TOPIC 1

Perform tasks within the scope of practice (e.g., received training)

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- What the scope of practice is for a non-licensed medical professional (including Phletobomist)
- What it means to perform your duties "under the license" of a licensed professional
- What it means to perform inside and outside that scope.

Instructor Comments:

Generally speaking the scope of practice is defined as tasks specific to where you work and the tasks that the facility you work for says you are able to perform. Some of these tasks may require additional training, so if your facility says you are to do things outside of your training program it is their responsibility to train you.

With that said law also says that a "trained assistant who is working under the direct supervision of a physician: "does not diagnose, advise, independently treat, or prescribe medication to or on behalf of any person; and for whom the supervising physician accepts responsibility"

The core tasks that most Phlebotomy programs will train you for are:

- Blood Collection and transportation
- Collection and transportation of specimens other than venous blood (e.g., arterial blood, urine, tissues, sputum)

Phlebotomists duties vary in scope and range depending on setting. They may have duties related to all phases of laboratory analysis or may be assigned to only specimen collection duties in one area of a hospital.

Topic 2

Perform and record quality control procedures and results (e.g., temperature logs, glucose meter).

In the laboratory Quality Control measures are used to make sure that laboratory equipment is functioning properly to avoid faulty interpretations or incorrect results. In a well-run laboratory Quality control processes are incorporated into the routine operations of the laboratory such as maintain temperature logs or calibrating equipment.

Temperature Logs:

- Working with water cooled equipment
- Refrigerators that hold specimens

Calibration = to adjust or mark something, such as a measuring device, so that it can be used in an accurate and exact way

Glucose meters:

- Glucometers require calibration

High level disinfectants

- Disinfectants such as Cidex Opa and Glutaraldehyde require a daily check to make sure it has maintained potency

Example#1

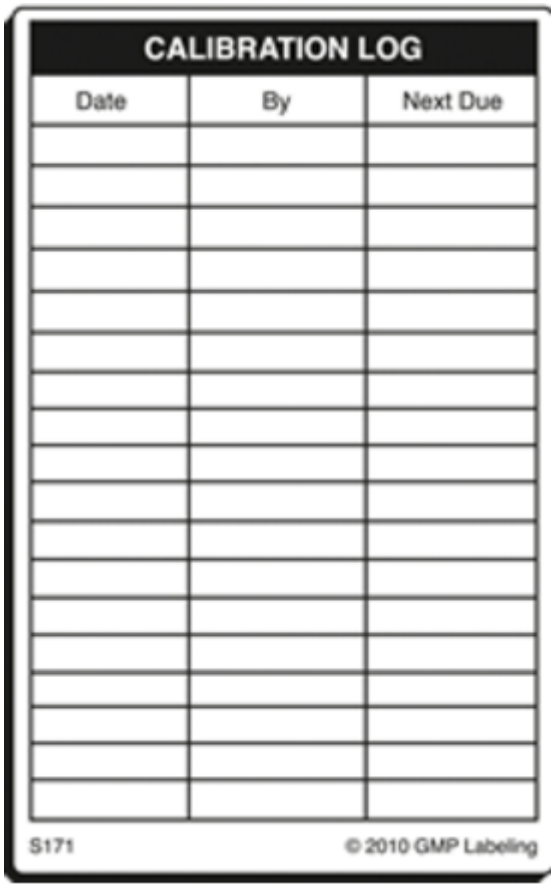
Clearview HIV-1/2 STAT-PAK Quality Control Log Sheet

Agency: _____ **Site Location/Site** _____
Number:_____ **Month:** _____ **Year:**_____

	Lot Number	Manufacturer's Expiration Date	Date Opened
HIV-1 Positive Control (red top)			
HIV-2 Positive Control (green top)			
Negative Control: (white top)			
Clearview Kit			

Date	Time Start	Time Stop	Reason for Control [1]	HIV-1 Positive Control Result[2]	HIV-2 Positive Control Result[2]	Negative Control Result[2]	Interpretation	Initial
				☐ R ☐ NR	☐ R ☐ NR	☐ R ☐ NR	☐ Pass ☐ Fail	
				☐ R ☐ NR	☐ R ☐ NR	☐ R ☐ NR	☐ Pass ☐ Fail	
				☐ R ☐ NR	☐ R ☐ NR	☐ R ☐ NR	☐ Pass ☐ Fail	
				☐ R ☐ NR	☐ R ☐ NR	☐ R ☐ NR	☐ Pass ☐ Fail	
				☐ R	☐ R	☐ R	☐ Pass	

NCCT Phlebotomy Technician
Exam Review
Example #2



Some quality control measure can include measures such as routine cleaning of testing instruments to avoid the transmission of healthcare acquired infections.

!But! Follow your institutions policy to disinfect these analyzers and meters

Topic 3

Identify and follow up with quality control results that do not meet pre-determined criteria (e.g., temperature out of range, glucose QC out of range).

Identification of quality control results that are out of range will be a result of self-discipline in keeping up with the tasks that the laboratories have assigned to you. This is an issue of professionalism and taking ownership of your title and position.

So when you discover that a process or equipment is not functioning properly you should comply with your facilities policy on how to correct the issue (e.g., contact the manufacturer or the department that maintains your equipment or replace and/or discard current equipment and/or supplies).

