

EKG Technician Technical Standards

Program Overview: Essential diagnostic, clinical preparation, electrical artifact troubleshooting, and cardiopulmonary monitoring capabilities required for certified EKG technicians.

Domain	Technical Standard Definition	Contextual Classroom / Lab / Field Examples
Equipment Maintenance & Operations	Prepare, clean, calibrate, and verify configuration parameters of multi-lead diagnostic electrocardiograph machinery and physical tracking media.	• Media Management: Load EKG recording paper reels correctly, replace degraded alligator clips, and sanitize leads using approved medical disinfection agents. • Configuration Verification: Verify and reset default paper translation speed (25 mm/sec) and signal amplification settings (10 mm/mV) prior to signal collection.
Patient Prep & Electrode Placement	Prepare patient skin surfaces and accurately locate anatomical landmarks to reduce electrical impedance and eliminate mechanical artifact.	• Skin Preparation: Shave excess localized chest hair and apply chemical or mechanical abrasion to clear systemic skin surface oils and skin cells. • Electrode Application: Locate and fix precise anatomical sites (e.g., V1 positioning at the 4th intercostal space at the right sternal border); attach physical limb leads.
Artifact Resolution & Signal Tracking	Isolate, differentiate, and correct baseline anomalies, electrical interference, or bodily movement artifacts during running diagnostic cycles.	• Waveform Stabilization: Identify wandering baselines or muscle tremors; adjust lead tension, resecure peeling pads, or guide patient respiration patterns. • Continuous Observation: Monitor patient blood pressure, track pulse variations, and monitor physical symptoms during dynamic cardiac stress testing runs.

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Safety, Compliance & Advanced Analysis	Uphold medical legal frameworks, maintain infection controls, measure waveforms, and immediately identify life-threatening cardiac rhythms.	• Information Governance: Protect patient record data according to HIPAA standards and explain diagnostic steps to achieve informed consent. • Metric Interpretation: Measure PR intervals, define QRS complex boundaries, calculate heart rate fields, and spot critical rhythms like V-Fib or V-Tach to deploy immediate CPR codes.

Institutional Accommodations & Universal Access Note

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- Phone Contact: (540) 857-6488
- Institutional Email Portal: disabilityservices@viriniawestern.edu