

**Component I:**            **CORE**

**Module 10:**            **Quality, Application Process & Continuing Education**

**Purpose:**            **To prepare the learner with the information regarding quality activities in the workplace, specific application processes for obtaining California Phlebotomy Certification and Continuing Education Requirements**

**Suggested Time Frame:**            **1 hour, 15 minutes**

**Objectives:**        **Upon completion of this module, the learner will be able to:**

1. Describe quality activities in the workplace.
2. Locate and complete applications necessary to obtain the California Phlebotomy Certification.
3. Describe the continuing education requirements to renew the California Phlebotomy Certificate.

**References:**

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McCall, Ruth E. & Tankersley, Cathee M. (1998). Phlebotomy Essentials. Philadelphia, Pennsylvania: Lippincott, Williams, & Willaims.

McCall, Ruth E. & Tankersley, Cathee M. (1997). Phlebotomy Exam Review. Philadelphia, Pennsylvania: Lippincott, Williams, & Willaims.

Pendergraph, Garland & Pendergraph, Cynthia (1998). Handbook of Phlebotomy and Patient Service Techniques. Baltimore, Maryland: Williams & Wilkins.

**Component I:**            CORE

**Module 10:**            **Quality, Application Process & Continuing Education**

**Topic 1:**                **Quality**

**Purpose:**                **To prepare the learner with the information regarding quality activities in the workplace**

**Suggested Time Frame:**        **45 minutes**

**Objectives:**        **Upon completion of this topic, the learner will be able to:**

1. Define the key terms.
2. Define quality.
3. Describe quality concepts.
4. Describe Quality Control.
5. Describe Quality Assurance.
6. Describe Risk Management.

**Vocabulary:**

QC  
QA

PDCA  
Processes

Quality  
Risk Management

**References:**

Davis, Bonnie K. (2002). Phlebotomy: A Customer Service Approach. Albany, NY: Delmar, a division of Thompson Learning, Inc.

Ernst, Dennis (2001). Phlebotomy Meets the Law. Advance/Laboratory. August

Flynn, Jr. John C. (1999). Procedures in Phlebotomy. Philadelphia, Pennsylvania: W.B. Saunders Company.

Fremgen, Bonnie & Blume, Wendy (2001). Phlebotomy Basics with other Laboratory Techniques. Upper Saddle, New Jersey: Prentice Hall.

Garza, Diana & Becan-McBride, Kathleen (2002). Phlebotomy Handbook: Blood Collection Essentials. Upper Saddle, New Jersey: Prentice Hall.

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**Module 10: Quality, Application Process & Continuing Education**

**Topic 1: Quality**

Objectives & Content	Recommended Teaching Strategies & Evaluation
<ol style="list-style-type: none"> <li>1. Define the key terms.               <ol style="list-style-type: none"> <li>A. Review the terms listed in the vocabulary section</li> <li>B. Spell the listed terms accurately</li> <li>C. Pronounce the terms correctly</li> <li>D. Use the terms in their proper context</li> </ol> </li> </ol>	Lecture
<ol style="list-style-type: none"> <li>2. Define quality               <ol style="list-style-type: none"> <li>A. A degree of excellence.</li> <li>B. Doing the right thing.                   <ol style="list-style-type: none"> <li>1. The care has accomplished the desired outcome.</li> <li>2. The care provided it relevant to the patient's clinical needs.</li> </ol> </li> <li>C. Doing it the right way using the appropriate equipment.</li> <li>D. Doing it on time.</li> <li>E. Delivering the right product.</li> <li>F. Satisfying the client's needs.</li> <li>G. Meeting the client's expectations.</li> <li>H. Treating every client with integrity, courtesy, &amp; respect.</li> <li>I. Maintaining the safety of the patient.</li> <li>J. Requirements of a quality specimen.                   <ol style="list-style-type: none"> <li>1. Prepare patient properly.                       <ol style="list-style-type: none"> <li>a. Give glucola when a glucose tolerance test is ordered.</li> <li>b. Assuring that the patient is in the correct position for drawing of blood.</li> </ol> </li> <li>2. Collect specimen from the correct patient and label appropriately.                       <ol style="list-style-type: none"> <li>a. Check ID band if inpatient or ask the correct questions if outpatient.</li> <li>b. Label samples immediately after draw in the location that they are drawn.</li> <li>c. Do not move specimens to another location to label.</li> </ol> </li> <li>3. Use of anticoagulants &amp; preservatives with the correct amount of specimen drawn.                       <ol style="list-style-type: none"> <li>a. Assure that the tubes are filled with the correct amount of specimen (1/9 ratio).</li> <li>b. Assure that the specimens are properly mixed (gently).</li> </ol> </li> <li>4. Specimens should not be hemolyzed.                       <ol style="list-style-type: none"> <li>a. Assure that the correct needle size is used.</li> <li>b. Assure that the flow of blood is adequate.</li> <li>c. Handle tubes gently to avoid hemolysis.</li> </ol> </li> <li>5. Fasting specimens should be collected timely &amp; should be fasting.</li> </ol> </li> </ol> </li> </ol>	Lecture Illustration of Precision & Accuracy - Appendix 10.1

