

Biology 47 – Human Anatomy

West Valley College - Norris

Lecture Outline – Cardiovascular System

I. Definitions

- A. Interstitial Fluid
- B. Plasma

II. Function (= physiology)

III. Overview

- A. Heart
- B. Blood Vessels
 - 1. Arteries
 - 2. Capillaries
 - 3. Veins
- C. Blood

IV. Blood

- A. Plasma
- B. Formed Elements (Cells of the Blood)
 - 1. Erythrocytes (Red Blood Cells, RBC's)
 - a. Blood Types
 - 2. Leukocytes (White Blood Cells, WBC's)
 - a. Granulocytes
 - i. Neutrophils
 - ii. Eosinophils
 - iii. Basophils
 - b. Agranulocytes
 - i. Lymphocytes
 - T-Lymphocytes
 - B-Lymphocytes
 - ii. Monocytes
 - 3. Platelets

V. Heart

- A. Microscopic Anatomy
- B. Layers of the Wall of the Heart:
 - 1. Pericardium (pericardial sac)
 - a. parietal pericardium
 - b. visceral pericardium (epicardium)
 - 2. Myocardium
 - 3. Endocardium
 - 4. Fibrous Skeleton
- C. Gross External Anatomy
 - 1. General Features

2. Major Blood Vessels (all attached to the heart at the base)

D. Heart Chambers and Valves:

1. Right Atrium
2. Right Ventricle
3. Left Atrium
4. Left Ventricle
5. interventricular septum

E. Conduction System

1. Pacemaker Tissue
 - a. Sinoatrial (SA) Node
 - b. Atrioventricular (AV) Node
2. Conducting Pathways

VI. Heart Physiology (A brief preview)

VII. Blood Vessels

A. Organization

B. Blood Vessel Structure

1. Tunica Intima (Interna)
2. Tunica Media
3. Tunica Externa (adventitia)

C. Arteries / Arterioles

D. Capillaries

1. Continuous
2. Fenestrated

E. Veins / Venules

VIII. Lymph Vessels

IX. Fetal Circulation

A. Placental (Umbilical) Circulation

B. Lung Bypass

X. Additional Key Terms

chemotaxis constriction diapedesis dilation fenestrated lysis margination
osmosis pacemaker phagocytosis portal