

Blood Specimen Handling & Processing Review

Plasma Ammonia (Green-Top Tube)

- **Error:** Not kept on ice.
- **Effect:** False *increase* in ammonia from continued metabolic activity.
- **Prevention:** Place on *ice immediately* and analyze promptly.

Serum Potassium Frozen

- **Error:** Specimen exposed to freezing temperatures.
- **Effect:** False *high potassium* from cell rupture (hemolysis).
- **Prevention:** Keep at *controlled, non-freezing* temps.

Bilirubin Light Exposure

- **Error:** Sample left in bright light.
- **Effect:** *Decreased bilirubin* due to light sensitivity.
- **Prevention:** Protect with *foil* or *amber tube*.

Underfilled Light-Blue Tube (Coagulation Test)

- **Error:** Incorrect blood-to-additive ratio.
- **Effect:** *Prolonged clotting time* or invalid results.
- **Prevention:** *Discard and recollect* properly filled tube.

Overfilled Blood Culture Bottle

- **Error:** Too much blood added.
- **Effect:** *Dilution or inhibited bacterial growth*.
- **Prevention:** Follow *8–10 mL per bottle* volume limit.

Vigorously Shaken Lavender Tube

- **Error:** Excessive shaking after draw.
- **Effect:** *Hemolysis* from mechanical trauma.
- **Prevention:** *Gently invert 5–10 times* only.

Lactic Acid Sample Not Chilled

- **Error:** Room temp delay for 40 minutes.
- **Effect:** *False high lactic acid* from glycolysis.
- **Prevention:** Keep *on ice*; analyze *immediately*.

Uncapped Serum Tube

- **Error:** Tube left open post-centrifuge.
- **Effect:** *Evaporation and CO₂ loss* affect pH, electrolytes.
- **Prevention:** Keep tubes *capped until testing*.

Mislabeling Specimen After Leaving Room

- **Error:** Possible specimen mix-up.
- **Effect:** *Patient ID error* — unsafe to relabel.
- **Prevention:** *Label at bedside*; if unsure, *recollect*.

Lipid Panel After Breakfast

- **Error:** Collected post-meal.
- **Effect:** *False high cholesterol/triglycerides.*
- **Prevention:** *Fast 8–12 hours* before test.

Wrong Order of Draw (EDTA Before Serum)

- **Error:** EDTA drawn before red-top.
- **Effect:** *Low calcium, high potassium* from contamination.
- **Prevention:** Follow *proper order of draw*.

CBC Sample Frozen

- **Error:** Stored in freezer overnight.
- **Effect:** *Hemolysis* and destroyed cells.
- **Prevention:** Store *at room temperature*; process within *24 hours*.

Delayed Glucose Processing (Gray-Top Tube)

- **Error:** Left at room temp for 6 hours.
- **Effect:** *False low glucose* from ongoing metabolism.
- **Prevention:** *Refrigerate* if testing delayed.

Plasma Not Separated from Cells

- **Error:** Delay after centrifugation.
- **Effect:** *Altered analytes*— K^+ , glucose, enzymes affected.
- **Prevention:** *Separate plasma immediately*.

Tubes Transported Horizontally

- **Error:** Placed sideways in pneumatic system.
- **Effect:** *Leaks, clots* from pressure and vibration.
- **Prevention:** *Transport upright and cushioned*