



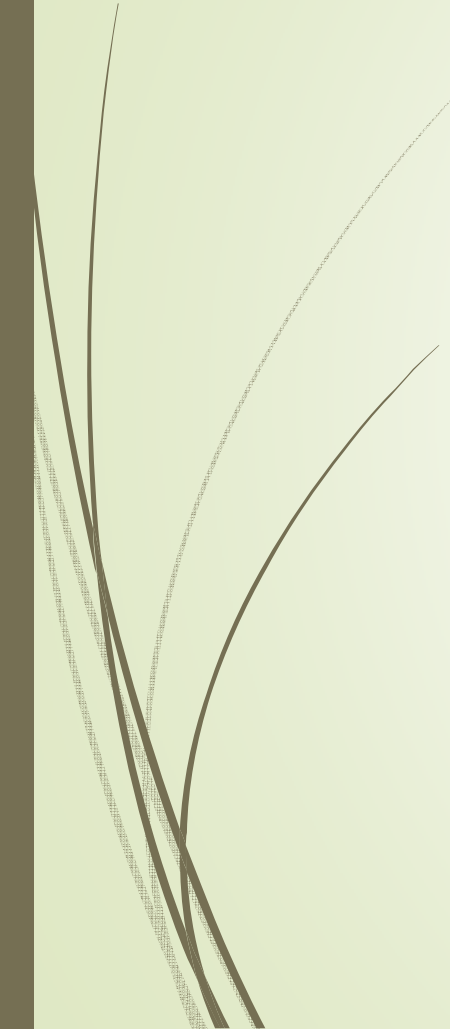
# Cardiovascular Disease

Chapter 9

Section I: The Heart and Its Functions

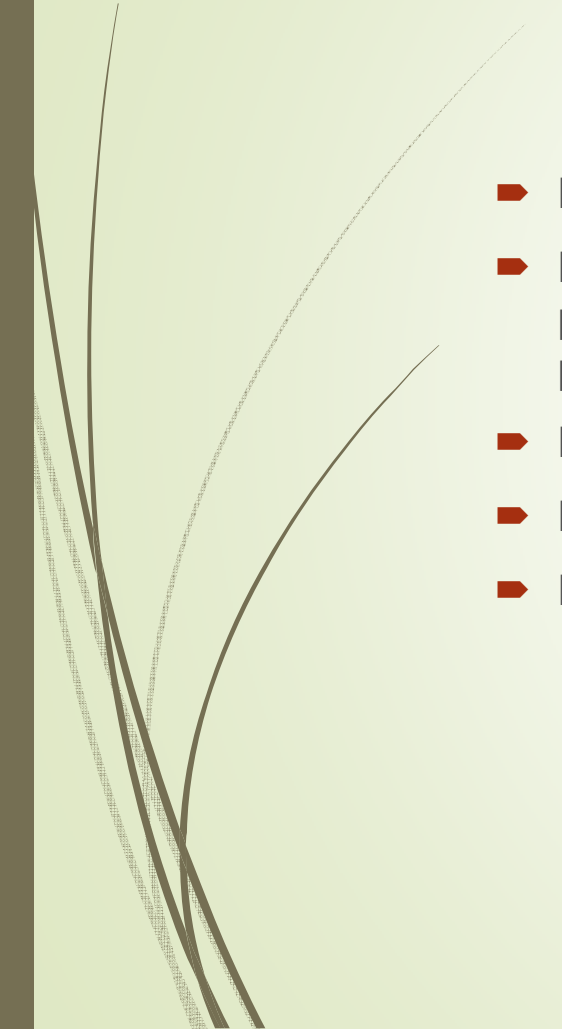


# Heart: Function and Structure

- ▶ [Heart Animation](#)
  - ▶ [Alternative link](#)
- 



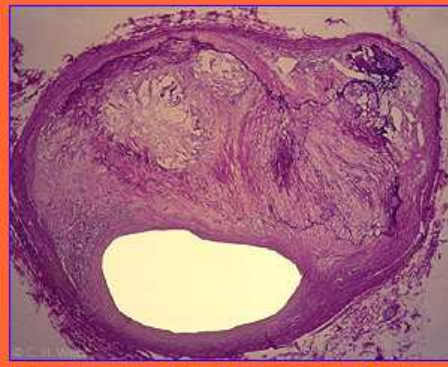
## “lub-DUB”

- ▶ Lub: a valve opens and permits flow from between atrium and ventricle
  - ▶ DUB: the forcing out of blood from the heart (from right ventricle to pulmonary arteries to oxygenate blood while left (aortic valve)ventricle pump oxygenated blood to aorta)
  - ▶ Lub=diastolic blood pressure (resting or relaxed heart state)
  - ▶ DUB=systole (systolic blood pressure)
  - ▶ Blood pressure measures our hearts resting and working states
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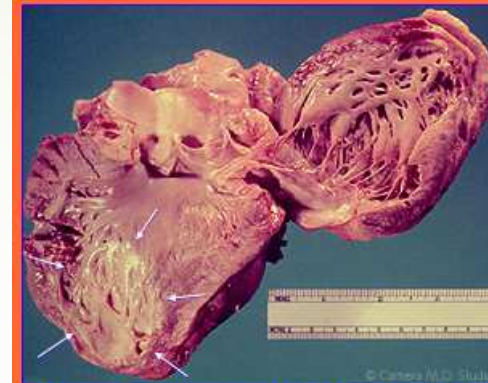
# “Troubled Hearts”



