



CORPHEALTH

Cholesterol, Food and You





Let's Talk About Nutrition



Dietary Guidelines

- Put out by the federal government, (Dept. of Health and Human Services)
- Science-based ages 2+
 - Promote health
 - Prevent chronic disease
- Legislated every 5 years



New Food Pyramid



Grains

Vegetables

Fruits

Oils

Milk

**Meats &
Beans**



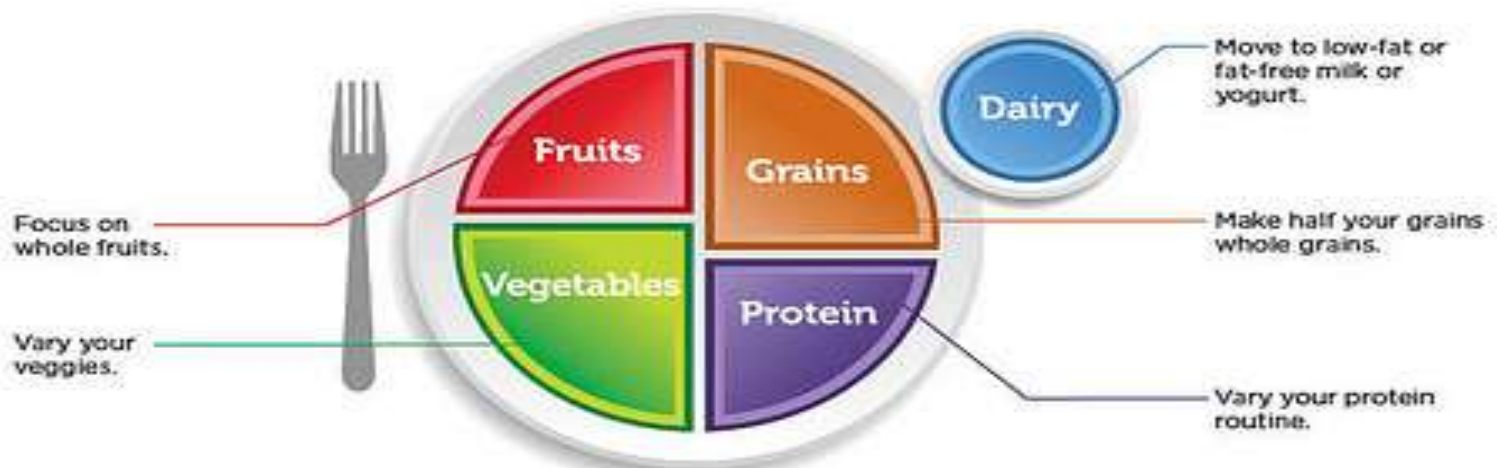
MyPlate



United States Department of Agriculture

MyPlate, MyWins: Make it yours

Find your healthy eating style. Everything you eat and drink over time matters and can help you be healthier now and in the future.



Choose **MyPlate.gov**



Limit the extras.

Drink and eat beverages and food with less sodium, saturated fat, and added sugars.



Create 'MyWins' that fit your healthy eating style.

Start with small changes that you can enjoy, like having an extra piece of fruit today.



Healthy Diet

What is a "Healthy Diet"?

The Dietary Guidelines describe a **healthy diet** as one that:

- Has enough nutrients to meet caloric needs
- Favorable for weight management
- Emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products;
- Includes lean meats, poultry, fish, beans, eggs, and nuts; and
- Is low in saturated fats, *trans* fats, cholesterol, salt (sodium), and added sugars
- Limits alcohol



Good Foods...

- Fruits and Vegetables
 - Choose a variety
 - 2 cups fruits, 2 ½ cups vegetables daily
- Whole Grains, (3 ounces daily)
- Low Fat Dairy, (3 cups per day recommended)
 - fat-free or low-fat milk or equivalent milk products



What to Avoid...

- Saturated Fats

- Consume less than 10 % of calories from saturated fatty acids, less than 300 mg/day of cholesterol and keep *trans* fatty acids as low as possible
- Total fat between 20 to 35 % with most fats from sources of good fats, such as fish, nuts, and vegetable oils
- Select and prepare meat, poultry, dry beans, and milk or milk products that are lean, low-fat, or fat-free
- Limit intake of fats and oils high in saturated and/or *trans* fatty acids



Watch Your Carbohydrates...

