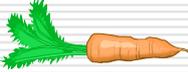


Healthy Heart Nutrition

Ann Mesaros RD CDE
Regional Nutritionist
Texas Department of State Health Services
Health Service Region 1, Lubbock

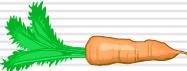


Risk Factors for heart disease

Obesity 

Elevated blood cholesterol 

Elevated blood pressure 

Obesity 

Diabetes 

Inactive lifestyle

Premature heart disease

Age

Stress

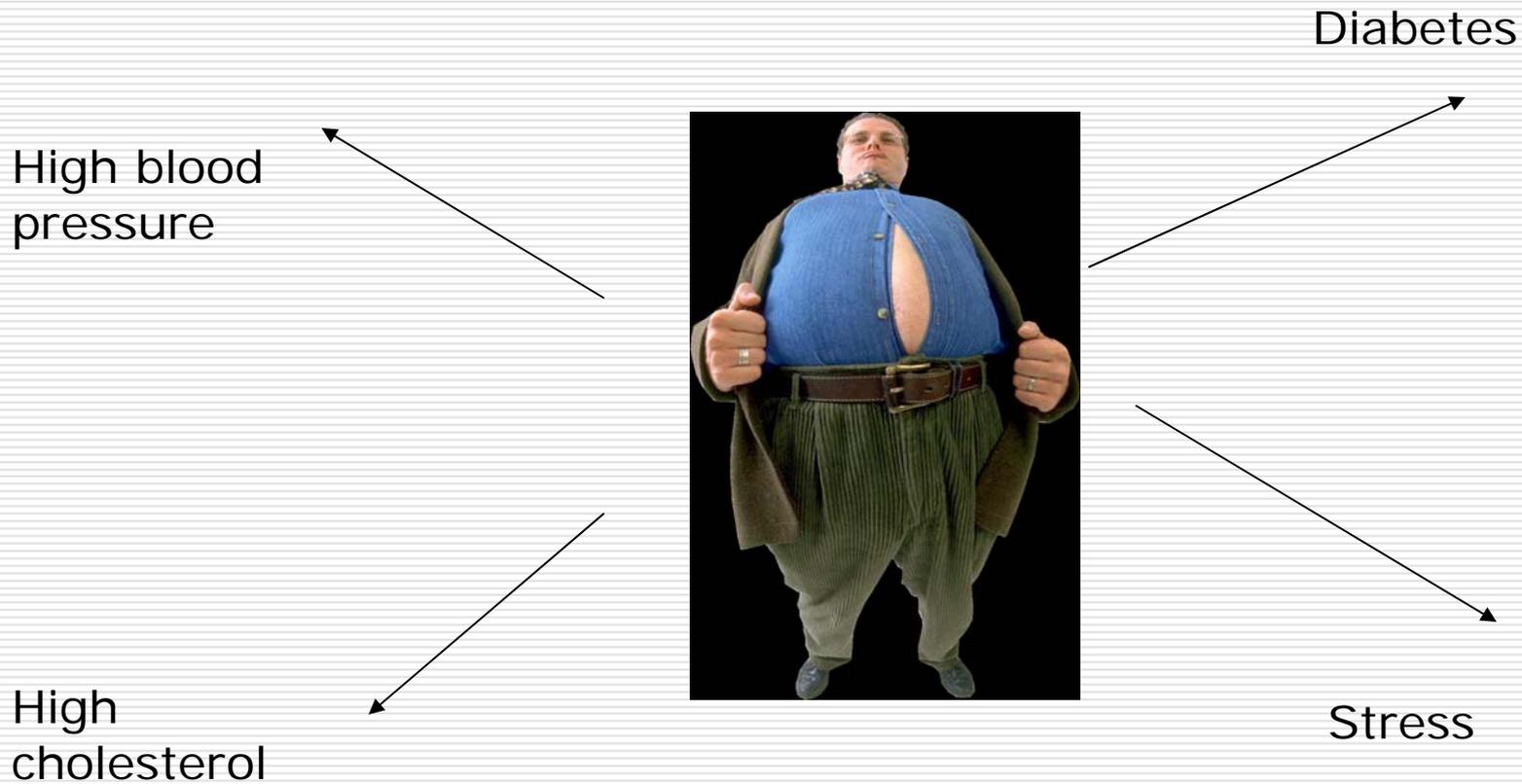
Can control 

Nutrition related

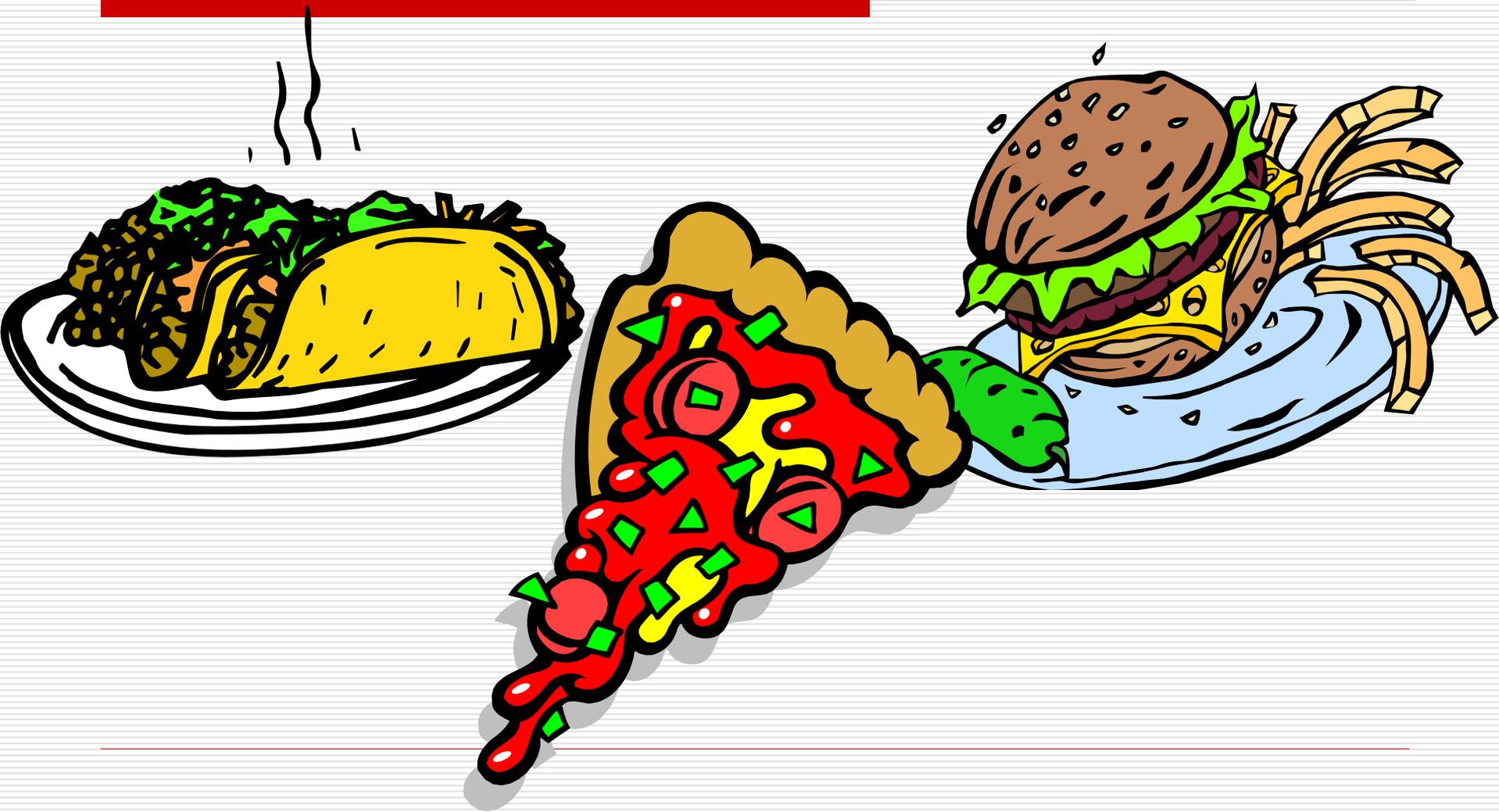




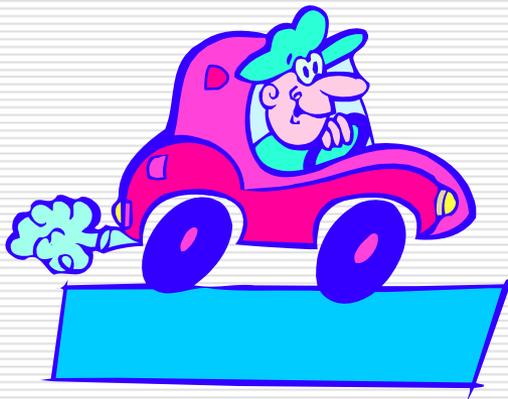
Body weight: "You are what you eat"



