

## Nutrition

Today an estimated 61 percent of Americans are classified as either overweight or obese. Don't think this statistic doesn't apply to active duty members in the Navy as well. The center for disease control estimates that nearly 300,000 premature deaths occur each year as a result of over consumption of food and lack of adequate physical activity. An even more pressing issue is that this combination, which eventually leads to health consequences, also lands many Sailors out of Navy physical readiness standards.

Proper nutrition and physical activity are two sides of the same coin. Both are important lifestyle habits that promote fitness. Practicing neither of them, or even one without the other, will interfere with your ability to achieve fitness goals and also increase your risk for certain diseases. Nutrition is an important tool in achieving success and is simply defined as how the food you eat nourishes your body. In order to be well nourished you have to eat enough of the foods that supply these nutrients—but not too much. There are over 40 vitamins, minerals and other components of food that your body needs each day to function optimally. Many Sailors make poor food selections, over consume calories and fat leading to weight gain yet still do not achieve the required recommended daily allowance of nutrients. But the good news is, making basic adjustments in your eating habits will pay dividends in your endeavor to achieve weight standards.

When it comes to losing weight it may seem surprising to learn that in order to achieve results you do not have to engage in any elaborate or extreme dieting schemes. Most Sailors falsely believe this is necessary, and engage in dangerous practices such as eliminating all carbohydrates, cutting out all fats, following a liquid diet, consuming too much protein or taking unsafe diet pills and supplements. In truth research studies show time and again that it is the small incremental changes that are consistently applied daily that add up to the most dramatic and lasting weight loss results. In reality if a diet is too fanatical, it will be too difficult to follow and maintain. Fad diets at first seem promising because they give short-term results, but due to their restrictiveness this soon backfires and results in rebound weight gain with a few extra pounds to boot. Often the only result of fad dieting is deprivation, feelings of depression and demoralizing yo-yoing weight.

The key to successful weight loss is in proper planning. First we must set reasonable goals and secondly we must keep a record to determine if we are staying on track. One of the most powerful predictors of weight loss success is whether or not a food record is kept.

### Goal Setting

Goal setting was previously discussed in the section on exercise. It is worth repeating again here. It is important to set goals, both long-term and short-term. Goals need to be realistic. Your primary goal may be to return to body composition or PRT standards. But you must set up a road map to aid you in getting there. The ideal rate for weight loss is 1-2 pounds per week. That is the optimum rate for permanent weight loss. Losing weight at a faster rate means you're just losing body water and possibly something worse...muscle mass. Diet plans that produce rapid weight loss are appealing because

you see quick results, yet the weight is quickly regained once the diet is over. And remember, it's the muscle that burns the calories, so you need to do everything you possibly can to keep the muscle mass while losing body fat. That is why strength training is so important!

### Keeping a Food Record

Keeping a food log is one of the best predictors of weight loss and weight maintenance. **Those people who keep food and exercise records lose more weight and maintain weight loss than those people who don't keep records.** Remember you are looking for patterns of eating in addition to overall calorie and fat intake. You may find this task tedious at first but I can assure you that as you continue to record your food it will become easier with time. Record keeping for both food and exercise, is one of the most important lifestyle behaviors you will learn. A sample food record is provided so that you can make photocopies and use daily.

#### **Tips:**

1. Record ALL food and beverages, except water (hidden calories in beverages add up!)
2. Record the time of day for all meals and snacks (this will become more significant later on).
3. Record as soon as possible after eating (it is hard to remember at the end of the day).
4. Note portion sizes as honestly as possible (this will become easier with practice). Accurate portion size is very important in getting a valid nutritional assessment. Use common measurements to describe the amount of food you are eating. Avoid estimating as much as possible. Research shows people routinely underestimate their food intake by 20%-50%. The following measurements may help.

<u>Measures</u>	<u>Examples</u>
oz (ounces)	meat, fish, cheeses, liquids
tsp (teaspoon)	butter, oil
Tbsp (Tablespoon)	salad, dressings, mayonnaise
C (cups)	cereals, pasta, rice, vegetables

**Recording Hints:** Read weights and measures on sides of packages and cans to determine the weight or amount you are eating. You may want to use a kitchen scale. To determine the amount of food, put the food in a measuring cup or spoon before cooking with it or eating it.

