


What about Exam I scores?... 

## 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

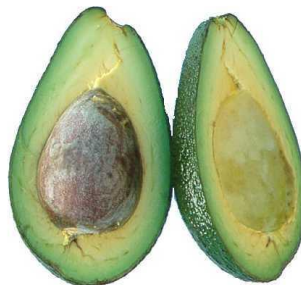
**V. CV Pathophysiology & Risk Reduction** LS ch 9, 10 +...DC Mod 4

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?

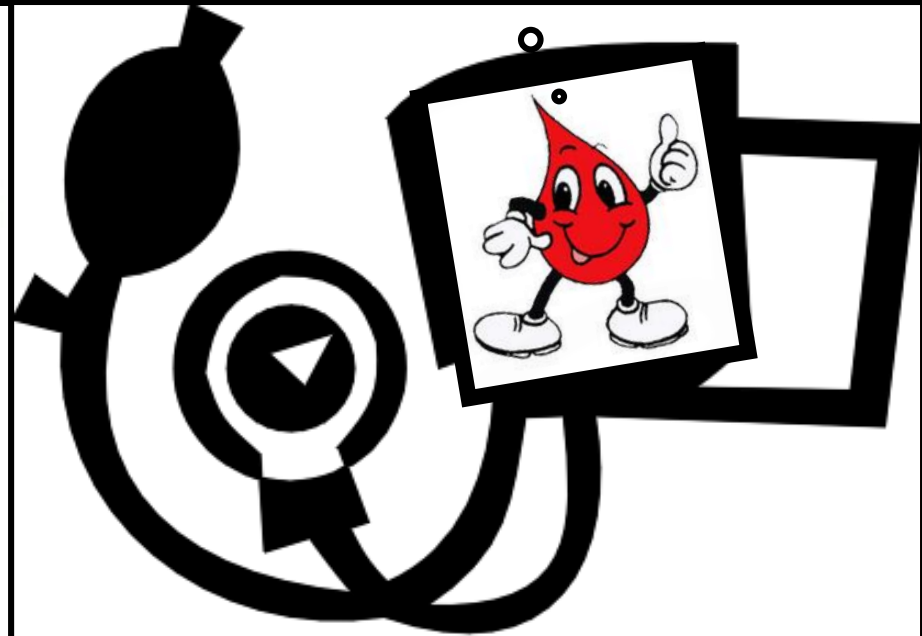


# *Heart-Blood Pressure Lab Today!*

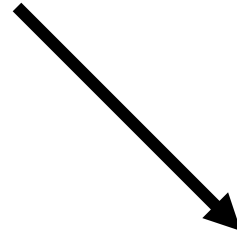
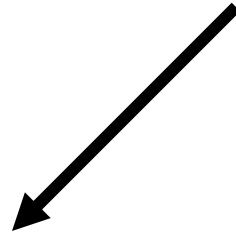
Lub-dup!



I'm cool!



# Cardiac Cycle

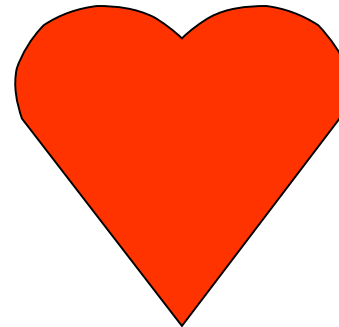
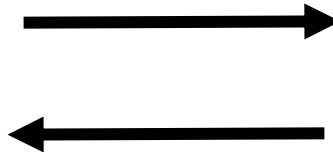
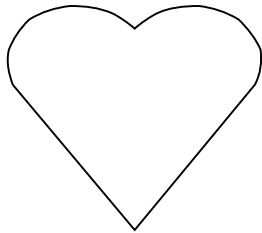


***Systole***

Contract  
& Empty

***Diastole***

Relax  
& Fill



# ***Blood Chemistry on Thursday! No food, drink or gum in lab!***



***Thanks sincerely!***

# PREPARATION



WASH & DRY



ALCOHOL



# SAMPLE+TESTS



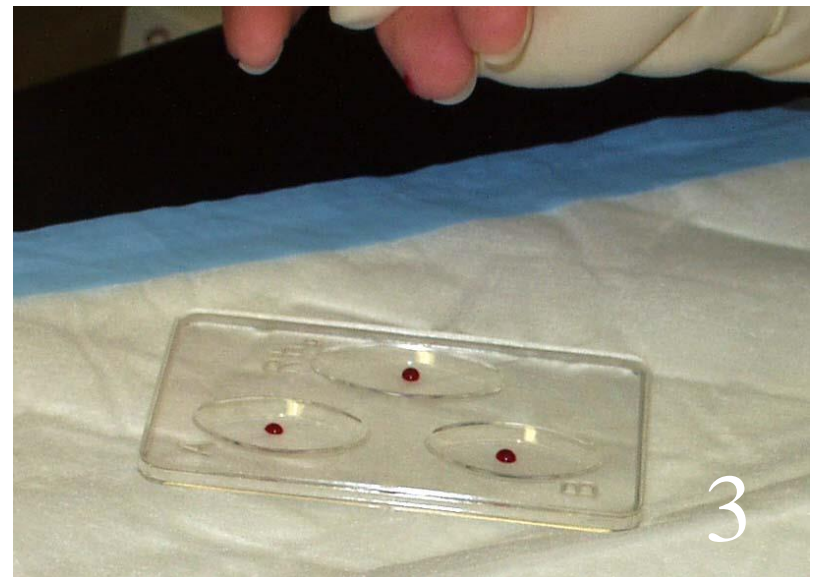
1

OBTAIN  $\mu$ SAMPLE



2

BLOOD GLUCOSE



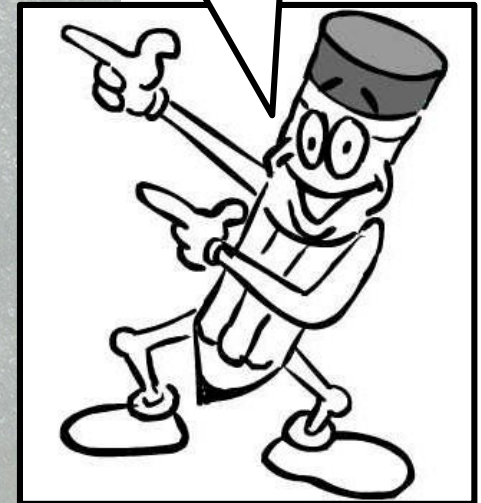
3

BLOOD TYPING

Glucose:  
Sugar in Blood

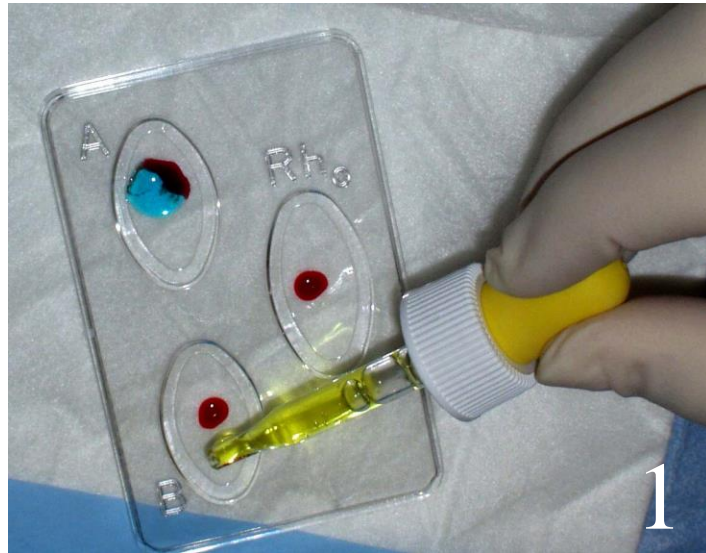


**NB: Read  
& Record!**

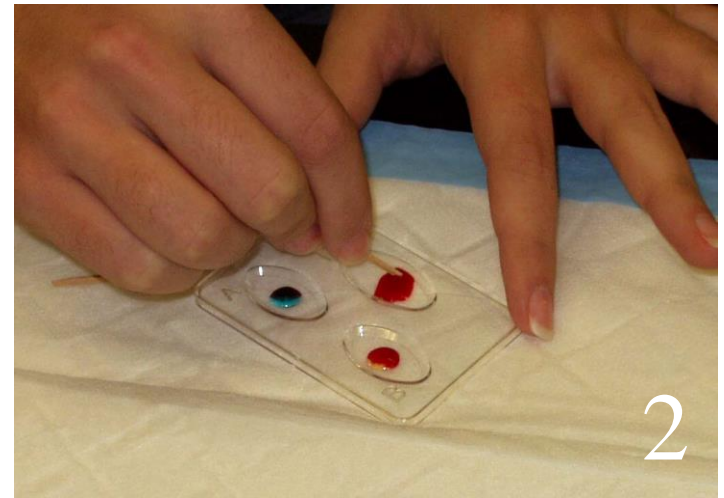


*Normal: 70-99*  
*Pre-Diabetes: 100-125*  
*Diabetes:  $\geq$  126 mg/dL*

# BLOOD TYPING



ADD ANTISERA



MIX W/TOOTHPICKS



READ & RECORD!!