- Choose fiber-rich fruits, vegetables, and whole grains
- Avoid sugar, white flour and starches
- Choose and prepare foods and beverages with little added sugars
- Focus on fiber



Less Salt, More Potassium...

- Consume < 2,300 mg (~1 tsp. salt) of sodium per day
 - If you have HTN or older, no more than 1,500 mg of sodium per day
- Watch the salt in your food preparation
- Consume potassium-rich foods, such as fruits and vegetables.



And Maybe...



A (one) glass of wine with dinner!

But don't over celebrate..

Drink sensibly and in moderation –

- Consumption of up to one drink per day for women and up to two drinks per day for men



GRAINS

Make half your grains whole

Eat at least 3 oz. of whole-grain cereals, breads, crackers, rice, or pasta every day

1 oz. is about 1 slice of bread, about 1 cup of breakfast cereal, or 1/2 cup of cooked rice, cereal, or pasta

VEGETABLES

Vary your veggies

Eat more dark-green veggies like broccoli, spinach, and other dark leafy greens

Eat more orange vegetables like carrots and sweetpotatoes

Eat more dry beans and peas like pinto beans, kidney beans, and lentils

FRUITS

Focus on fruits

Eat a variety of fruit

Choose fresh, frozen, canned, or dried fruit

Go easy on fruit juices

MILK

Get your calcium-rich foods

Go low-fat or fat-free when you choose milk, yogurt, and other milk products

If you don't or can't consume milk, choose lactose-free products or other calcium sources such as fortified foods and beverages

MEAT & BEANS

Go lean with protein

Choose low-fat or lean meats and poultry

Bake it, broil it, or grill it

Vary your protein routine – choose more fish, beans, peas, nuts, and seeds

For a 2,000-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

Eat 6 oz. every day

Eat 2 1/2 cups every day

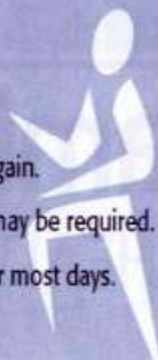
Eat 2 cups every day

Get 3 cups every day;
for kids aged 2 to 8, it's 2

Eat 5 1/2 oz. every day

Find your balance between food and physical activity

- Be sure to stay within your daily calorie needs.
- Be physically active for at least 30 minutes most days of the week.
- About 60 minutes a day of physical activity may be needed to prevent weight gain.
- For sustaining weight loss, at least 60 to 90 minutes a day of physical activity may be required.
- Children and teenagers should be physically active for 60 minutes every day, or most days.



Know the limits on fats, sugars, and salt (sodium)

- Make most of your fat sources from fish, nuts, and vegetable oils.
- Limit solid fats like butter, stick margarine, shortening, and lard, as well as foods that contain these.
- Check the Nutrition Facts label to keep saturated fats, *trans* fats, and sodium low.
- Choose food and beverages low in added sugars. Added sugars contribute calories with few, if any, nutrients.

Colors That Will Keep You Healthy

Red
Apples
Bell Peppers
Cherries
Cranberries
Grapes
Radishes
Raspberries
Plums
Strawberries
Tomatoes
Watermelon

Orange
Apricots
Bell Peppers
Butternut Squash
Cantaloupe
Carrots
Mangoes
Oranges
Papaya
Pumpkin
Sweet Potatoes
Yams

Yellow
Apples
Avocados
Bananas
Bell Peppers
Cabbage
Cauliflower
Celery
Kiwi
Lemons
Limes
Onions
Pears
Pineapple
Squash

Green
Artichokes
Asparagus
Broccoli
Brussels sprouts
Collard Greens
Cucumbers
Grapes
Green Beans
Honeydew
Leeks
Lettuce
Peas
Spinach
Swiss Chard
Turnip greens

Blue
Beets
Blackberries
Blueberries
Cabbage
Cherries
Currants
Eggplant
Grapes
Plums

How To Read Food Labels?