Environmental problem part one

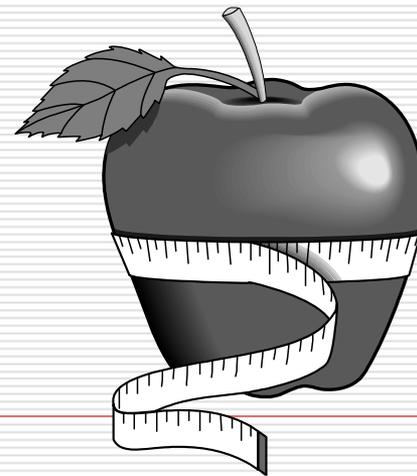


Environmental problem part two



Assessing weight: BMI

- BMI 19-24: Healthy
- BMI 25-29: Overweight
- BMI 30 or greater:
Substantial increase risk for
heart disease

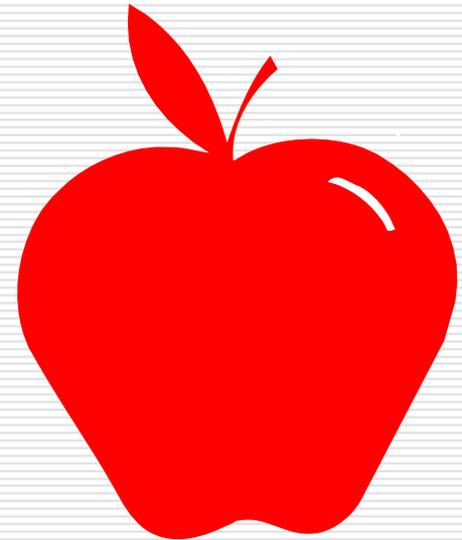


Assessing body weight

Increased
Waist
circumference

Men > 40"

Women > 35"



The magic of long term weight management...



Total Cholesterol

- ❑ Total cholesterol—the lower the better
 - ❑ Under 200 mg/dl is recommended
 - ❑ Over 240 mg/dl-risk for heart disease doubles
 - ❑ For every point your cholesterol drops the risk of heart disease drops by 2%
-

LDL Cholesterol

- ❑ A package of cholesterol that contains more fat than protein
- ❑ Falls apart easier-more unstable
- ❑ Adheres to artery walls
- ❑ Recommended levels are
 - ❑ 120 mg/dL with no risk factors
 - ❑ below 100 gm/dl with any other risk factor



Lousy cholesterol

HDL cholesterol

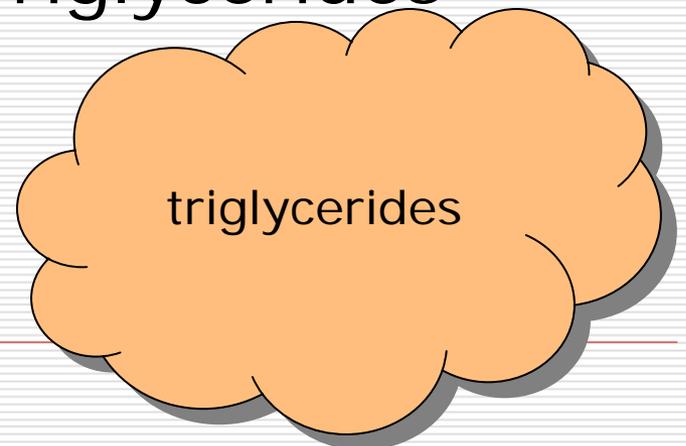
- Stable cholesterol
- Helps carry cholesterol away from the artery walls
- The higher the better—
recommendations are
 - >50 mg/dl for men
 - >60 mg/dl for women



Triglycerides

- ❑ Primary storage form of fat in the body
- ❑ Function is to provide energy
- ❑ Too many in circulation may be caused by insulin resistance and break HDL lipoprotein
- ❑ Recommendations for Triglycerides
 - <150 mg/dl

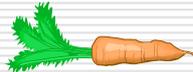
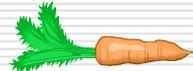
Fat globules



Summary-Lipid profile

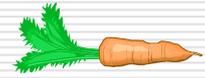
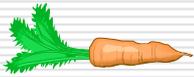
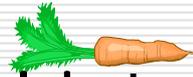
- Total cholesterol < 200 mg/dl
 - LDL cholesterol
 - No risk factors < 120 mg/dl
 - Risk factors < 100 mg/dl
 - HDL cholesterol
 - Men > 50 mg/dl
 - Women > 60 mg/dl
 - Triglyceride levels < 150 mg/dl
-

What harms your cholesterol profile

- Genetic predisposition
 - High intake of saturated fats 
 - Sedentary life
 - Smoking
 - Obesity 
 - Low fiber diet 
-

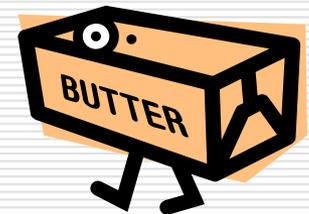
What improves your cholesterol profile...