# CLEAN-UP!



FOLD DIAPER

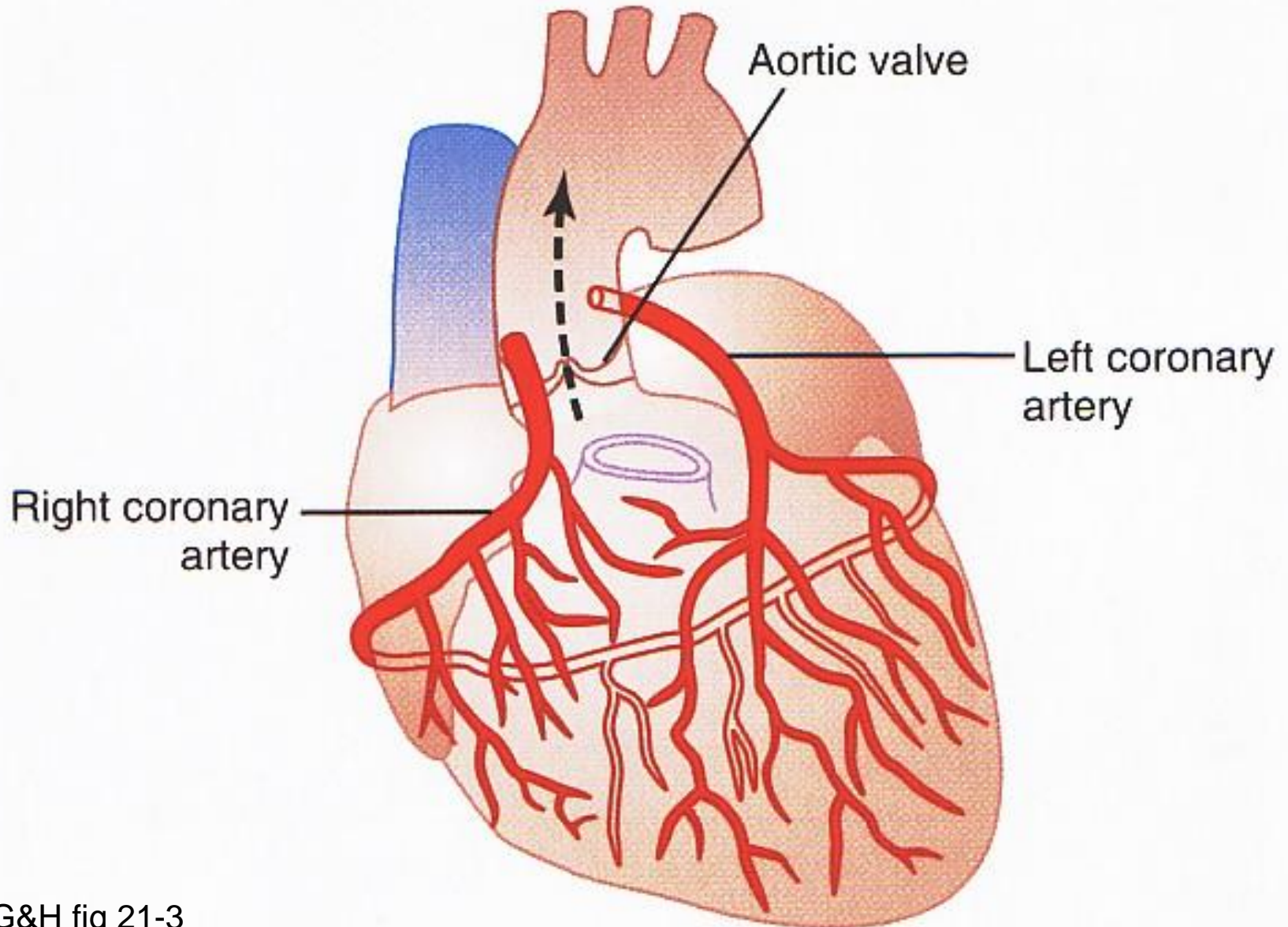


BLOOD PRODUCTS

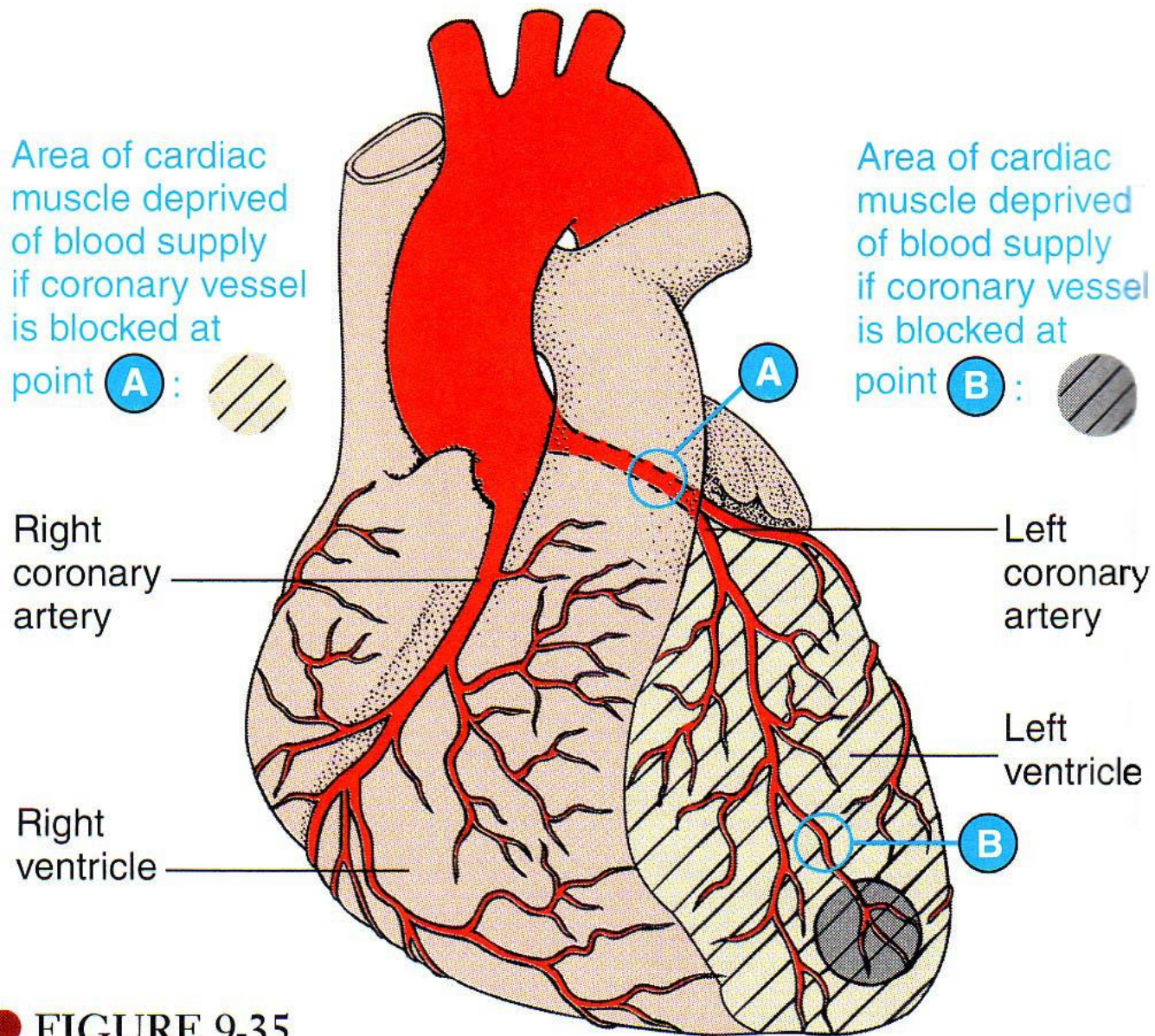


REWASH!!

