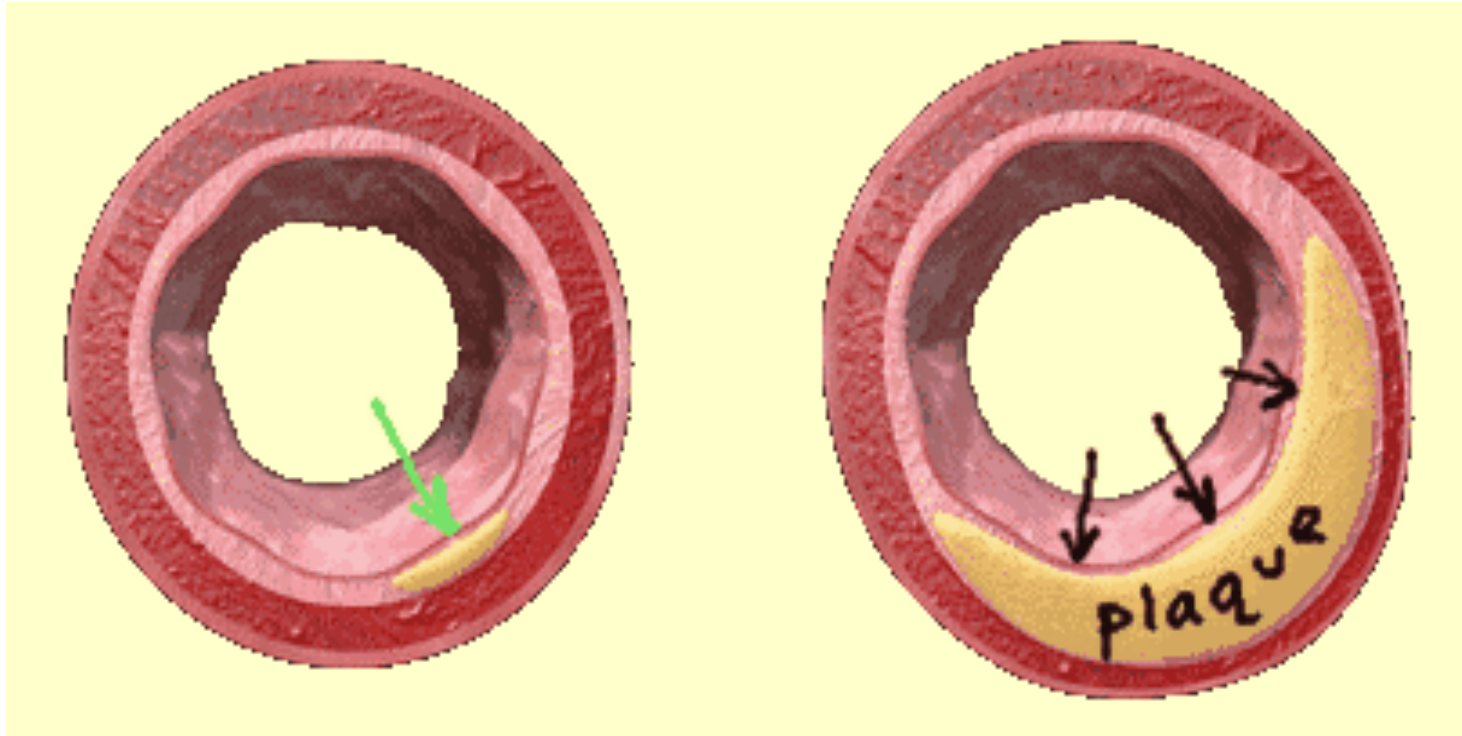
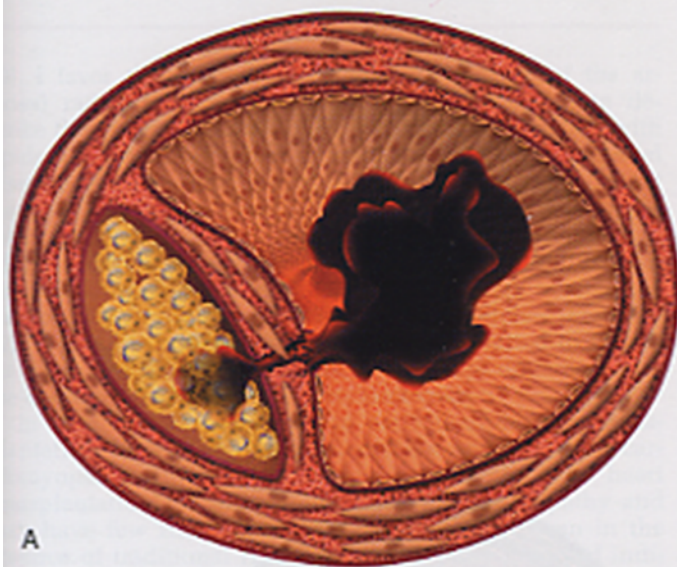


We ALL have plaques in our heart arteries...



Ruptured Fibrous Cap



Superficial Erosion



What Can You Do?

Modifiable Risk Factors

- Quit Smoking
- Control Hypertension
- Control Diabetes
- Decrease High Cholesterol
- Don't have a Sedentary Lifestyle
- Don't eat an unhealthy diet

Are ALL Fats Bad for the Arteries?

- NO
 - Diets high in saturated fats (more than 7% of total calories) increase the risk of developing disease of the arteries of the heart and other arteries.
 - Substituting saturated fats with refined sugars and starches increases the risk even more.
- BUT
- Replacing saturated fats with poly and monounsaturated fats in the form of olive oil and nuts reduces the risk of arterial disease.

