

Mastery Series: Hemostasis—Blood Halt

1. What are the essential ingredients for blood clotting and where do each of these ingredients come from?
2. What are the 4 stages of blood clotting and lysis?
3. How does Coumadin work to inhibit clotting?
4. How does aspirin work to inhibit clotting?
5. What chemicals can break clots?
6. Compare the intrinsic and extrinsic clotting pathways.
7. What causes hemophilia?
8. Once Factor X is activated, how does fibrin clot eventually form?
9. What is venous stasis and why does it sometimes activate the intrinsic pathway?
10. What is a DVT?
11. How can a DVT result in a life-threatening acute emergency?
12. What is thrombocytopenia?

1. **vitamin K**: diet and stored in liver; **calcium**: diet and stored in bone matrix; **platelets**; made in bone marrow; **clotting factors** (including fibrinogen): made by liver
2. 1. vascular spasms 2. platelet clot 3. coagulation 4. lysis of the clot
3. Coumadin inhibits Vitamin K from its role in the synthesis and activation of clotting factors.
4. Aspirin is a COX-inhibitor. COX is an enzyme necessary for platelet aggregation, so inhibiting COX inhibits platelet plug formation.
5. heparin; plasmin; tissue plasminogen activator (TPA) is sometimes given to stroke patients to break up a clot
6. *Intrinsic: slower, involves more clotting factors, sometimes caused by slow-moving blood or inflammation within an un-damaged blood vessel *Extrinsic: faster, usually caused by damaged blood vessels
7. Missing one more clotting factors
8. Factor X activates prothrombin activator which converts prothrombin to thrombin. Thrombin converts fibrinogen to fibrin.
9. Venous stasis is when blood is pooled in extremities. The blood is moving slowly and that can cause platelets to activate. BTW, atrial stasis is when slow-moving blood pools in the right atrium.
10. Deep Vein Thrombosis is a clot that forms in an extremity, often due to venous stasis.
11. If any clot breaks free, it may become lodged somewhere else (called an embolism). If it lodges in the pulmonary vessels, it is called a Pulmonary Embolism (PE).
12. Thrombocytopenia: too few thrombocytes. An autoimmune or allergic complication