BI 121 Lecture 9

I. Announcements
Lab notebook due today! Lab 4 HR & BP.
Thursday, Lab 5 Blood Chemistry. Read 2x pp 5-1 thru 5-6. Q?

II. Overview of Labs
HR & BP. ♥Cycle. Blood chem lab review.

III. Cardiovascular Connections
LS 2012 ch 9, DC Mod 4
Coronary arteries crown heart. Where’s ♥ attack?

IV. CV Physiology in the News
NHLBI & AHA websites
Nicole Kidman & exercise? ACSM, AHA, CDC guidelines

V. CV Pathophysiology & Risk Reduction
LS ch 9, 10 +…DC Mod 4
A. Atherosclerosis? LS fig 9-27, 9-25, 9-26 pp 266-8
B. How to minimize risk of CVDs? Treatment triad: Exercise, Diet, Drugs + Surgery
C. PTCA, Stent, CABG? Bypass #?
D. Plant-based diet to minimize CVD!
What’s HAPOC?
Heart-Blood Pressure Lab Today!

Lub-dup!

I'm cool!
Cardiac Cycle

Systole
Contract & Empty

Diastole
Relax & Fill
Blood Chemistry on Thursday!
No food, drink or gum in lab!

Thanks sincerely!
PREPARATION

1. WASH & DRY

2. ALCOHOL
SAMPLE+TESTS

1. OBTAIN μSAMPLE

2. BLOOD GLUCOSE

3. BLOOD TYPING
Glucose: Sugar in Blood

Normal: 70-99
Pre-Diabetes: 100-125
Diabetes: ≥ 126 mg/dL

NB: Read & Record!
BLOOD TYPING

ADD ANTISERA

MIX W/TOOTHPICKS

READ & RECORD!!
CLEAN-UP!

1. FOLD DIAPER

2. BLOOD PRODUCTS

3. REWASH!!
Coronary Circulation ≡ Crowns the Heart!
Area of cardiac muscle deprived of blood supply if coronary vessel is blocked at point A.

Area of cardiac muscle deprived of blood supply if coronary vessel is blocked at point B.

Right coronary artery

Left coronary artery

Right ventricle

Left ventricle

**FIGURE 9-35**

Extent of myocardial damage as a function of the size of the occluded vessel.
59 yr HTN ♀
Treatment Triad

NB: Last blasted resort!!

Drugs/Surgery

Exercise

Dietary Modification
CABG = Coronary Artery Bypass Graft

Double?  
Triple?  
Quadruple?  
Quintuple?
Tobacco-free Campus

For better health, smoking and use of tobacco products are prohibited everywhere on our property.

UO's Josh Buehler  U.S. Surgeon General Regina Benjamin

For a healthier community and cleaner environment, the University of Oregon is smoke and tobacco-free.

September 1, 2012

Ready to Quit Tobacco?
Visit tobaccofree.uoregon.edu for free and low-cost resources.
An LDL to HDL ratio *greater than* 5 to 1 in men or 4.5 to 1 in women

*Increased risk of heart disease*
Apple type of obesity predisposed to CVD!

Pear type of fat pattern...

implies lower disease risk!

Eat more apples...

to help prevent the apple type of obesity!
Health-Related Fitness

Cardiorespiratory Endurance

Muscular Strength/Endurance

Flexibility

Neuromuscular Relaxation
Pick an abundance of whole grains, legumes, nuts, vegetables & fruits!
Fish Oil Intakes & Cardiovascular Death Rates

Cardiovascular Deaths per 100,000 Population

- Ireland: 0.09%
- USA: 0.13%
- France: 0.14%
- Japan: 0.37%

S&W 2011
fig 5-12 p 167
Healthy Oils to Minimize Atherosclerosis

HAPOC?
Olive Oil Loves Olive Oil & has some heartfelt advise for Popeye!!
Yes for the spinach! — but get rid of the pipe!!
An LDL to HDL ratio of *less than* 5 to 1 in men or 4.5 to 1 in women

Reduced risk of heart disease
Before

After
WOW!  SUPER  😊

~ TOP 5 - 10 ~

EXCELLENT!!

~ TOP 15 ~

GREAT EFFORT

~ TOP 20 - 25 ~