# ***Coronary Circulation ≡ Crowns the Heart!***

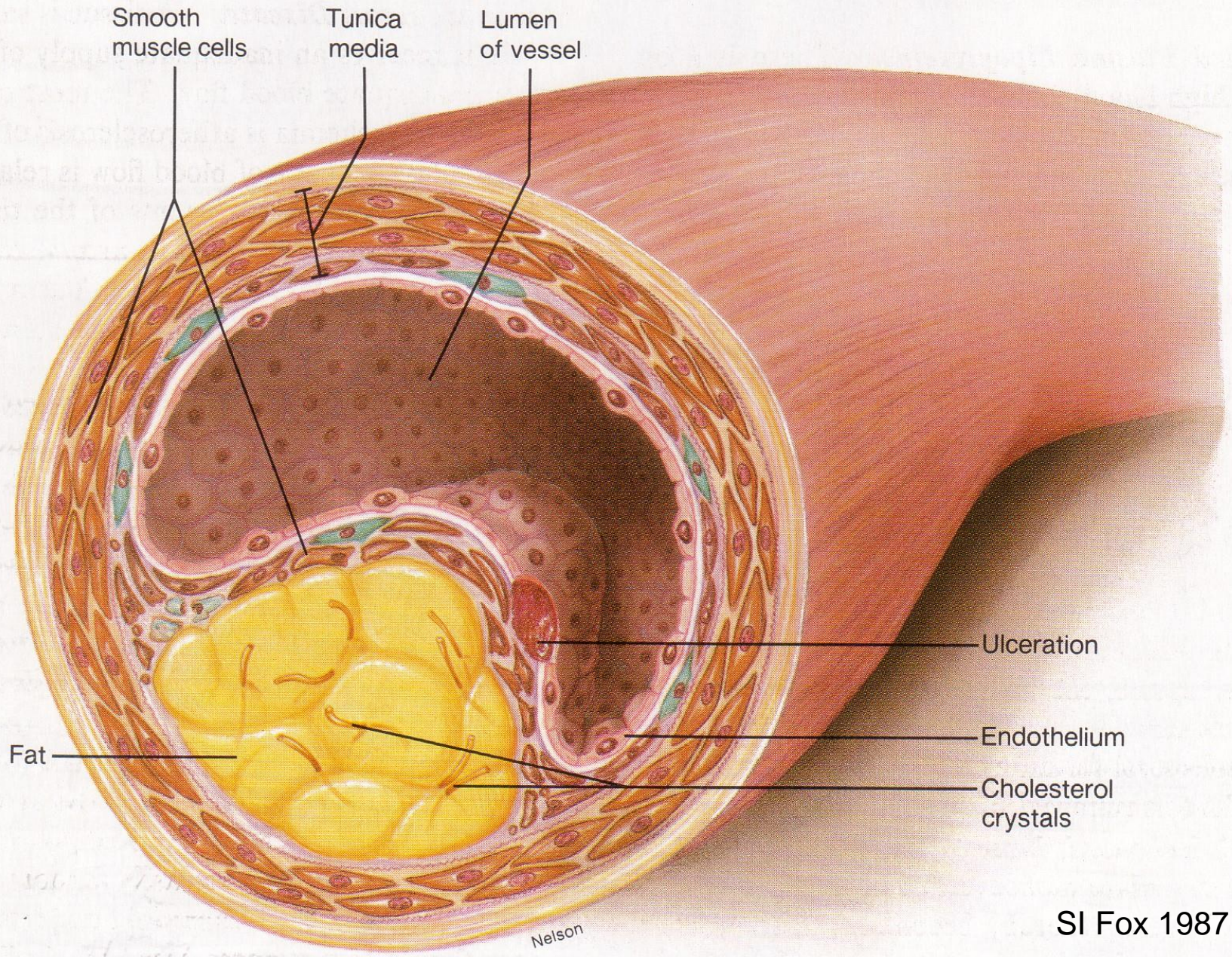






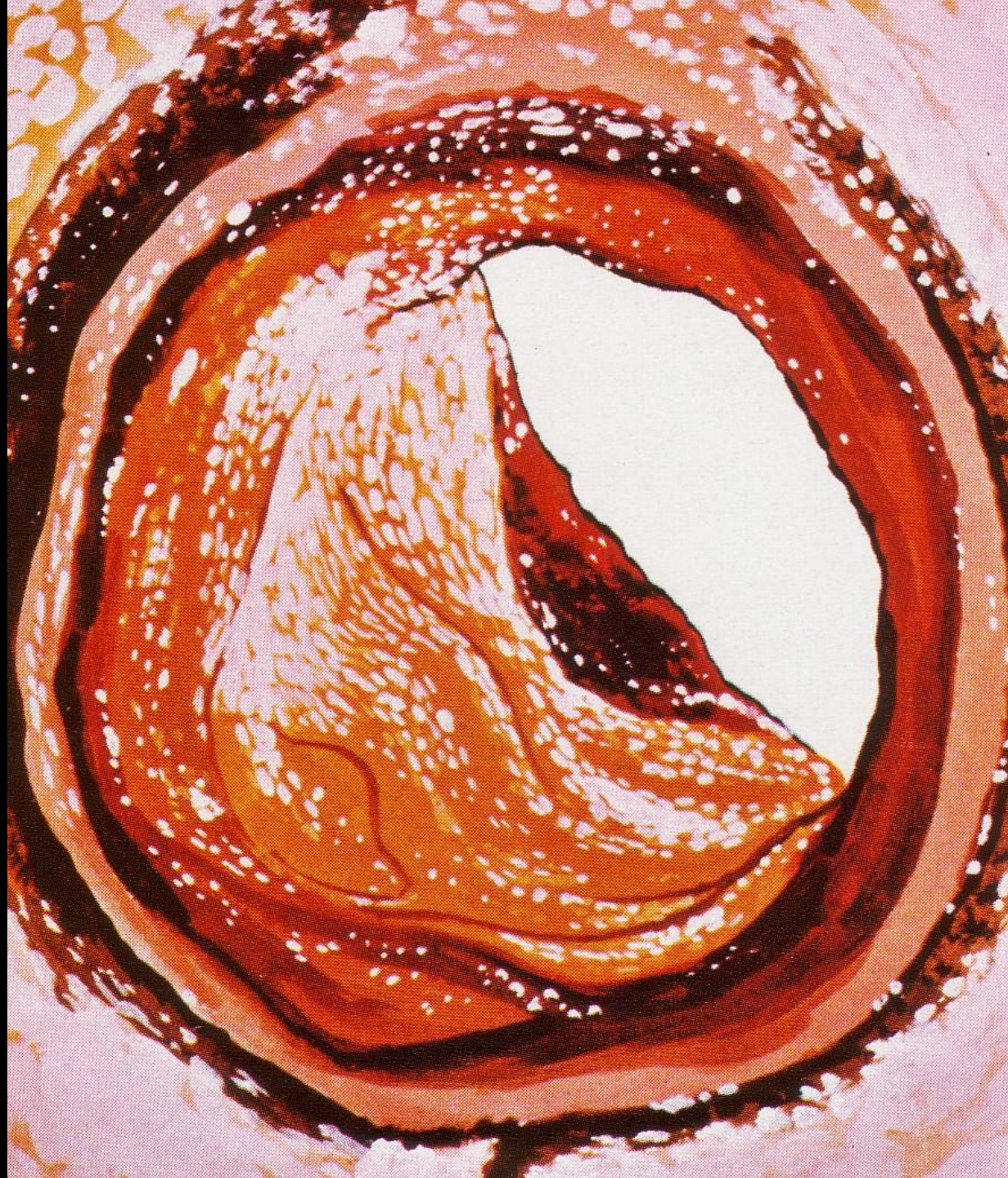
**●** FIGURE 9-35

Extent of myocardial damage as a function of the size of the occluded vessel

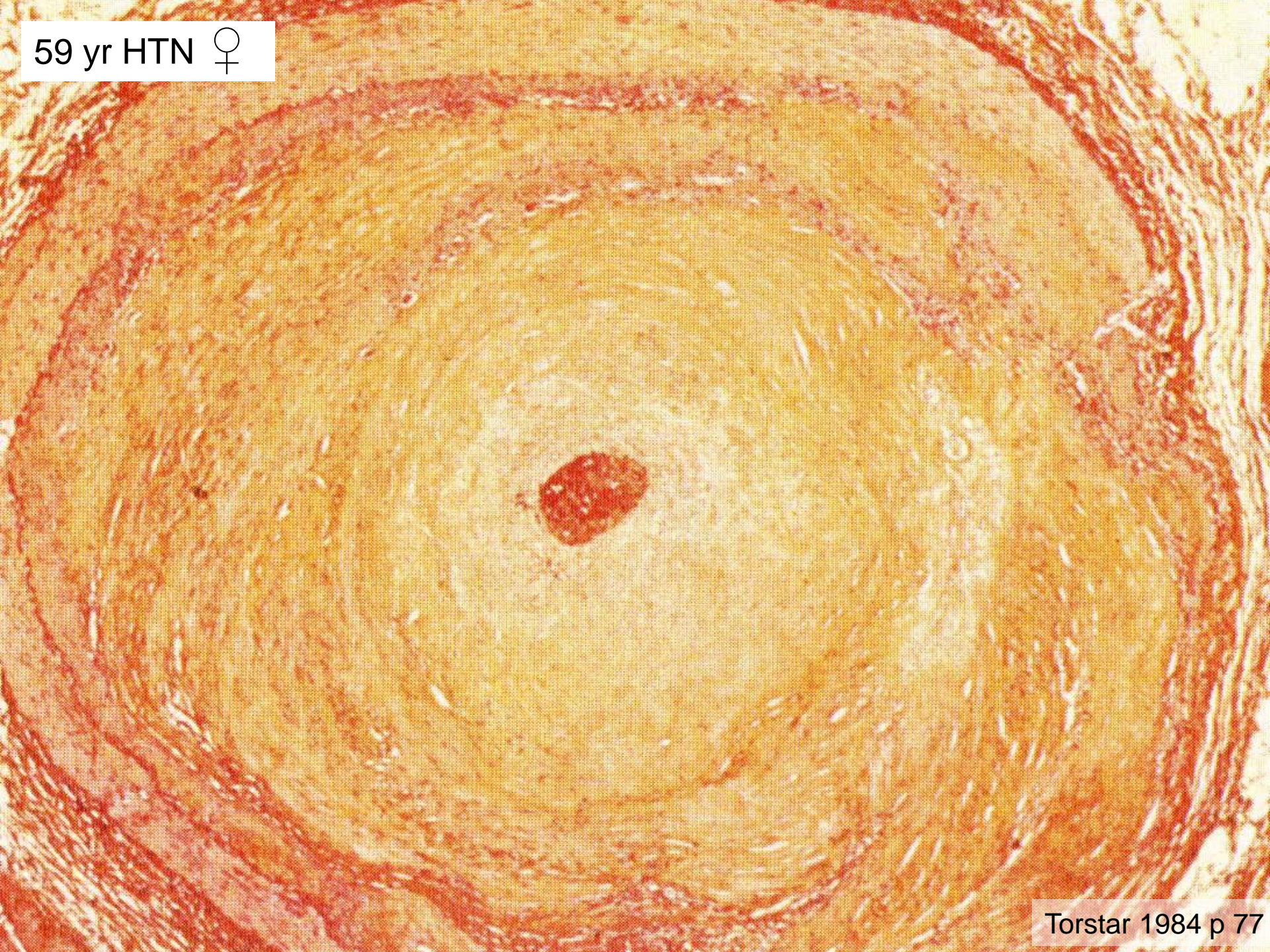


100 yr ♀





59 yr HTN ♀



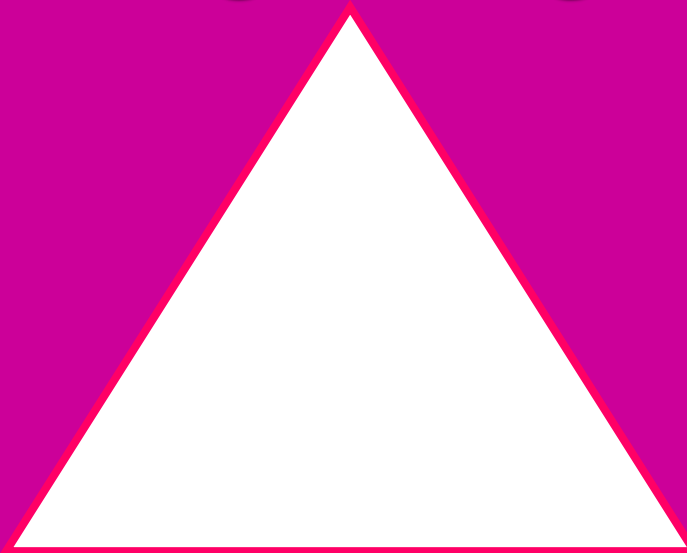


# *Treatment Triad*

NB: Last blasted resort!!

