

UW HEALTH JOB DESCRIPTION

CLINICAL ENGINEER IMAGING

Job Code: 410014	FLSA Status: Exempt	Mgt. Approval: M. Kelley	Date: 7.2020
Department: Supply Chain-Healthcare Technology Management		HR Approval: J. Middleton	Date: 7.2020

JOB SUMMARY

Under the general direction from the Director of Healthcare Technology Management, and in accordance with the UW Health Medical Equipment Management Plan, the Clinical Engineer Imaging will independently manage equipment used by the members of the Department of Radiology, as well as other departments in which medical imaging equipment is used in patient care. The incumbent coordinates and oversees the repair needs for all modalities of imaging systems and peripheral equipment for UW Health, including off-site facilities. The incumbent assists with the installation, acceptance, maintenance, quality control, and regulatory compliance of radiology imaging equipment and systems. This position assists with room planning, facility design, equipment acquisition, as well as construction details for imaging systems and equipment throughout the organization. This position may also provide assistance for other Clinical Engineering responsibilities outside of Radiology.

Equipment maintenance must be regularly evaluated for cost effectiveness. New or replacement equipment purchases must be weighed for cost versus the need to provide up to date, reliable equipment. High value medical imaging equipment purchases must be outlined several years in advance. Purchasing involves writing specifications to encourage competitive bidding while still maintaining a minimum standard, evaluating bid responses, and determining which system will be reliable, accurate, and able to be updated over its life. All purchases are suggested in compliance with UW Health purchasing requirements and capital budget processes.

The Clinical Engineer Imaging must possess the skill to effectively interact with individuals at all levels of the organization, as well as various equipment manufacturers' technical support, designers, managers and applications specialists. These interactions involve both giving and receiving information as well as providing recommendations on equipment design, maintenance and repair.

The Clinical Engineer Imaging is expected to be an expert at all aspects of the Imaging Equipment Maintenance program and possesses/applies a broad knowledge of principals, practices, and procedures for complex assignments.

MAJOR RESPONSIBILITIES

Coordinate Preventive Maintenance:

- Design and coordinate a preventive maintenance program for selected radiologic equipment.
- Determine practicality and cost-effectiveness of utilizing vendors or UW Health Healthcare Technology Management in-house staff.
- Plan for training, test equipment, scope, and interval of regular preventive maintenance.
- Maintain accurate documentation on all repairs, modifications, and preventive maintenance performed on imaging systems and associated equipment.
- Conduct preventive maintenance on selected medical imaging equipment when outside maintenance is impractical, unavailable, or not cost-effective.

Coordinate the Repair of Malfunctioning Equipment:

- Coordinate the first response and repair when possible for advanced imaging systems including CT, MRI, Ultrasound, and Nuclear Medicine systems.
- Observe all radiation and hazardous voltage safety precautions when repairing equipment.
- Coordinate the calibration and repair of various types of imaging systems including, but not limited to: radiographic systems, fluoroscopic systems, mammography units, angiographic systems, computed radiographic systems, fluoroscopic c-arms, mobile x-ray units, full digital radiographic rooms, digital detectors, digital mobile x-ray units, DAP and PACs.
- Consult with radiologists, medical physicists and technologists for specialized changes or modifications to equipment.
- Plan for test equipment and training.

Acquire and Implement New Equipment:

- Assist Radiology Management in preparing the capital and operating budgets (revenue and expense) for assigned areas of responsibility.

UW HEALTH JOB DESCRIPTION

- Assist with developing and implementing a capital equipment budgeting plan including assuring correct payments for service contracts, time and material charges and parts.
- Assist applicable departments in preparing capital and operating budgets with regards to imaging equipment.
- Design and coordinate evaluation procedures for new equipment.
- Participate in the selection of major and minor capital equipment items.
- Set up and check new equipment as well as equipment updates for efficacy and safety for operator and patient.
- Design and provide in-service education materials for new equipment and coordinate equipment educational programs for imaging personnel.