- Replace saturated fats with mono and poly unsaturated fats
- Reducing cholesterol intake to <300 gms
- Eat foods that contain antioxidants
- Add high fiber foods in moderation
- Adding soy to diet
- Use alcohol in moderation
- Lose weight if needed
- Exercise regularly
- Medication if necessary



Fats that harm

- ❑ Saturated fats: animal fats, cocoa butter, palm oil, and coconut oil
- ❑ Trans fats-hydrogenated fats (unsaturated fats that are turned into solid forms, such as margarine)
- ❑ Promotes increased LDL cholesterol



Fats that help

- ❑ Monounsaturated fat, olive, canola and peanut oil.—may significantly lower the risk of heart disease by raising HDL levels
- ❑ Polyunsaturated fats-sunflower, corn, sunflower oils—may lower VLDL cholesterol-another harmful cholesterol



Good fats

- ❑ Omega 3 fatty acids-type of oil that comes in cold water fish. Omega-3's reduce heart disease by lowering VLDL cholesterol, lowering blood pressure and reducing the stickiness of platelets

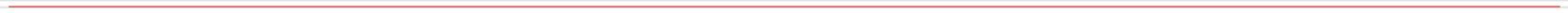
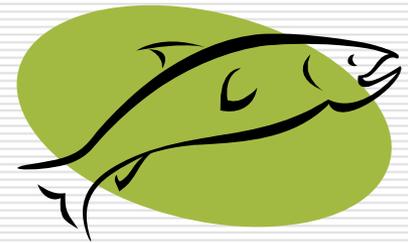




Omega 3 fatty acids

☐ Recommendations:

- Mackerel, lake trout, herring, sardines, albacore tuna, and salmon
 - ☐ Three meals per week recommended
- Flax seeds(2 ½ tsp) 2-3 times each day
- Flax seed oil 1T. 1-3 times daily
- Walnuts

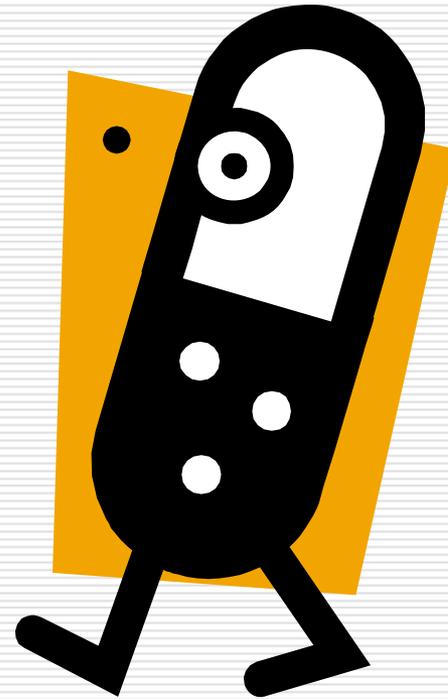




Fish oil Capsules



Too high of a dose can elevate LDL level



Benecal



- ❑ Like a cholesterol medication
- ❑ Made from pine tree sap (sterol ester)
- ❑ Helps to reduce absorption of cholesterol from the gut
- ❑ Three servings a day for 2 weeks may reduce LDL cholesterol up to 14 percent
- ❑ Can be used in cooking, baking and frying

www.benecol.com

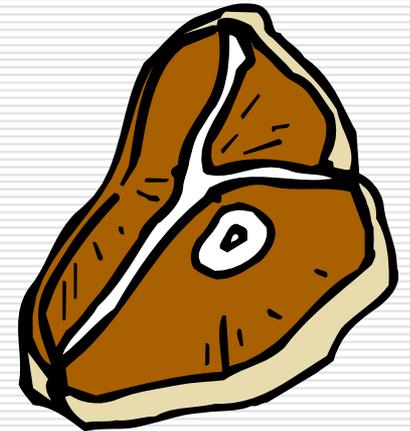
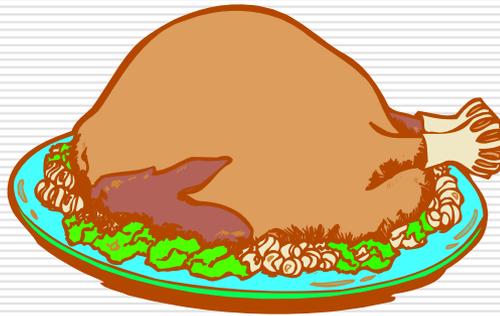
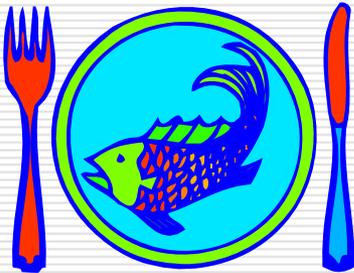
Take Control margarine



- Contains soybean extract
- Inhibits cholesterol absorption
- Two servings a day for three weeks may lower LDL levels up to 10 percent
- Can be used in cooking or baking

Cholesterol in the diet

- ❑ Plants do not make cholesterol
- ❑ Anything that flies, walks, or swims has cholesterol



What about eggs?