Objectives & Content	Recommended Teaching Strategies & Evaluation
<ul style="list-style-type: none"> <li>a. Fasting is defined as 8-12 hours</li> <li>b. Definition depends on the requirements of the test, the provider, and the institutional requirements.</li> <li>6. Timed specimens should be correctly timed and documented.</li> <li>7. Light sensitive specimens like bilirubin or red cell folate should be wrapped in aluminum foil or collected in amber colored tubes.</li> <li>8. Temperature dependant specimens should be collected and handled as required. <ul style="list-style-type: none"> <li>a. Cold agglutinins should be kept warm by using warm sand or placing them under your armpit for transportation to the testing area.</li> <li>b. Lactic acid and blood gasses require immediate chilling by using a container of ice for transport to the testing area.</li> </ul> </li> <li>9. Allow complete clot formation prior to centrifugation. <ul style="list-style-type: none"> <li>a. Let tubes sit 30-40 minutes in an upright position as required by institutional procedures.</li> <li>b. Specimens from patients on anticoagulant therapy, with high white counts or chilled specimens, might take longer to clot.</li> <li>c. If the clot is not completely formed, when centrifugation occurs the serum itself may clot, thus interfering with testing or generating a false report.</li> </ul> </li> <li>10. Specimens should be transported to the laboratory in a timely manner using systems in place in the particular institution. <ul style="list-style-type: none"> <li>a. Phlebotomist takes it to the lab.</li> <li>b. Courier takes it to the lab.</li> <li>c. Nurse or clerk takes it to the lab.</li> <li>d. Tube system or robot takes it to the lab.</li> </ul> </li> <li>K. Blood loss due to phlebotomy <ul style="list-style-type: none"> <li>1. Minimum blood volume requirements include: <ul style="list-style-type: none"> <li>a. Analytical instruments require minimum volume for aspiration</li> <li>b. Analytical instruments may require a standard tube size</li> <li>c. Separating plasma or serum for multiple departments, or the reference laboratory will send out.</li> <li>d. Repeat testing after Quality Control failure</li> </ul> </li> </ul> </li> </ul>	