Coordinate the Medical Physics QA program:

- Ensure that all new imaging equipment is acceptance tested by Medical Physics and any deficiencies are repaired.
- Work with Medical Physics on equipment selection to ensure equipment will meet hospital needs and requirements.
- Document annual Medical physics QA reports to ensure that they comply with state, CMS and TJC requirements.
- Review annual Medical Physics quality assurance reports and documents of repairs for any deficiencies found.

Miscellaneous Duties:

- Analyze monthly operating and general ledger statements for areas of responsibility. Work with departments that have budget variances that fall outside of tolerance and determine actions to resolve.
- Perform benchmark survey to determine pricing of maintenance and equipment costs.
- Assist with room designs for new equipment in conjunction with related project team(s).
- Assist with the installation of imaging systems with manufacturer(s), and all applicable UW Health departments as needed.
- Ensure performance and acceptance testing of imaging systems and all associated equipment is performed by appropriate personnel. Confirm that all related documentation is incorporated into the Clinical Engineering database.
- Assist with acquiring, renewing or updating service contracts pertaining to radiologic imaging equipment as needed.
- Ensure that specific radiologic imaging equipment has all mandatory modifications.
- Take appropriate action for equipment recalls or safety problems.
- Remain up to date on current applicable technologies and performance improvement strategies.
- Collaborate with the department to align goals and facilitate operations.
- Ensure compliance with regulatory and accrediting agencies.
- Provide support for the testing and initial inspection of lead aprons.

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

JOB REQUIREMENTS

Education	Minimum	Associate Degree in Electronics or applicable military education and experience. 2 years of relevant surgical equipment experience may be considered in lieu of degree or military education in addition to experience below. (Applicable military education: DD214 Form will be required to verify relevancy)
	Preferred	Bachelor's degree in electrical engineering, biomedical engineering or related field.
Work Experience	Minimum	Four years of experience in a hospital, managing the maintenance of multi-vendor radiographic imaging equipment and systems.
	Preferred	Experience in a medium to large academic setting, should include considerable experience in design, layout, and installation of radiology imaging systems.
Licenses & Certifications	Minimum	
	Preferred	Certification as a Biomedical Electronic Technician (CBET) or X-Ray Radiation Safety training certificate.
Required Skills, Knowledge, and Abilities		<ul style="list-style-type: none"> • Knowledge of X-ray tubes, image intensifiers, collimators, grids, Bucky, and photo timers. • Knowledge of video signals, video cameras, CCD cameras, and TV chains. • Ability to skillfully use KVP meters, high voltage dividers, MAS meters, image resolution tools, digital voltmeters and oscilloscopes, and radiation measuring devices. • Ability to read schematic diagrams, blueprints, and parts lists. • Knowledge of the features, functions, technical operations, and troubleshooting processes for imaging equipment in assigned areas of responsibility. • Ability to test, evaluate and properly diagnose equipment malfunctions. • Knowledge of Computed Radiography (CR), Digital Radiography (DR), PACS, and

UW HEALTH JOB DESCRIPTION

	<p>image networking.</p> <ul style="list-style-type: none"> Proficiency in the use of personal computer applications to include word-processing, spreadsheet applications, database, and layout design functions. Knowledge and ability to oversee and perform Quality Control procedures within the assigned areas of responsibility. Knowledge of radiation safety and use of proper shielding. Possession of analytical decision-making skills necessary to quickly assess and resolve complex logistical, technical problems and issues. Ability to work effectively in a cross-functional team environment, interacting positively and productively with individuals and groups at all levels of the organization and beyond to include community organizations and peer healthcare organizations at the local, regional, and national levels.
--	--

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)		Adolescent (13 – 19 years)
	Toddlers (1 – 3 years)		Young Adult (20 – 40 years)
	Preschool (4 – 5 years)		Middle Adult (41 – 65 years)
	School Age (6 – 12 years)		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 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.	Up to 10#	Negligible	Negligible
Light: 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.	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#
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.