

UW HEALTH JOB DESCRIPTION

CARDIOVASCULAR SONOGRAPHER

Job Code: 610010	FLSA Status: Non-Exempt	Mgt. Approval: R Wieczorek	Date: Oct 2022
Department: Echo/Vascular Lab/3032105		HR Approval: A Phelps Revolinski	Date: Oct 2022

JOB SUMMARY

The Cardiovascular Sonographer independently performs professional level assessments and a variety of non-invasive studies using ultrasound and related diagnostic technology as appropriate and records the results and clinical preliminary impressions as indicated. The results of these exams are used to direct the course of patient care. The sonographer encounters difficult problems related to examination evaluations daily and must resolve them with limited supervision. There is daily contact with professionals and families.

This position is a full performance Cardiovascular Sonographer with advanced knowledge of cardiac and peripheral vascular anatomy, physiology, and disease. All examinations are performed within standard protocols on adults, and occasionally on adolescents and pediatric age groups. The sonographer performs examinations in a variety of settings using both stationary and portable equipment; predominately working in the HVC Non-Invasive Diagnostic Testing Laboratory the Cath and EP Labs, and inpatient units.

The sonographer assists with transthoracic echo, transesophageal and stress testing; dobutamine, treadmill exercise stress echo, and bicycle ergometry, as well as peripheral non-invasive testing, carotid and transcranial duplex, aorta, and renal duplex scans.

The sonographer serves as a clinical instructor for the UW School of Ultrasound, and participates in the instruction of fellows, residents, and visiting physicians. The sonographer may also participate in clinical research, and acts as a clinical resource to staff at their own facility and throughout the system.

MAJOR RESPONSIBILITIES

Echocardiography:

- Place EKG leads in appropriate positions for cardiac monitoring during examinations.
- Use both color flow and spectral Doppler to accurately evaluate cardiac stenotic and regurgitant lesions, and intracardiac shunts and other hemodynamically significant lesions.
- Respond to emergency examinations in the department and in the hospital setting to intensive care units, other nursing wards, emergency room, cardiac cath lab, and operating room.
- Evaluate the hemodynamic significance of various cardiac disease states using all imaging modalities available in accordance with the department's protocols
- Calculate measurements of echocardiographic structures and Doppler signals, deriving the appropriate indices pertinent to each patient.
- Operate ultrasound system and assist exercise physiologist and RN during dobutamine and stress echocardiography.
- Perform contrast administration and agitated saline bubble studies. When needed initiate IV placement.
- Inform interpreting physician if an abnormal finding and/or a hemodynamically significant change is present from previous examination.
- Process patient and submit final data.

Peripheral Vascular:

- Perform diagnostic vascular examinations according to standardized laboratory protocols; deviating from normal techniques when necessary to provide the best possible results.
- Perform diagnostic vascular examinations, recognizing the significance of all structures that are visualized, differentiating artifacts from appropriate structures, while recognizing the limitations of equipment and utilizing knowledge of anatomy and physiology.
- Perform non-invasive arterial Doppler studies utilizing segmental pressures, volume pulse recordings and Doppler waveform patterns at various levels in the arms and legs with occasional treadmill 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, superficial thrombophlebitis and/or valvular incompetence, which may include mapping of the superficial veins for size and depth.
- Perform carotid duplex examinations to evaluate blood flow and plaque characteristics in the carotid and vertebral arteries with both real time imaging and spectral analysis using color capabilities.

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- Perform other vascular examinations using color duplex and Doppler to help the physicians assess, diagnose and treat aortic aneurysms, thoracic outlet syndrome, popliteal entrapment, Raynaud's syndrome, renal artery stenosis, bypass graft patency, dialysis fistula/graft patency and post-operative angioplasties and stentings.
- 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, intra-operative scanning, gathering necessary materials and equipment, and properly disposing of used equipment and supplies. Observes sterile fields and techniques used in the operating room.

General Clinical Activities:

- Review patient's medical record to obtain necessary clinical information including patient history, lab results, and physician orders. Obtains necessary clinical information from patients and compares requisitions to physicians' orders to ensure exam accuracy.
- Communicate to patient and family members in a timely and thorough manner that enhances the patient experience and promotes learning to understand procedures, symptoms, and to support health care outcomes.
- Communicate pertinent patient information to physicians and appropriate team members including abnormal findings and changes in test results from previous examinations.
- Prepare written preliminary impressions of tests performed.
- Provide emergency care for patients using the basic support protocols until a CODE team or EMR professional response team arrives.
- Request work orders for maintenance of equipment to provide optimal working condition. Order and replace supplies used. Keep exam area and procedure room stocked and clean.
- Accurately process data needed to complete the report template in the electronic reporting tool.
- Accurately complete billing for the procedures being completed.

