Lab Draws & Processing

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Who should collect and process specimens?

- The collection of specimens should only be performed by trained coordinators and/or staff members.
  - ❖ You are legally liable for any action you carry out as a healthcare professional, whether or not it is a responsibility given to you or you have received training for.

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Lab Draws & Processing Overview

- Pre-collection procedures and requirements
- Helpful tips and questions to ask study participants
- Collection requirements and considerations
- Processing requirements and considerations

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Pre-collection Procedures & Requirements

- After introducing yourself, confirm the identification of the participant.
- Coordinators and/or staff performing the collection of samples should verify that full informed consent and authorization has been obtained from the participant or their legal authorized representatives, prior to the drawing of the sample. This indicates that the participant understands the risk and has the right to refuse the procedure at any time.

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Tips & Questions for Study Participants Prior to Collection

- Before drawing the sample, explain the collection process to the participant. Generally, this makes the participant more comfortable and can ease some apprehension of the collection process.
  - ❖ Tell them how much blood you plan to collect (the number of tubes and the equivalency in tablespoons, if obtainable)
  - ❖ Explain to the participant that they may feel a pinch when you begin collection, and should try to remain still during collection.

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Tips & Questions for Study Participants Prior to Collection (Cont'd)

- Some helpful questions to ask the participant, prior to collecting the sample include:
  - ❖Are you currently taking any blood-thinning medication, such as heparin, warfarin, or aspirin?
  - ❖ Have you ever had any issues with a blood draw, such as bruising, dizziness, or blacking out?
  - ❖ Have you had anything to eat or drink? Coffee? Water?
  - ❖ If you are using latex products, ask if they have an allergy to latex.
  - ❖Ask if the participant has an allergy to alcohol.
  - ❖Do you have a preferred arm for collection?

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Collection Requirements & Considerations

- Specimens should be collected according to the protocol of the clinical trial, while adhering to the appropriate safeguards based upon OSHA guidelines.
- Blood collection should be done by finger stick, heel stick, ear stick, or venipuncture.
- The cumulative amount of blood drawn from non-pregnant adults who weigh at least 110 pounds, shouldn't exceed 550 ml in an 8 week period and collection may not occur more than twice a week.

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Collection Requirements & Considerations (Cont'd)

- The cumulative amount of blood drawn from other adults and children, is based on age, weight, health, the collection process, the volume of blood collected, and the frequency with which it will be collected; however, the amount collected shouldn't exceed 50 ml in an 8 week period and collection may not occur more than twice a week.

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Collection Requirements & Considerations (Cont'd)

- If possible and if allowable by your studies' protocol, samples for the research studies can be obtained at the same time as clinical labs (drawing the clinical labs first).
- Withdraw only the minimal amount of blood needed for collection.
- Blood collection tubes should be drawn in a specific order to prevent cross-contamination of additives.
  * Thoroughly mix tubes with additives to prevent incorrect results or clotting.
- No more than 3 skin punctures, are allowable in a single attempt to draw blood solely for research purposes.

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Other Collection Considerations

- After the area is cleansed, it should not be touched or palpated again.
- The tourniquet shouldn't remain on the participant's arm for more than a minute during the venipuncture procedure or be too tight. Consequences of leaving it on longer can include hemolysis, petachiae, and hematoma.
- If at anytime during the draw the participant becomes ill, experiences excessive pain, or tells you to stop the draw-terminate the draw.
- Gauze should immediately be placed on the puncture site once the draw is completed and sufficient pressure should be applied, which will prevent the formation of hematoma.
- If the participant is on a blood-thinning medicine apply pressure for at least 15 minutes.
- Gently invert additive tubes according to your protocol standards (generally, 5-10 times), to aid in the clotting process.

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Processing Requirements & Considerations

- When processing specimens, make sure that you are processing in accordance to the procedure defined in the your studies' protocol.
- Variables important to consider during processing include temperature requirements of the tubes, time period recommended for collecting and processing blood, and centrifugation requirements.

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Processing Requirements & Considerations (Cont'd)

- **Temperature requirements**
  - Vacutainer tubes should be stored at 4-25 degrees Celsius.
  - Protocols usually give specific details in reference to if samples should be refrigerated, frozen, or kept room temperature.
- **Time requirements**
  - Serum separator tubes should clot at least 30 minutes in a vertical position before centrifugation.
  - However, other samples can wait longer before processing without loosing viability, like an whole blood specimen collected in an EDTA tubes, which has a 24-hour threshold.

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Processing Requirements & Considerations (Cont'd)

- **Centrifugation requirements & considerations**
  - ❖ The centrifugation speed, time-frame, and temperature is study protocol dependent.
  - ❖ After centrifugation, a distinct and separate layer of plasma or serum should be seen on the top of the gel layer. Gel flowed may be inhibited if chilled before or after centrifugation.
  - ❖ One of the most important factors to consider in centrifugation, is that tubes must be balanced before starting the centrifuge.

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Questions?

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References

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