Example Accu Check blood glucose monitor control test:

https://www.youtube.com/watch?v=qECEEEgy9aU

Topic 4

Perform phlebotomy tasks while maintaining patient guarantees under "The Patient Care Partnership (Patient's Bll of Rights)" of the American Hospital Association (eg., consent, privacy)

Anyone that goes into a hospital has the right to feel that they are receiving the best care from EVERYONE that is involved in their care.

Definition of an Association: A group of people (professionals) organized for a joint purpose.

Taken from the AHA website:

Vision: *The AHA vision is of a society of healthy communities, where all individuals reach their highest potential for health.*

Mission: *To advance the health of individuals and communities. The AHA leads, represents and serves hospitals, health systems and other related organizations that are accountable to the community and committed to health improvement.*

Originally "The Patient Care Partnership" was called the "Patient's Bill of Rights" This is a list of rights that patients have the right to experience when in the hospital. They say:

1. The patient has the right to considerate and respectful care.

2. The patient has the right to and is encouraged to obtain from physicians and their direct caregivers relevant, current, and understandable information concerning diagnosis, treatment, and prognosis.

Except in emergencies when the patient lacks decision-making capacity and the need for treatment is urgent, the patient is entitled to the opportunity to discuss and request information related to the specific procedures and/or treatments, the risks involved, the possible length of recuperation, and the medically reasonable alternatives and their accompanying risks and benefits.

Patients have the right to know the identity of physicians, nurses, and others involved in their care, as well as when those involved are students, residents, or other trainees. The patient also has the right to know the immediate and long-term financial implications of treatment choices, insofar as they are known.

3. The patient has the right to make decisions about the plan of care prior to and during the course of treatment and to refuse a recommended treatment or plan of care to the extent permitted by law and hospital policy and to be informed of the medical consequences of this action. In case of such refusal, the patient is entitled to other appropriate care and services that the hospital provides or be transfer to another hospital. The hospital should notify patients of any policy that might affect patient choice within the institution.

4. The patient has the right to have an advance directive (such as a living will, health care proxy, or durable power of attorney for health care) concerning treatment or designating a surrogate decision maker with the expectation that the hospital will honor the intent of that directive to the extent permitted by law and hospital policy.

Health care institutions must advise patients of their rights under state law and hospital policy to make informed medical choices, ask if the patient has an advance directive, and include that information in patient records. The patient has the right to timely information about hospital policy that may limit its ability to implement fully a legally valid advance directive.

5. The patient has the right to every consideration of privacy. Case discussion, consultation, examination, and treatment should be conducted so as to protect each patient's privacy.

6. The patient has the right to expect that all communications and records pertaining to his/her will be treated as confidential by the hospital, except in cases such as suspected abuse and public health hazards when reporting is permitted or required by law. The patient has the right to expect that the hospital will emphasize the confidentiality of this information when it releases it to any other parties entitled to review information in these records.

7. The patient has the right to review the records pertaining to his/her medical care and to have the information explained or interpreted as necessary, except when restricted by law.

8. The patient has the right to expect that, within its capacity and policies, a hospital will make reasonable response to the request of a patient for appropriate and medically indicated care and services. The hospital must provide evaluation, service, and/or referral as indicated by the urgency of the case. When medically appropriate and legally permissible, or when a patient has so requested, a patient may be transferred to another facility. The institution to which the patient is to be transferred must first have accepted the patient for transfer. The patient must also have the benefit of complete information and explanation concerning the need for, risks, benefits, and alternatives to such a transfer.

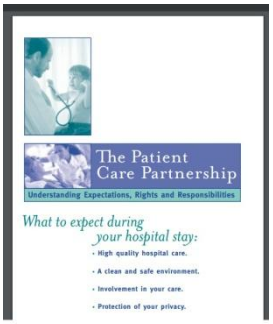
9. The patient has the right to ask and to be informed of the existence of business relationships among the hospital, educational institutions, other health care providers, or payers that may influence the patient's treatment and care.

10. The patient has the right to consent to or decline to participate in proposed research studies or human experimentation affecting care and treatment or requiring direct patient involvement, and to have those studies fully explained prior to consent. A patient who declines to participate in research or experimentation is entitled to the most effective care that the hospital can otherwise provide.

11. The patient has the right to expect reasonable continuity of care when appropriate and to be informed by physicians and other caregivers of available and realistic patient care options when hospital care is no longer appropriate.

12. The patient has the right to be informed of hospital policies and practices that relate to patient care, treatment, and responsibilities. The patient has the right to be informed of available resources for resolving disputes, grievances, and conflicts, such as ethics committees, patient representatives, or other mechanisms available in the institution. The patient has the right to be informed of the hospital's charges for services and available payment methods.

(Student's: Google "The Patient Care Partnership" and down load the official document that is handed out at the hospital to get familiar with the rights of the patient)…



Topic 5

Adapt interactions with patients based on individual needs(e.g., age, culture, special needs).

Communication, communication, communication!

This topic deals with learning how to assess the kind of patient you are working with and adapt (change) your approach to what is needed. We as healthcare providers **cannot** have the same attitude or demeanor with every patient. This will lead to problems.