To get the most accurate estimate of current food intake, measuring with these devices is ideal. However, if you do not have these tools available then you can estimate using the chart provided. (see "Size Up Your Servings")

5. Rate your hunger and speed that you eat.  
Hunger: 0 = not hungry 5 = starving!  
Speed of eating: 0 = slow 5 = very rapid
6. Note your mood when you first start eating. Sometimes we don't have the words to describe our moods. Here is a sample list in alphabetical order.

anxious	calm	happy	nervous
angry	excited	guilty	sad
bored	funny	lighthearted	serious

Although the food record is for your personal benefit, it is best, in the beginning, to have it reviewed by someone you feel is a source of support. This could be your spouse, a family member, a friend, or a shipmate who is also trying to lose weight. Research shows that when trying to change habits people who have a source of support do better. While your support person may not be an expert in the field of weight loss, talking about issues with food, etc, usually helps with problem solving.

There may also be other resources available to you. A registered dietitian would be the ideal person for reviewing your food record. Also, there are web sites that can analyze the food you eat so that you have an accurate assessment of your total daily calorie intake. Visit <http://www.nutritiondata.com/index.html> to analyze foods on your food log.

Once you have kept the food record for one week, answer the following questions about your observations. You can discuss them with your support person.

1. How did keeping the food record make you feel? Explore and explain. Why do you feel this way?
2. Did your eating change at all as a result of your diary recording?
3. Do you see any patterns? For instance, do you eat your largest meal in the evenings, or at lunch, or at another time? Do you ever skip a meal? If so which one?
4. Analyze your answers to the above journal questions. What would you like to change about your eating habits? What would you like to keep?

#### Determine your calorie needs for weight loss:

1. There are several ways in which you can determine the calories that you require to meet your nutritional needs yet allow for weight loss. The most simple version is to take your current weight in pounds and multiply that number by 10. For instance, if you weigh 205 pounds the calorie requirement would be  $205 \times 10 = 2,050$  calories per day to maintain your current weight. Then you can do one of two things:

- a) You can subtract 500 calories from that amount e.g.  $2050 - 500 = 1550$  calories per day for weight loss. This 500 calorie per day deficit X 7 days in a week will = 3,500 calories/week which is equivalent to 1 pound of fat.

- b) You can subtract 250 calories from the amount e.g.  $2050 - 250 = 1800$  calories per day. Then increase your calories expended from exercise by 250 calories per day and this would equal 1 pound of fat loss per week. The more calories you expend from exercise the greater the weight loss per week would be.
2. An alternate means for determining your daily calories needs for weight loss is to use the following calculation. This can be used if you know what your ideal body weight or your target weight should be. In this calculation you must convert your ideal body weight (target weight) from pounds to kilograms

Your target weight in pounds divided by 2.2 = kilograms \_\_\_\_\_  
Target weight (kgs) X 25 = \_\_\_\_\_ (calories needed per day for weight loss)  
Target weight (kgs) X 30 = \_\_\_\_\_ (calories needed per day for weight management)

But remember, for many reasons (muscle loss and decreased metabolism), females should not eat less than 1200 calories per day and males should not eat less than 1500 calories per day.

If you don't want to go through any calculations, a quick guideline is that most females will lose weight on 1400-1600 calories per day and most men will lose on 1600 – 2000 calories per day. The actual calorie level that will support weight loss is dependent upon starting weight, how much you are exercising, and how much weight you want to lose each week.

### Making Food Selections

Once you have calculated your target calories use the charts to assist you in determining how many servings you need from each food group. Then use the accompanying charts to see what counts as a serving.



### Setting Weight Loss Goals

It is important to set **realistic** weight loss goals. As a general rule, women should not lose more than ½ -1 pound per week and 1–2 pounds per week for men. Unrealistic goals are a recipe for failure. Start by setting a long-term goal (e.g. to be within PRT standards or 10% of body weight in 6 months. For instance, if you need to lose 30 pounds in 6 months to meet your long-term goal, your short-term goal would be to lose 5 pounds per month. You may say to yourself, “30 pounds seems like a lot, but I know I can lose 5 pounds a month”.