Objectives & Content	Recommended Teaching Strategies & Evaluation
<ul style="list-style-type: none"> <li>e. Add-on testing ordered after specimen is drawn</li> <li>f. Volume requirements by tube manufacturer to ensure adequate dilution with an anticoagulant or additive.</li> </ul> <p>2. Strategies to reduce blood volume loss</p> <ul style="list-style-type: none"> <li>a. Coordinating all requests into a single blood draw</li> <li>b. Schedule blood draws on a frequent basis to eliminate STAT draws</li> <li>c. Ask for review of duplicate requests</li> <li>d. Calculate blood volume for neonates and infants. <ul style="list-style-type: none"> <li>i. Infant blood volume is 100 mL per kg.</li> <li>ii. <i>Example:</i> Calculate the blood volume of a baby who weighs 5.5 lbs. <ul style="list-style-type: none"> <li>• Change the weight from pounds to kilograms (<math>5.5 \text{ lb} \times 0.454 = 2.5 \text{ kg}</math>)</li> <li>• Multiply 2.5 kg by 100 for total blood volume in milliliters (<math>2.5 \text{ kg} \times 100 = 250 \text{ mL}</math>)</li> <li>• Change blood volume in mL/kg to liters (<math>250 \text{ mL}/1,000 \text{ mL} = 0.25 \text{ L}</math>)</li> </ul> </li> <li>iii. <math>10\%</math> of <math>0.25 \text{ L} = 0,025 \text{ L}</math> or <math>10\%</math> of <math>250 \text{ mL} = 25 \text{ mL}</math> of blood</li> </ul> </li> <li>e. Maintain daily tally of blood loss when clinical indicated and in the case of neonates. <ul style="list-style-type: none"> <li>i. Anemia or cardiac arrest can occur if neonate loses more than <math>10\%</math> of its blood volume.</li> <li>ii. Knowing the total blood volume for a particular neonate or infant will help avoid negative consequences of blood withdrawal for testing.</li> </ul> </li> <li>f. Suggest review of standing orders</li> <li>g. Assist the laboratory in reducing turn around times for test results through efficient, accurate, &amp; timely pre-analytical processes</li> </ul>	

Objectives & Content	Recommended Teaching Strategies & Evaluation
<p>3. Describe quality concepts</p> <ul style="list-style-type: none"> <li>A. Efficacy: services provided have a positive impact on the patient's health.</li> <li>B. Appropriateness: the procedures performed were the correct one for the condition of the patient.</li> <li>C. Caring: the services provided are available, timely, effective, safe, efficient, respectful, and sensitive to the patient's needs.</li> <li>D. Doing the right thing <ul style="list-style-type: none"> <li>1. Efficacy</li> <li>2. Appropriateness</li> </ul> </li> <li>E. Doing the right thing well: caring</li> </ul>	Lecture
<p>4. Describe Quality Control (QC)</p> <ul style="list-style-type: none"> <li>A. A component of the Quality Assurance Program.</li> <li>B. A form of procedure control.</li> <li>C. Ensures that correct criteria for specimen integrity are met (i.e. collection, storage, transport temperature, determining patient preparation, timed draws.</li> <li>D. Areas of phlebotomy subject to QC <ul style="list-style-type: none"> <li>1. Patient preparation examples include: <ul style="list-style-type: none"> <li>a. Giving the patient Glucola for a glucose tolerance test.</li> <li>b. Correctly cleaning the phlebotomy area for blood culture testing.</li> </ul> </li> <li>2. Specimen collection examples include: <ul style="list-style-type: none"> <li>a. Proper patient identification (checking arm band - inpatient, or asking the patient his/her name - outpatient.</li> <li>b. Having all the equipment you need when and where you need it, including puncture devices, evacuated tubes, cleansing materials, bandages, etc.</li> <li>c. Assuring that the equipment functions correctly by checking expiration dates</li> <li>d. Checking tubes for cracks.</li> <li>e. Checking new lots of evacuated tubes for adequate vacuum and additive, integrity of stopper, ease of removal of stopper, and tube strength during centrifugation.</li> <li>f. Proper labeling of the sample immediately after the specimen is drawn.</li> <li>g. If manually labeling specimens, ensure that information is clear and readable.</li> <li>h. When using computer-generated labels, ensuring that the information is correct on the label.</li> <li>i. Using proper techniques as describes in institutional policy.</li> </ul> </li> </ul> </li> </ul>	Lecture