For example:

-You will approach a child differently when performing a venipuncture than you would an adult.
-You need to be able to recognize when someone has a hearing or vision impairment and then explain a procedure depending on what they need to understand (e.g., speaking louder, or bringing a patient who has a vision impairment to a brighter room to read consent documents
-In the instance of a patient that acts inappropriate because of a mental illness you will not want to be as friendly or timid when with them. Or you may want to bring in someone with you for assistance in their patient room.
-When dealing with a patient from a different culture, keep in mind:

- Does this patient speak English as a first or second language?
- Do I need an interpreter?
- Does this person have any cultural practices about touch or gestures I should adapt to?

Topic 6

Respond to verbal and nonverbal cues when interacting with patients.

Verbal communication: Spoken or written communication to convey patient care

This involves: Directly interacting and talking with patients using dialog and questions that "get the whole picture" of why they are there; answering phones and knowing how to direct their call, or answer their questions.

Non-Verbal communication: Communicating without using words, consciously and non-consciously.

On purpose: Communicating with patients means being attentive when someone uses forms of communication other than words.
(e.g., shrugging shoulders, answering your questions by mouthing the word)

Not on purpose: Body language, facial expressions, posture can express different attitudes or emotions

This type of communication can be subtle (easy to miss) but can sometimes tell you more about the patient than what the patient is saying. It takes skill and attentiveness to be really good at "listening" to this type of communication.

Example: A child is brought to your clinic or is in the hospital for an injury. Many times children are too afraid to tell anyone that there is abuse going on in the home. Looking for signs of them being afraid of their parents. Sometimes they may answer a question in a way that does not seem right, "Oh yeah, my dad gets really mad when I bring home a C on my report card. I couldn't sit right after he talked to me about it last time."

Example, someone brings a patient from a nursing home for a routine checkup and you notice an area on their buttock area that is red and swollen plus you notice a heavy smell of urine. This may be a sign of neglect at the LTC facility.

Topic 7

Comply with laws and standards governing specimen collection as related to reliability and accuracy in lab testing (e.g., CLIA, CAP, COLA, AABB).

For this type of question(s) you must have knowledge that there are various practices that are mandatory in the Laboratory to ensure that test results are reliable and accurate. Those practices are required by the accrediting agency that your laboratory uses.

In order for a Laboratory to be accredited by the Joint Commission for example, they must undergo an onsite survey every 2 years. During that survey TJC is looking to make sure that the laboratory is in compliance with their standards. Examples of those standards are:

- **Employee certifications are current**
- **There is a written log documenting calibration**
- **Equipment is maintained every year**
- **There are procedure documentation describing how to perform testing**
- **Employees are continually trained to keep up with current trends, etc.**

Regulatory Agencies:

CLIA - The Centers for Medicare & Medicaid Services (CMS) regulates all laboratory testing (except research) performed on humans in the U.S. through the **Clinical Laboratory Improvement Amendments** (CLIA).

https://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/index.html?redirect=/clia/

CAP – College of American Pathologists
http://www.cap.org/web/submenu/about?_adf.ctrl-state=tunq6jnp6_25&_afrLoop=1753167554497227

COLA – Comission on Laboratory Accreditation
http://www.cola.org/accreditation/

AABB – American Association of Blood Banks
http://www.aabb.org/about/Pages/default.aspx

CLSI – Clinical and Laboratory Standards Institute
http://clsi.org/about-clsi/

TJC – The Joint Commission
http://www.jointcommission.org/about_us/about_the_joint_commission_main.aspx

Other Regulatory Agencies:

ASHI - American Society for Histocompatibility and Immunogenetics

Topic 8

Comply with chain of custody collection requirements (e.g., paternity testing, drug screening, blood alcohol levels).

Health care workers who are responsible for collecting specimens for paternity cases, workplace drug screening, and Forensic toxicology must ensure the specimen's integrity. In other words they must be sure that the specimen has not been tampered with or altered in any way. And the way this is done it to track the specimen from the moment that it is produced by the patient to the time it is destroyed. The chain of custody is the process of documenting the identity of each individual who handles the specimen and each time a specimen is transferred. A chain of custody form is required to document this.

(Students: Look for Sample Chain of custody form under important documents section)

Topic 9

Prevent clerical and technical errors that may occur with specimen collection and processing.

How do you prevent clerical and technical errors that may occur with specimen collection?

What are clerical errors when collecting a specimen and how can you avoid them?

- Errors in accurate patient identification – Use at least 2 unique identifiers to identify your patient. Most workplaces require more than 2.
- Errors in test requests – Although this is an error that you may not notice or be able to control, but a knowledgeable phlebotomist may be able to tell when a wrong test is ordered. Example: Ordering a testosterone blood work up on a woman / or a pregnancy exam on a man etc.
- Errors in specimen labeling – Label the specimen either right before or right after obtaining it (Depending on what your facility policy is). Work in a well lighted area and focus on what you are doing to avoid being distracted
- Errors in test requisitions- Check and re-check your requisitions at least twice even more if possible before sending your sample to the laboratory

What are technical errors that may occur with specimen collection and how can you avoid them?

