

UW HEALTH JOB DESCRIPTION

CLINICAL ENGINEER SURGICAL SERVICES

Job Code: 410055	FLSA Status: Exempt	Mgt. Approval: M.Kelley	Date: 9.2018
Department: Clinical Engineering/4102		HR Approval: K.Sawyer	Date: 9.2018

JOB SUMMARY

Under the general direction from the Director of Clinical Engineering, and in accordance with the UW Health Medical Equipment Management Plan, the Clinical Engineer Surgical Services will independently manage equipment used by the members of the Department of Surgical Services in the care of their patients. The equipment includes a wide variety of electrical, pneumatic, and mechanical equipment used in the Operating Rooms (ORs), for and pertaining to, a diverse array of surgical procedures. Management of the equipment must ensure its immediate availability, accuracy, and reliability. This has a direct impact on patient and employee safety, and on facilitating the smooth flow of the OR schedule. The incumbent must assess and provide for the equipment needs to achieve the goals of the Department of Surgical Services in the clinical setting. These goals include maintaining patient safety; providing adequate availability of equipment for a variety of surgical procedures; teaching residents; and conducting clinical research.

The position provides a unique capability within the department because of the required engineering background and knowledge of equipment used in the ORs. The incumbent independently determines job projects and methods, based on knowledge and experience with OR equipment and sound engineering principles. The job duties involve changing conditions and problems coinciding with advances in technology and clinical care.

A crucial area of problem solving regards intraoperative equipment problems. These problems must be solved promptly. Decisions on how to proceed are made based on experience and knowledge of the underlying principles of operation, and careful examination of the symptoms. There is little time to refer to outside sources. Since improper judgments may greatly affect the delivery of safe and reliable patient care, this work is performed under conditions of stress.

Equipment maintenance must be regularly re-evaluated for cost-effectiveness. Purchases of new or replacement equipment must be weighed for their cost versus the need to provide up to date, reliable equipment. Purchases in major areas, such as light and boom replacements, surgical robots, and video upgrades must be outlined several years in advance. Purchase decisions must be made between several competing vendors. Purchasing involves writing specifications to encourage competitive bidding while still maintaining a minimum standard; evaluating bid responses; determining which system will be reliable, accurate, and able to be updated over its life cycle. All purchases are suggested in compliance with UW Health purchasing requirements and capital budget processes.

Familiarity with codes and recommendations such as AAMI, ANSI, TJC, NFPA, UL, OSHA, and CDC are required. These regulations require significant interpretation because they are often expensive to implement, out of date, conflicting, unrealistic, or voluntary. Most are technical and require an engineering background and clinical experience to interpret.

The incumbent has contact with equipment manufacturers' personnel such as technical support, designers, product managers and applications specialists. These contacts involve both giving and receiving information and advice on equipment design, maintenance and repair.

The incumbent works with Faculty, Residents, and various other clinical staff to solve equipment needs. Clinicians in the ORs rely on the Clinical Engineer for expert advice on equipment operation, accuracy, and assistance with various unanticipated problems that may occur during surgical procedures. The Clinical Engineer may be called for consultation on the underlying physical principals and functionality of surgical equipment as the situation dictates.

The incumbent works with UW Health's Planning Design and Construction Department, and/or outside contractors, on new construction or remodeling of OR locations to provide for adequate facilities used for surgical procedures. Support is provided for Inpatient, Outpatient, and AFCH Surgical Services Departments, and may include off-site locations where surgical procedures are provided.

MAJOR RESPONSIBILITIES

Technical Skill: Incumbent performs the following job responsibilities:

A. Coordinate Preventive Maintenance

- Design, coordinate, and supervise a preventive maintenance program for all Surgical Services equipment.
- Determine practicality and cost-effectiveness of utilizing vendors or UW Health Clinical Engineering in-house staff.

UW HEALTH JOB DESCRIPTION

- Plan for training, test equipment, scope, and interval of regular preventive maintenance.
- Conduct corrective action on designated medical equipment when necessary, or when outside maintenance is impractical, unavailable, or not cost-effective.
- Configuration, testing and verification of medical equipment data transferred into the electronic medical record as needed.