Nutrition Facts	
Serving Size 1 cup (228g)	
Servings Per Container 2	
Amount Per Serving	
Calories 250	Calories from Fat 110
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
<i>Trans</i> Fat 1.5g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

- Measurements are in:
 - Grams
 - Milligrams
 - Percentages
- Based on 2000 Calories/day
- Pay close attention to serving size, make sure it corresponds to YOUR serving

Sample label for
Macaroni & Cheese

Nutrition Facts

1 **Start Here** →

Serving Size 1 cup (228g)
Servings Per Container 2

2 **Check Calories**

Amount Per Serving
Calories 250 Calories from Fat 110

3 **Limit these
Nutrients**

	% Daily Value*
Total Fat 12g	18%
Saturated Fat 3g	15%
<i>Trans</i> Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

6

**Quick Guide
to % DV**

• 5% or less
is Low

• 20% or more
is High

4 **Get Enough
of these
Nutrients**

5 **Footnote**

* Percent Daily Values are based on a 2,000 calorie diet.
Your Daily Values may be higher or lower depending on
your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories Facts...

Nutrition Facts	
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Servings Per Container 2	
Amount Per Serving	
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Dietary Fiber 0g	0%
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Protein 5g	
Vitamin A	4%
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Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet.
Your Daily Values may be higher or lower depending on your calorie needs:

- Calories
 - Amount of Energy in Food
 - Can come from:
 - ❖ Fat
 - ❖ Carbohydrate
 - ❖ Protein
 - 40 Calories is low
 - 100 Calories is moderate
 - 400 Calories is high
- 1 gram of fat = 9 calories
- 1 gram of carbohydrate = 4 calories
- 1 gram of protein = 4 calories
- 1 gram alcohol = 7 calories

Fats...

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving	
Calories 250 Calories from Fat 110	
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
<i>Trans</i> Fat 1.5g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

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● Fats:

- Reduced Fat = 25 % less fat than same regular brand
- Low Fat = 50% less

% Daily Value

- Tells you how much is in that food compared to the average amount recommended a day
- The % DV is based on 100% of the daily value for **each** nutrient

Nutrition Facts	
Serving Size 1 cup (85g) (3 oz.)	
Servings per container 2.5	
Amount per serving	
Calories 45	Calories from Fat 0
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 55 mg	2%
Total Carbohydrate 10g	3%
Dietary Fiber 3g	12%
Sugars 5g	
Protein 1g	
Vitamin A 360% • Vitamin C 8% • Calcium 2% • Iron 0%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat. Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	Less than 300mg 375mg
Dietary Fiber	Less than 25g 30g
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4	

Ingredients: Carrots.

Daily Recommendations

Limit The Not So Good...

The goal is to stay **BELOW** 100% of the DV for each of these nutrients per day.

Total Fat 12g	18%
Saturated Fat 3g	15%
<i>Trans</i> Fat 1.5g	
Cholesterol 30mg	10%
Sodium 470mg	20%



Get Enough Of The Good...

Dietary Fiber 0g	0%
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

Try to get 100% of the DV for each of these nutrients each day.



Compare each serving to daily needs

% Daily Value*	
Total Fat 12g	?
Saturated Fat 3g	?
<i>Trans Fat</i> 1.5g	
Cholesterol 30mg	?
Sodium 470mg	?

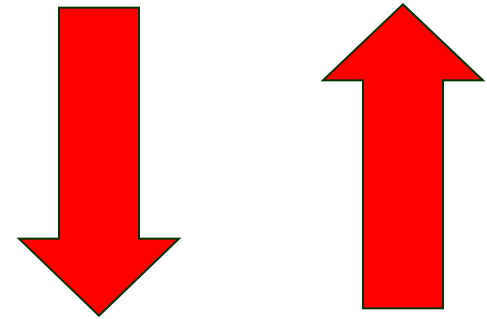
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Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g



Quick Guide to % DV

5% DV or less is Low



20% DV or more is High

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Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%
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Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

Limit these
Nutrients

Get Enough
of these
Nutrients



Watch Total Sugars...