- Some tests require a **Basal State**. This means the optimum time to collect for some exams is early in the morning when the body's chemical levels are concentrated.
- Some tests require a person to be in a special state of diet. Fasting refers to abstinence from food and beverages. Fasting does not include abstaining from water. Usually fasting is required at least 8-10 hours before the test is obtained. The time will be set by your facility. **Note** prolonged fasting (more than 12 hours can cause electrolyte (cellular component) abnormalities. Patient education is the key here.
- Turbid (milky white) or lipemic (cloudy) specimens may occur after someone has eaten a recent high fatty meal. If you notice this, ask the patient if this is so and document it.
- Obese patients may have veins that are difficult to palpate and draw blood from. Keeping "fresh" on alternative sites to use and equipment changes you can make will help. For example, you may need to use a longer needle to perform the puncture.
- Make sure to avoid damaged, sclerosed, or occluded veins.
- Avoid Thrombi. This will feel like a hardened area within the vein line.
- Allergies. Some patients have an allergy to iodine, alcohol, or other antiseptic agents. Communication is key here.
- Exercise (excessive) can affect certain tests. (communication)
- Stress can be a cause of errors, specifically higher levels of white blood cells/ decreased serum levels / and other specific abnormalities. Learning and developing a good bedside manner can help calm a patient down.
- Posture changes and diurnal (circadian) rhythm can affect the accuracy of some tests.
- Travel issues can affect some tests
- Age affects some tests. Laboratory test results vary considerably during different stages of life.
- Mastectomy. When a woman has undergone a mastectomy, the rule usually states that you may not draw blood from that same side that the mastectomy has been done on unless the physician gives the okay.
- Edema can affect test results. Perfecting you technique and recognizing a swollen area and avoiding, then determining an alternative site to use is key here.
- A woman's menstrual cycle can affect the composition of her blood or cause there to be a normal presence of blood in urinalysis.
- Medications can affect blood tests. Communication and detailed documenting of the patients current medications is key in this area.

- Excessive vomiting (emesis) can lead to dehydration which can affect some tests. Communication with your patient and your scheduling department will help in this instance)
- Other factors that may affect lab specimens are:
    - Geographic factors
        - altitude
        - temperature
        - humidity
    - Collecting blood during home health visits may need to be noted on requisitions
- Tourniquet pressure and fist pumping can affect test results. Knowing proper technique is key in this situation
- IV therapy – As a rule it is generally known to not draw a blood sample on the same side that IV infusion is taking place.

Topic 10

Document patient and collection information electronically or in hard copy format

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Know what documents the phlebotomist will use to record phlebotomy procedure information on (progress note,
- Know what the different categories of the medical record (chart) that there are

After the basics, know how to work with each document. Either how to help a patient fill out information, what to observe for completeness or where each type of report gets filed etc.

Know the Guidelines for charting:

Topic 11

Comply with laws related to medical records and confidentiality (e.g., HIPAA).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Identify key elements of the ***Health Insurance Portability and Accountability Act (HIPAA)***
- Identify key elements of the ***Health Information Technology for Economic and Clinical Health Act***.
- The Privacy Act of 1974

Topic 12

Comply with Laws governing reportable incidents (e.g., mistakes, poor patient outcomes)

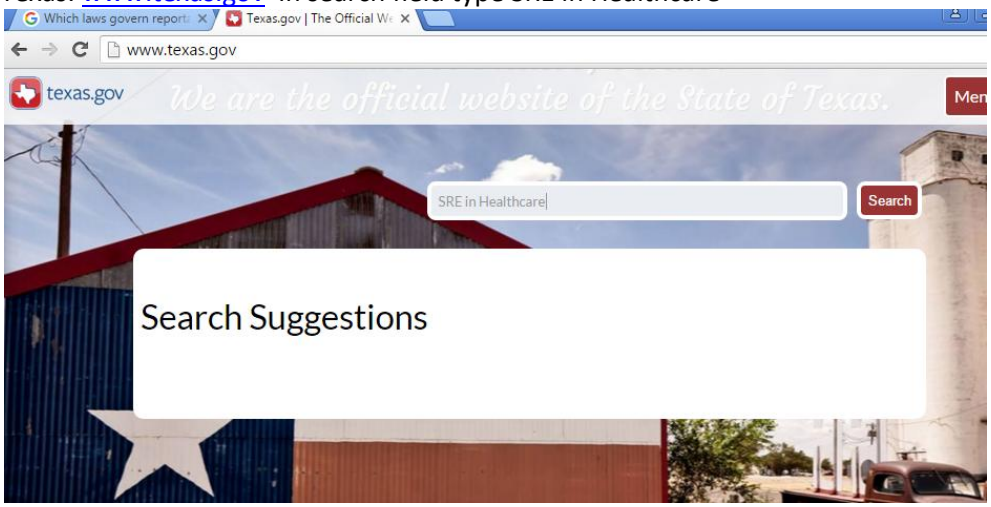
In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Understand what types of incidents healthcare facilities are required to report to governing agencies and what to do when they happen.

