



Hanford Occupational Health Services

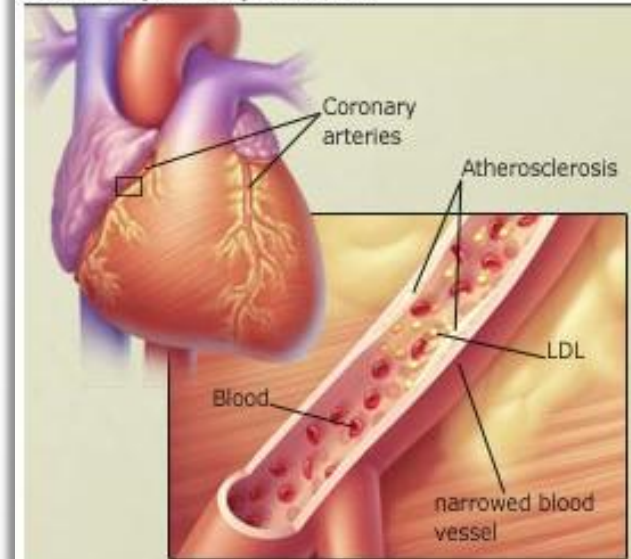
Nutrition for Heart Health: The DASH Eating Plan

Health Education Services
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Heart Disease Facts

- ◆ Every 39 seconds, an adult dies from a cardiovascular disease such as a heart attack or stroke.
- ◆ Cardiovascular disease claims the lives of more than 800,000 adults each year, 150,000 of whom are under the age of 65.
- ◆ 68 million US adults have high blood pressure.
- ◆ 71 million US adults have high LDL cholesterol.
- ◆ Nearly 2/3 of adults with high LDL cholesterol and about 1/2 of adults with high blood pressure don't have their condition under control.

Coronary Artery Disease



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Source: CDC

Heart Attack Risk Factors



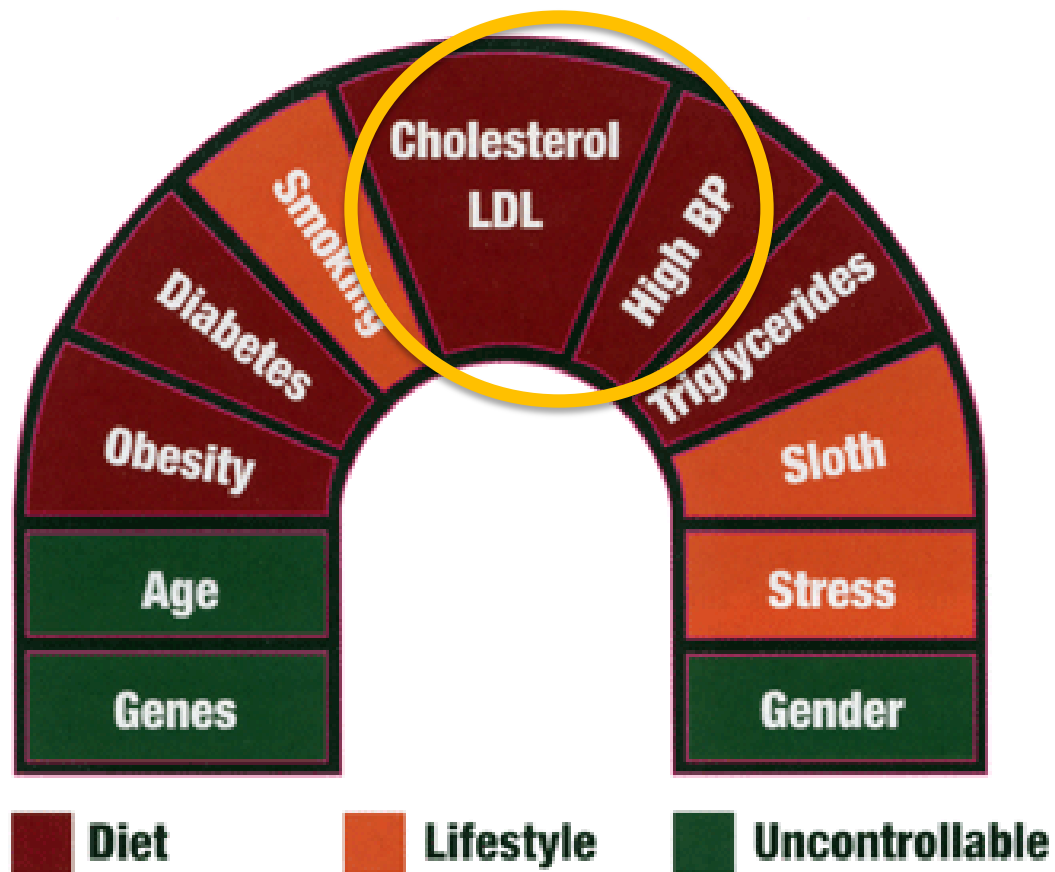
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Controllable