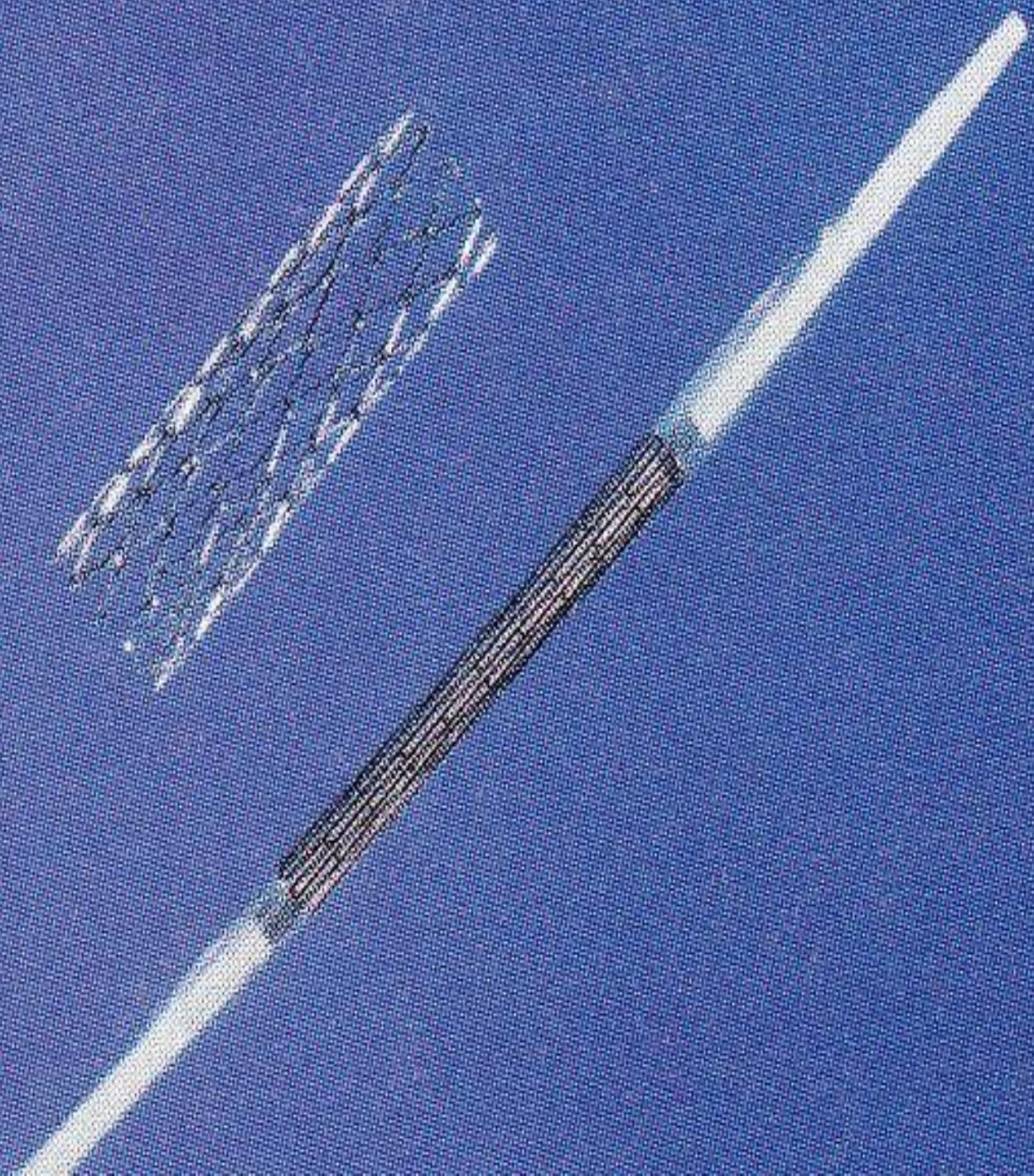


*Drugs/Surgery*

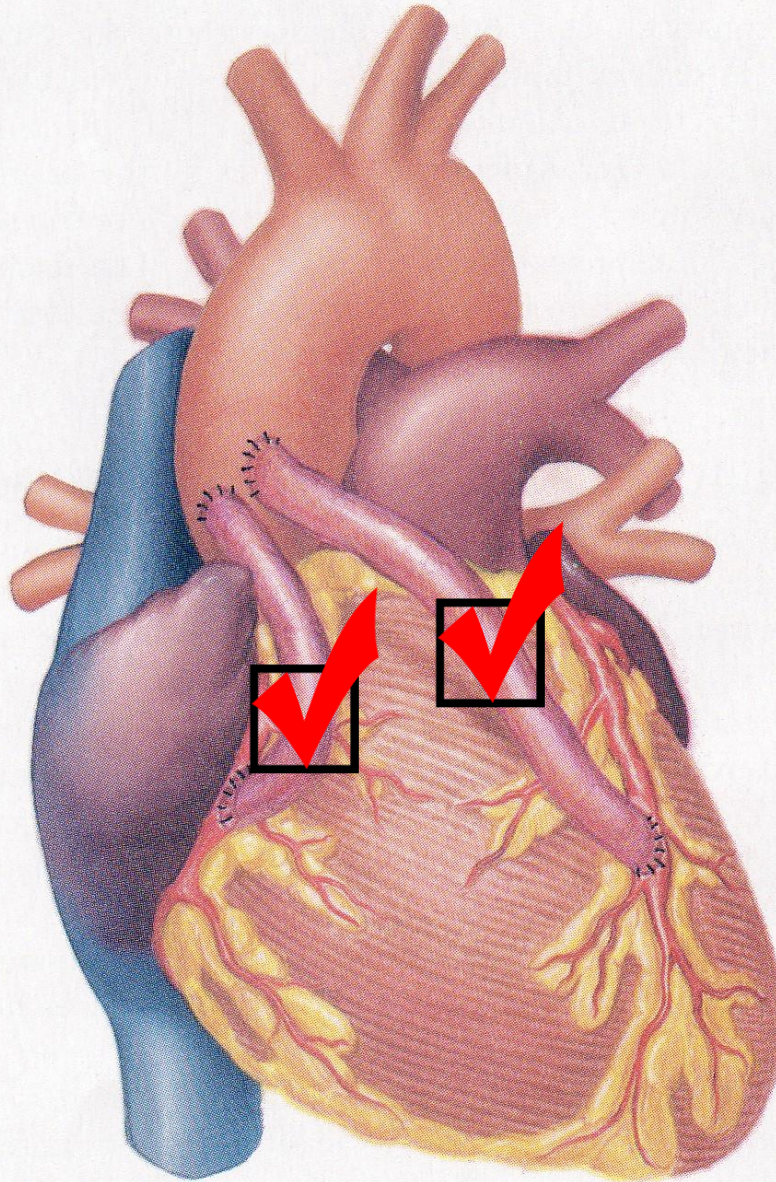


*Exercise*

*Dietary  
Modification*



# CABG = Coronary Artery Bypass Graft

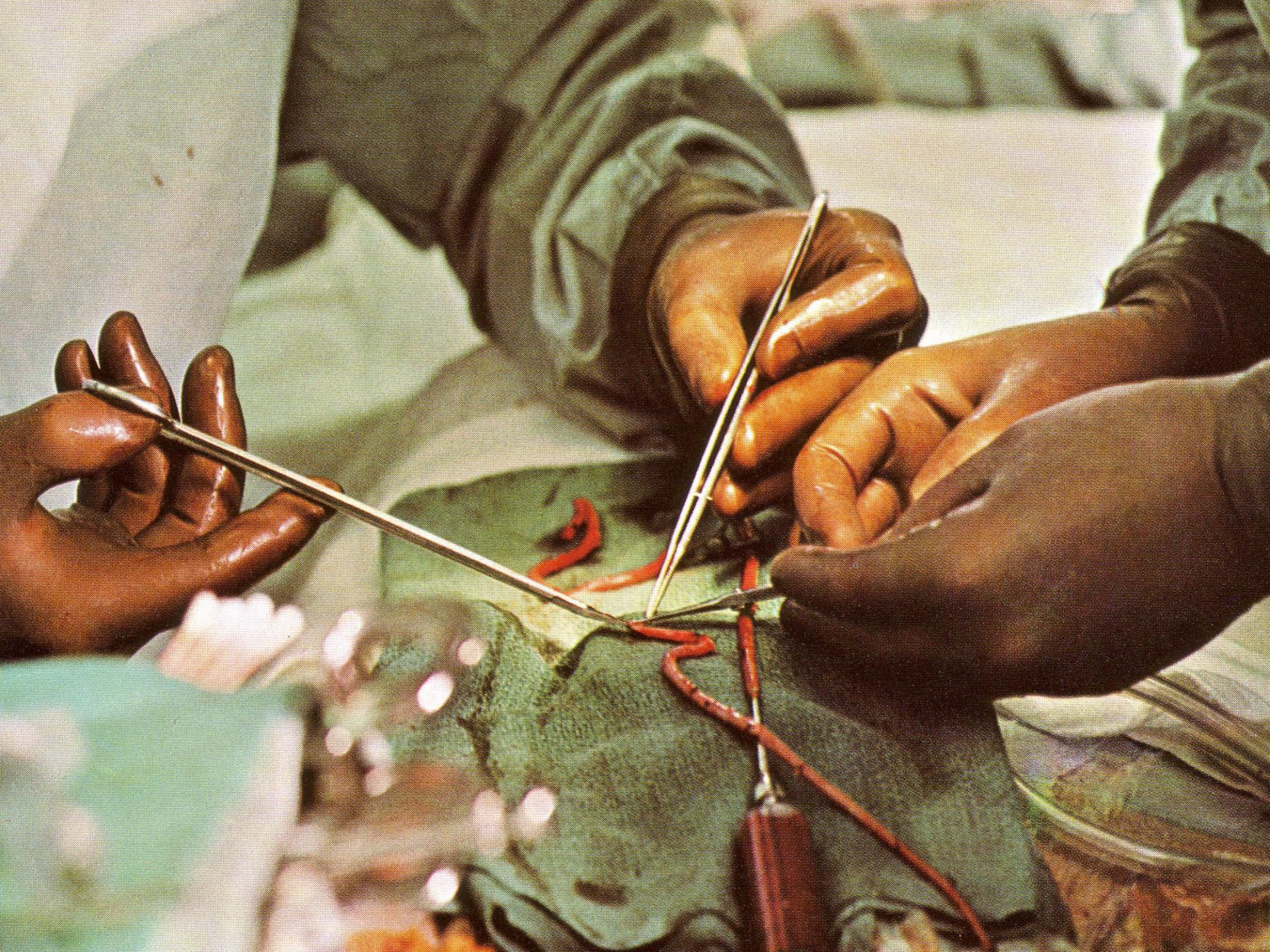


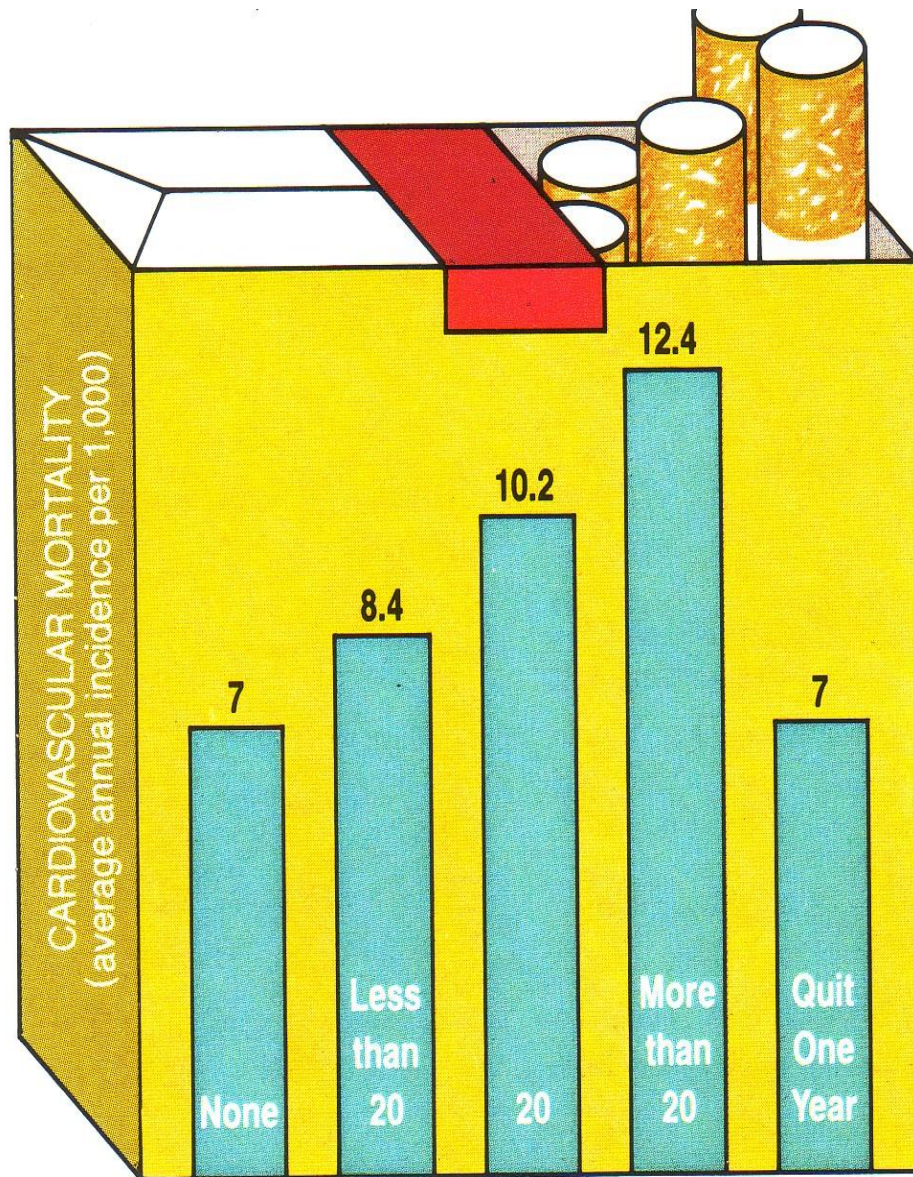
Double?