Current Weight \_\_\_\_\_ Goal Weight \_\_\_\_\_

Short-Term Weight Loss Goal \_\_\_\_\_ Long-Term Weight Loss Goal \_\_\_\_\_

### Calculate Calorie Needs For Weight Loss

Current Weight \_\_\_\_\_ X 10 =  Total calories per day to lose 1 pound per week

Subtract 250 calories  to lose 1 ½ pounds per week  
 Subtract 500 calories  to lose 2 pounds per week

Total adjusted calories per day

OR

**Increase Physical Activity** to burn an extra 250 calories a day to lose an extra ½ pound per week  
 500 calories a day to lose an extra pound per week

**For healthy weight loss,  
 women should always eat at  
 least 1200 calories a day &  
 1500 for men.**

**The ideal combination for weight loss  
 is through both  
 reducing calorie intake and exercise**

### Calculate Your Daily Water Requirement

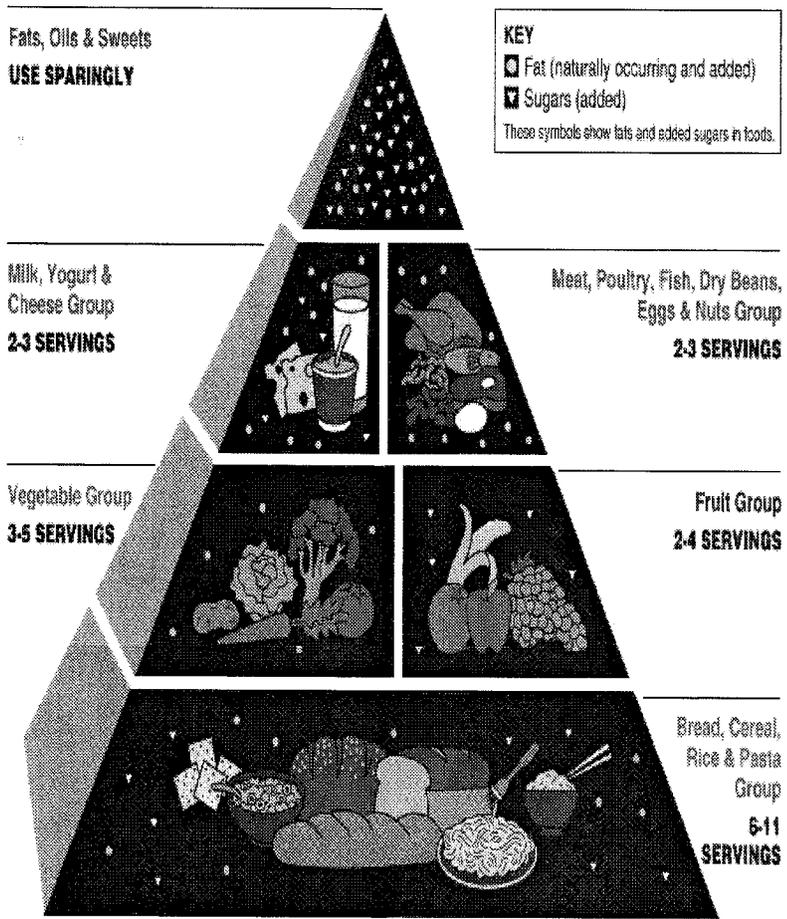
Your Body Weight \_\_\_\_\_ ÷ 2 = \_\_\_\_\_ ÷ 8 oz. per cup = \_\_\_\_\_ cups per day

# The Food Guide Pyramid and Meal Planning

## *A Guide to Daily Food Choices*

### Suggested Servings Based on Calorie Needs

	<u>Total Calories</u>					
	<u>1200</u>	<u>1500</u>	<u>1800</u>	<u>2000</u>	<u>2500</u>	<u>Other</u>
<b>Grains</b>	5	6	8	10	11	
<b>Vegetables</b>	3	4	5	5	5	
<b>Fruits</b>	2	3	4	4	4	
<b>Milk Group</b>	2	2	2	2	3	
<b>Meat and Meat Alternatives</b>	2	2	3	3	3	
<b>Fats and Oils</b>	3	4	4	5	6	
<b>Total Grams Fat (25-30%)</b>	33-40	42-50	50-60	56-67	69-83	



