

Chapter 5

#### The Cardiovascular System



# Overview of Structures, Combining Forms, and Functions





#### • Primary Functions

- Brings oxygen and nutrients to the cells.
- Carries away waste.

#### Related Combining Forms

- hem/o, hemat/o



# Major Fluid and Formed Components of Blood



CENGAGE Learning © 2009 Delmar, Cengage Learning

## Blood Vessels

- Primary Function
  - Transport blood to and from all areas of the body.
- Related Combining Forms

– angi/o, vas/o







- Primary Function
  - Transport blood away from the heart to all body parts.
- Related Combining Form

- arteri/o

- Pulse
- Blood Pressure





# Capillaries

- Primary Function
  - Permit the exchange of nutrients and waste products between the blood and the cells.
- Related Combining Form

- capill/o





- Primary Function
  - Return blood from all body parts to the heart.
- Related Combining Forms
  - phleb/o
  - ven/o





#### Heart

- Primary Function
  - Pumps blood into the arteries.
- Related Combining Forms
  - card/o, cardi/o
- Three layers

DELMAR

- Epicardium
- Myocardium
- Endocardium

CENGAGE Learning © 2009 Delmar, Cengage Learning



Use the following 2 slides of the heart to label handout for your notes

#### Structures

- Left and Right Pulmonary Arteries
- Superior and Inferior Vena Cava
- Aorta
- Valves (4)
- Atriums (2)
- Ventricles (2)
- Interventricular Septum

CENGAGE Learning® © 2009 Delmar, Cengage Learning

# Anterior External View of the Heart



CENGAGE Learning © 2009 Delmar, Cengage Learning

**Textbook** 

Pg 82

# Anterior Cross Section of the Heart



**Textbook** Pg 83

## Open heart Surgery

• <u>http://www.youtube.com/watch?v=MGzyhu</u> <u>Cs430</u>



# Circulation

- Systemic
  - Supplies everything but the lungs
- Pulmonary

DELMAR

- Circulation between the heart and lungs
- CO<sub>2</sub> is exchanged for O<sub>2</sub>

CENGAGE Learning © 2009 Delmar, Cengage Learning



#### Circulation

#### Fill in your handout

#### **Blood Flow through the Heart** If the blood is oxygenated, write your answers in red pen!

#### If the blood is deoxygenated, write your answers in blue pen!

 Right Atrium
 receives blood from all tissues of the body, except the

 lungs
 , through the superior and inferior

 Vena Cava
 .

2. Blood flows through the tricuspid valve into the right ventricle

- 3. The right ventricle pumps the blood through the pulmonary semilunar valve and into the **pulmonary** artery which carries it to the **lungs**.
- 4. The left <u>atrium</u> receives blood from the lungs through the four <u>Pulmonary veins</u>.
- 5. The blood flows out of the left atrium and into the left <u>ventricle</u> through the mitral valve.
- 6. Blood flows out of the left <u>ventricle</u> through the aortic semilunar valve and into the <u>aorta</u> which carries the blood to all parts of the body except the <u>lungs</u>.

Deoxygenated blood is returned by the vena cavae to the right atrium and the cycle continues!

#### Define these terms in your notes

# Disorders

- Angina
- Myocardial Infarction (MI)
- Ischemia
- Embolism
- Aneurysm
- Carditis Endo, myo, peri
- CHF







#### Define these terms in your notes

#### Procedures

- CABG
- Balloon Angioplasty
- Pulse oximeter
- ECG
- Echocardiograph