The best link I find so far that will explain this topic is:

http://www.ahrq.gov/downloads/pub/advances/vol4/kizer2.pdf

Links that provide information:
Texas: www.texas.gov In search field type SRE in Healthcare



Each state's website will have similar documents that you can review: for example, this one is from the Massachusetts website:

- http://www.mass.gov/eohhs/docs/dph/quality/healthcare/sre-guidance-2012.pdf

Topic 13

Monitor quality assurance in the collection of blood specimens

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Understand important factors affecting quality in Specimen Collection Services.
  - Concentrate on understanding what the **pre-examination phase** of specimen collection is and what quality assurance measures need to be focused on during each part of this phase.

Note: These 3 phases of specimen collection have been developed by **CLSI** The Clinical and Laboratory Standards Institute. A private nonprofit organization that develops standards for clinical laboratory testing procedures.

Topic 14

Adhere to regulations regarding work place safety (e.g., OSHA, MSDS, NFPA)

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Understand safety awareness for healthcare workers.
- Explain the measures that should be taken for fire **(NFPA),** electrical, radiation, mechanical, and chemical safety **(MSDS)** in a health care facility.
- Describe the essential elements of a disaster emergency plan for a healthcare facility.
- Describe the safe use of equipment in healthcare facilities.
- Understand what **OSHA** is and how they protect the worker from injury (e.g., falls, contracting disease, sharps injuries)
- Explain the infection control policies and procedures that must be followed in specimen collection and transportation to avoid injury
- Understand OSHA regulations regarding safety devices in blood collection to reduce sharps injuries
- Understand personal safety from infection during specimen handling

Topic 15

Respond to workplace hazards including fire, electrical, and chemical

(Refer to your research for topic 14 regarding these hazards for a complete understanding of how to recognize potential hazards and how to avoid them)
then…

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Know how to deal with these hazards if they occur in the workplace (e.g., how to use a fire extinguisher, what to do if you or someone get electrocuted or comes in contact with a chemical.

Topic 16

Take measures to prevent infection and transmission, including hospital acquired infections (HAI's)

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Explain the infection control policies and procedures that must be followed in specimen collection and transportation
- Define the terms health care-associated, health care-acquired, and nosocomial infections.
- Identify the basic systems and programs that are out there for infection control
- Understand what isolation procedures are
- Explain the proper techniques for hand washing / hand hygiene
- Identify steps to avoid transmission of blood-borne pathogens (e.g., HIV, HBV and others)
- Identify steps to avoid accidental needle sticks
- Understand how to break the chain of infection

Topic 17

Follow standard and transmission-based precautions (e.g. airborne, droplet, contact, hospital-acquired).

(This is a topic that continues the discussion from Topic 16)

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- Be able to define Standard Precautions
- Be able to define Universal Precautions
- Be able to define transmission-based precautions

And then…

- Know how to follow Standard Precautions
- Know how to follow Universal Precautions
- Know how to follow transmission-based precautions

Topic 18

Prevent occurrences that could result in legal action (e.g., hematoma, nerve damage, probing, patient falls).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to:

- List common issues in lawsuits against health care providers who collect blood and prevention tips to avoid lawsuits in phlebotomy.
  - Patient falling
  - Hematoma
  - Abscess or other infections at the site of venipuncture
  - Injuries from fainting before, during and after venipuncture
  - Nerve damage
  - Drawing on the side of a mastectomy
  - Identification of the patient errors

Topic 19

Properly use personal protective equipment including gloves, gown, and masks.

This is a continuation of topic 17. If within the research for that topic you researched how to use PPE including gloves, gown, and masks and you understand those procedures. Then there is no further research needed here.

Topic 20

Use safety products as they are intended (e.g., sharps containers, face shields, blood transfer device).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- What types safety equipment is used in Patient's Room
  - Make sure to understand what types of sharps safety devices there are available
- What types of safety equipment is used outside of Patient's Room
- What safety products are related to Latex products
- What types of safety devices exist in the laboratory
  - Safety Showers
  - Eyewash Stations
  - Chemical spill cleanup kits

Topic 21

Activate safety mechanisms on phlebotomy equipment appropriately

Within Topic 20, I mentioned that you should make sure to know what types of sharps safety devices are available for purchase by laboratories. Now…

In order to answer questions in this category, the phlebotomist needs to understand how to activate those devices.

Topic 22

Properly dispose of phlebotomy equipment following OSHA bloodborne pathogens and hazardous material standards

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- The OSHA Bloodborne Pathogens standard
- The OSHA Hazardous material standard

When you pull up a document or if you go the OSHA's website, remember only research the parts of these standards that deal with disposal of equipment ONLY.

Topic 23

Follow the appropriate course of action for blood and body fluid exposure (e.g., needle stick)

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- The concept of Exposure Action Plans. *OSHA required that all healthcare institutions maintain exposure action plans or written guidelines that tell the employee what to do IF they are exposed to blood or body fluids.*

Topic 26

Resolve questionable entries or errors on patient requisition

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- When in doubt ask!
- Hierarchy in the medical office
- Communication techniques (verbal)

Topic 27

Select appropriate venipuncture equipment for the test ordered and type of patients

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand and identify:

- The various supplies that should be carried on a specimen collection tray when collecting blood by venipuncture or skin puncture.
  - And know which of that equipment is needed to perform
    - Routine venipuncture
    - venipuncture on an infant
    - venipuncture on a child
    - venipuncture on a geriatric patient
    - venipuncture on a patient that has complications
  - Also understand that some blood tests require very specific equipment.