Smoking
High blood pressure
High cholesterol
Overweight and obesity
Physical inactivity
Diabetes

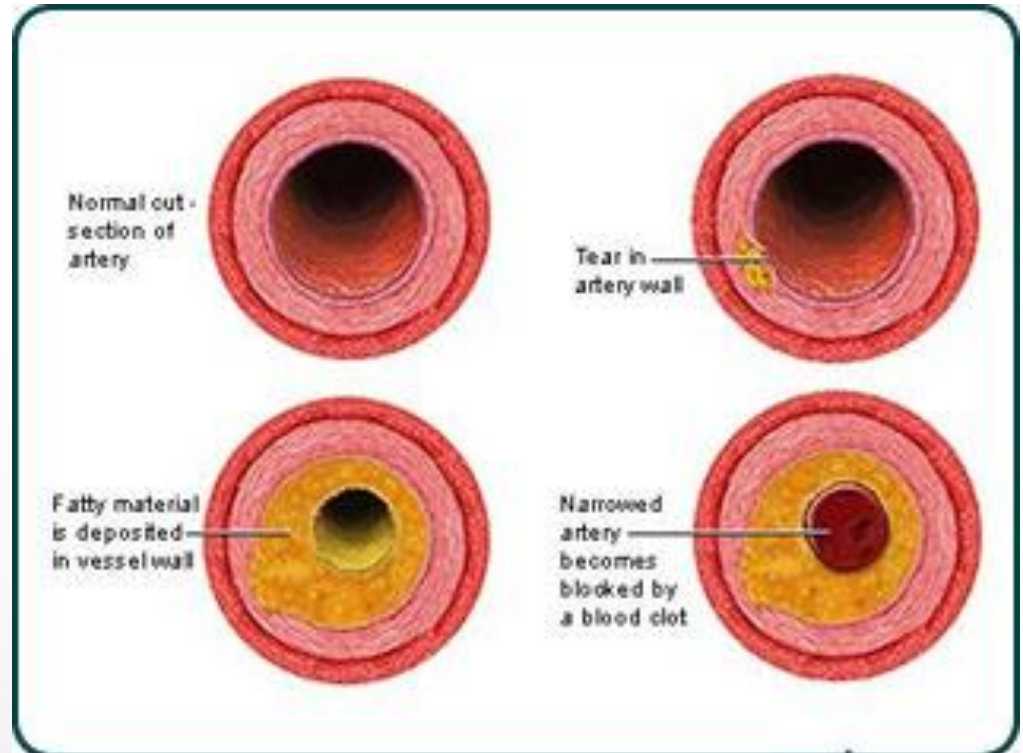
Uncontrollable

Pre-existing heart conditions
Age, risk increases
- men at 45 yrs
- women at 55 yrs
Family history
Gender



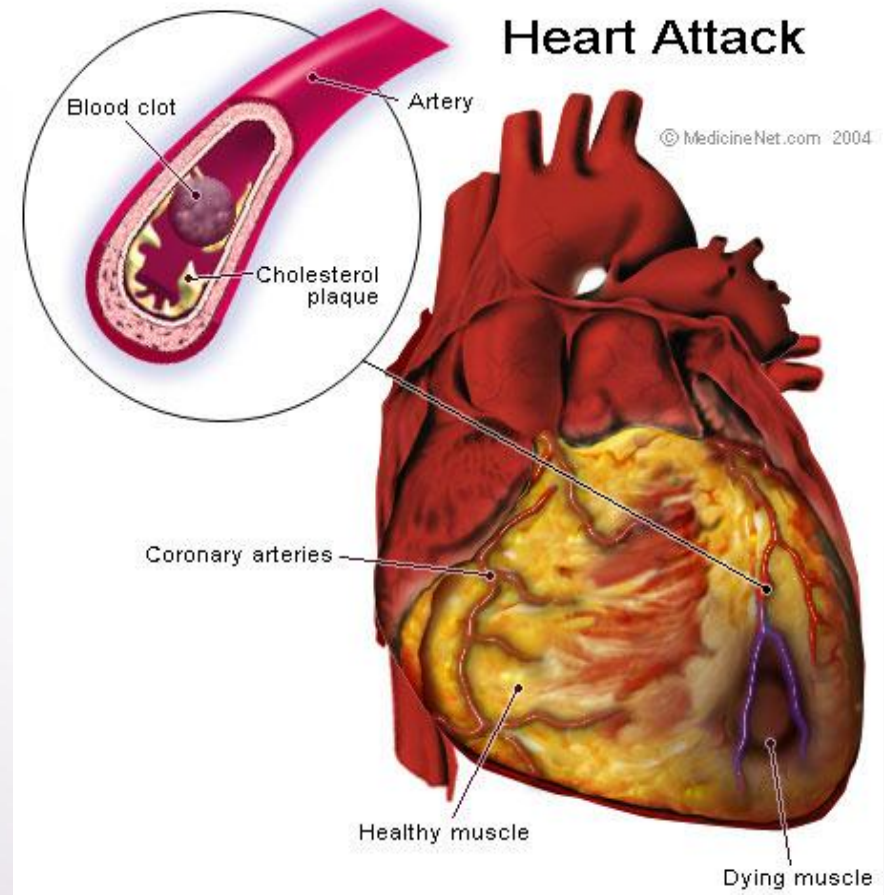
Coronary Artery Disease (CAD)