Triple?

Quadruple?

Quintuple?





CIGARETTES SMOKED PER DAY

# 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

## SMOKE AND TOBACCO-FREE UNIVERSITY



**September 1, 2012**

For a healthier community and cleaner  
environment, the University of Oregon  
will be smoke and tobacco free



**Ready to Quit Tobacco?**

Visit [tobaccofree.uoregon.edu](http://tobaccofree.uoregon.edu) for free and low cost resources

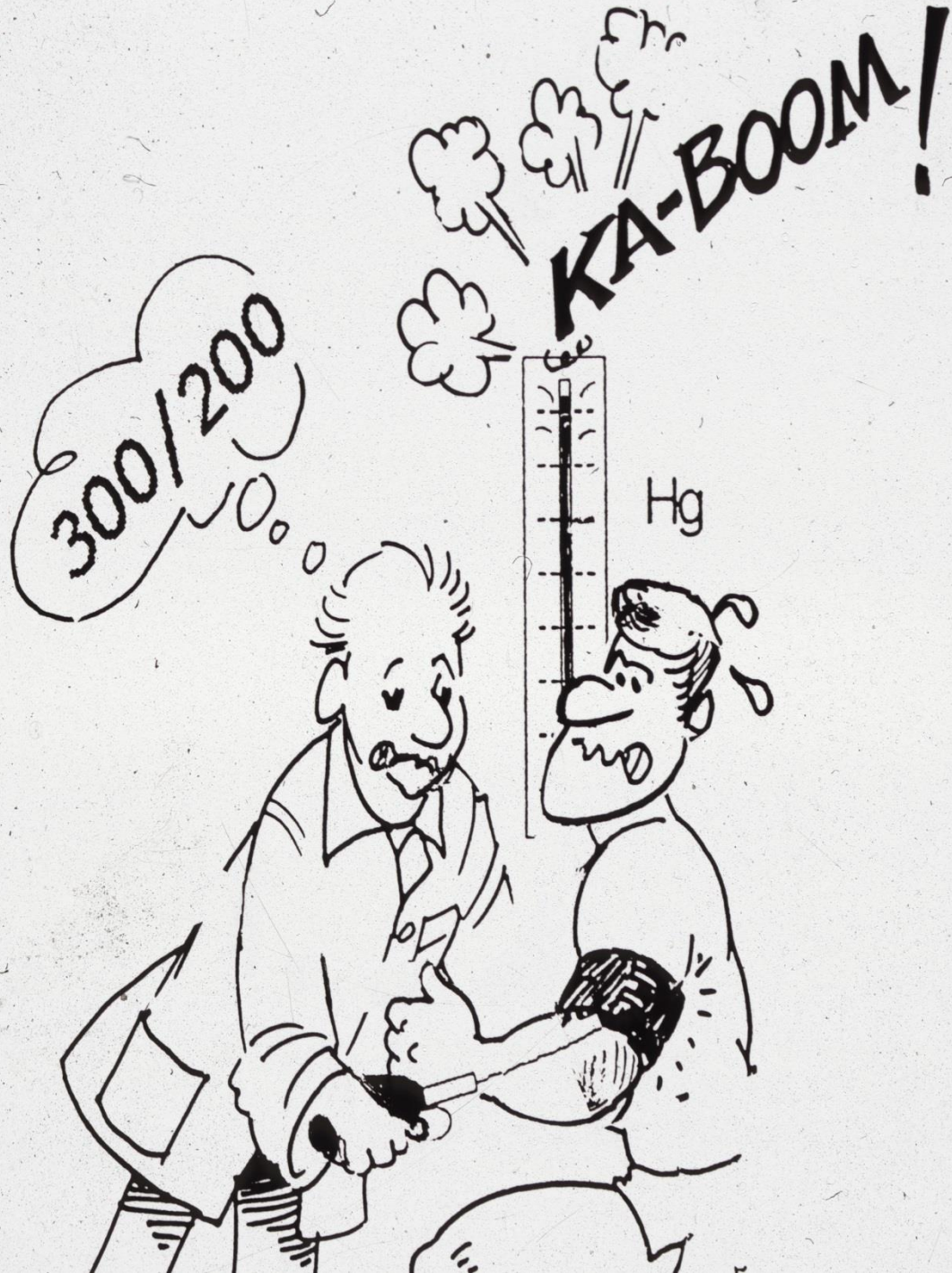


UNIVERSITY OF OREGON

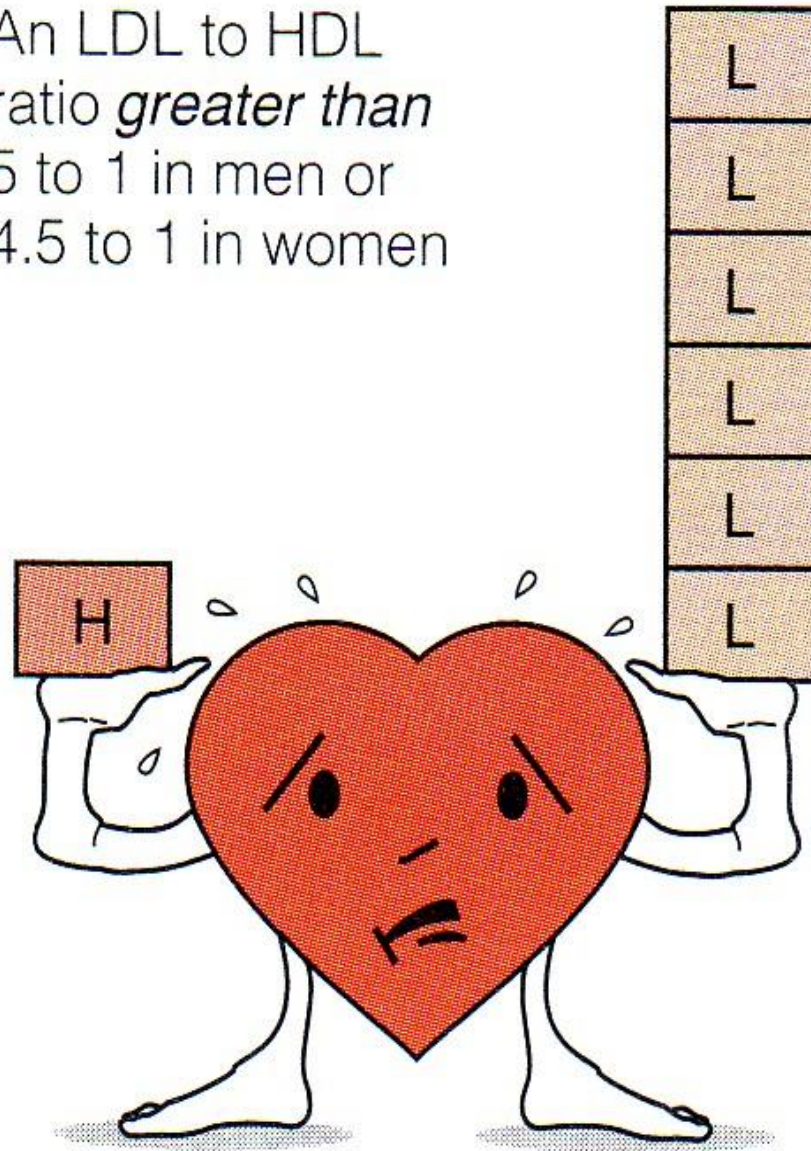
[tobaccofree.uoregon.edu](http://tobaccofree.uoregon.edu)



For a healthier community and cleaner  
environment, the University of Oregon  
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An LDL to HDL  
ratio *greater than*  
5 to 1 in men or  
4.5 to 1 in women



Increased risk of  
heart disease

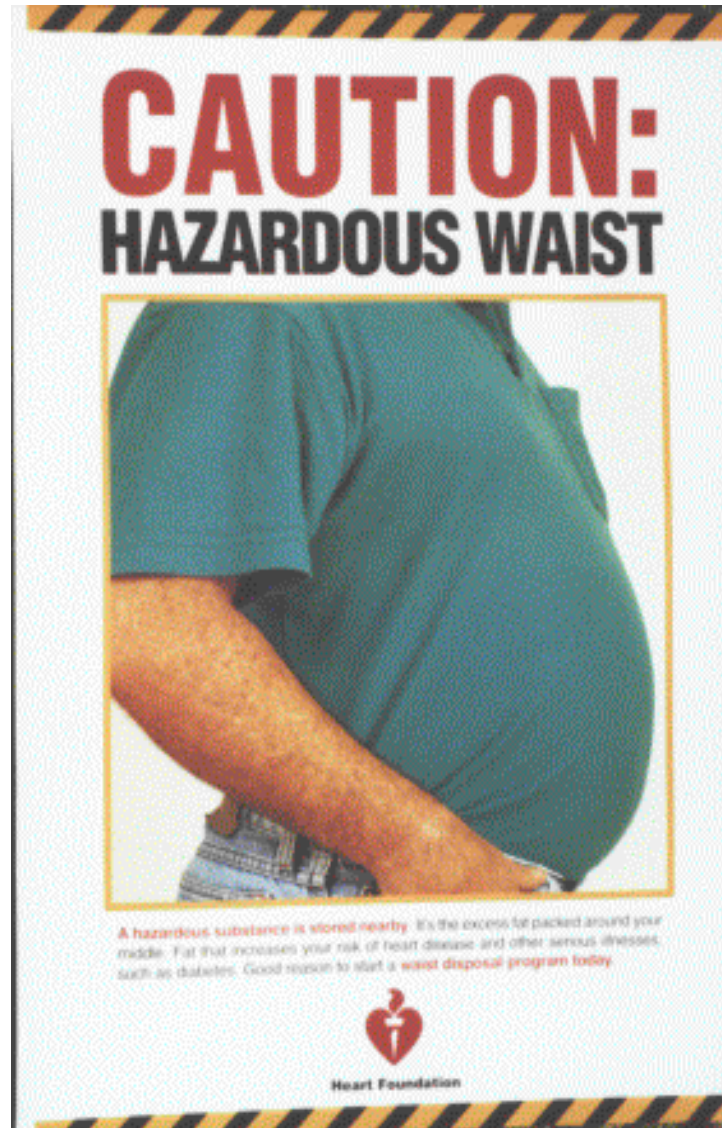


# Apple type of obesity predisposed to CVD!

Pear type of fat pattern...



