National Healthcareer Association

NHA Certified EKG Technician (CET)
Test Plan for the CET Exam

100 scored items
Exam Time: 2 hours

**Based on the results of a job analysis completed in 2017*

This document provides both a summary and detailed outline of the topics and associated weighting that may be covered on the CET Certification Examination. The ***summary examination outline*** *contains domains that are covered on the examination and the number of test items per domain*

The detailed outline adds to the summary outline by including tasks and knowledge statements associated with each task. ***Task*** *statements reflect the duties that a candidate will need to know how to properly perform.* ***Knowledge*** *statements reflect information that a candidate will need to know and are in support of task statements. Items on the examination might require recall and critical thinking pertaining to a knowledge statement, a task statement, or both.*

Summary CET Examination Outline:

Domain	**# of Items on Examination**
1. Safety, Compliance, and Coordinated Patient Care	32
2. EKG Acquisition	44
3. EKG Analysis and Interpretation	24
Total	**100**

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Detailed CET Examination Outline:

Domain 1: Safety, Compliance, and Coordinated Patient Care	32 Items
A. Adhere to HIPAA regulations. *Supporting Knowledge* 1. HIPAA regulations	
B. Adhere to infection control practices (e.g., OSHA, universal precautions). *Supporting Knowledge* 1. Guidelines regarding infection control (e.g., OSHA, universal precautions)	
C. Adhere to scope of practice and comply with ethical standards. *Supporting Knowledge* 1. Scope of practice of the EKG technician 2. Ethical standards related to the practice of EKG technicians (e.g., NHA Code of Ethics)	
D. Communicate appropriately with patients and members of the multidisciplinary health care team. *Supporting Knowledge* 1. Communication methods and techniques 2. Factors that affect communication with patients (e.g., culture, language, religion, developmental level, gender, disability) 3. Roles and responsibilities of members of the interdisciplinary health care team	
E. Obtain and interpret patient vital signs. *Supporting Knowledge* 1. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 2. Methods for obtaining vital signs 3. Normal vital signs across the lifespan	
F. Instruct patients about preparation for and expectations during stress testing. *Supporting Knowledge* 1. Patient preparation for stress testing 2. Types of stress tests	
G. Instruct patients on use of ambulatory monitoring (e.g., Holter, event), and verify their understanding. *Supporting Knowledge* 1. Instructions for patient use of ambulatory monitors 2. Types of ambulatory monitors	
H. Utilize electronic medical records/electronic health records (EMR/EHR) to input patient information (e.g., patient history, medications, vitals, completed EKG). *Supporting Knowledge*	

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1. Basic elements and processes related to electronic medical records/electronic health records (EMR/EHR) (e.g., fields, transmit or upload results)	
I. Recognize signs and symptoms of cardiopulmonary compromise. *Supporting Knowledge* 1. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 2. Cardiopulmonary resuscitation and basic life support 3. Normal vital signs across the lifespan 4. Signs or symptoms of cardiopulmonary compromise	

Domain 2: EKG Acquisition	**44 Items**
A. Maintain EKG equipment (e.g., load paper, replace clips, disinfect machines and leads). *Supporting Knowledge* 1. EKG equipment maintenance and cleaning requirements (e.g., paper loading, clip replacement, machine and lead disinfection) 2. Supplies needed to perform or assist in cardiac tests 3. Equipment needed to perform or assist in cardiac tests	
B. Verify EKG machine settings (speed, gain). *Supporting Knowledge* 1. Machine settings for acquiring tracing (e.g., speed, gain)	
C. Prepare skin for electrode placement. *Supporting Knowledge* 1. Supplies needed to perform or assist in cardiac tests 2. Methods to prepare the skin for application of EKG electrodes	
D. Position patient for cardiac testing (e.g., 3-, 5-, 12-lead, stress test, telemetry). *Supporting Knowledge* 1. Positioning considerations for special patient populations (e.g., amputees, respiratory issues, late-term pregnancy) 2. Positioning protocols for specific cardiac tests	
E. Apply electrodes and attach leads for: **1. Standard 12-lead EKG** **2. Ambulatory (e.g., Holter, event) monitoring** **3. Stress testing** **4. Telemetry** **5. Patients who have special considerations (e.g., right-sided heart, posterior chest, amputations, pediatric)** *Supporting Knowledge* 1. Basic anatomy and physiology of the heart 2. Location of electrode application for various cardiac tests 3. Lead placement and troubleshooting	

