

Circulatory System Cheat Sheet

Version 3.0

Organ	Details
aorta	artery; largest blood vessel; Marfan Syndrome can cause aneurysm in it
blood vessels	includes arteries (see aorta), veins, and capillaries
heart	pumps blood through the body; separated into atria and ventricles , which are connected by valves like the mitral valve ; covered by the pericardium , which surround the myocardium
kidney	filter blood and produce urine ; consists of functional units called nephrons , the loop of Henle , and Bowman's capsules ; failure of the kidneys is treated with dialysis
liver	breaks down bilirubin and ammonia ; contains macrophages called Kupffer cells ; may suffer from hepatitis or cirrhosis ; failure can cause jaundice
lung	oxygenates blood; contains alveoli on the ends of bronchioles ; surrounded by pleural membrane or " pleura ;" the right lung has three lobes and the left has two; may suffer from bronchitis
spleen	disposes of old red blood cells ; contains red and white pulp and Malpighian corpuscles ; undergoes sequestration in sickle-cell anemia ; becomes enlarged due to mononucleosis

Component of Blood	Details
blood type	classified with the ABO system; has Rh+ [R-H-positive] and Rh- [R-H-negative] types
cholesterol	carried by blood, and can collect in blood vessels, causing atherosclerosis ; has LDL (low density lipoprotein) and HDL (high density lipoprotein) types; a type of steroid
hemoglobin	protein that carries oxygen in red blood cells; contains four porphyrin rings , each around a central iron atom
macrophage	immune cells that engulf foreign cells and eat them; express MHC class II to present antigens to helper T cells
platelet	or thrombocyte ; cells that clump together to aid blood clotting
red blood cell	or erythrocyte ; blood cells that carry oxygen and contain hemoglobin (see above); have a biconcave shape; are deformed in sickle-cell anemia ; made in bone marrow through erythropoiesis ; destroyed in the spleen ; low numbers of red blood cells cause anemia
T cell	a type of lymphocyte (see "white blood cell"); helper type is activated by MHC class II ; also have cytotoxic type; contrasted with B cells
white blood cell	or leukocyte ; include lymphocytes like B cells , which produce antibodies , and T cells (see above)

Disease	Details
heart attack	or myocardial infarction ; results from lost blood flow (ischemia) to part of the heart; risk can be reduced with aspirin
hemophilia	recessive genetic disease carried on the X-chromosome ; prevents blood clotting
HIV	or human immunodeficiency virus ; precursor to acquired immunodeficiency syndrome (AIDS); a retrovirus that infects CD4+ ["C-D-4-plus"] helper T cells ; causes skin lesions called Kaposi's sarcoma ; can be treated with AZT , which inhibits reverse transcriptase
leukemia	a class of blood cancer in which white blood cells are overproduced and do not die off normally
lymphoma	a class of blood cancer that affects lymph nodes and lymphocytes; has Hodgkin's and non-Hodgkin's types
malaria	blood disease caused by Plasmodium , a mosquito-borne parasite; carriers of genes for sickle-cell anemia are resistant to malaria; treated with quinine
sickle-cell anemia	blood disease in which red blood cells mutate into a crescent shape