Objectives & Content	Recommended Teaching Strategies & Evaluation
<ul style="list-style-type: none"> <li>j. Knowing when a specimen request is most critical or has special collection criteria that might save the patient unnecessary medication or reduce the length of stay based on the results of the testing.</li> <li>3. Documentation to record problems, standardize procedures, inform appropriate staff of patient preparation procedures, record equipment checks, refrigerator temperatures, incident or occurrence reports, etc.</li> <li>4. Specimen handling that includes transportation and processing to maintain specimen integrity. <ul style="list-style-type: none"> <li>a. Mixing of tubes with additives by gently inverting 5 -10 times as soon as it is drawn.</li> <li>b. Transporting specimens to avoid breakage (Example: hemolysis in an upright fashion, which aids in clot formation of serum tubes and keeps blood off the stopper tops, which may lead to aerosols when the stoppers are removed.)</li> </ul> </li> <li>5. Specimen processing performed using appropriate protective equipment.</li> </ul>	
<ul style="list-style-type: none"> <li>5. Describe Quality Assurance (QA) <ul style="list-style-type: none"> <li>A. Establishes policies and procedures to assure obtaining an accurate sample and handling that sample appropriately.</li> <li>B. Continually track outcomes through scheduled reviews of monitors that have been set by management. For example: <ul style="list-style-type: none"> <li>1. Phlebotomist response time for inpatient draws.</li> <li>2. Outpatient waiting time.</li> <li>3. Time it takes to perform a phlebotomy procedure based on the number of tests ordered.</li> <li>4. Number of redraws due to inadequate amount of specimen obtained.</li> <li>5. Number of incorrect tubes drawn.</li> <li>6. Number of patients requiring a second attempt.</li> <li>7. Number and size of hematomas.</li> <li>8. Blood culture contamination rate.</li> </ul> </li> <li>C. Maintaining standards of care by following institutional policies and procedures (most are based on NCCLS Standards). For example: <ul style="list-style-type: none"> <li>1. Depth and angle of draw.</li> <li>2. Which veins to draw from and in what preferred order</li> </ul> </li> </ul> </li> </ul>	<p>Review “Phlebotomy Meet the Law” by Denis Ernst, Advance, August 2001 as a jumping off point for discussion.</p> <p>Lecture</p>

Objectives & Content	Recommended Teaching Strategies & Evaluation
<ul style="list-style-type: none"> <li>3. Issues regarding draws from mastectomy patients.</li> <li>4. Length of time the tourniquet is in place.</li> <li>5. Identification of patient and labeling of specimens.</li> <li>6. Discontinuing draw when unable to obtain specimen (no digging) or when patient expresses discomfort or pain (avoid nerve damage).</li> <li>7. Obtaining written permission from health care provider to draw from mastectomy sites, feet, hands, above IV's etc.</li> </ul> <p>D. Use a process such as Planned-Due-Check-Act (PDCA) for QA monitoring</p> <ul style="list-style-type: none"> <li>1. <b>Plan</b> the improvement and the data collection.</li> <li>2. <b>Do</b> the improvement and the data collection</li> <li>3. <b>Check</b> the results of the implementation</li> <li>4. <b>Act</b> to hold the gain and continue the improvement.</li> </ul>	
<p>6. Describe risk management</p> <ul style="list-style-type: none"> <li>A. Encompasses policies, processes and procedures to protect employees, employer and clients from injury or loss due to risk.</li> <li>B. To prevent phlebotomy related lawsuits that could cause a financial loss.</li> <li>C. 5 "D's" of negative outcomes <ul style="list-style-type: none"> <li>1. Death due to misidentification of specimen resulting in an incorrect crossmatch.</li> <li>2. Disease due to inappropriate handwashing and transmission of nosocomial infection to patient.</li> <li>3. Disability due to incorrect needle insertion causing nerve damage.</li> <li>4. Discomfort due to incorrect needle insertion causing severe pain.</li> <li>5. Dissatisfaction due to lengthy waits, rude phlebotomist, or a messy work area.</li> </ul> </li> </ul>	Lecture

**Component I:**            **CORE**

**Module 10:**            **Quality, Application Process & Continuing Education**

**Topic 2:**                **Application Process**

**Purpose:**                **To prepare the learner with the information regarding the application process for obtaining State Certification**

**Suggested Time Frame:**        **15 minutes**

**Objectives:**        **Upon completion of this topic, the learner will be able to:**

1. Define key terms
2. Complete an application for an approved certification agency.
3. Complete the application for applying for State Certification

**Vocabulary:**

**References:**

California State Department of Health Services, Laboratory Field Services, Application for State Certification in Phlebotomy

