

# Hemolysis

## WHAT IS HEMOLYSIS?

Hemolysis is the breakdown of red blood cells (RBC's). There are quite a few reasons that blood can be hemolyzed. The RBC's are very fragile and don't tolerate much roughness.

## HOW DO YOU KNOW WHEN A BLOOD SPECIMEN HAS BEEN HEMOLYZED?

Hemolysis cannot be detected until after the tubes have been spun.

## WHY IS HEMOLYSIS AN ISSUE?

Certain lab tests can be affected and the reported results will be inaccurate. It falsely decreases values such as RBC's, HCT, and aPTT. It can also falsely elevate potassium, ammonia, magnesium, phosphorus, AST, ALT, LDH and PT.

## HOW DO YOU PREVENT THIS?

1. Use a 23 gauge or larger needle. Smaller gages make it difficult for RBC's to pass through without physical damage.
2. Avoid slow draws from improperly positioned needles.
3. Do not shake tubes to mix the blood with the additive. **Gently** invert each tube.
4. Fill tubes to their stated capacity. The additive in some tubes can cause cell rupture if the blood-to-anticoagulant ratio is incorrect.
5. Do not force blood into tubes when using a syringe. Attach a transfer device and let the tube pull the blood from the syringe.



The first tube is not hemolyzed.

This sample is acceptable.

Tube number 2 is slightly hemolyzed, and may or may not be acceptable depending on the test.

Tubes 3 and 4 are grossly hemolyzed and will need to be recollected.