STUDY GUIDE FOR CHAPTER 11, part 2
(also includes the first section of Ch. 12)

IMPORTANT: Please also study the fetal circulation shown on page 334, the changes that take place at birth, and the various nonspecific body defenses summarized on page 357.

Fibrillation - rapid, uncoordinated shuddering of cardiac muscle that does not effectively pump blood.
Bradycardia - abnormally slow heart rate, below 60 beats per minute (normal is near 80).
Tachycardia - abnormally rapid heart rate, sustained above 100 beats per minute.
Murmur - an abnormal sound in the heart.
Atherosclerosis - narrowing of the artieries due to buildup of fat deposits; it raises blood pressure.
Arteriosclerosis - "hardening of the arteries"; loss of arterial elasticity from sedentary habits or old age.
Congestive heart failure - weakening and slowing of the heart (or one side of it), usually due to atherosclerosis of the coronary arteries. (A progressive condition, resulting in death.)
Infarction - death of a portion of the heart muscle (myocardium).
Hypertension - blood pressure higher than normal, above 140/90.
Hypotension - systolic blood pressure lower than normal, below 100, often causing fainting.
Lymph - a liquid connective tissue containing plasma (derived from interstitial fluid) and nongranular leukocytes (no red blood cells or platelets, also no granular leucocytes).
Thoracic duct - the largest lymphatic vessel, emptying into the left subclavian vein.
Lymph node - one of many thousands of small lymphoid organs that harbor macrophages and lymphocytes and that filter the lymph and remove bacteria, dead cells, and cellular debris.
Thymus - a lymphoid organ, located high in the thoracic cavity, that programs lymphocytes in childhood.
Tonsils (and adenoids) - masses of lymphoid tissue that surround the back of the pharynx.
Peyer's patches - patches of lymphoid tissue associated with the small intestine and mesentery.
Spleen - a lymphoid organ, located near the stomach, that filters blood of bacteria and viruses, destroys aging red blood cells (and recycles the hemoglobin to the liver), and stores platelets and extra blood.
Varicose veins - swelling of the veins (especially in the leg) because of weakness in the valves.
Phlebitis - an inflammation of the veins, a frequent consequence of varicose veins

Nonspecific body defenses - body defenses that do not target a particular threat only.
Pathogen - any organism that can cause a disease.
Phagocyte - any cell that engulfs and eats bacteria or other cells.
Macrophage - a type of phagocyte that creeps by amoeboid motion through connective tissues.
Natural killer (cytotoxic) cells - cells that kill diseased body cells by the rupture (lysis) of their plasma membranes; the ruptured cells are either virus-infected or cancerous.
Inflammation - a protective response characterized by redness, pain, heat, and swelling (se p. 359).
Histamine - an amino acid that causes an inflammation response.
Complement - a series of blood proteins that can attach to cells (**complement fixation**), rupture their cell membranes, coat them with sticky **opsons**, and release **chemotaxis chemicals** that attract phagocytic neutrophils to the area.
Opson - a sticky "eat me" protein that makes a target cell easier for a phagocytic cell to recognize, attach to, and eat.
Interferons - small proteins that make it harder for viruses to attach to cell surfaces; these are often secreted by virus-infected cells and help protect nearby cells from becoming infected.
Pyrogen - fever-inducing chemicals, often sereted by macrophage cells.