SOP Template: Proper Order of Blood Draw for Multiple Sample Collection

This SOP details the **proper order of blood draw for multiple sample collection**, ensuring accurate sample integrity and preventing cross-contamination. It covers the sequence of tube collection based on additive types, handling techniques, and blood flow considerations. Following this procedure minimizes the risk of sample rejection, ensures reliable laboratory results, and maintains patient safety during phlebotomy.

1. Purpose

To standardize the order and method of blood draw for multiple sample collection, minimizing pre-analytical errors and ensuring the accuracy and reliability of laboratory results.

2. Scope

This procedure applies to all healthcare staff performing venipuncture for diagnostic blood sample collection in any clinical setting.

3. Responsibilities

- Phlebotomists must follow the specified order of draw.
- Clinical staff must ensure proper labeling and handling of collected specimens.
- Supervisors are responsible for staff training and compliance audits.

4. Required Supplies

- Vacutainer tubes (all required types)
- Personal protective equipment (gloves, mask, etc.)
- Alcohol swabs
- Tourniquet
- Needles/syringes
- Gauze and adhesive bandage
- Labels and requisition forms

5. Procedure

1. Verify patient identification and check test order.
2. Assemble all supplies and label tubes in advance.
3. Apply tourniquet and select venipuncture site; disinfect using aseptic technique.
4. Perform venipuncture; follow the correct **order of draw** (see below).
5. Invert tubes gently as required by manufacturer guidelines (do not shake vigorously).
6. Release tourniquet, withdraw needle, and ensure hemostasis at puncture site.
7. Dispose of sharps and other waste according to protocol.
8. Transport specimens to the laboratory promptly.

6. Order of Draw for Blood Collection Tubes

Order	Tube Color	Additive	Common Laboratory Use
1	Sterile/Blood culture (yellow or bottles)	SPS/ACD or broth	Blood cultures
2	Light blue	Sodium citrate	Coagulation studies (PT, aPTT)
3	Red	No additive (glass) or clot activator (plastic)	Serology, chemistry
4	Gold or Tiger-top (SST)	Clot activator and gel	Serum separation, chemistry

5	Green	Heparin (sodium/lithium)	Plasma chemistry, ammonia
6	Lavender or purple	EDTA	CBC, hematology
7	Gray	Sodium fluoride and potassium oxalate	Glucose, lactate

Note: If using a winged infusion set and the coagulation tube is the first to be drawn, draw and discard a non-additive tube first to remove air from the tubing.

7. Documentation

- Document collection time, site, order of draw, and any complications in the patient record.

8. References

- Clinical and Laboratory Standards Institute (CLSI). Collection of Diagnostic Venous Blood Specimens (CLSI GP41-A7).
- Local laboratory protocols.