### Personal Meal Plan

**Total Calories:**

**Breakfast Ideas:**

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**Lunch Ideas:**

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**Dinner Ideas:**

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**Snacks Ideas:**

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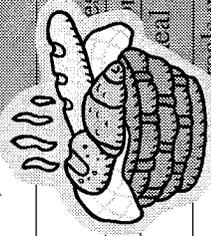
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## Bread, Cereal, Rice and Pasta

Food and Serving Size	Choose most of the time	Choose some of the time	Choose Rarely
1 slice bread	100% Whole wheat, rye, pumpernickel	White, potato, sourdough, raisin	Con bread, cheese or egg breads, biscuits, croissants
1 dinner roll or tortilla	Choose breads with 3-4 grams of fiber per slice		
2 slices reduced kcal bread			
½ bagel (1 oz), English muffin, hot dog or hamburger bun, or pita bread	100% Whole wheat, rye, pumpernickel	White, potato, sourdough, raisin	
½ cup pasta	Whole wheat or ½ whole wheat pasta of all shapes	Whole wheat or ½ whole wheat pasta of all shapes	Cheese-filled pastas, lasagna
½ cup rice	Wild rice	White, instant	
½ cup cooked cereal	Cereals with added sugar		
1 oz ready to eat cereal			
3 cups popcorn	Air popped without butter	Cereals with added sugar	Any popcorn popped in oil and with butter
4-6 crackers	Non-trans fat or fat free varieties	Light butter flavored	
3 graham crackers (2 ½" square)	(~80-100kcal/serving and no more than 3 grams fat/serving)	Low fat varieties (~80-100kcal/serving and no more than 3 grams fat/serving)	High fat varieties (>100 kcal and >3 grams fat)
8 animal crackers			



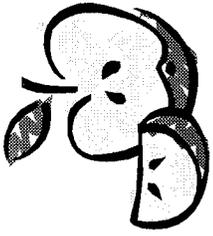
- Chose breads, cereals, rice and pastas made from whole grains. They provide fiber, which is essential for good health, and aid in weight management.
- Cereals should contain 5 or more grams of fiber and no more than 5 grams of sugar per serving. Breads should contain 2 or more grams of fiber per slice.
- Bagels or muffins can be 2-4 ounces in size, so they will range between 2-4 servings. Remember to watch portion sizes.
- Most of the serving sizes are measured after cooking.
- Always check the Nutrition Facts on the food label to check for hidden fat and/or calories.

## Free Foods

*These foods are very low in calories and can be used in addition to other foods.*

*Remember not to go overboard on these foods. These foods can add up in calories if you eat too much.*

Salsa (counts as a vegetable if 1/2 cup or more is eaten)	Sugar-free Jell-O	Sugar substitutes
Bouillon or broth	Seltzer/carbonated water/club soda	Tea, brewed, unsweetened
Bacon Bits (keep to less than 1 Tbsp.)	Catsup, tomato	Horseradish
Lemon or lime juice	Mustard	Pickles
Herbs	Soy sauce/teriyaki sauce	Vinegar (balsamic, red wine, cider, etc)
Worcestershire Sauce	Spices	



## Fruits

Food and Serving Size	Choose most of the time	Choose some of the time	Choose Rarely
1 small to medium, whole fresh fruit	Fresh fruit with skin		
1/2 cup cut pieces fresh canned fruit	All fresh fruit and canned packed in own juices or water	Canned fruit packed in light syrup	Canned fruit packed in heavy syrup
6 oz or 3/4 cup fruit juice	100% fruit juice		
1/4 cup dried fruit	Raisins, cranberries, figs, prunes, dates, apricots		Banana chips, coconut

- Frozen, dried, and fresh fruits with skin are all good sources of fiber. Fruit juices have very little to no fiber and should be consumed infrequently.
- Fruits contain phytochemicals, which have been found to help decrease risk of certain types of cancers.
- Eat a variety of fruits of varying colors in order to gain maximum benefit from this food group.



