Factors Affecting Hemolysis

Preanalytical Specimen Workflow

Patient	Phlebotomy	Specimen Transport	Processing	Analysis	Storage
In Vivo Hemolysis *Patient Factors* *Metabolic Disorders (e.g. Liver Disease)* *Chemical Agents (e.g., Medication)* *Physical Agents (e.g., Mechanical Heart Values)* *Infectious Agents (e.g., Bacteria)*	*Catheter, IV Collection* *Capillary Collection* *Needle Gauge* Position of Arm *Location of Venipuncture* *Antiseptic* *Tourniquet Time* *Traumatic Draw* Fist Clenching *Tube Type* *Underfilling* Order of Draw *Vigorous Mixing* *No Mixing* *Syringe Transfer*	*Origin (e.g., ED, ICU)* Origin (Inpatient, Outpatient, Office Lab) Tube Transport – Vertical/Horizontal *Transport by Pneumatic Tube* *Courier Transport* *Transport Duration* *Precentrifugation and Transport Temperature*	Verify Tube with Request Generate Lab Barcode *Time Between Collection and Centrifugation* Centrifuge Type Calibration *Centrifuge Temp. Extremes* *Centrifuge Speed* Duration of Centrifuge *Poor Separator Barrier Integrity* Cells on Stopper *Specimen Re-Centrifugation* Automated Decapping Aliquot Labeling Specimen Aliquoted	Long Time After Centrifugation Serum vs. Plasma vs. Whole Blood Tube Mixed Prior to Analysis Re-run Specimen (Same Day) Verify Instrument Calibration/Controls Identify Instrument Used for Testing Identify Tech that Performed Testing Verify Report Value	*Re-Centrifugation* *Add-on* *Post-analysis Storage Temperature* *Duration of Storage*

Text in *italics* denotes steps that may cause hemolysis.