Plain Yogurt

Nutrition Facts	
Serving Size 1 container (226g)	
Amount Per Serving	
Calories 110 Calories from Fat 0	
	% Daily Value*
Total Fat 0g	0 %
Saturated Fat 0g	0 %
Trans Fat 0g	
Cholesterol Less than 5mg	1 %
Sodium 160mg	7 %
Total Carbohydrate 15g	5 %
Dietary Fiber 0g	0 %
Sugars 10g	
Protein 13g	
Vitamin A 0 % • Vitamin C 4 %	
Calcium 45 % • Iron 0 %	

* Percent Daily Values are based on a 2000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs

Fruit Yogurt

Nutrition Facts	
Serving Size 1 container (227g)	
Amount Per Serving	
Calories 240 Calories from Fat 25	
	% Daily Value*
Total Fat 3g	4 %
Saturated Fat 1.5g	9 %
Trans Fat 0g	
Cholesterol 15mg	5 %
Sodium 140mg	6 %
Total Carbohydrate 46g	15 %
Dietary Fiber less than 1g	3 %
Sugars 44g	
Protein 9g	
Vitamin A 2 % • Vitamin C 4 %	
Calcium 35 % • Iron 0 %	

* Percent Daily Value is based on a 2000 calorie diet. Your Daily Values may be higher or lower based on your calorie needs.



Look for Added Sugars

Plain Yogurt

INGREDIENTS: CULTURED PASTEURIZED GRADE A NONFAT MILK, WHEY PROTEIN CONCENTRATE, PECTIN, CARRAGEENAN.

Fruit Yogurt

INGREDIENTS: CULTURED GRADE A REDUCED FAT MILK, APPLES, HIGH FRUCTOSE CORN SYRUP, CINNAMON, NUTMEG, NATURAL FLAVORS, AND PECTIN. CONTAINS ACTIVE YOGURT AND *L. ACIDOPHILUS* CULTURES



Pay close attention to serving sizes.

Look for foods with lower levels of saturated fats.

This tells you how much salt is in food.

Calcium is important for bones and teeth.

Use this section as a guide for daily planning.

The amount of calories a person needs each day depends on many factors, including exercise.

Nutrition Facts

Serving Size 1/2 cup (114g)
Serving Per Container 4

Amount Per Serving

Calories 90 **Calories from Fat** 30
0% Daily Value*

Total Fat 3g **5%**

Saturated Fat 0g **0%**

Cholesterol 0mg **0%**

Sodium 300mg **13%**

Total Carbohydrate 13g **4%**

Dietary Fiber 3g **12%**

Sugars 3g

Protein 3g

Vitamin A 80% • Vitamin C 60%

Calcium 4% • Iron 4%

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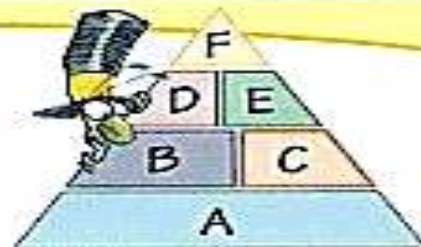
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Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Products labeled "light" or "lite" must have 1/3 fewer calories or 1/2 the fat of the foods to which they are compared. "Light" also can mean that salt has been reduced by 1/2.

Look for products that have more fiber and less sugar.

Vitamins and minerals help your body function properly.



A Few Words About Food And Cholesterol



What Is Cholesterol?

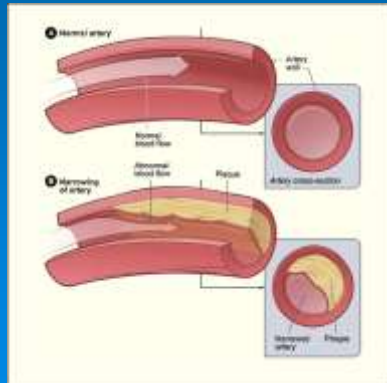
- Fatty substance
- 2 sources:
 1. Majority is made by the liver –
 - family history
 - genetic make-up
 2. Food - {animal products}
 - Meat
 - Dairy products
 - Eggs
- Cholesterol your body makes gets added to the cholesterol you get from food
- We need it, (hormones, Vit. D.) but too much can increase risk of developing heart disease

Lipoproteins, Carriers Of Cholesterol

➤ Cholesterol is transported through your body covered by **lipoproteins**, there are 2:

- High density – good → removes bad cholesterol from the blood (LDL-C) and returns it to the liver
- Low density – bad → LDL builds up and sticks easily to the walls of arteries

→ **Plaque** → **Narrowing** → **Heart disease**



LDL



Risk for heart disease.