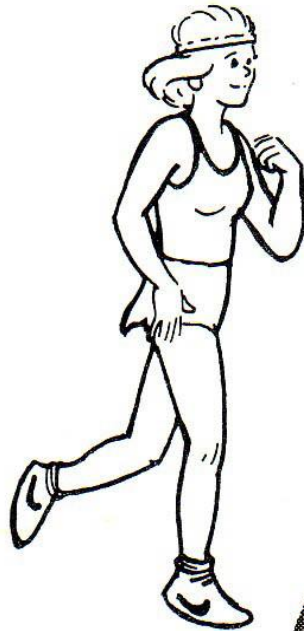
implies lower disease risk!



Eat more apples...



to help prevent the apple type of obesity!



**Cardiorespiratory  
Endurance**



**Muscular  
Strength/Endurance**

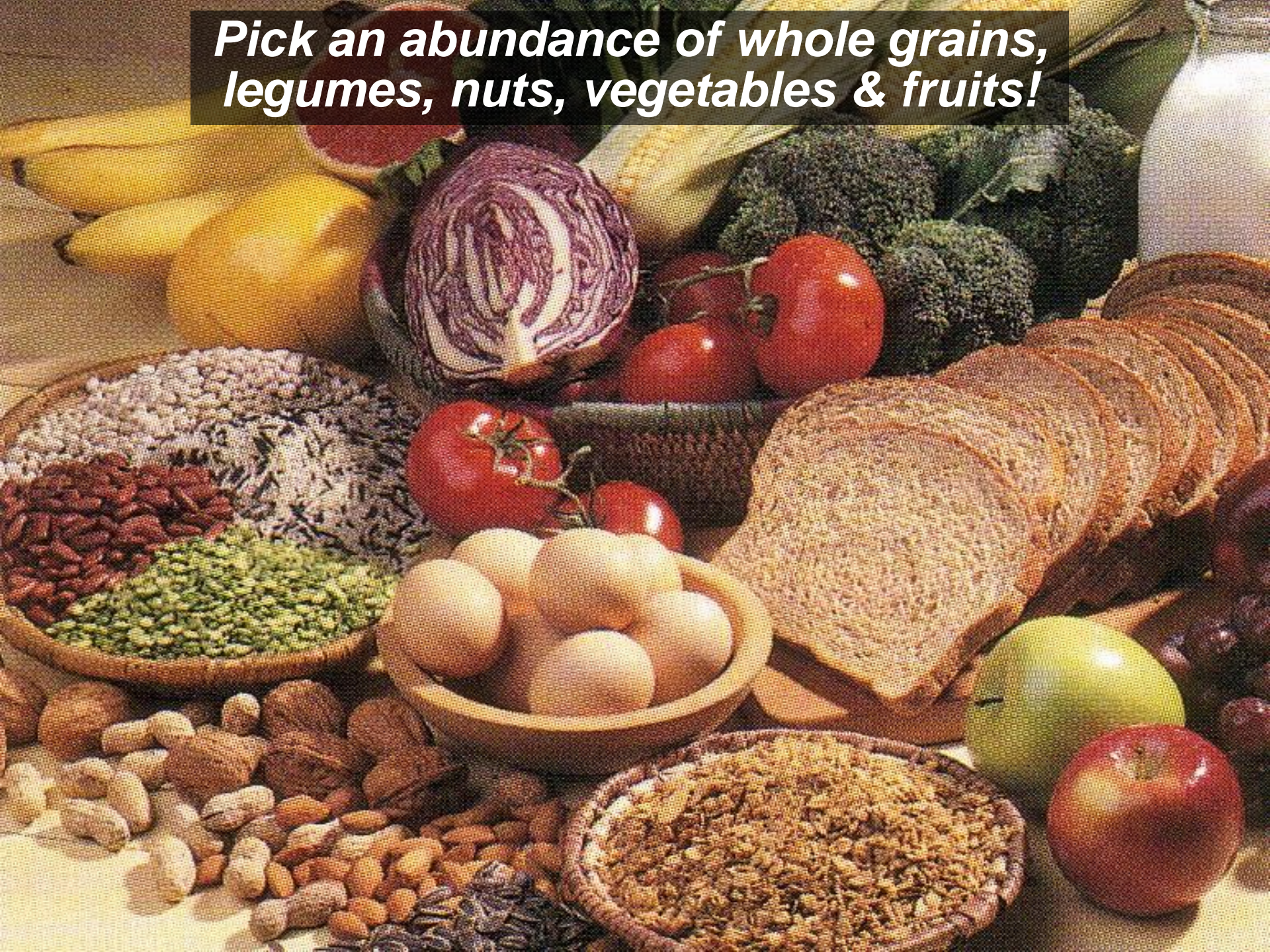


**Flexibility**

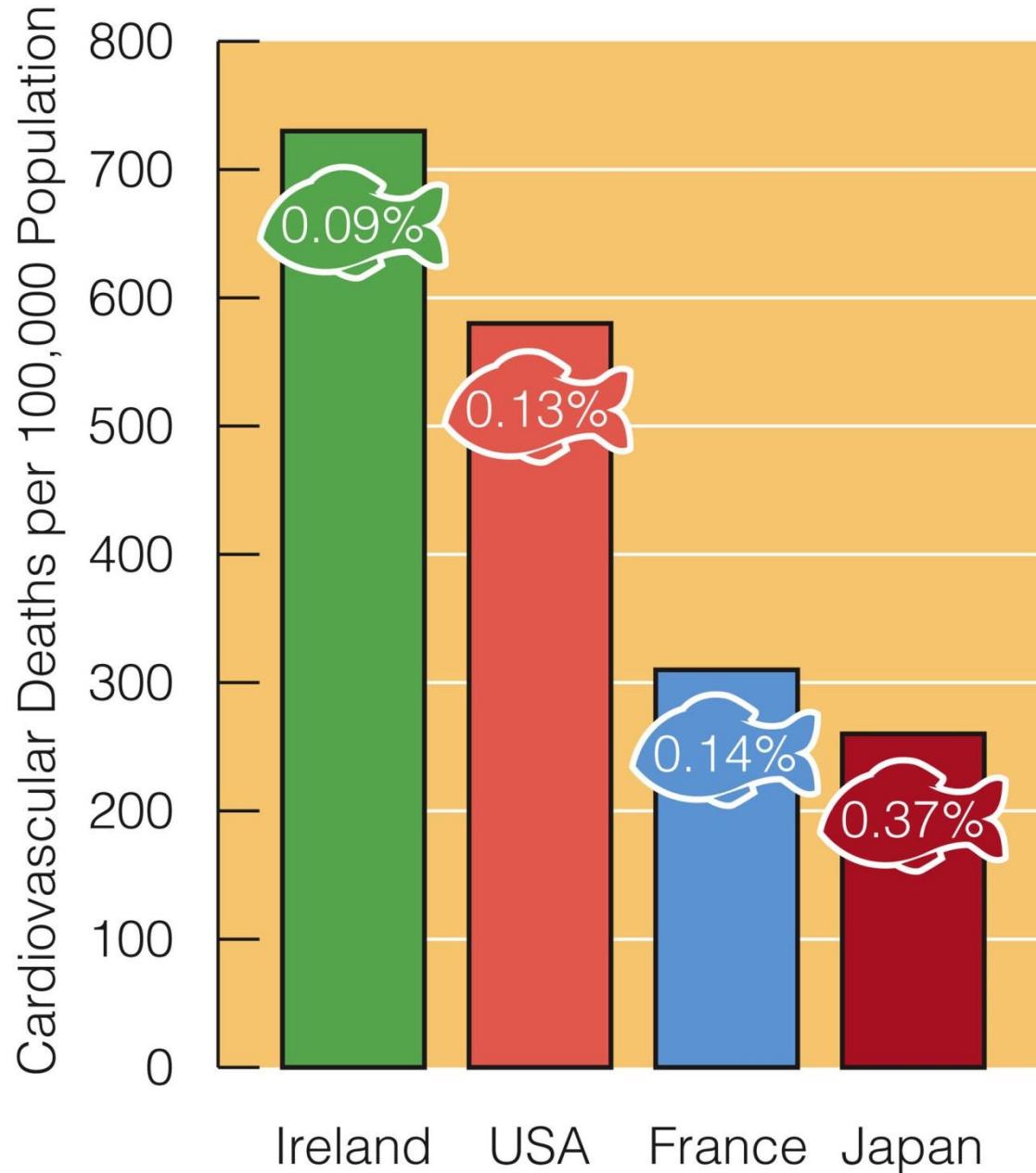


**Neuromuscular Relaxation**

***Pick an abundance of whole grains, legumes, nuts, vegetables & fruits!***



# *Fish Oil Intakes & Cardiovascular Death Rates*





# Healthy Oils to Minimize Atherosclerosis HAPOC?

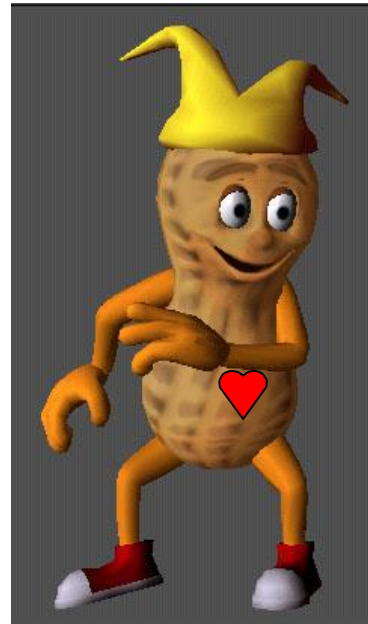
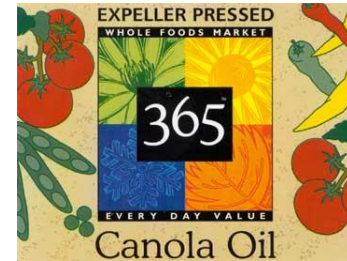
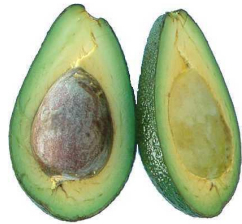
# H