- ❑ Overall egg consumption is not related to elevated cholesterol and cardiovascular risk
- ❑ Consuming one egg a day poses no increased risk for cardiovascular disease
- ❑ Exception: cholesterol level is affected by greater than 4 egg yolks a week with people who have diabetes
- ❑ Exception: people with know coronary artery disease



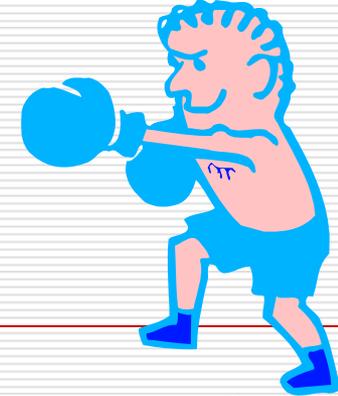
Limit cholesterol intake by:

- Limit intake of all animal meats to 6 ounces per day
 - 1 ounce salami= 17 mg cholesterol
 - 1 oz chicken = 25 mg cholesterol
 - Use liquid oil or soft tub margarine instead of butter or lard
 - Choose non fat or low fat dairy products
-

Free radicals



- ❑ Many reactions in the body that require oxygen create substances called free radicals.
 - ❑ Free radicals are also found in cigarette smoking and polluted air
 - ❑ Whenever an artery is damaged by a free radical, LDL cholesterol will collect in the artery and start causing blockages
-



Antioxidants

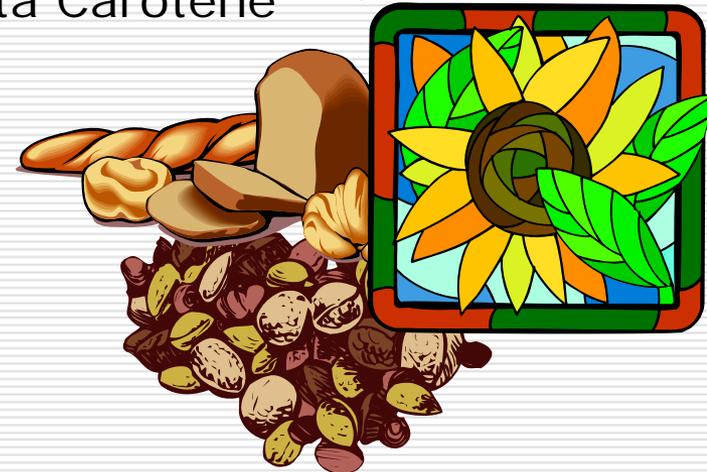
- ❑ Substances that combat the negative effects of free radicals
 - ❑ A diet rich in antioxidants is the best defense against free radical damage
 - ❑ The major antioxidant nutrients are Vitamin A, (also known as Beta Carotene), Vitamin C and Vitamin E
-

Food sources of Antioxidants

Vitamin C



Vitamin A or
Beta Carotene



Vitamin E

Phytochemicals

- ❑ Substances created by plants to protect themselves from bacteria, viruses, fungi, and insects
 - ❑ Phytochemicals may help protect against heart disease
 - ❑ Many phytochemicals act as antioxidants
-

Sources of Phytochemicals

- ❑ Berries, citrus fruits, orange and yellow fruits and vegetables (mango, apricot, carrot, sweet potato)
 - ❑ Soy beans and foods made with soy beans, nuts, legumes
 - ❑ Black or green tea, red grapes, red wine
 - ❑ Whole grains, including whole wheat, oats, barley
 - ❑ Vegetables such as broccoli, cabbage, cauliflower onions, garlic, fresh herbs
-



Are supplements a replacement for a healthy diet?---NO!