LDL / Bad Cholesterol

- The Focus is on **LDL Cholesterol** – We want it **LOW!**
- Elevated **LDL** cholesterol is a major cause of **Coronary Heart Disease, (CHD)**
- Medical decisions for treatment are based primarily on LDL levels
- LDL-lowering therapy reduces risk for CHD (Heart Attacks)

What Are Triglycerides?

Triglycerides

- Another type of fat carried in your blood.
- Your body's fat tissue is in the form of triglycerides
- High triglyceride levels can increase the risk of heart disease in some people

Things That Can Increase Triglyceride Levels

- Being overweight
- Physical inactivity
- Cigarette smoking
- Excessive alcohol use
- Very high carbohydrate diet
- Certain diseases and drugs
- Genetic disorders

Do We Treat Triglycerides?

- **Primary aim of therapy:**
 - Achieve the target goal for LDL cholesterol
- **Borderline high, high or very high**
 - **All** need diet and Lifestyle changes
- **Triglycerides (200-499 mg/dL)**
 - May need treatment with medications dependent on the amount of LDL + VLDL
- **Very High Triglycerides (≥ 500 mg/dL)**
 - Treatment with medication will most likely be required

Testing For High Cholesterol

- Screening Test – Immediate results
 - ❖ **Lipoprotein profile**
 - Total cholesterol
 - Low-density lipoprotein (LDL) bad cholesterol
 - High-density lipoprotein (HDL) good cholesterol
 - Triglycerides: another form of fat in your blood
 - Just a screening
 - All screening tests need confirmation
- Definitive Testing – Wait for results
 - **Same profile done via testing in a lab**

Lipid Values

Total Cholesterol

<200	Desirable
200-239	Borderline high
≥240	High

LDL Cholesterol

<100	Optimal
100-129	Near optimal/above optimal
130-159	Borderline high
160-189	High
≥190	Very high

HDL Cholesterol

<40	Low - Major risk for heart disease
≥60	Considered protective

Who Needs Treatment

- First step –Assess a person's risk status for Coronary Artery Disease (CAD)
- Basic principle -
How intense we are about treating high LDL will depend on your absolute risk of CAD

Major Risk Factors That Determine How Aggressive To Be In Setting LDL Goals






- High LDL
- Low HDL cholesterol (<40 mg/ dL)
- Cigarette smoking
- Hypertension (BP \geq 140/90 mmHg or on antihypertensive medication)
- Family history of premature CHD
 - CHD in **male** first degree relative **<55 years**
 - CHD in **female** first degree relative **<65 years**
- Age (men \geq 45 years; women \geq 55 years)
- Diabetes
- *HDL cholesterol \geq 60 mg/ dL counts as a “negative” risk factor; its presence removes one risk factor from the total count*

How And Who Do We Treat?


- Lifestyle changes
 - **Everyone** (Most Cost Effective)
- Drug treatment
 - Persons at relatively high risk
 - Those at higher risk are likely to get greater benefit
 - LDL-lowering drugs reduce risk for major coronary events such as heart attacks and strokes and coronary death even in the short term

Lifestyle Changes

Risk factors you **can** control:

- 1) Reduced intakes of saturated fat and cholesterol
- 2) Increased physical activity  LDL  HDL
- 3) Weight control:  weight  LDL  HDL

What Foods Lower Your Cholesterol?

- Foods that do not contain high amount of saturated fat
 - Extra Virgin Olive Oil
 - Increases HDL cholesterol (good!)
 - Vegetables
 - High Fiber
 - Whole Grains
- 

Foods That Help You Lower Your Cholesterol

- Super foods – shown to make big impact
 - Plant Sterols and Stanols
 - Fatty Fish
 - Nuts
 - Whole Grains, Oatmeal & Oats
 - Soy Protein – maybe
 - Fruits
 - Monosaturated oils, such as Olive Oil, Canola, Grape seed.



