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## Phlebotomy Technician

Format: Self-Pace Online / eLearning  
Program Duration: 6 Months  
Course Contact Hours: 375

### The Phlebotomy Technician Profession

The phlebotomist is a vital member of the clinical laboratory team, whose main function is to obtain patient's blood specimens by venipuncture and micro-collection for testing purposes. Phlebotomists are employed throughout the healthcare system including in hospitals, neighborhood health centers, medical group practices, HMO's, public health facilities, veteran hospitals, insurance carriers, and in other healthcare settings. The demand for phlebotomy technicians has increased substantially with the overall complexity of healthcare services and the risks of infectious disease. Employment of phlebotomists is projected to grow 25 percent from 2020 to 2026, much faster than the average for all occupations.

### The Phlebotomy Technician Program

This Phlebotomy Technician Program prepares professionals to collect blood and other specimens from clients for the purpose of laboratory analysis. During this course students will become familiar with all aspects related to blood collection and develop comprehensive skills to perform venipuncture methods correctly and safely. Topics in this course include medical terminology, related anatomy and physiology, blood collection procedures, and procedures for collection of other types of specimens within the scope of practice of the phlebotomist.

### Education and National Certifications

- Students should have or be pursuing a high school diploma or GED.
- Except for California where this program is **NOT** available, there are no state approval and/or state requirements associated with this program.
- National Certification:
  - **American Society of Phlebotomy Technician (ASPT)**
  - **NHA Certified Phlebotomy Technician (CPT) Exam**

### Phlebotomy Technician Program Objectives

After completing this program, Learners will be able to:

- Explain the steps in selected specimen collection procedures performed by the phlebotomy technician
- Explain the safety procedures in the healthcare setting and specifically in performing specimen

- collection procedures
- Identify specific supplies and equipment used in selected specimen collection procedures
- Explain precautions and guidelines when collecting specimens in special populations such as pediatrics and geriatrics
- Define quality of care and explain the impact on patient medical care when quality and safety are compromised in phlebotomy procedures
- Describe the anatomy, physiology, pathophysiology, and medical terminology with phlebotomy
- Describe the requirements of the successful phlebotomy career including desired character traits, training and education, roles and responsibilities
- Explain how phlebotomists communicate with others in the healthcare setting verbally, nonverbally, within the health record, and using computer systems
- Identify common legal issues, ethical issues, and regulatory issues commonly impacting the phlebotomist

## **Phlebotomy Technician Program Detailed Student Objectives**

### **PHLEBOTOMY PRACTICE AND QUALITY MANAGEMENT**

- Define phlebotomy and identify healthcare professionals who perform phlebotomy procedures
- Identify the importance of phlebotomy procedures to the overall care of the patient
- List professional competencies for phlebotomists and key elements of a performance assessment
- List members of a healthcare team who interact with phlebotomists
- Describe the roles of clinical laboratory personnel and common laboratory departments/sections
- Describe healthcare settings in which phlebotomy services are routinely performed
- Explain components of professionalism and desired character traits for phlebotomists
- Describe coping skills that are used to handle stress in the workplace
- Define the difference between quality improvement and quality control
- Describe the basic tools used by a phlebotomist to participate in quality improvement activities
- Evaluate the effectiveness of the latest phlebotomy safety supplies and equipment in blood collection
- Describe preanalytical complications related to phlebotomy procedures and how they impact patient safety
- Explain how you should prevent and/or handle complications in blood collection
- List at least five factors about a patient's physical disposition that can affect blood collection
- List examples of substances that can interfere in a clinical analysis of blood constituents and describe methods used to prevent these interferences
- Describe how allergies, a mastectomy, edema, and thrombosis can affect blood collection
- List preanalytical complications that can arise with test requests and identification
- Describe complications associated with tourniquet pressure and fist pumping
- Describe how the preanalytical factors of syncope, petechiae, neurological complications, hemoconcentration, hemolysis, and intravenous therapy affect blood collection, and methods used to prevent these interferences

### **COMMUNICATION STRATEGIES FOR PHLEBOTOMISTS**

- Apply methods for effective verbal and nonverbal communication, active listening, and written communication that take into account cultural competence and sensitivity in the workplace
- Describe the basic components of the medical record
- Provide examples of maintaining confidentiality and privacy related to patient information
- Identify potential clerical or technical errors that may occur during labeling or documentation of

phlebotomy procedures

- Describe ways that healthcare workers may use computer systems to accomplish job functions