# A

# P

# O

# C

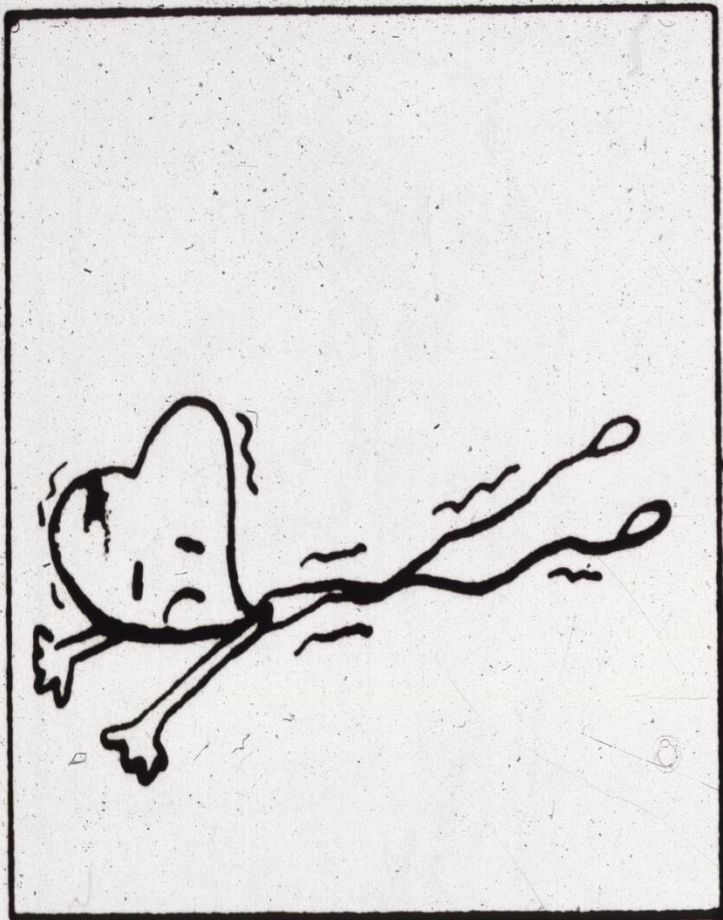


# *Olive Oil Loves Olive Oil & has some heartfelt advise for Popeye!!*

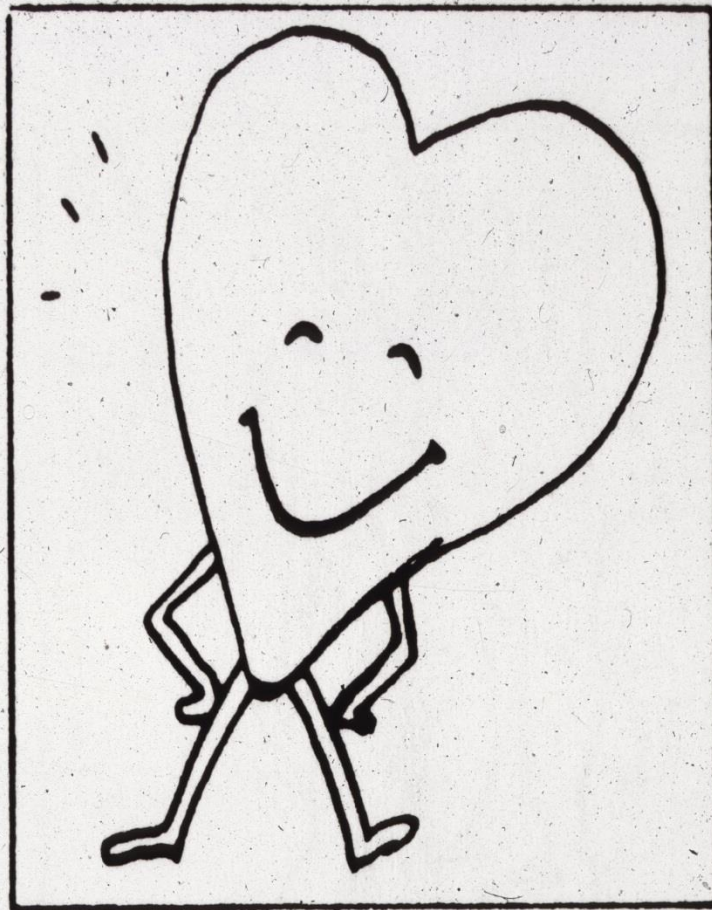


Yes for the  
spinach! — but get  
rid of the pipe!!





