

Recommended Coagulation Testing Algorithms

Hypercoagulation profile:

- Activated Protein C-Resistance screening assay (APC-R) – if screening assay is abnormal, than PCR testing for the Factor V Leiden mutation is recommended
- Functional Protein C activity
- Functional Protein S activity
- Antithrombin
- Lupus anticoagulant panel
 - sensitive PTT with mixing study if PTT is abnormal
 - DRVVT screen, confirmatory test if screen is abnormal

Additional tests for thrombophilia may be indicated if this initial panel is normal:

- Prothrombin gene mutation 20210
- Anticardiolipin antibodies
- Homocysteine

Von Willebrand Disease evaluation:

- Platelet function analysis (PFA): If clinical suspicion for VWD is high and the PFA is normal, then consider repeat testing in 6 months before definite exclusion of von Willebrand disease.
- If the PFA is abnormal, and shows a pattern consistent with an intrinsic platelet defect, then perform the following tests:
 - VWF antigen
 - Ristocetin cofactor
 - Factor VIII level

Prolonged PTT evaluation:

- Rule out heparin effect:
 - Hepabsorbed PTT or Thrombin time (The thrombin time is more sensitive to heparin than the PTT, and will be more dramatically prolonged)
- Lupus anticoagulant profile:
 - This includes a more sensitive PTT with a mixing study that may distinguish an inhibitor from a factor deficiency
- Specific factor assays: Factor VIII, Factor IX, and Factor XI are the most common hereditary deficiencies and the **clinically significant ones**.

Prolonged PT evaluation (if no known Coumadin therapy):

- PT mixing study:
 - This will confirm a factor deficiency; inhibitors affecting the PT are RARE.
- Factor V and Factor X levels:
 - Factor V is not vitamin K dependent. If both Factor V and Factor X are low, this suggests liver disease or a consumptive coagulopathy. If Factor V is normal and Factor X is low, this suggests vitamin K deficiency or Coumadin effect.