- ◆ Most common form of heart disease
- ◆ A disease in which plaque builds up inside the arteries of the heart. This plaque is made up of fat, cholesterol, and calcium. Over time, plaque hardens and narrows your arteries, limiting the flow of blood to the heart.



What is a Heart Attack?

Occurs when the supply of blood and oxygen to an area of heart muscle is blocked, usually by a clot in a coronary artery.



The Effect of Weight

- ◆ Additional calories = increased adiposity (fat storage)
- ◆ Excess body fat causes the heart rate to increase
- ◆ Excess body fat creates more blood vessels, greater distance for the blood to travel, more blood volume, beyond what the heart was designed to handle over a lifetime.



HDL Cholesterol

- ◆ HDL-High Density Lipoproteins
- ◆ The “Good” Cholesterol
- ◆ Protective to the body.
 - Removes excess cholesterol from artery walls.
 - Returns it to the liver for reprocessing
- ◆ If these are low, the risk for coronary artery disease is increased. When HDLs are high, the risk for CAD is decreased.
- ◆ Can be raised by exercise and good nutrition.

Should be 60 or higher

LDL Cholesterol

- ◆ LDL-Low Density Lipoproteins
- ◆ The “BAD” Cholesterol
- ◆ Fat and cholesterol are deposited in your arteries by LDLs and
- ◆ If these are high, so is risk for CAD. If LDLs are low, your risk for CAD is lower.
- ◆ Can be lowered by exercise and good nutrition, weight control & medicine.

Should be less than 130

The numbers...

	Ideal	Desirable	At Risk	High Risk
Total	< 160	< 200	200-239	≥ 240
LDL	< 100	< 130	130-159	≥ 160
HDL	≥ 60	≥ 50	< 40	< 35
Ratio	≤ 3.5	3.6-5.0	≥ 5.1	

What about cholesterol ratio?

Total
/
HDL

5
/
1 = 5 or less

LDL 100
HDL 30
Total 130 = 4.3

LDL 160
HDL 20
Total 180 = 9


LDL 160
HDL 70
Total 230 = 3.2

What is DASH?


- ◆ **D**ietary **A**pproaches to **S**top **H**ypertension
- ◆ Based on research from the National Institutes of Health
- ◆ This is not a diet, it's a lifestyle!
- ◆ No special foods or difficult recipes, instead, it's a focus on eating the appropriate amount of foods from various food groups



What is DASH?

A large green arrow pointing upwards, indicating positive or recommended components of the diet.

Rich in fruits, vegetables, fat-free or low-fat dairy or alternatives, whole grains, fish, poultry, beans, seeds, and nuts. Real food!

A large red arrow pointing downwards, indicating components to limit or avoid.

Low in salt and sodium, sweets, added sugar, sugar sweetened beverages, fat (especially *trans* and saturated), and red meat.

Your Daily Calorie Needs



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Calories Needed for Each Activity Level

Gender	Age (years)	Sedentary	Moderately Active	Active
Female	19–30	2,000	2,000–2,200	2,400
	31–50	1,800	2,000	2,200
	51+	1,600	1,800	2,000–2,200
Male	19–30	2,400	2,600–2,800	3,000
	31–50	2,200	2,400–2,600	2,800–3,000
	51+	2,000	2,200–2,400	2,400–2,800

- ◆ Sedentary = Light physical activity as part of your day-to-day routine
- ◆ Moderately active = Physical activity 1.5 – 3 miles/day at 3-4 MPH, plus light daily activity
- ◆ Active = Physical activity equal to walking more than 3 miles/day at 3-4 MPH, plus light daily activity

Potassium



- ◆ Maintain proper fluid and electrolyte balance and cell integrity
- ◆ Critical to maintaining the heartbeat
- ◆ Typical U.S. diet, low in fruits and veggies, provide only half of the daily 4700 mg of potassium recommended.
- ◆ Hypertension can become worse
- ◆ Sources: Fruits and vegetables such as leafy green vegetables, oranges, bananas, lima beans, potatoes, honeydew, avocado. Also salmon is a rich source.
- ◆ Supplements should not be used without your health care provider's recommendation.