Topic 28

Select appropriate capillary puncture equipment for the test ordered and type of patient

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- Capillary puncture equipment based on test and type of patient (e.g., age, type of skin, skin allergy)
  - Disposable gloves
  - Lancets
  - disinfectant pads
  - bandages and gauze pads
  - Glass microscope slides
  - Capillary tubes (glass, plastic, or plastic coated)
  - Capillary tube sealers
  - P.O.C testing equipment (e.g., Glucometer, CoaguChek System

Topic 29

Select proper equipment for patients with allergies

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- That there are patients that have very specific allergies that you need to be aware of
  - Latex
  - alcohol
  - surgical tape
- The first step in knowing how to deal with this is COMMUNICATING with the patient to find out if they have any special allergies. Then, for this topics questions, know what can be used instead of what causes them to have a reaction.

Topic 30

Verify quality of equipment (e.g., sterility, expiration date, defects).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- Of the equipment that you use for phlebotomy procedures, which ones are sterile and which ones are not
- How to check for expiration dates and never use equipment after the date has come and gone
- Any of your equipment could have defects from the manufacturer or from damage. Always check your equipment thoroughly before use.
- As in our lab, you need to check to make sure that equipment is assembled properly and that there are no loose parts of the assembly.

Topic 31

Select proper antiseptic agents for the test ordered.

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- There are certain types of tests that you CAN NOT use alcohol to wipe the skin because they will affect the test results. Research which blood tests require a different type of wipe and also know what the alternative options are.

Topic 32

Identify additives/anticoagulants added to evacuated blood collection tubes.

This is a straightforward research on the different additives and anticoagulants that are included in each of the colored tubes. If you came Saturday or are the first ones in class Monday I will give you a great poster that lists most tubes. If you aren't lucky enough to get a poster, I kept one that I posted on our wall for you to take notes from.

Topic 33

Assess the mode of action of additives/ anticoagulants in blood collection tubes

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

The additives that are found in blood collection tubes (You have researched this on topic 32. Simply get a list of additives that are found in each color then do a Google search for each one. For example, “What is the mode of action for heparin” etc, etc.

Topic 34

Follow manufacturer recommendations for fill level and tube inversion

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- Each blood tube has a fill level and most times it is stated on the tube label. Then know that each manufacturer of blood tubes have a recommended amount to invert the tube.

The 2 main blood tube manufacturers to research are:

- BD (Becton Dickinson) website: http://www.bd.com/us/
- Greiner Bio-One website: https://www.gbo.com/en_US.html

Topic 35

Select proper bandaging equipment

Understand:

- How to properly bandage the venipuncture site after the needle is out and after pressure has been applied for routine venipunctures and for venipunctures that "go wrong". For example
  - When a hematoma is formed
  - when the person won't stop bleeding
- Also keep in mind proper bandaging techniques when people are allergic to or have a sensitivity to certain bandaging equipment
  - such as band-aids
  - surgical tape

Topic 36

Review and clarify orders for patient specimen collection

Understand:

- That it is your responsibility to read the orders that come to you entirely before performing them. Make sure that you do not overlook any special instructions

Topic 37

Communicate effectively and professionally with patients (e.g. verbal and nonverbal).

This a repeat of a previous topic. I see that if you have a full research and understanding of topic #6, then you are well prepared for questions for this topic.

Topic 38

Identify patients according to regulatory standards.

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- That each facility will require you to identify patients using specific criteria.
- CLIA requires at least 2 **unique identifiers**, but you facility may require more than just these 2 identifiers.

Topic 39

Evaluate pre-test conditions for patient prior to collection (e.g., fasting, medications, fistula)

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

Every patient will come to you with different story. And, depending on the test ordered for them they may need to **prepare** themselves in a certain way. (e.g., fasting, stopping their medications etc.)

Also, there may be a condition that the patient has that may prevent you from removing blood from that arm (e.g., fistula, mastectomy)

Research different **preparations** and conditions you will need to be aware of before drawing blood.

Topic 40

Assess pre-analytical practices that can affect results positively or negatively (e.g., heating pads, fist pumping)

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

What techniques can you incorporate into the blood draw procedure that can help get blood to flow?
Warming the site
Tapping the antecubital area of the arm
Having patient drink water
Research more…

What actions can happen that can negatively affect the blood sample?
Fist pumping
leaving the tourniquet on the arm for too long
Angle of insertion is too high or too low
Research more…

Topic 41

Select the appropriate site for venous blood collection

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- The different sites that can be used on the patients arm
- And in what order you choose the best site to the least best site.
    - Keep in mind that certain equipment cannot be used at certain sites (For example, you never use the syringe method on the posterior side of the hand)

Topic 42

Select the appropriate site for capillary blood collection

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- The only site(s) that an entry phlebotomist will use are the finger tips on adult. Know how to:
  - Select which finger to use on the patient
  - And know which fingers to avoid
- Also research site selection for infants and children

Topic 43

Apply and release the tourniquet appropriately

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- How far above your intended venipuncture site you should place the tourniquet
- How to tie the tourniquet
- When you are to release the tourniquet to avoid hurting the patient.