**(List the certifying agencies that become approved)**

**Module 10: Quality, Application Process  
& Continuing Education**

**Topic 2: Application Process**

<b>Objectives &amp; Content</b>	<b>Recommended Teaching Strategies &amp; Evaluation</b>
1. Define the key terms. A. Review the terms listed in the vocabulary section B. Spell the listed terms accurately C. Pronounce the terms correctly D. Use the terms in their proper context	Lecture
2. Complete an application for an approved certification agency.	Obtain and complete an application form from 1 of the approved certifying agencies.
3. Complete the application for applying for State Certification	Obtain and complete the application form for State Certification

**Component I:**            **CORE**

**Module 10:**            **Quality, Application Process & Continuing Education**

**Topic 3:**                **Continuing Education**

**Purpose:**                **To prepare the learner with the information regarding continuing education requirements for state certification renewal**

**Suggested Time Frame:**        **15 minutes**

**Objectives:**        **Upon completion of this topic, the learner will be able to:**

1. Define key terms.
2. Describe the requirements for continuing education for renewal of the State Phlebotomy Certification.
3. Locate and describe the approved accrediting agencies for continuing education for renewal of State Phlebotomy Certification.
4. Describe continuing education requirements for approved certifying agencies.

**Vocabulary:**

**References:**

[State Regulations](#)

[Certifying agencies information](#)

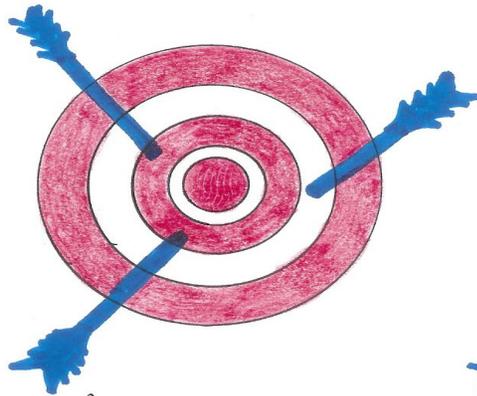
**Module 10: Quality, Application Process  
& Continuing Education**

**Topic 3: Continuing Education**

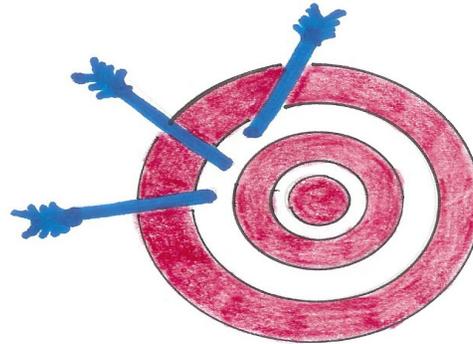
<b>Objectives &amp; Content</b>	<b>Recommended Teaching Strategies &amp; Evaluation</b>
1. Define the key terms. <ul style="list-style-type: none"> <li>A. Review the terms listed in the vocabulary section</li> <li>B. Spell the listed terms accurately</li> <li>C. Pronounce the terms correctly</li> <li>D. Use the terms in their proper context</li> </ul>	Lecture
2. Describe the requirements for continuing education for renewal of the State Phlebotomy Certification. <ul style="list-style-type: none"> <li>A. 6 Continuing Education Units every 2 years</li> <li>B. From approved accrediting agencies</li> <li>C. Scope of practice</li> </ul>	Using the State regulations have students locate the information
3. Locate and describe the approved accrediting agencies for continuing education for renewal of State Phlebotomy Certification.	Using the State regulations have students locate the information
4. Describe continuing education requirements for approved certifying agencies.	Using the State regulations have students locate the information

# Illustration of Precision and Accuracy

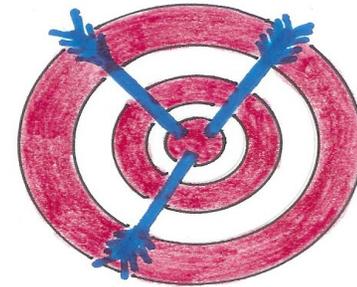
2002 Phlebotomy Model Curriculum - Appendix 10.1



Random results



Precise, but inaccurate results



Precise & accurate results