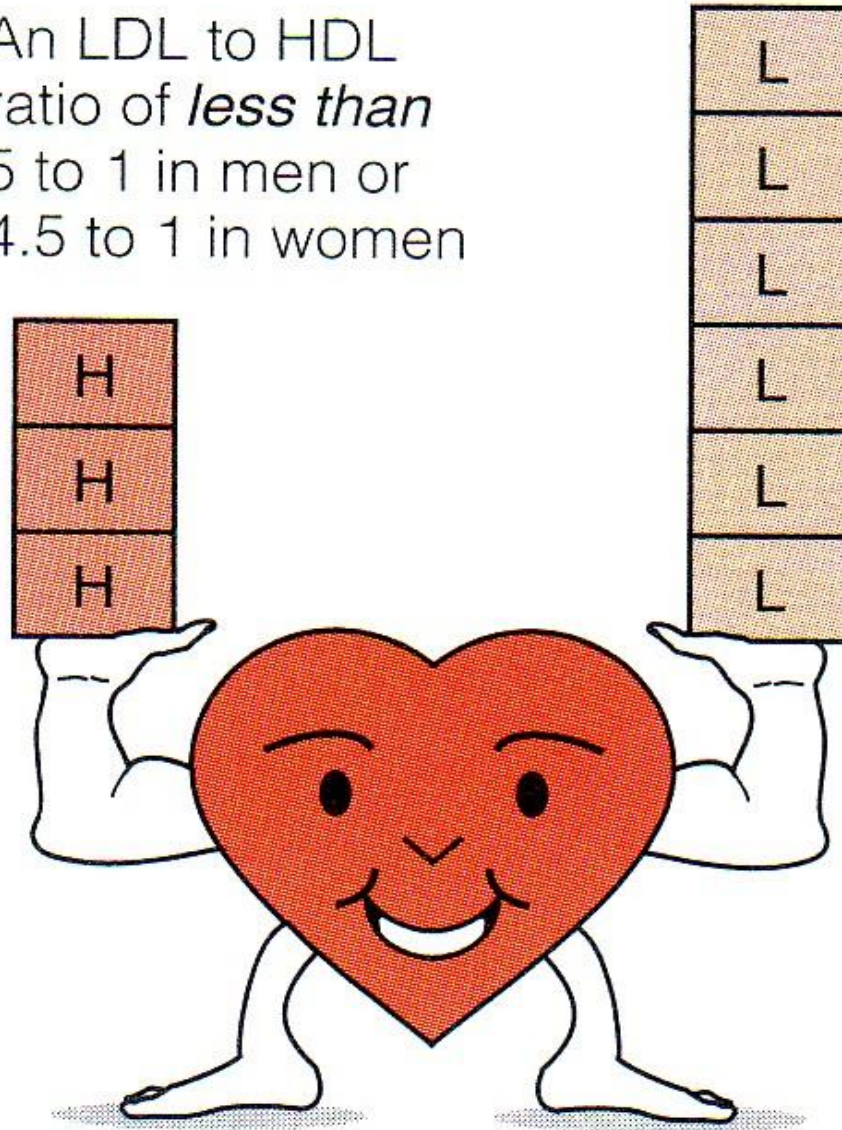
**Before**



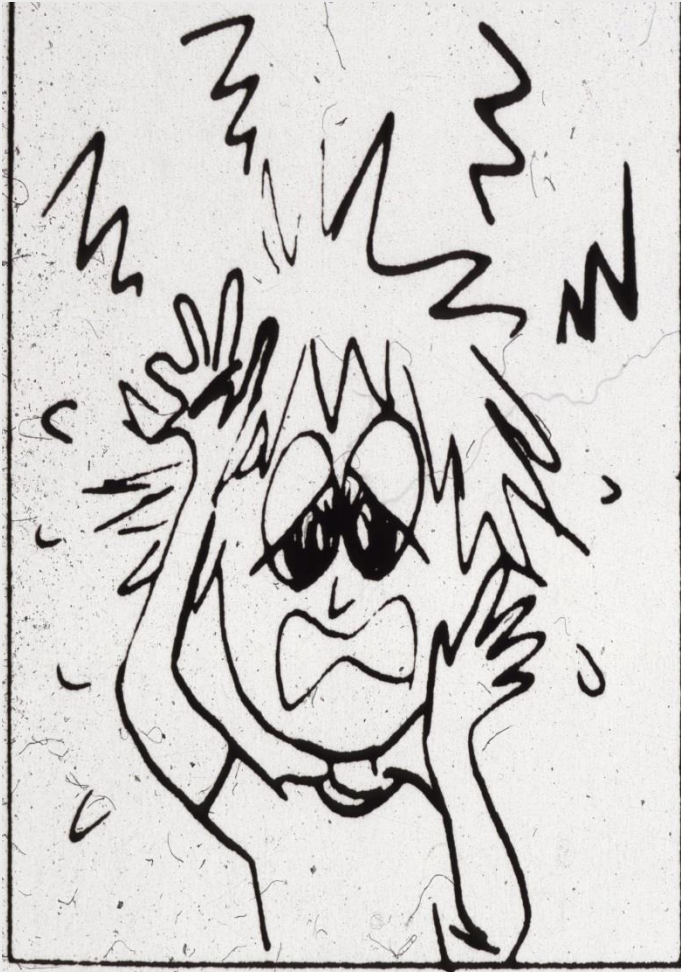
**After**



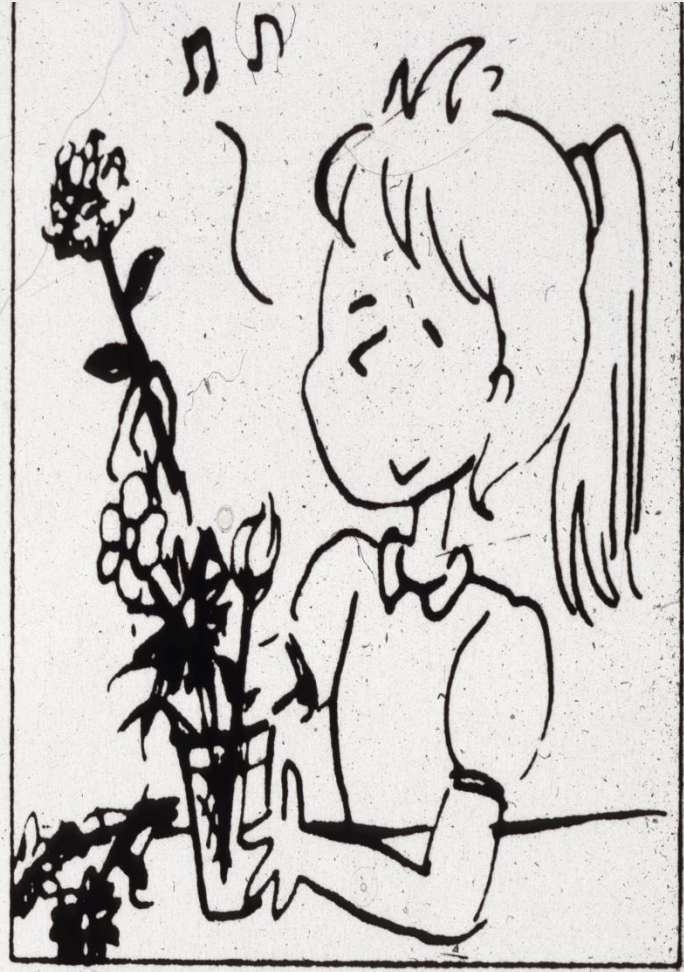
An LDL to HDL  
ratio of *less than*  
5 to 1 in men or  
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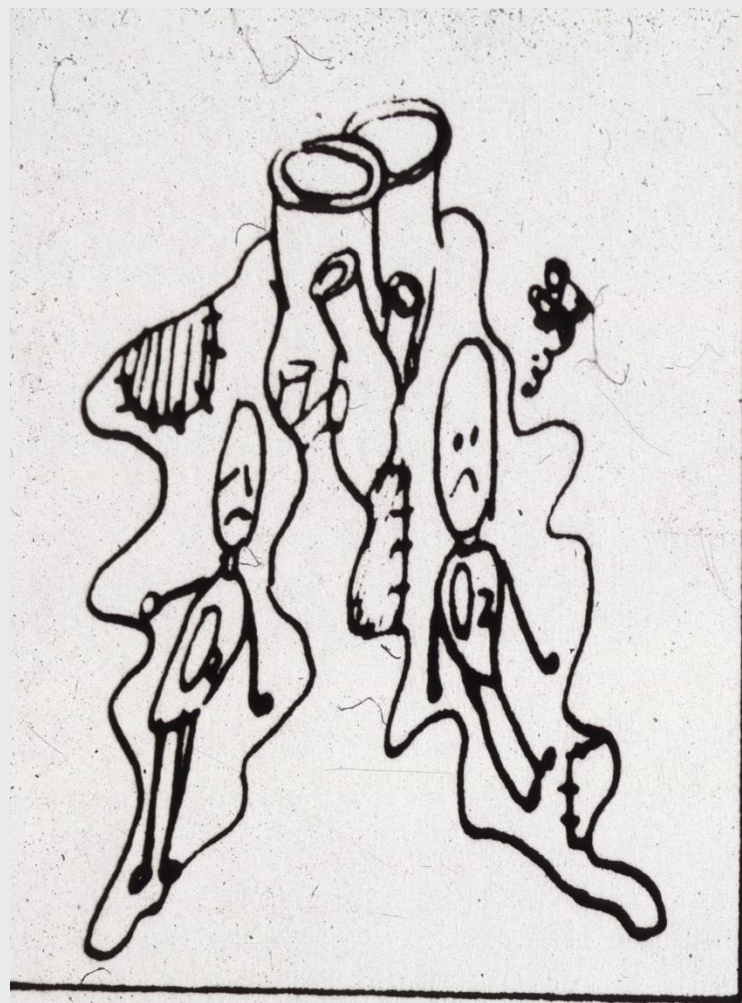
Reduced risk of  
heart disease



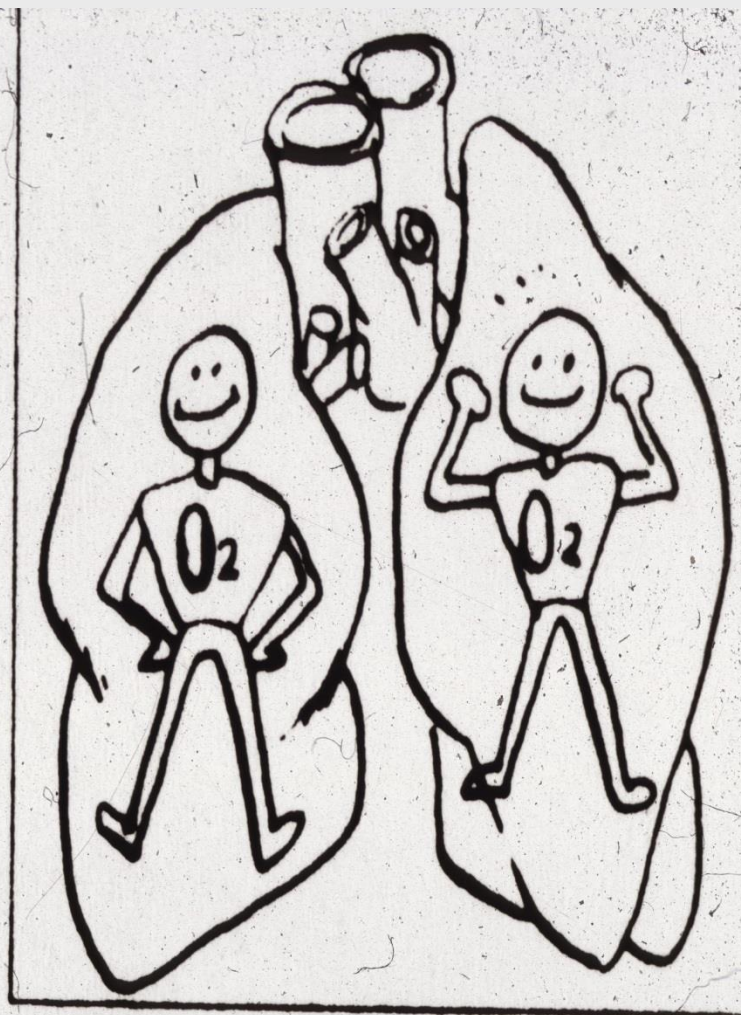
Before



After



**Before**



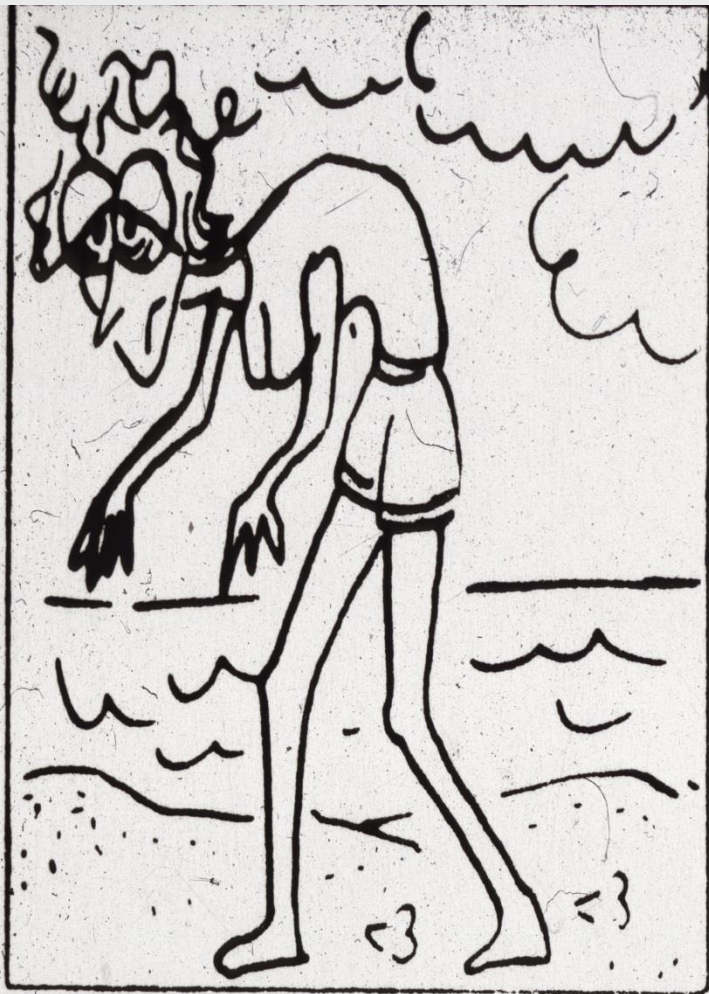
**After**



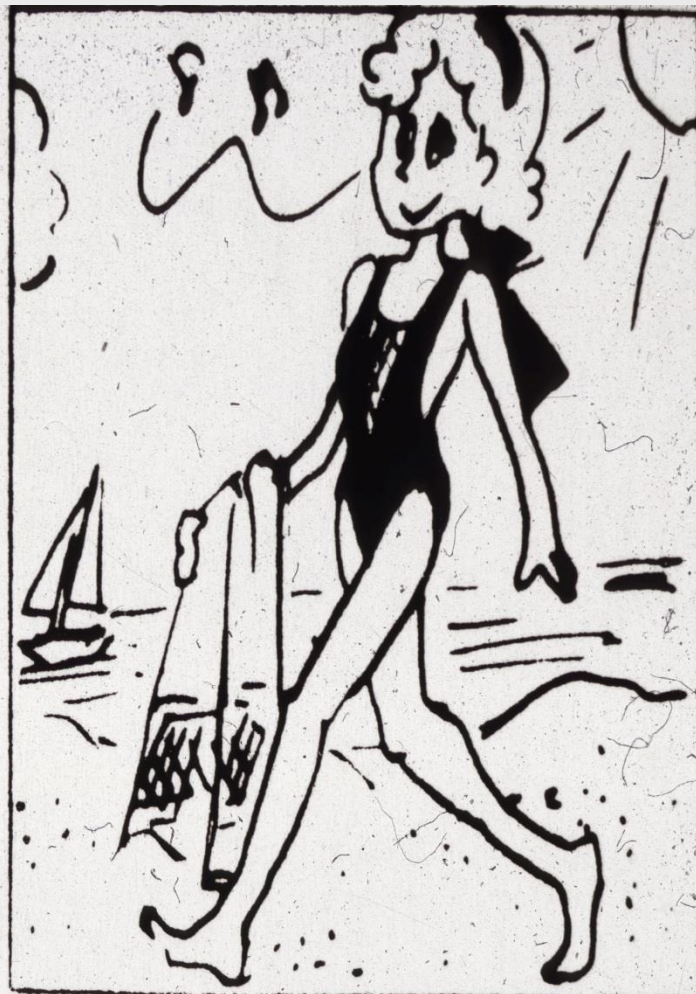
Before



After



Before



After

WOW!



SUPER



~ TOP 5-10!

EXCELLENT!!



~ TOP 15!

GREAT EFFORT



~ TOP 20-25!