

Unit 7: Hematology
Chapter 33 & 34
ONLINE CONTENT (2H)

Complete the worksheet and submit in the Unit 7: Hematology dropbox by March 17, 2025 at 0800. Please be sure to bring a copy to class on March 17, 2025.

Table 1	Iron Deficiency Anemia	Thalassemia	Cobalamin (Vitamin B₁₂) Deficiency	Folic Acid Deficiency
Etiology	-Insufficient amount of iron in the blood to produce hemoglobin	Reduced productions of hemoglobin and abnormal structure of hemoglobin.	Vit-B12 deficiency due to malabsorption of nutrients	Due to poor dietary intake and malabsorption
Clinical Manifestations	Fatigue, weakness, dizziness, SOB, headache, cold hands and feet, heart palpitations and pale skin	Fatigue, weakness, pale or yellowish skin, SOB, Concentrated urine and bone pain	Confusion memory problems, poor balance and communication. Hands and feet numbness and tingling	Fatigue, weakness, depression, loss of appetite and irritability. Also dizziness, SOB, palpitations and pale skin
Diagnostic Studies	CBC, Iron study, sTfR, decal occult blood, GI colonoscopy and Endoscopy.	CBC, Iron study, Gene testing, HPLC and blood smear	Serum Cobalamin levels, CBC, Schilling test and methylmalonic acid	CBC, PBS, serum folate test, Vit-B 12 test and RBC folate level
Drug Therapy	Ferrous sulfate, Ferrous fumarate, Ferrous gluconate and IV Iron infusions	Blood transfusion, Iron chelation therapy. Folic acid supplement, Hydroxyurea.	Cyanocobalamin, Hydroxocobalamin and Oral cobalamin	Folic acid supplement, Dietary changes, Methotrexate,
Nursing Management	Administer iron supplement, promote iron rich foods, monitor O2 and CBC	Monitor blood transfusion, administer meds, Provide education and support to pt and family	Neuro assessment, Vital signs, Assess gait and balance and also monitor joint pain	Vit-B 12 assessment, folic acid supplementation

Table 2	Anemia of Chronic Disease	Aplastic Anemia	Acute Anemia due to Blood Loss	Chronic Anemia due to Blood Loss
Etiology	Can be related to impaired metabolism and RBC production due to impaired inflammatory conditions.	Three body mistaken bone marrow and stems cells and attacks them.	Sudden loss in RBC due to hemorrhage or hemolysis	Blood loss more accelerated then body can replace it, Iron stores depleted due to accelerated erythropoiesis
Clinical Manifestations	Fatigue, weakness, SOB, headache, chest pain, irregular heartbeat and cold hands or feet	Headache, dizziness, nausea, bruising and pale skin	Confusion, hypotension, tachycardia, hypotension, fatigue, weakness, SOB, vomiting and dizziness	Fatigue, SOB, dizziness, brittle nails, headaches, palpitations, jaundice cold peripheral extremities
Diagnostic Studies	CBC, Reticulocyte count, Serum iron levels, Peripheral blood smear, CRP and ESR	CBC, Genetic studies, bone marrow aspiration abd biopsy	CBC, Reticulocyte count, Iron studies, LFT, Kidney function test,	CBC, Peripheral blood smear, Reticulocyte count, Iron study, stool and urine test, Inflammatory markers
Drug Therapy	Iron supplements, Blood transfusion, immunosuppressants if caused by autoimmune, Folic acid or Vit-B 12	Cyclosporine and Anti-thymocyte globulin	Iron supplements, Blood transfusion, ESA,	Iron supplement, ACD treatment – ESA, Blood transfusion,
Nursing Management	Monitor Spo2, assess nutritional status, pt has decreased ineffective peripheral tissue perfusion	Prioritize rest, monitor oxygen, promote a balance diet, monitor for signs of bleeding	Monitor ABC, vital signs, blood loss s/s, neurological status, Fluid resuscitation	Monitor for s/s of bleeding, oxygenation and oxygen therapy, neuro status, nutritional status,

Table 3	Acquired Hemolytic	Hemochromatosis	Polycythemia
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	Anemia		
Etiology	The body destroys its own RBC due to infections, autoimmune, medications, blood transfusions or mechanical damage	Excess iron accumulation in major organs such as heart, liver and pancreas	A type of blood cancer that caused by a mutation the bone marrow causing uncontrolled production of RBC, WBC and Platelets
Clinical Manifestations	Jaundice, enlarged spleen and liver, muscle pain fever or chills, dark / concentrated urine, tachycardia, fatigue, SOB, dizziness and pale / cool extremities	Bronze or gray skin, liver damage, arrhythmias and HF, pancreatic damage, cognitive decline and memory loss, fatigue, weakness, abd pain	Enlarged spleen, tinnitus, N&T in hands and feet, abd pain, Severe is stroke, DVT, MI, PE,
Diagnostic Studies	CBC, Hemolysis specific tests, bone marrow aspiration and biopsy, genetic testing	Transferrin saturation, Serum ferritin, genetic testing, Liver biopsy, MRI	CBC, EPO levels, LFT and kidney function test, bone marrow exam, genetic test, peripheral blood smear
Drug Therapy	Corticosteroids, Rituximab, immunosuppressants, IVIG, ESA, Blood transfusion	Iron chelation therapy – Deferoxamine and Deferasirox	Cytoreductive therapy – hydroxyurea, interferon alpha, besremi
Nursing Management	Monitor Labs, s/s of anemia, encourage rest, monitor oxygenation, manage pain.	Pt education, treatment plan, med adherence, avoid iron supplements, limit Vit C, no raw fish or shellfish	Prevent thrombus with medications, hydration and exercise, monitor O2, manage fatigue and pruritis, manage erythromelalgia.

In order to receive full credit (2H class time) for this assignment, it must be completed in its entirety by the due date/time assigned. Any assignment not completed in its entirety by the due date and time will result in missed class time and must be completed by the end of the semester to pass the course.