Topic 44

Prepare the site for blood collection based on location and test ordered (e.g., venipuncture in antecubital for CBC with alcohol vs blood cultures with chlorhexidine).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

Most venipuncture procedures require nothing more than an alcohol wipe to antiseptically clean the area.
Some will require other types of anti-microbial wipes / solutions based on test or patient reaction.
Alcohol reaction will require a different type of wipe
Blood Alcohol testing requires a wipe other than alcohol
Research “How to perform a blood culture”

Topic 45

Prioritize patient collections based on order request (e.g., STAT, timed, routine).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

In a hospital or busy clinic you will start off with a list of patients that need blood draw, plus STAT orders will come to you throughout the day. It will be up to you to organize your "route" based on the tests that you are going to draw.

Know how to organize; Timed tests, Fasting specimens, STAT specimens
Research timed tests:
Glucose Tolerance Test (GTT)
Postprandial Glucose Test
Modified Oral Glucose Tolerance Test
Lactose tolerance Test

Topic 47

Recognize commonly ordered tests and the tubes needed for collection

In order to answer questions in this category, the phlebotomist needs to create and memorize a list of the most commonly ordered tests and the type of tubes needed for collection.

Topic 48

Perform special collections (e.g. trace metal elements, newborn screening, chain of custody).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- What are the requirements for collecting special blood draws and other procedures for blood and body fluid specimens:
  - Trace metal elements
  - Newborn screening (PKU, Biotinidase Deficiency, Cystic Fibrosis, Galactosemia, Hypothyroidism, Sickle Cell Disease, State Testing Specimen Collection)
  - Chain of Custody (**Researched in topic #8**)
  - Blood Culture- With safety syringe, butterfly, and Evacuated Tube assemblies
  - Glucose Tolerance Test (GTT) (**Researched in Topic 45**)
  - Oral Glucose Tolerance Test
  - Postprandial Glucose Test (**Researched in Topic 45**)
  - Glucose Challenge
  - Modified Oral Glucose Tolerance Test (**Researched in Topic 45**)
  - Lactose tolerance Test (**Researched in Topic 45**)
  - Arterial Blood Gases (radial artery, Brachial artery, and Femoral Artery punch sites)
  - Therapeutic Drug Monitoring
  - Genetic Molecular Tests
  - IV Line Collections through vascular access devices
    - Central venous catheter(CVC)
    - Peripherally inserted central catheter (PICC)
  - Drawing from a Cannula or Fistula
  - Blood donor collection
  - Autologous Transfusion
  - Therapeutic Phlebotomy

Topic 49

Properly anchor the vein

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- What rolling veins are
- Which sites are more prone to having rolling veins
- How to properly anchor the vein before inserting the needle.

Topic 50

Position the needle for venipuncture (e.g. direction, angle, depth).

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- How to determine the direction that the needle should go when the needle has been entered into the vein
- What the degree (angle) of insertion is for each area of the arm depending on the equipment used.
- How deep to insert the needle

Topic 51

Collect samples using CLSI recommended order of draw

- I have provided information on the order of draw for routine venipuncture and capillary puncture (finger stick) on QUIA.
  - Remember that your facility MAY have a slightly different order of draw. You must follow the policy of your facility.

Topic 52

Perform appropriate post-puncture care for the patient

Understand:

- This topic is a continuation of topic 35 using bandaging equipment
- But continue researching and develop your understanding of what happens right after the needle is taken out of the arm. Remember how to:
  - applying pressure properly (not before the needle is removed, but directly after it is removed) and for how long after
  - Not allowing the patient to bend arm
  - If they told you that they have fainted in the past, to not let them leave
  - etc, etc. Think of all the steps for routine AND what to do IF something goes wrong with the blood draw.

Topic 53

Label specimens appropriately

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- You always follow your facilities rules on labeling (e.g. , directly before or directly after the draw)
- Use black ink, write legibly, place label appropriately etc, etc.

Topic 56

Assess the suitability of a specimen for analysis

note, if you do what you know needs to be done after obtaining the specimen, the specimen *will be* suitable for analysis

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- Specimen handling after obtaining the specimen
  - Obtaining the correct specimen (correct tube used, required fill volume achieved)
  - Mixing the specimen (number of inversions, timeliness of inversions)
  - Labeling the specimen correctly
  - Placing the blood specimen in a biohazard bag
  - Transporting the specimen
  - Special handling procedures (cooling/chilling/ the specimen, keeping the specimen warm, or protecting the specimen from light)

- Being able to recognize when you have done something wrong in the steps listed above is the key to assessing suitability of the specimen.

Topic 57

Deliver specimens to the correct department in the clinical laboratory.