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4. Types of EKG acquisition (e.g., 3-, 5-, 12-lead, stress test, telemetry) 5. Types of cardiac monitoring (e.g., ambulatory, stationary)	
F. Verify that all leads were recorded. *Supporting Knowledge* 1. Lead placement and troubleshooting 2. Elements of complete EKG tracing	
G. Identify and resolve artifacts from the tracing (e.g., wandering baseline, somatic, electrical). *Supporting Knowledge* 1. Causes and types of artifacts (e.g., wandering baseline, somatic tremor, AC interference) 2. Methods to resolve artifacts	
H. Mount a completed EKG tracing strip for patient's chart. *Supporting Knowledge* 1. Mounting EKG rhythm strips	
I. Assist in monitoring patient condition during stress testing. *Supporting Knowledge* 1. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 2. Signs of adverse reaction during stress testing (e.g., shortness of breath, chest pain, abnormal vitals)	
J. Provide support in responding to complications during stress testing. *Supporting Knowledge* 1. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 2. Cardiopulmonary resuscitation and basic life support 3. Signs of adverse reaction during stress testing (e.g., shortness of breath, chest pain, abnormal vitals)	

Domain 3: EKG Analysis and Interpretation	**24 Items**
A. Calculate patient's heart rate from the EKG tracing. *Supporting Knowledge* 1. Formulas to determine maximum and target heart rates 2. Methods to calculate heart rate (e.g., 6-second method, R-R interval, sequencing) 3. Units of measurement of graph paper	
B. Determine the regularity of the patient's heart rhythm from the EKG tracing.	

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Supporting Knowledge 1. Regular and irregular heart rhythms 2. Units of measurement of graph paper	
C. Measure EKG intervals and waveforms (e.g., PR interval [PRI], QRS duration, QT interval). *Supporting Knowledge* 1. Basic anatomy and physiology of the heart 2. Electrical conduction 3. Techniques for measuring waveforms 4. Units of measurement of graph paper	
D. Inspect the waveform characteristics (P waves, QRS complexes, ST segments, T waves) for symmetry, direction, and amplitude. *Supporting Knowledge* 1. Normal and abnormal waveform duration and intervals 2. Normal and abnormal waveform characteristics 3. Electrolyte abnormalities	
E. Identify arrhythmias (sinus, atrial, ventricular, junctional, heart blocks) from the EKG tracing. *Supporting Knowledge* 1. Basic anatomy and physiology of the heart 2. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 3. Types of arrhythmias (sinus, atrial, ventricular, junctional, heart blocks)	
F. Recognize pacemaker spikes on an EKG tracing. *Supporting Knowledge* 1. Spikes caused by pacemakers	
G. Identify ischemia, injury, and infarction on the EKG tracing. *Supporting Knowledge* 1. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 2. Normal and abnormal waveform characteristics 3. Variances in waveforms related to ischemia, injury, and infarction	
H. Take appropriate action when life-threatening arrhythmias are identified. *Supporting Knowledge* 1. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 2. Cardiopulmonary resuscitation and basic life support 3. Life-threatening arrhythmias (e.g., ventricular fibrillation, ventricular tachycardia)	

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CORE KNOWLEDGE
The following statements do not represent standalone domains on the CET examination. Rather, these statements reflect fundamental knowledge for an EKG technician, which could be used in the context of an assessment item and are being provided for preparation and review purposes.
1. Basic anatomy and physiology of the heart 2. Emergencies related to cardiac testing (e.g., syncope, chest pain, abnormal vitals) 3. Cardiopulmonary resuscitation and basic life support

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