B. Coordinate the Repair of Malfunctioning Equipment and Systems

- Plan for test equipment and training.
- Determine practicality and cost-effectiveness of utilizing vendors or UW Health Clinical Engineering in-house staff.
- Coordinate, and when necessary conduct, the repair of critical electronic and mechanical equipment when down-time must be minimized, or when outside maintenance is impractical, unavailable, or not cost-effective.
- Real time coordination, trouble shooting, and resolution of Surgical Services equipment and system matters, including but not limited to; Operator concerns, equipment failures, and issues related to the OR environment.

C. Acquire and Implement New Equipment

- Develop and implement capital equipment budgeting plan.
- Design and coordinate evaluation procedures for new equipment.
- Determine purchase specifications, evaluate, and make recommendations on competitive bids in compliance with UW Health purchasing requirements and capital budget processes.
- Coordinate the set up and check in of new equipment.
- Coordinate equipment updates and device corrections for efficacy and safety of the operator and patient.
- Design and provide in-service education materials for new equipment and coordinate equipment educational programs as needed.

D. Ensure Patient and Employee Safety

- Pursuing and implementing new equipment approaches and uses.
- Monitor the procedures and implementation of the electrical safety program for portable electrical equipment and the electrical power supply used in the operating room.
- Delineate and coordinate the program for monitoring and control of operating room air pollution to reduce hazards to operating room personnel.

E. Provide Training and Education

- Design orientation and training for new equipment and hospital-wide safety programs specific to Surgical Services equipment and locations.
- Provide orientation and training for new Surgical Services personnel as needed.
- Assist with creating and conducting new device implementation, training and workflow enhancements for various groups, including; Residents, Technicians, and other appropriate clinical and non-clinical staff as needed.

F. Miscellaneous

- Resolve intraoperative malfunctions of surgical equipment and systems.
- Participate in planning of new operating and procedure areas such as intraoperative radiotherapy, MRI, and neuro-radiology intervention, as well as any facility upgrades, modifications, or renovations.
- Participates on or advises departmental committees on surgical equipment status and needs, equipment upgrades and/or emerging technologies, surgical equipment failures, recalls and corrective actions, etc.
- Maintain state of competency by establishing self-development plan including journal review and educational conference attendance. Drive continuous improvement strategies in a wide array of Department specific initiatives, including but not limited to; equipment safety, cost reduction, patient safety protocols, and various other UW Health administrative and operational driven priorities.
- Perform other duties as assigned.

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. 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:
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UW HEALTH JOB DESCRIPTION

		DD214 Form will be required to verify relevancy)
	Preferred	Bachelor's Degree in Engineering or relevant field.
Work Experience	Minimum	Three years' experience with surgical equipment in an operating room environment.
	Preferred	<ul style="list-style-type: none"> • Four years' experience with surgical equipment and systems. • Academic Medical Center experience. • Education and training - Leadership experience.
Licenses & Certifications	Minimum	
	Preferred	Certification as a Biomedical Electronic Technician (CBET)
Required Skills, Knowledge, and Abilities		<ul style="list-style-type: none"> • Knowledge of equipment used in wide range of surgical procedures. • Basic knowledge of life safety codes and their application in intraoperative and OR locations. • Ability to diagnose and repair failures of equipment and systems used by surgical services personnel. • Ability to organize and schedule preventative maintenance for surgical equipment. • Basic knowledge of Information Technology terminology, set-up and configuration. • Strong customer service and communication skills. • Ability to develop a budget and five-year plan for equipment used by surgical services. • Ability to design and organize annual and on-going training and education.

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 type="checkbox"/>	Infants (Birth – 11 months)	<input type="checkbox"/>	Adolescent (13 – 19 years)
<input type="checkbox"/>	Toddlers (1 – 3 years)	<input type="checkbox"/>	Young Adult (20 – 40 years)
<input type="checkbox"/>	Preschool (4 – 5 years)	<input type="checkbox"/>	Middle Adult (41 – 65 years)
<input type="checkbox"/>	School Age (6 – 12 years)	<input 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 during 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
<input type="checkbox"/>	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
<input type="checkbox"/>	Light: 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	Up to 20#	Up to 10# or requires significant walking or standing, or	Negligible or constant push/pull of items of negligible weight

UW HEALTH JOB DESCRIPTION

	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.		requires pushing/pulling of arm/leg controls	
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.