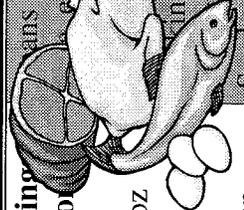
## Vegetables

Food and Serving Size	Choose most of the time	Choose some of the time	Choose Rarely
1/2 cup raw, cooked, or canned vegetables	Fresh, frozen or low-sodium canned vegetables	Regular canned vegetables	Vegetables with cheese, butter sauce and high fat dips
1 cup raw, leafy vegetables	Spinach, dark-green lettuce (romaine & red leaf), cabbage, fat-free dressing	Iceberg lettuce and low-fat dressing	Regular salad dressing
6 oz or 3/4 cup vegetable juice	Low-sodium vegetable juice	Regular vegetable juice	
1 small potato	Baked potato with fat-free toppings (salsa, fat-free sour cream, yogurt)	Baked potato with low-fat toppings	French fries, potato salad, hash browns

- Fresh and frozen vegetables have less added salt than canned vegetables. Drain and rinse canned vegetables if you want to remove some salt.
- Choose more dark green and dark yellow vegetables, such as spinach, broccoli, carrots, peppers and romaine.
- Vegetables are rich in fiber and phytochemicals. Add a variety of vegetables of varying colors to improve intake.

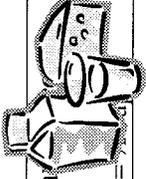
## Meat, Poultry, Fish, Eggs, Beans, and Nuts

Food and Serving Size	Choose most of the time	Choose some of the time	Choose Rarely
<b>Meat, Poultry, and Fish Servings = 2 ½ - 3 oz Cooked Lean Meat</b>			
<b>Chicken and Turkey:</b>	Chicken and turkey breast or drumstick (without the skin). Ground white meat turkey or chicken breast.	Chicken breast or leg with the skin. Chicken salad with low-fat mayonnaise.	Fried chicken, chicken wings, and chicken salad with regular mayonnaise.
<b>Fish; fresh, frozen or canned</b>	Salmon, flounder, tuna, cod, trout, sardines, & shellfish. Canned tuna in water.	Canned tuna in oil. Tuna salad with low-fat mayonnaise.	Fried fish. Tuna salad with regular mayonnaise.
<b>Beef and Pork</b>	Lean beef including round, flank, and sirloin. Lean Pork including loin, tenderloin, chops, and cutlets.	Canadian bacon	Fatty beef, lamb, or pork. Petite rib, club steak, spare ribs, hot dogs, and bacon.
<b>Deli Meats</b>	Turkey breast, lean ham, and lean roast beef.	Lean bologna	Regular bologna, sausage, SPAM, salami, or pastrami.
<b>Meat Alternatives / Vegetarian Sources</b>			
	Veggie burger or dog (3 oz).		
<b>= 1 oz of Meat Servings</b> 1 egg, 2 egg whites or 1 cup egg substitute Tofu or Tempeh 4 oz Nuts 1/3 cup Seeds ¼ cup Peanut butter 2 Tbsp	Beans (kidney, chick-peas, soy, pinto, etc), lentils, split peas, and (fresh soybeans). Boiled or scrambled using cooking spray. Walnuts, almonds, and Brazil) Seeds	Refried beans, salted nuts.	Fried Eggs



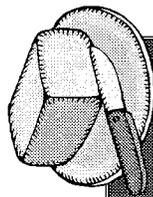
- Meats are a good source of B vitamins, iron and zinc. The iron in meats is better absorbed than the iron found in plant foods.
- Choose low fat cooking methods – broil, poach, steam, grill, braise, roast – instead of frying or sautéing in a lot of oil.
- Marinate meats in lemon juice, broth, nonfat yogurt, or tomato sauce instead of oil.
- When choosing ground meat, choose 90% lean or 10% fat meat. Choose ground chicken or turkey with no more than 7% fat.
- Select meats that are 200 calories or less and those with less than 10 grams of fat per serving.
- Try eating more meals using vegetarian sources of protein (dried beans, peas, lentil, and soy) instead of meats.
- Trim away fat and skin from meat.