- ❑ Multivitamin/mineral supplement insurance policy
 - ❑ Calcium with Vitamin D (1500 mg) for post-menopausal women not on hormone replacement therapy
 - ❑ Vitamin E (200-400 IU)-if over 50 and have a family history of heart disease
 - ❑ Folate or folic acid-400 mcg to help lower the build up of homocysteine levels
-

Fiber-plants only

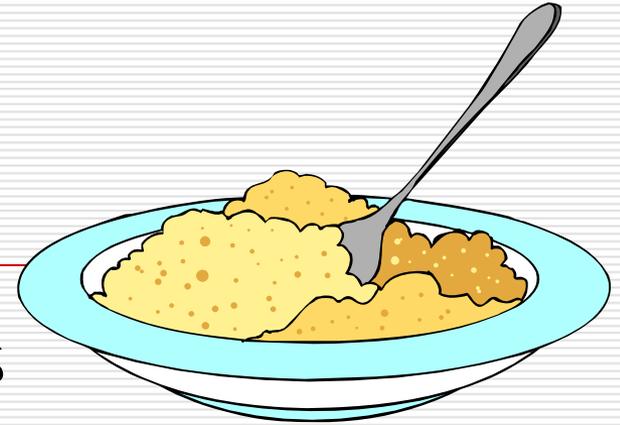
- ❑ Fiber is not digested or absorbed by the blood stream
 - ❑ Helps with digestion and offers protection against heart disease
 - ❑ Recommendations are 25-30 grams of fiber per day (presently Americans are consuming less than 10 gms/day)
-

Insoluble fiber - Nature's scrub brush

- ❑ Cellulose, hemicellulose, lignon
- ❑ "Rougage"
- ❑ Found in whole wheat products, corn bran and in vegetables such as green beans and potatoes
 - Helps to make you feel full
 - Natural laxative
 - Helps with digestive disorders
 - Moves wastes quickly, so harmful substances don't stay long in your GI tract



Soluble fiber



- Gums, mucilages, pectins
 - Binds and adheres to fatty substances, and prevents absorption by the body, and promotes their excretion
 - Regulates body's use of sugar
 - Forms a gel and makes you feel full
 - Sources-oat bran, barley, fruits, legumes
-

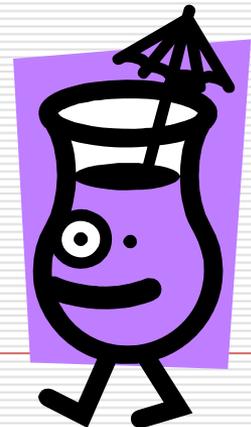
Alcohol

- ❑ Moderate amounts can reduce stress, reduce risk of stroke, and reduce heart disease by increasing HDL levels



Alcohol

- ❑ Too much may raise triglyceride levels, may lead to high calorie intake, high blood pressure, and heart failure
- ❑ Excessive drinking and binge drinking can lead to stroke





Alcohol

Recommendations:

- ❑ No more than 1-2 drinks per day for men
- ❑ No more than 1 drink per day for women

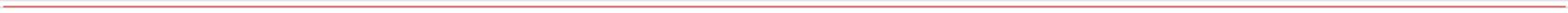
One drink =

12 oz beer

4 oz wine

1.5 oz 80 proof spirits

1 oz 100 proof spirits



Soy and Heart Disease

- Most studies done with soy show a decrease in LDL and triglycerides
- Average soy intake 47 grams/day ranging from 17-124 grams/day



Soy for Healthy Heart

Soyfood	Protein (g)
Soybeans ½ c. cooked	14
Soy milk 1 c	7
Roasted soy nuts ½ c	34
Soy flour ¼ c.	8
Tempeh ½ c.	16
Textured soy protein ½ c prepared	11
Tofu ½ c	10

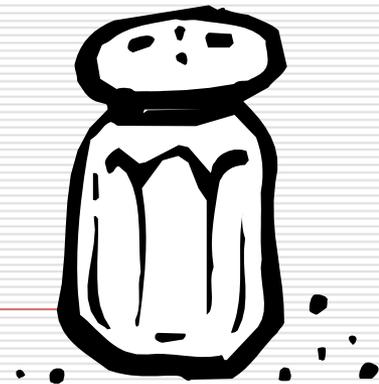
Blood Pressure

- Uncontrolled blood pressure plays a key role in coronary artery disease and end stage renal disease
- High blood pressure is
 - $> 140/90$
 - $> 130/85$ with diabetes



Lifestyle changes for high blood pressure

- Weight loss
- Reduce sodium intake
 - <2400 mg/day
- Increase fruits and vegetables (8-10 servings/day)
- Include 2-3 servings low fat dairy foods
- Limit alcohol intake
- Exercise
- Stress management



Check for diabetes

□ At risk people

- Overweight BMI > 25
 - Family history of diabetes
 - Gestational diabetes or >9 pound babies
 - Certain racial groups
 - Low HDL and/or high triglycerides
 - Irregular or no exercise program
-