Magnesium & Calcium

- ◆ Calcium promotes muscle contraction, while magnesium promotes muscle relaxation—heart muscle and other muscles.
- ◆ Most Americans receive only about $\frac{3}{4}$ of the recommended magnesium from food.
- ◆ DRI for Magnesium:
 - Men: 400 mg/day
 - Women: 310 mg/day
- ◆ Sources of magnesium: spinach, beans, soy milk, black eyed peas, bran cereal, oysters, yogurt.
- ◆ DRI for Calcium:
 - 1,000 mg/day (19-50 yrs)
 - 1,200 mg/day (>50 yrs)
- ◆ Sources of calcium: milk, tofu, black eyed peas, cheddar cheese, leafy greens, whole grains, broccoli, dairy replacements (soy milk).

Sodium

- ◆ Sodium increases water retention, which leads to increase in blood volume.
- ◆ Increased workload for the heart
- ◆ Most real food (whole food) includes more salt than the body needs and our body can absorb it readily.
- ◆ We need it for proper acid-base balance, muscle contraction, and nerve transmission, but we don't need extra sodium to maintain those functions.
- ◆ Sources: table salt, pickled foods, cured meats, cheese, baked goods, chips, crackers, canned food, condiments/sauces, frozen meals, restaurant food.
- ◆ Daily goal for sodium: ≤ 1500 mg/day.




DASH Tips for Gradual Change

- ◆ Add a serving of vegetables at lunch one day and dinner the next, and add fruit at one meal or as a snack.
- ◆ Increase your use of fat-free and low-fat milk products to three servings a day.
- ◆ Limit lean meats to 6 ounces a day—3 ounces is a meal, which is the size of a deck of cards. If you usually eat large portions of meat, cut them back a little over the next few days—by a half or a third at each meal.
- ◆ Include two or more vegetarian-style, or meatless, meals each week.



Other Lifestyle Changes

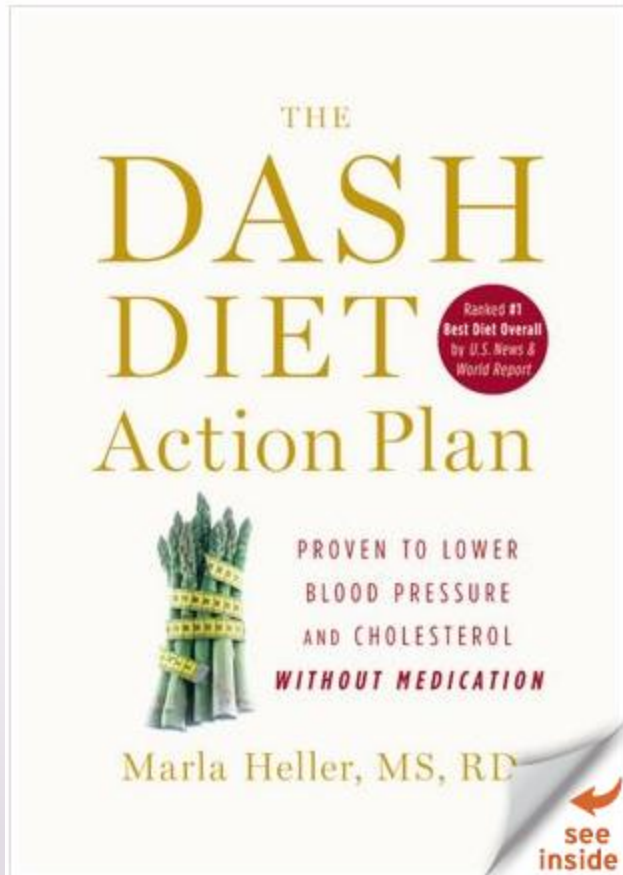
- ◆ Maintain a healthy weight
 - ◆ Be moderately active for AT LEAST 30 minutes on most days
 - ◆ If you drink alcoholic beverages, do so in moderation
- 
- Decorative wavy lines in shades of red, yellow, and grey at the bottom of the slide.

Prevent or treat your medical conditions

- ◆ Have your cholesterol checked once every five years.
- ◆ Monitor your blood pressure regularly (Worksite Health Fair schedule is on the CSC website)
- ◆ Manage diabetes
- ◆ Take your medicine as prescribed
- ◆ Communicate with your doctor. Bring a list of questions and paper to take notes.



Resources



DASH Diet website: <http://dashdiet.org/>

Complete Guide to Lowering Blood Pressure:

http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf

Brief Guide to lowering blood pressure:

http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/dash_brief.pdf



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Thanks!
Questions?

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