

**Certified Hemodialysis BioMedical Technologist  
Detail of Examination Content**

**DOMAIN I: MEDICAL MACHINE MAINTENANCE (24%)**

- A. Basic hydraulic and electronic circuitry
- B. Purpose and operation of dialysis-related medical equipment
- C. Purpose and use of test equipment and maintenance
- D. Maintenance for medical equipment (e.g., water treatment equipment, dialysis equipment, testing equipment, and mechanical/electrical systems)
- E. Maintenance of machines to complete all scheduled treatments

**DOMAIN II: QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT (QAPI)  
(7%)**

- A. QAPI principles related to biomed responsibilities
- B. Alerts and recalls, or risk management investigations related to medical equipment

**DOMAIN III: WATER TREATMENT SYSTEM MANAGEMENT (30%)**

- A. Procedures for the processing of water samples
- B. AAMI analysis water samples
- C. Regulatory requirements for water quality
- D. Clinical manifestations for out-of-range test results
- E. Cultures and endotoxins for water treatment system
- F. Water system cleaning and disinfection requirements
- G. Theory and test methods of water treatment component operation
- H. Valve tags, component labels, directional tape, system schematic, valve legend
- I. State regulatory requirements for alternate water treatment plan and update as needed
- J. Requirement for secure water room

**DOMAIN IV: CONCENTRATE SYSTEMS MANAGEMENT (11%)**

- A. Bicarb and acid
- B. Principles for testing of specific gravity, conductivity, or pH
- C. Knowledge of concentrate chemistry
- D. Cultures and endotoxins of dialysate
- E. Maintenance of concentrate equipment
- F. Concentrate equipment cleaning and disinfection requirements

**DOMAIN V: REPROCESSING OF DIALYZER (4%)**

- A. Principles for reprocessing programs
- B. Reprocessing equipment (e.g., automated, manual)
- C. Water treatment systems for reprocessing equipment
- D. Physical plant requirements for a reprocessing program

**DOMAIN VI: LIFE SAFETY EQUIPMENT AND PHYSICAL PLANT MAINTENANCE (9%)**

- A. Requirements for life safety equipment
- B. Inspections on life safety equipment
- C. Vendors for repair of life safety equipment
- D. Routine inspections of physical plant as per quality requirements
- E. Vendors for repairs related to physical plant

**DOMAIN VII: DOCUMENTATION PRACTICES (7%)**

- A. Documentation of repair and maintenance (e.g., water treatment, medical equipment, physical plant)
- B. Documentation practices
- C. Review, audit, and trend logs

**DOMAIN VIII: PROFESSIONAL RESPONSIBILITY (8%)**

- A. Work-related vocabulary, symbols, abbreviations, etc.
- B. Confidentiality of patient and employee information
- C. Regulatory organizations (e.g., AAMI, CMS, OSHA)
- D. Maintenance of professional certification
- E. Support staff on technical issues related to medical equipment
- F. Types of and safe handling of medical waste
- G. Support staff in-service related to biomedical and clinical equipment
- H. Infection control procedures