lower extremity. Properly dispose of all used equipment.
- Evaluate referrals as to which tests are most appropriate for a specific patient. Take a short medical history from all patients to ensure safety during the testing.
- Prepare written results of tests performed, which are entered in the medical record, along with impression of test results.
- Alert the physician to abnormal findings and/or changes in test results from previous examinations.
- Provide emergency care for a patient until professional staff arrives, using basic support protocols.

#### Echocardiography Activities:

- Perform echocardiographic studies on patients in the inpatient and outpatient setting, using multiple echo systems and accessories appropriate to the patient's specific diagnosis, age, height, and weight.
- Establish a pre-diagnosis for the patient, based on history, and the reason for the test as stated on the requisition. Consult with attending Echocardiologist, as needed.
- Review patient chart to obtain pertinent clinical history and prior test evaluations.
- Select the proper transducer frequency for the test to be performed.
- Prepare the patient for the procedure and explain the procedure to the patient.
- Place EKG leads in appropriate positions for systolic timing during examinations.
- Perform examinations, recognizing the significance of all structures that are visualized at all times, differentiating artifacts from appropriate images, recognizing the limitations of the equipment and utilizing knowledge of anatomy

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and physiology.

- Operate ultrasound equipment utilizing a variety of possible techniques, including M-mode, two-dimensional, pulsed Doppler, and continuous wave Doppler flow mapping.
- Perform the most complex and difficult adult and/or pediatric cardiac ultrasound examinations and use the most appropriate imaging for the situation.
- Utilize both color flow and spectral Doppler, in order to accurately evaluate, simple valve obstruction and intracardiac shunts.
- Perform emergency examinations in the department, intensive care units, other nursing wards, emergency room, cardiac cath lab, and operating room.
- Perform tests according to standard protocols. Deviate from normal techniques only when necessary to provide the best possible results.
- Prepare patient in conjunction with nursing personnel for transesophageal echocardiogram examination.
- Operate ultrasound system and assist physician during transesophageal echocardiography exams, dobutamine stress echocardiography exams, and stress echocardiography exams.
- Perform quantitative measures of Doppler recordings on analysis computer.
- Perform quantitative measurements of two-dimensional images on off time computer analysis system.
- Calculate measurements of echocardiographic structures and Doppler signals, deriving the appropriate indices pertinent to each patient.
- Present concise and complete verbal report to the cardiologist following the study
- Process interpretation and submit final data.

### Research Activities

- Cooperate in data collection for research activities.
- Participate in utilization of quality care study recommendations.
- Utilize clinical research findings to identify various intervention techniques or procedures that may need modification.
- Understand functions of equipment and learn about new equipment which may be added for diagnostic use

**ALL DUTIES AND REQUIREMENTS MUST BE PERFORMED CONSISTENT WITH THE UW HEALTH PERFORMANCE STANDARDS.**

### JOB REQUIREMENTS

Education	Minimum	Current student in the UW HC School of Diagnostic Medical Sonography
	Preferred	
Work Experience	Minimum	Six (6) months to one (1) year as a student in the UW HC School of Diagnostic Medical Sonography with passing clinical evaluations and grades.
	Preferred	
Licenses & Certifications	Minimum	Current Basic Life Support/CPR certification
	Preferred	
Required Skills, Knowledge, and Abilities		<ul style="list-style-type: none"> <li>• Able to perform cardiac or vascular ultrasound studies appropriate for their level of schooling.</li> <li>• Ability to recognize peripheral cardiac or vascular pathology in order for the physician to render a diagnosis.</li> <li>• Customer service skills.</li> <li>• Ability to maintain composure under stress, using tact and good judgment.</li> <li>• Analytical decision-making skills necessary to quickly assess and resolve technical and patient care problems and issues.</li> <li>• Strong interpersonal skills in relating to medical and hospital staff.</li> </ul>

### AGE SPECIFIC COMPETENCY (Clinical jobs only)

Identify age-specific competencies for direct and indirect patient care providers who regularly assess, manage and treat patients.

**Instructions:** Indicate the age groups of patients served either by direct or indirect patient care by checking the appropriate boxes below. Next,

<input checked="" type="checkbox"/>	Infants (Birth – 11 months)	<input checked="" type="checkbox"/>	Adolescent (13 – 19 years)
<input checked="" type="checkbox"/>	Toddlers (1 – 3 years)	<input checked="" type="checkbox"/>	Young Adult (20 – 40 years)
<input checked="" type="checkbox"/>	Preschool (4 – 5 years)	<input checked="" type="checkbox"/>	Middle Adult (41 – 65 years)

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<b>X</b>	School Age (6 – 12 years)	<b>X</b>	Older Adult (Over 65 years)
<b>JOB FUNCTIONS</b>			
Review the employee's job description and identify each essential function that is performed differently based on the age group of the patient.			
<b>PHYSICAL REQUIREMENTS</b>			
Indicate the appropriate physical requirements of this job in the course of a shift. <i>Note: reasonable accommodations may be made available for individuals with disabilities to perform the essential functions of this position.</i>			
<b>Physical Demand Level</b>		<b>Occasional</b> Up to 33% of the time	<b>Frequent</b> 34%-66% of the time
		<b>Constant</b> 67%-100% of the time	
	<b>Sedentary:</b> Ability to lift up to 10 pounds maximum and occasionally lifting and/or carrying such articles as docket, ledgers and small tools. Although a sedentary job is defined as one, which involves sitting, a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and standing are required only occasionally and other sedentary criteria are met.	<b>Up to 10#</b>	<b>Negligible</b>
<b>X</b>	<b>Light:</b> Ability to lift up to 20 pounds maximum with frequent lifting and/or carrying of objects weighing up to 10 pounds. Even though the weight lifted may only be a negligible amount, a job is in this category when it requires walking or standing to a significant degree.	<b>Up to 20#</b>	<b>Up to 10#</b> or requires significant walking or standing, or requires pushing/pulling of arm/leg controls
	<b>Medium:</b> Ability to lift up to 50 pounds maximum with frequent lifting and/or carrying objects weighing up to 25 pounds.	<b>20-50#</b>	<b>10-25#</b>
	<b>Heavy:</b> Ability to lift up to 100 pounds maximum with frequent lifting and/or carrying objects weighing up to 50 pounds.	<b>50-100#</b>	<b>25-50#</b>
	<b>Very Heavy:</b> Ability to lift over 100 pounds with frequent lifting and/or carrying objects weighing over 50 pounds.	<b>Over 100#</b>	<b>Over 50#</b>
List any other physical requirements or bona fide occupational qualifications:			

Note: The purpose of this document is to describe the general nature and level of work performed by personnel so classified; it is not intended to serve as an inclusive list of all responsibilities associated with this position.