## Milk, Milk Substitutes, Yogurt and Cheese

Food and Serving Size	Choose most of the time	Choose some of the time	Choose Rarely
<b>Milk</b> 1 serving = 8 ounces (1 cup)	Skim or 1% fat milk, lactose free skim or 1% fat milk, calcium fortified, low-fat, soy milk, rice milk, nonfat dry milk, nonfat buttermilk, and evaporated skim milk	2% fat milk, lactose free 2% fat milk	Whole milk, lactose free whole milk, Half-and-half
<b>Yogurt</b> 1 serving = 8 ounces (1 cup)	Nonfat yogurt (fruited or plain)	Low fat yogurt (plain or with fruit)	Regular yogurt (plain or with fruit)
<b>Cheese</b> 1 serving = 1.5 ounces	Nonfat, low-fat or 50% lower fat cheeses: panmesan, Romano, mozzarella, cottage, and ricotta cheese. Cheeses with 0-5 grams of fat per oz.)	2% fat and reduced fat cheeses with less than 6 grams of fat per ounce.	Regular cheese
<b>Ice-cream Yogurt</b> 1 serving = 1/2 cup		Fat free or lowfat frozen yogurt and ice cream.	Regular ice cream. Avoid super premium ice creams. They are even higher in calories and fat.

- Dairy foods are a great source of calcium. If you have difficulty tolerating dairy (lactose intolerance), you can obtain calcium from calcium fortified foods such as fortified orange juice, cereals, breads, and soy milk. You can also try using lactase enzymes (Lactaid).
- If you are not meeting your calcium needs, talk with your physician about the possibility of taking a calcium supplement.

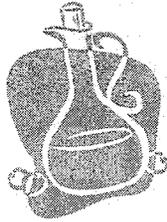
## Fats and Oils



Food and Serving Size	Choose most of the time	Choose some of the time	Choose Rarely
<b>Oils</b> 1 serving = 1 tsp.	Olive, canola, peanut, and flaxseed oil Try using a non-stick cooking spray 5 grams (g) fat per serving	Corn, safflower, vegetable, and soybean oil 5 grams fat per serving Spray butters	Crisco, animal fat, lard, coconut and palm oil 5 grams fat per serving, high in saturated fat
<b>Spreads</b> 1 serving = 1 tsp.	Reduced calorie spreads made with monounsaturated fat. 2 g fat per serving	Tub margarine 4 g fat per serving	Stick margarine and butter 5 g fat per serving
<b>Mayonnaise</b>	Reduced fat (serving size = 1 Tbsp)		Regular mayo (serving size = 1 Tbsp)
<b>Salad Dressing</b> 1 serving = 1 Tbsp.	Non-fat salad dressing 0 g fat per serving	Low-fat salad dressing; oil and vinegar 1-5 g fat per serving	Regular salad dressing 6-8 g fat per serving

- Replace butter and stick margarines with soft, tub-style spreads. These are lower in saturated fat. Try using "light" margarines made with monounsaturated fat.
- Use butter flavor granules to season vegetables, rice, and lowfat "cream sauces".
- Use lowfat or fat free versions of mayonnaise, sour cream, cream cheese, and other food with 0-3 grams of fat per 100 calories.

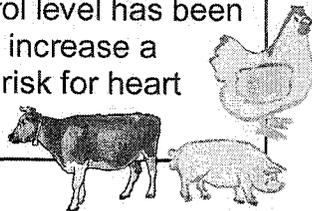
# Facts About Fats



Even though eating too much of certain fats, mainly saturated fat, can increase the risk of heart disease (hardening of the arteries), certain cancers, and stroke, it is an essential nutrient and is important for good health. Our bodies use fats to transport fat-soluble vitamins A, D, E, and K, maintain skin and hair, and to protect cell walls. There are 3 main types of fats: saturated, monounsaturated, and polyunsaturated.

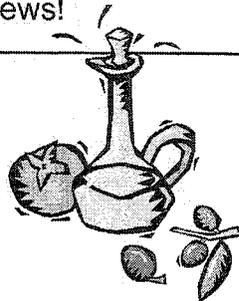
## Saturated Fats

Saturated fats are the most common fats in our diet. They are solid at room temperature and found in animal foods like meat, poultry, full-fat dairy products, butter, lard, and palm and coconut oils. Diets high in saturated fats are associated with higher risk of heart disease, certain cancers, and stroke. Another reason saturated fats should be limited in the diet is because they have been shown to increase the "bad" cholesterol (LDL). A high LDL cholesterol level has been shown to increase a person's risk for heart disease.



## Monounsaturated Fats

Monounsaturated fats are liquid at room temperature but will start to become solid when refrigerated. Monounsaturated fats come from plants and can be found in olive, canola, peanut, and oils. Monounsaturated fats seem to have a lowering effect on the "bad" cholesterol (LDL) and increasing effect on the "good" cholesterol (HDL). Monounsaturated fats may even lower blood triglyceride levels. This is good news!



