

WEEK 3

HEMOSTASIS AND RED BLOOD CELLS

Objectives:

1. Be able to explain the platelet plug, clotting factors and coagulation cascade.
2. Explain the mechanisms that work to prevent platelet activation and blood clotting.
3. Describe how blood clots are broken down and dissolved.
4. Explain the disorders of hemostasis mentioned in the study guide.
5. Explain how red blood cells are produced and broken down.
6. Describe these red blood cell disorders: spherocytosis, sickle cell, thalassemia, iron deficiency, megaloblastic anemia and polycythemia.

Vocabulary:

- Activated partial thromboplastin time (aPTT)
- ADPase
- Antithrombin (AT-III)
- Biliverdin
- Disseminated intravascular coagulation (DIC)
- Ecchymoses
- Ferritin
- Ferroportin 1
- Fibrinogen
- GPIIb/IIIa receptor
- Helmet cells (schistocytes)
- Hemoglobin breakdown
- Hemolytic-uremic syndrome (HUS)
- Hemophilia A&B
- Hemostasis
- Heparin (UFH and LMWH)
- Heparin-induced thrombocytopenia and thrombosis (HIT/HITT)
- Hepcidin
- Hephaestin
- Immune thrombocytopenic purpura (ITP)
- International normalized ratio (INR)
- Mean corpuscular volume (MCV)
- Mean corpuscular hemoglobin concentration (MCHC)
- Nitric oxide (NO)
- Pernicious anemia
- Petechiae
- Plasminogen/plasmin
- Platelet activating factor (PAF)
- Polycythemia
- Prothrombin time (PT)
- Prostacyclin
- Purpura
- Thalassemia
- Thrombin
- Thrombocyte
- Thrombocytopenia
- Thrombotic thrombocytopenic purpura (TTP)
- Thrombomodulin
- Thromboxane (TXA2)
- Tissue factor pathway inhibitor (TFPI)
- Tissue plasminogen activator (tPA)
- Transferrin
- vWF
- Warfarin (Coumadin)

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| Hemostasis |
| Healthy Endothelium – Endogenous Antiplatelets and Anticoagulants |
| The Stages of Hemostasis |
| Inherited (Primary) Disorders NOT Involving Platelets |
| Inherited (Primary) Disorders Involving Platelets |
| Acquired (Secondary) Disorders NOT Directly Involving Platelets |
| Acquired (Secondary) Disorders Directly Involving Platelets |
| Red Blood Cells |
| Hemoglobin and the Breakdown of Hemoglobin |
| Important Red Blood Cell Lab Tests |
| Disorders of the Red Blood Cell Membrane |
| Types of Thalassemia |
| Role of Iron and Iron Deficiency Anemia |
| Megaloblastic Anemias |
| Aplastic and Chronic Disease Anemia |
| Polycythemia |



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