### **PROFESSIONAL ETHICS, LEGAL, AND REGULATORY ISSUES FOR PHLEBOTOMISTS**

- Define basic ethical and legal terms and explain how they differ
- Describe types of consent used in healthcare settings, including informed consent and implied consent
- Describe how you can avoid litigation as it relates to blood collection
- Define standards of care from a legal and a healthcare provider's perspective
- Identify key elements of the Health Insurance Portability and Accountability Act (HIPAA)
- List key factors common to health professional liability insurance policies
- List common issues in lawsuits against healthcare providers and prevention tips to avoid lawsuits in phlebotomy

### **INFECTION CONTROL**

- Explain the infection control policies and procedures that must be followed in specimen collection and transportation
- Identify the basic programs for infection control and isolation procedures
- Explain the proper techniques for handwashing, gowning, gloving, masking, double-bagging, and entering and exiting the various isolation areas
- Identify steps to avoid transmission of blood-borne pathogens
- Identify ways to reduce risks for infection and accidental needle sticks
- Describe measures that can break each link in the chain of infection
- Identify the steps to take in case of blood-borne pathogen exposure
- Discuss safety awareness and basic skills essential for all healthcare workers
- Explain the safety policies and procedures that must be followed in specimen collection and transportation
- Describe the safe use of equipment in healthcare facilities

### **SAFETY AND FIRST AID FOR PHLEBOTOMISTS**

- Discuss safety awareness and basic skills essential for all healthcare workers
- Explain the measures that should be taken for fire, electric, radiation, mechanical, and chemical safety in a healthcare facility
- Describe the safe use of equipment in healthcare facilities
- List precautions that can reduce the risk of injury to patients

### **MEDICAL TERMINOLOGY AND ORGANIZATION OF THE HUMAN BODY**

- Define medical terminology by using word elements such as roots, prefixes, and suffixes
- Define the differences among the terms anatomy, physiology, and pathology
- Describe the directional terms, anatomic surface regions, and cavities of the body
- Describe the role of homeostasis in normal body functioning
- Describe the structure of the human cell including the role of each organelle

### **ANATOMY AND PHYSIOLOGY OF ORGAN SYSTEMS**

- Describe the role of homeostasis in normal body functioning
- Describe the purpose, function, and structural components of the major body systems
- Identify examples of pathologic conditions associated with each organ system

- List common diagnostic tests associated with each organ system

### **THE CARDIOVASCULAR AND LYMPHATIC SYSTEMS**

- Describe the role of homeostasis in normal body functioning
- Identify examples of pathologic conditions associated with each organ system
- List common diagnostic tests associated with each organ system
- Define the functions of the cardiovascular and lymphatic systems, including the structures and functions of the heart
- Identify and describe the structures and functions of the heart
- List pathologic conditions and common laboratory tests associated with the cardiovascular and lymphatic systems
- Trace the flow of blood through the cardiovascular system
- Describe the properties of arterial blood, venous blood, and capillary blood
- Compare the cellular and noncellular components of blood
- Describe the differences and similarities between whole blood, serum, and plasma
- Explain the structures and functions of different types of blood vessels
- Identify the veins most commonly used for phlebotomy procedures
- Define homeostasis, including its role in the basic process of coagulation and fibrinolysis

### **BLOOD COLLECTION EQUIPMENT**

- Describe the following features for anticoagulants and additives used in blood collection: the various types available, their mechanisms of action on collected blood, examples of tests performed on these tubes of anticoagulants and additives, and the vacuum-collection tube color codes
- Describe the equipment used in specimen collection

### **PREANALYTICAL COMPLICATIONS CAUSING MEDICAL ERRORS IN BLOOD COLLECTION**

- Describe preanalytical complications related to phlebotomy procedures and how they impact patient safety
- Explain how you should prevent and/or handle complications in blood collection
- List at least five factors about a patient's physical disposition that can affect blood collection
- List examples of substances that can interfere in a clinical analysis of blood constituents and describe methods used to prevent these interferences
- Describe how allergies, a mastectomy, edema, and thrombosis can affect blood collection
- List preanalytical complications that can arise with test requests and identification
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### **VENIPUNCTURE PROCEDURES**

- Describe the steps a healthcare worker should take in preparing himself or herself for a venipuncture procedure
- List supplies and equipment used in a typical venipuncture procedure
- Describe detailed steps in the patient identification process and what to do if information is missing
- Describe methods for hand hygiene
- Identify the most appropriate sites for venipuncture and situations when these sites might not be acceptable