Diabetes and Heart Disease

- ❑ Men with uncontrolled blood sugar have 2X the risk of heart disease
- ❑ Women with uncontrolled blood sugar have 4X the risk of heart disease



Symptoms of diabetes



Increased Thirst



Fatigue



Increased
Urination

Diagnosis of diabetes

Normal fasting blood sugar 70-109 mg/dl

Diagnosis of diabetes

Fasting blood sugar >126 mg/dl

Random blood sugar > 200 mg/dl with symptoms

Impaired fasting glucose

Fasting blood sugar 110-125 mg/dl

Impaired glucose tolerance

Random blood sugar $>126-199$ mg/dl

Numbers to know

- Lipid profile
 - Cholesterol
 - LDL level
 - HDL level
 - Triglyceride level
- Blood Pressure
- Blood Sugar



Now comes life...



Healthy Eating



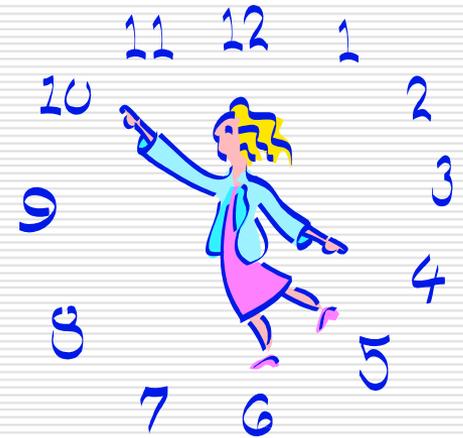
Healthy eating guidelines

- ❑ Step 1: Eat small meals every 4-5 hours while awake
- ❑ Step 2: Balance your diet
- ❑ Step 3: Consume nutrient rich foods within each food group

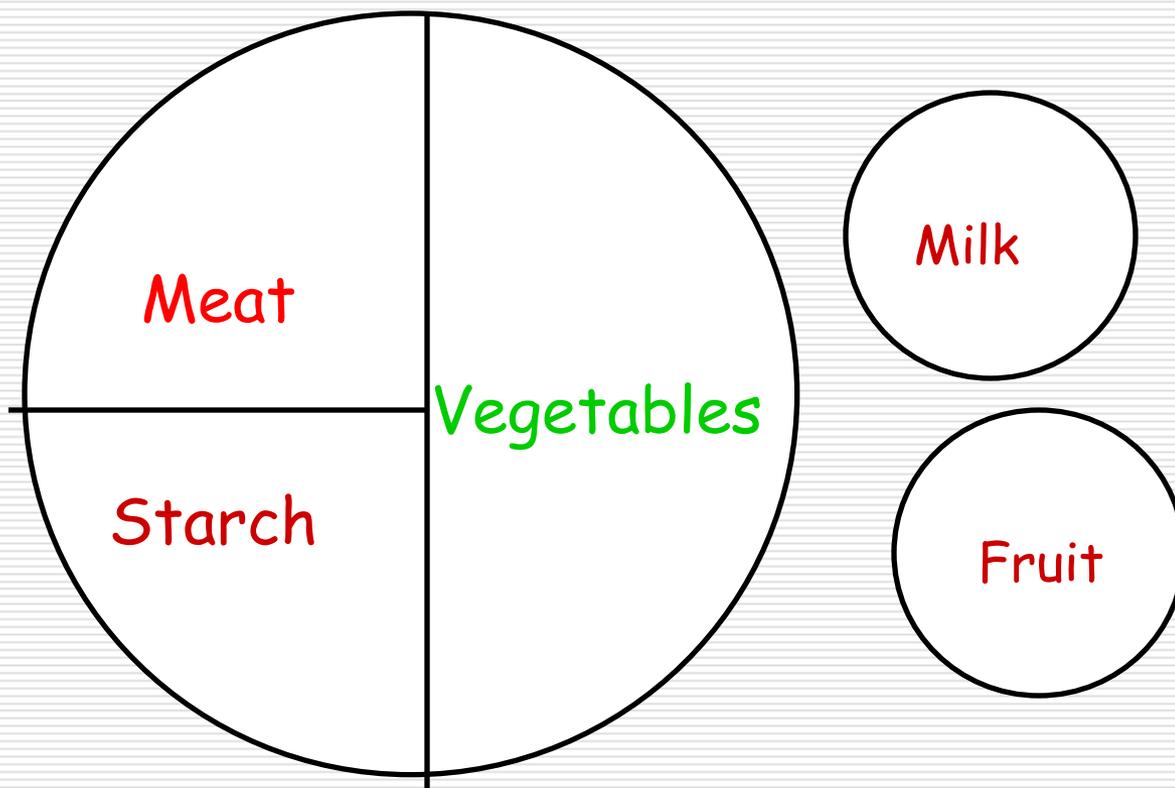


Eating every 4-5 hours while awake

- ❑ Helps regulate your appetite
- ❑ Increases metabolism
- ❑ Helps utilize calories
- ❑ Less likely to store calories into cholesterol and fat

