

## **Coagulation Testing Protocol**

**Coagulation Tests Collection Method** - Citrated plasma is required for running tests of coagulation such as PT, PTT, D-Dimer, Protein C, Von Willebrand factor and individual factor analyses.

### **Procedure**

It is imperative that proper collection procedures are followed for coagulation test results to be accurate. Atraumatic venipuncture technique is critical to prevent activation/depletion of clotting factors during collection.

Contamination with tissue thromboplastin (traumatic collection), prolonged collection or vessel occlusion, improper mixing and improper anticoagulant: blood ratios will all adversely affect coagulation tests.

If necessary, sedation or anesthesia may be required in difficult patients.

Avoid the jugular if serious coagulopathy is suspected. Clean venipuncture of large caliber blood vessels is optimal.

If initial venipuncture is less than optimal, the first 1-2 ml of blood that may be contaminated with tissue thromboplastin can be discarded or placed in EDTA for a CBC before a clean syringe is used to collect the coagulation sample.

TNVD supplies a 1.3 ml microtainer and 2.7ml citrate blue top tubes. With the microtainer, close attention to tube volume is needed.

Standard sodium citrate tubes require 2.7 ml whole blood. The vacuum in the 2.7 ml tube is designed to draw the correct amount of blood into the tube to achieve the optimal ratio with the anticoagulant. The sample should be redrawn if the vacutainer tube is not filled to the desired sample volume.

If hemolysis is present in the plasma the sample should be redrawn.

Removing the needle from the syringe if transferring to a tube can decrease the incidence of hemolysis especially if needle size is small.

### **Sample Processing**

The tube should be spun immediately.

(Plan to place the supernatant plasma in a plastic tube or a citrate tube that has NO citrate - shake the tube free of sodium citrate)

After appropriate centrifugation the plasma is removed (plastic pipette or tuberculin syringe) and placed into the plastic tube or citrate free blue top tube.

Do not transport plasma in a plain glass (red top) tube. Only siliconized glass or plastic can be used to transport citrated plasma for coagulation tests. The red top tubes currently supplied by the lab are siliconized.

The separated plasma should be transported to the lab on ice.

Freeze the samples if they will not reach the lab within 6 hours of collection.

Note: An instructional video is available at Cornell Instructional Video Coagulation Testing <https://ahdc.vet.cornell.edu/Sects/Coag/samplinginstructions.cfm>