- Identify alternative sites for the venipuncture procedure
- Describe the process and time limits for applying a tourniquet to a patient's arm
- Describe the decontamination process and the agents used to decontaminate skin for routine blood tests and blood cultures
- Describe the steps of a venipuncture procedure by using the evacuated tube method, syringe method, and butterfly method according to the CLSI Approved Standard
- Describe the "order of draw" for collection tubes
- Describe how to react when the patient has fainted or experiences nausea, vomiting, or convulsions
- Explain why it is necessary to control the depth of the incision
- Describe at least three sources of pre-examination error that can occur during: blood specimen handling, blood specimen transportation, and specimen processing or storage
- Name three methods commonly used to transport specimens
- Describe the function of a chain of custody, and the Custody and Control Form

### **CAPILLARY BLOOD SPECIMENS**

- Describe the decontamination process and the agents used to decontaminate skin for routine blood tests and blood cultures
- Describe the "order of draw" for collection tubes
- Describe the reasons for acquiring capillary blood specimens
- Explain why capillary blood from a skin puncture is different from blood taken by venipuncture and the effect on laboratory tests
- List the laboratory tests for which capillary specimens may be collected
- Explain why it is necessary to control the depth of the incision
- Describe the procedure for performing a skin puncture
- Describe the procedure for making blood smears
- Name three methods commonly used to transport specimens
- Describe the function of a chain of custody, and the Custody and Control Form

### **SPECIMEN HANDLING, TRANSPORTATION, AND PROCESSING**

- Name three methods commonly used to transport specimens
- Describe the function of a chain of custody, and the Custody and Control Form

### **PEDIATRIC AND GERIATRIC PROCEDURES**

- Describe fears or concerns that children in different developmental stages might have toward the blood-collection process
- Suggest appropriate behaviors for dealing with parents during a venipuncture or skin puncture
- Identify puncture sites for a heel stick on an infant and describe the procedure
- Describe the venipuncture sites for infants and young children
- Discuss the types of equipment and supplies that must be used during microcollection and venipuncture of infants and children
- Describe the procedure for specimen collection for neonatal screening
- Define five physical and/or emotional changes associated with the aging process
- Describe how a healthcare worker should react to physical and emotional changes associated with the elderly
- Explain the special precautions and types of equipment needed to collect capillary blood gases

### **POINT-OF-CARE COLLECTIONS**

- List terms that are synonymous with point-of-care testing
- Identify four analytes whose levels can be determined through point-of-care testing
- Describe the most widely used application of point-of-care testing
- Define quality assurance and its requirements in point-of-care testing
- Explain the special precautions and types of equipment needed to collect arterial blood gases

#### **ARTERIAL, INTRAVENOUS (IV), AND SPECIAL COLLECTION PROCEDURES**

- List the steps and equipment in blood culture collections
- Discuss the requirements for the glucose and lactose tolerance tests
- Explain the special precautions and types of equipment needed to collect arterial blood gases
- Differentiate cannulas from fistulas
- List the special requirements for collecting blood through intravenous (IV) catheters
- Differentiate therapeutic phlebotomy from autologous transfusion
- Describe the special precautions needed to collect blood in therapeutic drug monitoring (TDM) procedures
- Explain special considerations for blood donor collection procedures

#### **URINALYSIS, BODY FLUIDS, AND OTHER SPECIMENS**

- Identify body fluid specimens, other than blood, that are analyzed in the clinical laboratory, and identify the correct procedures for collecting and/or transporting these specimens to the laboratory
- Describe the correct methodology for labeling urine specimens
- Identify specimens collected for microbiological, throat, sputum, and nasopharyngeal cultures and the protocol that must be followed when transporting these specimens
- List the types of patient specimens needed for gastric and sweat chloride analysis
- List types of urine specimen collections and differentiate the uses of the urine specimens obtained from these collections
- Describe how to detect adulteration of urine specimens

#### **DRUG USE, FORENSIC TOXICOLOGY, WORKPLACE TESTING, SPORTS MEDICINE & RELATED AREAS**

- Define toxicology and forensic toxicology
- Give five examples of specimens that can be used for forensic analysis
- Describe the function of a chain of custody, and the Custody and Control Form
- List examples of how blood alcohol contents is measured
- Describe at least three factors that affect testing for alcohol content