Education:

- Identify and assist in developing and reviewing patient education material.
- Assist with the training and orientation of other technologists as well as ultrasound students, medical students, residents, fellows and nursing students.
- Meet continuing medical education requirements according to the American Registry of Diagnostic Medical Sonographers.
- Provide instructions to ultrasound students from the UW School of Ultrasound.
- Attend local, regional and national conferences to obtain up-to-date testing techniques.

Research:

- Cooperate in data collection for research activities.
- Identify actual or potential care problems and report to research coordinator.
- Participate in utilization of quality care study recommendations.
- Utilize clinical research findings to identify various intervention techniques or procedures that may need modification.
- Learn about new equipment that may be added for diagnostic use and understand the equipment functions.

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

JOB REQUIREMENTS

Education	Minimum	<ul style="list-style-type: none"> • Graduate of an ultrasonography program
	Preferred	<ul style="list-style-type: none"> • Completion of a Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredited ultrasonography training program. • Bachelor's degree in Ultrasonography, Radiology, Biological Sciences or a relevant health sciences field.
Work Experience	Minimum	
	Preferred	<ul style="list-style-type: none"> • Two (2) years of cardiovascular imaging experience. •

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Licenses & Certifications	Minimum	<ul style="list-style-type: none"> Registered in echocardiography and vascular ultrasound (RCS, RDCS, RVT, or RVS) Basic Life Support/CPR
	Preferred	
Required Skills, Knowledge, and Abilities		<ul style="list-style-type: none"> Demonstrate advanced knowledge of cardiac anatomy, physiology, and disease. Ability to operate ultrasound equipment utilizing a variety of possible techniques, including M-mode, two-dimensional, pulsed and continuous wave Doppler flow mapping. Ability to perform examinations, recognizing the significance of all structures that are visualized, differentiating artifacts from appropriate images, while recognizing the limitations of equipment and utilizing knowledge of anatomy and physiology. Ability to perform echo and vascular sonography studies including complex studies: stress echocardiography, dobutamine echocardiography, and transesophageal echocardiography examinations. Demonstrate flexibility performing tests/scans in a variety of clinical environments. Ability to educate patients and families of safe and appropriate testing; thoroughly explaining procedures, answering questions and calming concerns. Ability to make knowledgeable clinical assessments and judgments. Ability to use and apply clinical research findings to identify various intervention techniques or procedures that may need modification. Ability to maintain composure under stress, using tact and good judgment. Demonstrate analytical decision-making skills; ability to quickly assess and resolve technical and patient care problems. Ability to select the proper transducer frequency tests performed. Ability to work both independently and as a care team member. Ability to interact professionally and develop effective relationships.

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,

	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)
<input checked="" type="checkbox"/>	School Age (6 – 12 years)	<input checked="" type="checkbox"/>	Older Adult (Over 65 years)

JOB FUNCTIONS

Review the employee's job description and identify each essential function that is performed differently based on the age group of the patient.

PHYSICAL REQUIREMENTS

Indicate the appropriate physical requirements of this job in the course of a shift. *Note: reasonable accommodations may be made available for individuals with disabilities to perform the essential functions of this position.*

Physical Demand Level	Occasional Up to 33% of the time	Frequent 34%-66% of the time	Constant 67%-100% of the time
Sedentary: Ability to lift up to 10 pounds maximum and occasionally lifting and/or carrying such articles as dockets, 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.	Up to 10#	Negligible	Negligible

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	Light: 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.	Up to 20#	Up to 10# or requires significant walking or standing, or requires pushing/pulling of arm/leg controls	Negligible or constant push/pull of items of negligible weight
X	Medium: Ability to lift up to 50 pounds maximum with frequent lifting and/or carrying objects weighing up to 25 pounds.	20-50#	10-25#	Negligible-10#
	Heavy: Ability to lift up to 100 pounds maximum with frequent lifting and/or carrying objects weighing up to 50 pounds.	50-100#	25-50#	10-20#
	Very Heavy: Ability to lift over 100 pounds with frequent lifting and/or carrying objects weighing over 50 pounds.	Over 100#	Over 50#	Over 20#
Other - list any other physical requirements or bona fide occupational qualifications not indicated above:				

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.