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- The different departments in the laboratory:
  - Anatomic Pathology
    - Histopathology
    - Cytopathology
    - Electron Microscopy
  - Clinical Pathology
    - Clinical Microbiology
    - Clinical Chemistry
    - Hematology
    - Genetics
    - Reproductive biology
- Then you need to understand that each type of specimen you collect (blood, urine, sputum, tissue etc.) gets sent and analyzed by a different part of the laboratory

Topic 58

Perform blood culture collection
Fully researched on topic 44

Topic 59

Perform capillary puncture collection

This is a continuation of ***Topic #42***

In order to answer questions in this category, the phlebotomist needs to understand the following concepts and topics, and be able to understand:

- Equipment: The different lancets that are available (manufacturers and styles)
- Equipment: The different lengths of lancets and when and on who to use the different lengths
- Once you have properly selected the site to puncture

Topic 63

Process blood specimens for testing at reference laboratories (e.g. aliquoting, labeling, packaging)

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- Define what a reference laboratory is
- Understand what you need to do to the sample (blood, urine other body fluid or tissue) to prepare it for the reference laboratory. This includes:
  - Properly labeling the specimen
  - Aliquoting (Usually a function of the laboratory)
  - Mixing the specimen (number of inversions, timeliness of inversions) **RESEARCHED IN TOPIC 56**
  - Special handling procedures (cooling/chilling/ the specimen, keeping the specimen warm, or protecting the specimen from light) **RESEARCHED IN TOPIC 56**
  - Centrifuging
  - Blood Films for Microscope slides (Usually a function of the laboratory)
  - Packaging the specimen
    - Filling out the test requisition
    - Placing in biohazard bag

Topic 65

Report results and critical values for point of care procedures

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- Define what Point of Care procedures are and be able to identify various types of Point of care testing equipment
- Define what values are normal for those procedures
- Once you know what is normal, then you can recognize critical values (or out of normal values)
    - These values require attention by your supervisors
        - Other terms used in facilities are Panic values, Alert values etc…

Topic 66

Prevent interference in clinical analysis of blood constituents (e.g., iodine, alcohol, edema, IV fluids).

Understand:

- Know how to use alcohol, iodine, chlorahexidine properly so that it does not interfere with the analysis of the blood constituents (constituents means parts of the blood). Basically what you need to do is let it dry before sticking in the needle.
- The study on edema and IV fluids is the same on other topics that you researched about. Basically, never draw on an arm that has edema (swelling) or an IV in place. This includes the devices that are in place for dialysis. (Unless a doctor says it is okay)

Topic 67

Prevent pre-analytical sources of error regarding specimen integrity (e.g., hemolysis, QNS, clotted, incorrect specimen type).

Understand:

- Basically you researched this in Topic 13. Refresh your knowledge of how to prevent:
  - hemolysis (the destruction of the blood cells (gently invert, not shaking it)
  - QNS means quantity not sufficient – how to prevent this is you fill the tube to completion
  - Clotted – If an anticoagulant is in the tube, you need to invert the proper amount of times to thoroughly mix the blood with the anticoagulant and prevent it from being clotted.
  - Incorrect specimen type – Make sure you use the correct color tube for the test ordered.
  - Go back to topic and remember what other things you need to be sure of doing properly to avoid an error in drawing blood

Topic 68

Perform specimen collection on difficult to draw patients using appropriate techniques (e.g. chemotherapy, dialysis, edema, pediatric, geriatric, dehydration, obesity).

This is a continuation of your research on Topic #39

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- How to obtain a blood, urine, or any other body fluid specimen on a patient that is undergoing:
  - Chemotherapy
  - Dialysis (Research how to draw from a Cannula and Fistula/ This requires additional training) Also research the urine output of a dialysis patient
  - IV therapy **RESEARCHED ON TOPIC 48 under the bullet point IV COLLECTION**

- How to obtain a blood, urine, or any other body fluid specimen on a patient that:
  - has edema
  - is dehydrated
  - is obese
  - is an infant or small child
  - is geriatric

Topic 69

Take appropriate action when blood return is not established (e.g., collapsed vein, missed vein).

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- What may be going on under the skin after the needle is inserted that may be causing blood not to flow
- How to correct it (if possible)
- How to recognize Backflow of anticoagulant and what to do in case you recognize it is happening.

Topic 70

Respond to patient adverse reactions that may accompany blood collection (e.g., hematoma, petechiae, nerve injury, diaphoresis, syncope, nausea, seizure)

Understand:

- What to do IF your patient experiences any of these examples while the needle is in their arm
- If you do not know what a certain word means (like diaphoresis☺) look it up at dictionary.com

Topic 71

Make phlebotomy-related decisions for patients on anticoagulant therapy or with clotting deficiencies (e.g., hold pressure for longer period of time following collection)

Understand:

- How to prepare and react if you know your patient has a clotting deficiency (meaning not able to stop bleeding for a long time) or if they are on anticoagulant therapy (meaning they are taking a medication that as a side effect makes them not able to stop bleeding for a long time)
  - Basically you are going to research how long to apply pressure for each of these situations

Topic 72

Take corrective actions for problems with test requests, specimen transport, or specimen processing

In order to answer questions in this category, you will need to understand the following concepts and topics, and be able to understand:

- What to do when you encounter (find) a problem with a
  - Test Request
- What to do when you encounter (find) a problem when a specimen is:
  - In transport
  - At the point of processing

Topic 73

Take corrective actions for misidentified patients or samples.

Understand:

- What you are supposed to do if you realize that you or someone else has misidentified a patient (meaning drawn a blood on the wrong patient) And,
- Know what to do if you realize that there has been a "mix up" with blood samples or if the wrong color tube was drawn by accident.

Basically the answer is to RE-DRAW the correct patient…. PERIOD!