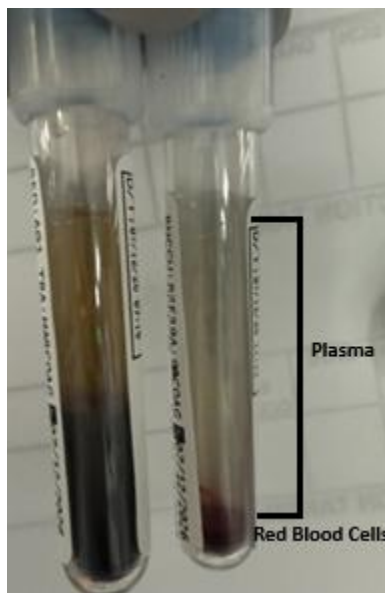


Specimen Rejection Guide – Most Common Rejections

In order to ensure accurate results in the clinical laboratory, it is necessary to follow proper specimen collection, processing, and handling. Improperly handled specimens can lead to delays in turnaround times, recollections, and misleading results that compromise patient care.

Specimen Rejection Reason	Tests Affected	Causes	Prevention
The sample is clotted 	CBC, PT/APTT, Other Coagulation Studies	Insufficient mixing Overfilling lavender microtainers – compromises the fixed amount of anticoagulant	Lavender and Blue Tops contain an anticoagulant that requires the sample to be gently mixed by inversion at least <u>8 times</u>. Note: if using a syringe to collect, do not let the blood sit in the syringe because there is no anticoagulant in the syringe and it will clot. Overfilling a lavender top microtainer can cause clotting because the volume compromises the fixed amount of anticoagulant– do not fill microtainers over 500 microliters
The sample is hemolyzed.  RBC lysing	Chemistry, Coagulation studies	Tourniquet on too long Heelsticks: squeezing too hard/ “milking” Line draws: using excessive force to draw the blood in the syringe. Vigorous shaking the tube	Only leave tourniquet on for no more than 2 minutes Heelsticks – Free flowing blood will hemolyze less. Heel warmers can help. Mix gently. Line draws: pull back gently on the syringe. Do not have more than one ml/cc of air space in the syringe. Transfer gently to proper tubes. Do not force blood from the syringe to the tube (let the tube vacuum pull the blood naturally). Mix gently. Invert tubes gently
QNS = Quantity not sufficient  Example of QNS for coagulation	PT/APTT, Other Coagulation Studies, CBC, Chemistry  Example of QNS for chemistry	Specimen was underfilled. Butterfly needle: waste tube was not drawn and introduced air in the tubing. Tube was expired, and the vacuum was compromised. Patient has high hematocrit, not enough serum/plasma collected	For coagulation testing (light blue tops) the tube must always be filled past the line indicated on the tube (minimum fill line). If using a butterfly needle, it is necessary to draw a waste tube first to eliminate air in the tubing. Air in the tubing causes the tube to not have enough vacuum to properly fill. Check tube expiration dates and discard if expired. For chemistry samples, if the patient has a high hematocrit, more blood will need to be drawn in order to have enough serum/plasma for testing. See Find-A-Test for appropriate test volumes. For Neonatal Specimen volumes click here for more information.

Specimen Rejection Reason:**QRES (Questionable Results) - Contaminations**

Specimen drawn from an IV or line can lead to erroneous results. The above picture shows two samples. The sample on the left was drawn properly. The sample on the right was drawn from an IV and visibly diluted (contamination).

Notice the difference between how the two samples were spun and how the sample on the right has a very small amount of red cells. This is indicative that the sample is compromised from the IV fluids.

Prevention: To prevent IV contamination, turn off all fluids for at least 2 minutes prior to sample collection. Draw from a site below the IV. Collect and discard twice the volume of the line.

Common Contaminations	Tests Affected	Erroneous Results
Saline	CBC, Chemistry, Coagulation Studies	Decreased hemoglobin/hematocrit Elevated sodium & chlorine Decreased potassium & calcium Elevated PT/APTT
Dextrose/ Lactate ringers	CBC, Chemistry, Coagulation Studies	Increased MCV Decrease hemoglobin/hematocrit Elevated glucose Elevated potassium
TPN	Chemistry	Elevated glucose Elevated potassium
Heparin	Coagulation Studies	Results could exceed therapeutic range of heparin and not reflect the actual dosage given
EDTA tube drawn before Chemistry tube	Chemistry	Elevated potassium Decreased calcium Prevention: Never pour blood over from one tube into another tube and always draw tubes in the correct “ Order of Draw .”