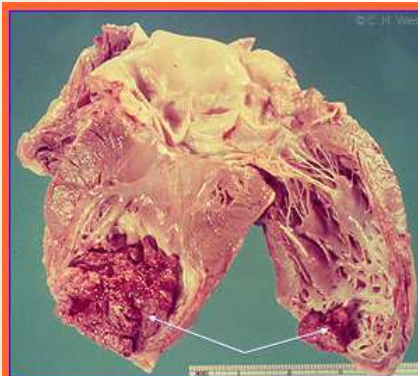
Coronary arteries are the network of blood vessels that supply the heart. In this photograph, the left coronary artery has been injected with a red dye, and the right coronary artery with white.



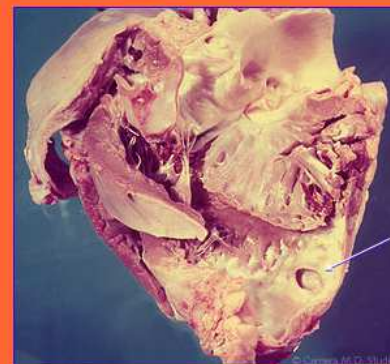
This photograph shows a cross-section of a coronary artery affected by atherosclerosis. Deposits of plaque – fatty material, cholesterol, calcium and blood clot – have narrowed the artery considerably. A heart attack happens when the coronary artery becomes blocked.



The arrows point to the site of a heart attack, where the heart muscle has died from oxygen deprivation. Normally, the area would look pink.



In some heart attacks, a condition called mural thrombus occurs. Blood that is no longer pumping through the heart starts clotting, eventually turning into a fibrous tissue that marks the exact location of the heart attack.



One consequence of a heart attack is softening of the affected tissue. In heart attacks involving the septum – the wall between the pumping chambers – that softening can lead to a rupture of the wall itself. The result is usually instant death.

# Four CV Diseases Linked with Health Behaviors

1. Coronary Heart Disease
  2. Cardiac Arrest
  3. Stroke
  4. Hypertension
- Related health behaviors include... 1) exercise, 2) stress management, and 3) eating habits.
  - Sound familiar?
  - Also smoking, alcohol abuse, high cholesterol diets. "Risks" are interesting to consider.

## Individual Determinants

- Eating/Nutrition
- Gender
- Aging
- Race/Ethnicity

## Community/Environment

- Immediate Family Members
- Community members (nearby)

## Health Systems/Access to Care

- Long-term and continued use of health care predicts better health outcomes (despite other determinants) (Banks et al, 2006)





# CV Disease Descriptions

## Disease

1. Coronary Heart Disease
2. Cardiac Arrest
3. Stroke
4. Hypertension

## Description

1. Leading cause of heart attacks: caused by atherosclerosis (modifiable risks)
2. *Not* a heart attack: not always fatal and time is **key**
3. Interrupted blood flow to the brain OR rupture of blood vessel in brain
4. High blood pressure: Heart is working too hard for its own good

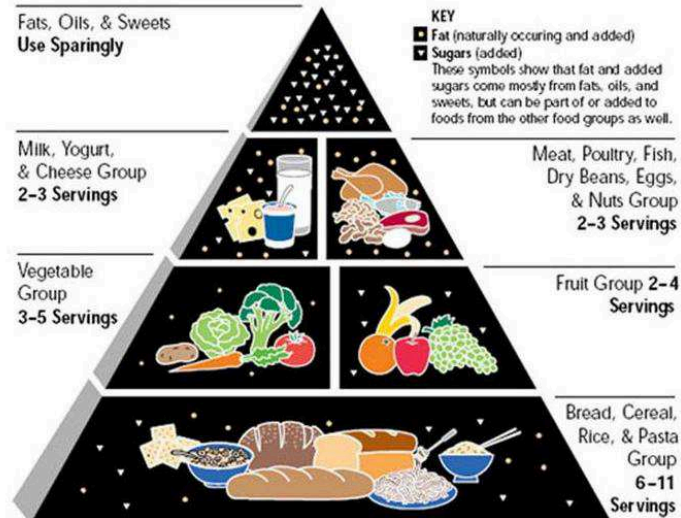


# Psychosocial Factors of CV Disease

- Stress
- Ethnicity
- Perceived Racism
- Example: House, M.D., episode #203
- Based on what we've learned about race thus far– what are your thoughts on heart medications designed for racial groups?

# Grocery List Task

## Goodbye Pyramid.....Hello My Plate



SOURCE: U.S. Department of Agriculture/U.S. Department of Health and Human Services