## Polyunsaturated Fats

Polyunsaturated fats are liquid at room temperature and will remain liquid when refrigerated. They come from both plants and fatty fish and can be found in nuts, seeds, corn, safflower, sunflower, and soybean oils, salmon, mackerel, and herring. Polyunsaturated fats also contain omega-3 and omega-6 fatty acids. Our bodies cannot make these fats, so we must get them from the foods we eat. Polyunsaturated fats may lower the "bad" cholesterol (LDL) levels but they may, if used in large quantities, reduce "good" cholesterol (HDL) levels as well.



## Trans Fatty Acids

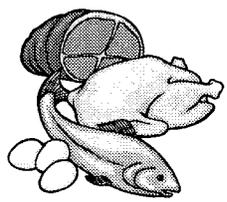
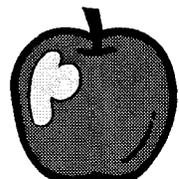
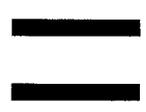
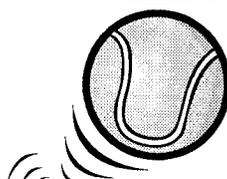
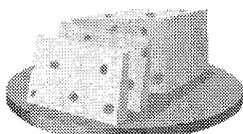
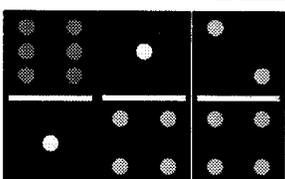
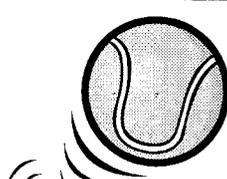
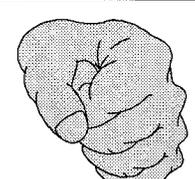
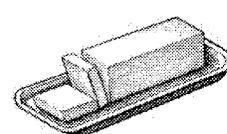
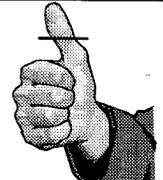
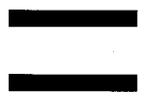
These are fats that do not occur naturally. They are liquid oils that are chemically altered (hydrogenated) and are often used when making cookies and crackers. This process improves the recipe and lengthens the shelf life, but they are not the healthiest type of fat. Reports suggest that they may increase "bad" cholesterol (LDL) levels more than saturated fats do. Beware if you see the words, "hydrogenated" or "partially hydrogenated" oils as one of the first ingredients on the label. If the words appear near the bottom of the list, trans-fats probably won't be harmful.

**Be picky about the fats you eat. Eat the right amount and type of fat daily.**

• Eat 4-6 oz./day of lean meat/fish/poultry	=	8-14 grams fat
• Eat 3-6 tsp./day of mono & poly unsaturated fats	=	20-34 grams fat
• Eat fruit, vegetables, grains, beans	=	5-10 grams fat
		33-58 grams fat

# Size Up Your Servings

Measure food portions to know exactly how much you're eating. You can estimate serving portions when a scale or measuring cup is not available.

<p>3 ounces of meat is about the size and thickness of a computer mouse, deck of cards, bar of soap, and an audiocassette.</p>			
<p>A medium apple or peach is about the size of a tennis ball.</p>			
<p>1½ oz of cheese is about the size of 3 dominoes.</p>			
<p>½ cup of ice cream is about the size of a racquetball or tennis ball.</p>			
<p>1 cup of mashed potatoes or broccoli is about the size of your fist.</p>			
<p>1 teaspoon of butter or peanut butter is about the size of the tip of your thumb.</p>			
<p>1 ounce of nuts or small candies is equal to one handful.</p>			<p><b>1 OZ.</b></p>
<p><b>MOST IMPORTANT</b> Remember to keep your diet nutritious, especially if you're cutting calories.</p>	 2-4 servings from the Milk Group for calcium   2-3 servings from the Meat Group for iron	 3-5 servings from the Vegetable Group for vitamin A   2-4 servings from the Fruit Group for vitamin C	 6-11 servings from the Grain Group for B vitamins and fiber

Adapted from a National Dairy Council handout 2002