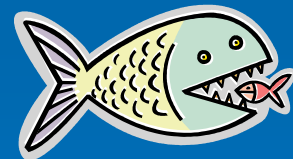
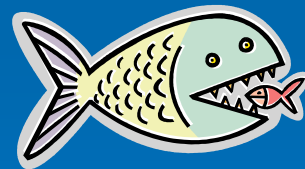
Plant Sterols and Stanols

Found Naturally In (small quantities)

- Fruits, Vegetables, Nuts, Seeds, Cereals, Legumes, Vegetable Oils (particularly Soybean Oil)
- **Available In Higher Quantities In:**
 - Commercially prepared table spreads and dietary supplements
- When at least **1 gram** per day is consumed
 - Reduce total cholesterol – 20 points
 - Reduce LDL cholesterol - 14% with <1 ounce stanol margarine, (New England Journal of Medicine study)
 - No effect HDL cholesterol or triglycerides

Fatty Fish

- Contain Omega-3 fatty acids
 - Lower triglycerides – daily use ↓ 25-30%
 - May slow down plaque formation in arteries
- Most Beneficial
 - Salmon – 4 ounces provide 83% of daily need
 - Tuna
 - Trout
 - Sardines
 - Mackerel
 - Herring
 - Halibut
 - Cod
- Recommended – Two 4 ounce servings/week
- **NOT FRIED!!**



Nuts

- Not junk food!
- Contain lots of:
 - protein
 - fiber,
 - good monounsaturated fats,
 - vitamins and antioxidants
- Many studies show nuts lower cholesterol & trigs (~11%)
- Best ones:
 - Walnuts
 - Almonds
 - Peanuts
 - Hazelnuts
 - Pecans
 - Pistachios
- Need only a handful/day (1-1.5 ounces)

Oatmeal & Oat Bran

- Lowers bad LDL cholesterol
- Works by sticking to cholesterol and decreasing its absorption in the GI tract
- American Journal of Clinical Nutrition 2005 study:
 - Diet rich in oats lowered cholesterol about as good as cholesterol medication.
- Should eat aprox. 5-10 grams fiber/day
- 1.5 cups of oatmeal = 3 grams fiber

Diet Tips

- Get used to reading labels.
- Watch those dairy products –
 - They are high in saturated fat. Make sure that you consume lowfat or nonfat.
- Avoid foods with Trans-fats!
- Avoid saturated fats –
 - such as butter, animal fats, fried foods. No more than 5 percent of your daily calories should come from saturated fat. That's an average of 10 to 11 grams a day for most people.
- Include soy protein in your diet
- Limit intake of sugar and fructose -
 - Lowers triglycerides, aids weight loss and lowers LDL cholesterol levels.
- Eat foods naturally high in fiber -
 - For every 1 or 2 grams of soluble fiber you eat daily, you lower LDL cholesterol levels by 1 percent.



Exercise



- **Just MOVE!**
- Whatever you can stick to and achieve
- Set a goal, break a large goal into small ones
- Maximum benefits at 20-30 minutes, most days
- But at least every other day is good
- Don't forget weights! Good for bones

Diet That Can Help Lower Your Cholesterol

➤ Breakfast -

- Should consist of oat or whole grain cereals high in fiber
- Use nonfat or lowfat dairy products

➤ Snacks –

- Choose fruits: Such as grapes, strawberries, blackberries, raspberries, including their seeds, citrus fruits and apples. Fruits are rich in vitamins, antioxidants and fiber.

➤ Lunch –

- Focus on greens. Vegetables are high in fiber, folic acid, phytochemicals, vitamins A, C and E.
- Add beans, peas and lentils to salads.
- Have hearty soups with vegetable base.
- Alternate with small amounts of lean meats and fish.

➤ Dinner –

- Lean meats and fish.
- Include vegetables, salads, whole grain bread.
- Use good oils and butter spreads.

www.yourhealthfair.com

Visit our website
for some good
medical & health
information