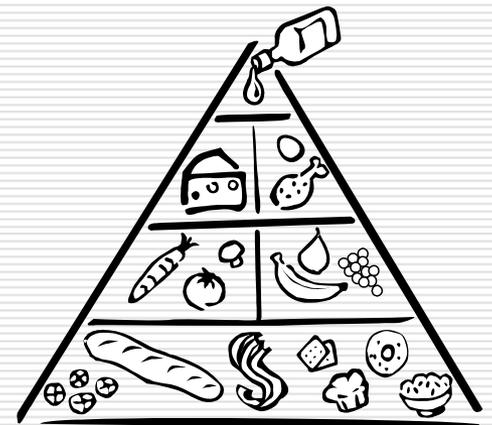


BALANCE YOUR MEALS



Balancing your diet

- ❑ 6-11 servings/day of bread, rice, pasta, dry cereal
- ❑ 3-5 servings of vegetables/day
- ❑ 2-4 servings of fruit/day
- ❑ 2-3 servings of dairy/day
- ❑ Up to 8 servings of fat/day
- ❑ Water- at least 8oz of fluids/day
- ❑ Sweets-no more than 200 calories each day
- ❑ No more than 2 drinks of alcohol each day



Increase nutrient rich foods



- ❑ Breads-whole wheat, high fiber
 - ❑ Vegetables-bright green, yellow, orange, red vegetables, and any legumes
 - ❑ Milk, yogurt, cheese-low fat or non fat products, or fortified soy milk
 - ❑ Meat, poultry, fish, eggs-cold water fish, lean cuts of beef, pork, poultry, and soy
 - ❑ Fats and oils-olive, canola, peanut oils, nuts and flax seeds
-

Food Label

- Ignore the front of the label
- Fat – 3 gms fat/100 calories
- Sodium < 400 mgs/side dish
< 800 mgs/main dish
- Fiber over 5 gms/main dish



Healthy Breakfast Idea #1

- Oatmeal mixed with flax seed and oat bran
 - 2 T. raisins
 - 1 piece of whole wheat toast
 - 2 tsp peanut butter
 - 1 c. skim milk
-

Healthy Breakfast Idea #2

- 1/2 c orange juice
 - 3/4 c. high fiber cereal
 - 1 c. blueberries
 - 1 c. skim milk
-

Healthy Breakfast Idea#3

- 1 c. yogurt
 - 3 T grape nuts
 - 1 slice whole wheat toast
 - 1 tsp margarine
 - ½ grapefruit
-

Healthy Lunch #1

- Turkey Sandwich w/
 - 2 oz turkey
 - 1 oz low fat cheddar cheese
 - 1 tsp mayonnaise
 - Lettuce
 - Tomato
 - Apple with skin
 - Carrot sticks
-

Healthy Lunch #2

- 1c. cantaloupe pieces
 - 1 c. soy milk
 - Bean and cheese burrito
 - 1 oz white cheese
 - Lettuce
 - Chopped tomato
 - ½ c. black beans
 - 1/3 c. brown rice
-

Healthy Lunch #3

- McDonalds Chunky Chicken Salad w/ low fat dressing
 - 1 % milk
 - Apple bran muffin
 - 1 Fresh Pear
-

Healthy Dinner #1

- Broiled Salmon
 - Steamed Broccoli
 - Baked Yam w/1 tsp soft margarine
 - 1 c. 1% milk
 - 1 c. strawberries
-

Healthy Dinner #2

- 4 ounces BBQ chicken
 - Baked potato with low fat sour cream
 - 1 c. brussel sprouts or cauliflower
 - Salad:
 - Romaine Lettuce
 - Tomato
 - Cucumber
 - Chopped carrot
 - Flax oil dressing
-

Healthy Dinner #3

- Mango
 - Rice and Beans w/ saute'ed vegetables
 - 2/3 c. brown rice
 - 1/3 c. rice
 - 1/2 c. chopped onion
 - 1 clove garlic
 - 1/2 c. yellow squash
 - 1/2 c. zucchini
 - 1 T. olive oil
-

Snack Ideas

- Chocolate soy milk
 - Low fat popcorn
 - Low fat or non fat yogurt
 - Any kind of fruit
 - Dried Fruit & nuts
 - Whole grain crackers
 - Granola bars, cereal bars
 - Any food less than 3 gms/100 calories and more than 5 grams of fiber
-