Heart Healthy Diet

- Know your Basal Metabolic Rate—multiply your ideal weight by 10 and that is the total number of calories you should take in a day.
 - See slides at the end for calculations
- Eating between 25 and 35 percent of your total daily calories as fats from foods like fish, nuts, and vegetable oils. 1 gram of fat has 9 calories. So, if you need about 1500 calories a day, at least 42 to 58 grams (375-525 calories) should be from **Monounsaturated and polyunsaturated** fats .
- Limiting the amount of saturated fats you eat to less than 7 percent of your total daily calories. 1 gram of fat has 9 calories. So, if you need about 1500 calories a day, less than 105 calories (or 11-12 grams) should come from saturated fats.
- Limiting the amount of trans fats to less than 1 percent of your total daily calories. That means if you need about 1500 calories a day, less than 15 calories (or 1-2 grams) should come from trans fats.

Heart Healthy Diet

- Soluble Fiber—Women need at least 25 grams a day, and men 38 grams
 - Whole grains
 - Whole grain breads instead of white
 - Oatmeal, oat bran and barley
 - Fruits
 - Apples, Blueberries, Apricots, Figs, Mangoes, Oranges
 - Vegetables
 - Brussel Sprouts, Turnips, Sweet Potatoes, Asparagus
 - Flaxseed
 - Psyllium

Exercise

- AHA Recommendation (calculations on slides at end)
 - For Overall Cardiovascular Health:
 - At least 30 minutes of moderate-intensity aerobic activity at least 5 days per week for a total of 150 minutes
 - OR
 - At least 25 minutes of vigorous aerobic activity at least 3 days per week for a total of 75 minutes; or a combination of moderate- and vigorous-intensity aerobic activity
- AND
- Moderate- to high-intensity muscle-strengthening activity at least 2 days per week for additional health benefits.
- For Lowering Blood Pressure and Cholesterol
 - An average 40 minutes of moderate- to vigorous-intensity aerobic activity 3 or 4 times per week

Blood Pressure Goals

- There are many recommendations for ideal BP, but for most less than 130/80 is the goal
- Patients with diabetes, kidney disease, strokes, heart attack, less than 120/70 is ideal
 - Caution with tighter BP control in older folks (75 and up or so) as they can get symptomatic low BP if too aggressive.

Cholesterol Levels

- Statins are used for:
 - Secondary prevention for those with established coronary disease/stroke/vascular disease
 - High intensity statins are indicated
 - Either Atorvastatin at least 40 mg a day, or Rosuvastatin at least 20 mg a day.
 - Prevention of heart attack for those with LDL-C ≥ 190 mg/dL
 - Primary prevention of heart attack for individuals with diabetes and LDL-C of 70 to 189 mg/dL
 - Prevention of heart attack for those without diabetes mellitus, with LDL of 70 to 189 mg/dL, but with an estimated 10-year absolute risk of heart attack $\geq 7.5\%$.

Aspirin?

- Definite benefit from 81-100 mg a day if you've had a heart attack, stents, bypass, peripheral vascular disease (leg artery blockages, carotid blockages, aortic aneurysms, etc), or stroke.
 - Aspirin 325 mg a day is NOT more effective at preventing vascular/heart events than 81 mg a day.
 - The higher dose only increases bleeding risk without decreasing cardiovascular risk
- No benefit if you have not had heart issues.
 - The FDA states an aspirin a day does not prevent heart problems to a degree that outweighs the risk of bleeding.
 - No longer recommended in patients without stroke, heart attack, vascular disease history EXCEPT:
 - Reasonable for high risk patients that have not had heart problems or stroke
 - Use a risk calculator to decide
 - If close to high risk, use a coronary calcium score to decide if aspirin and statin are indicated

Key Numbers

- Ideal body weight
 - Women start at 100 pounds and add 5 pounds for every inch over 5 feet tall
 - Men start at 106 pounds and add 6 pounds for every inch over 5 feet tall
- Ideal body weight x 10 = Max daily calorie intake
 - IBW is not necessarily the weight one should try to attain, but rather it is used to calculate the starting point for calorie intake a day.
 - A 5'5" woman has an ideal body weight (IBW) of 125 pounds, so should take in no more than 1250 calories a day
 - If this same woman exercises 500 calories a day, she can take in 1750 calories a day and she will not gain, nor lose weight.
 - One must burn about 3500 calories to lose one pound of fat
 - If this woman takes in 1250 calories a day, and burns 500 calories a day through exercise every day, she will lose one pound of fat per week.

Key Numbers

- 1 gram of fat has 9 calories
- 25-35% of calories per day from UNSATURATED fats
 - For most people this is between 40 and 60 grams a day from unsaturated fat
- Less than 7% of calories from SATURATED fats per day.
 - A good rule of thumb for most people is less than 12 grams a day of saturated fat.
- Less than 1% TRANS fat per day
 - A good rule of thumb is less than 2 grams a day of trans fat.

Key Numbers

- Less than 3 grams (3,000 mg) of sodium (salt) per day
- 25 grams soluble fiber per day for women
- 38 grams soluble fiber per day for men

Key Numbers

- Moderate intensity aerobic activity per heart rate:
 - $220 - \text{age} \times 70\%$
 - For a 54 year old person this is $220 - 54 = 166 \times 70\% = 116$
 - So a 54 year old person should do exercise that maintains a heart rate of 116 for 30 minutes in a row for 5 days a week.
- High intensity aerobic exercise per heart rate
 - $220 - \text{age} \times 80\%$
 - For a 54 year old this is $220 - 54 = 166 \times 80\% = 133$
 - So a 54 year old should do exercise that maintains a heart rate of 133 for 25 minutes in a row for 3 days a week.