

## Cholesterol & Fats in Our Diet: Part 3

### Using heart-healthy guidelines to cut fats & cholesterol in your diet

Unhealthy levels of lipids (fats) in our diets can put us at risk for high cholesterol, high blood pressure, heart disease, stroke, and other severe and/or chronic illnesses. Lowering our intake of *bad* kinds of fats, replacing them with *good* kinds of fat, and adding nutritious whole foods with appropriate nutrients to our diet (and NOT empty calories) is important to maintaining healthy cholesterol and lipid levels.

#### Food Guidelines

##### How much is enough?

Reputable, national organizations including the American Heart Association (AHA), National

Heart, Lung, and Blood Institute (NHLBI), U.S. Department of Agriculture (USDA), and U.S. Department of Health and Human Services (HHS) have put out dietary guidelines for adults indicating how much we should or should not be eating for heart health. For practical purposes in this newsletter, we have combined these guidelines to make one set that follows most closely with what the majority recommend.

#### Guidelines for Healthy Cholesterol and a Healthy Heart<sup>1, 2, 3, 4, 5</sup>

You should eat:

- 30 percent or less of the day's total calories from fat,
- less than 7 percent of the day's total calories from saturated fat, and
- less than 1 percent of the day's total calories from trans fat.

**Note:** The remaining fat should come from unsaturated sources – monounsaturated and polyunsaturated fats (*good* fats) – such as seeds, fish, and vegetable oils.

- Less than 300 milligrams (mg) of dietary cholesterol intake per day, **but** less than

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200 mg of dietary cholesterol intake per day for people with coronary heart disease, LDL cholesterol levels of 100 mg/dL or greater, or people who are taking cholesterol-lowering medications.

- Less than 2,400 mg sodium intake per day, **but** less than 1,500 mg sodium intake per day for people with high



blood pressure or at high risk (African Americans, middle-aged and older adults).

- At least 25-30 grams (g) of dietary fiber intake each day – preferably from whole grains, vegetables, and legumes (beans, peas, and lentils).



- Just enough calories to achieve or maintain a healthy weight and reduce your blood cholesterol level. Ask your doctor or registered dietitian what a reasonable number of calories per day is for you.<sup>1, 2, 3, 4, 5</sup>

**Note:** Try this resource to help you [create a healthy diet](#) based on some of the guidelines detailed above.

## Reading Food Labels

### Know what you're eating

So how do you know how many grams or milligrams of an ingredient you are eating...or how many you should eat? See [Making Sense of the Guidelines: Finding Your Numbers](#); then read *Nutrition Facts* labels (i.e., food labels). Food labels list ingredients and appropriate gram and milligram measures, so you can simply add them up as you go. It is a good idea to keep a [food diary](#) for a few days where you can write down what and how much you eat. Then, tally your results and see where you need to make changes.



Food labels not only provide gram and milligram measures but also give the %DV (percent daily value), which stands for the recommended percentage of the nutrient one should consume in a day (based on a 2,000 calorie/day diet). For example, a generic jar of peanut butter has 16 g of total fat per serving. That means eating 1 serving of peanut butter (2 tablespoons) would be about 25



percent (or ¼) of your total intake of fat for the day (based on a 2,000 calorie/day diet).

When reading labels, you will also want to be sure to look at the serving size. One of the problems most of us face is eating appropriate portion sizes. On the same peanut butter label described previously, the serving size is 2 tablespoons. So 16 g of total fat are found in 2 tablespoons of this peanut butter. If we eat 4 tablespoons of the peanut butter, we have now consumed 32 g of total fat and 50 percent (or ½) of the total fat we are allowed for the day (based on a 2,000 calorie/day diet). **Note:** Depending on the calories your doctor or registered dietitian recommends that you eat each day, the values for the day's intake could be slightly higher or lower.

Also, watch for these key terms on food labels, and know what they mean:

- “Free” has the least amount of a nutrient.
- “Very Low” and “Low” have a little more.
- “Reduced” or “Less” always means the food has 25 percent less of that nutrient than the reference (or standard) version of the food.<sup>6</sup>

Be aware that these terms do not necessarily constitute a healthy food. For example, a food can be fat or cholesterol *free*, yet still be high in sugars, sodium, and calories.

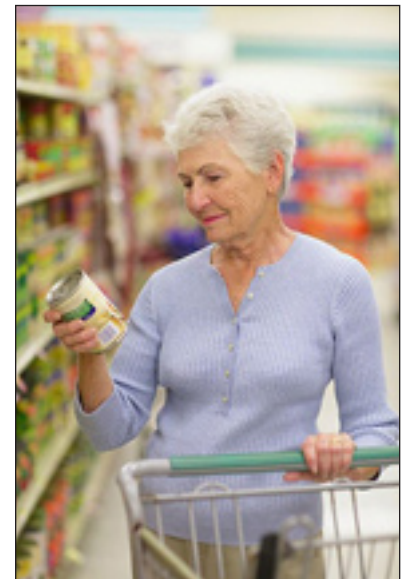
Also, be aware of empty calories in foods. Foods, such as soft drinks, can have zero fat and a high sugar and calorie content while providing few if any vitamins and minerals (nutrients) to your body. These are empty calories that may seem like they add little to your diet. In truth, while they add little in the way of nutrients, they can add a lot in terms of calories and weight gain, especially when they leave you still feeling hungry and consuming additional calories.

See these resources for more information on reading food labels:

[How to Read Food Labels](#),

[How to Understand and Use the Nutrition Facts Label](#), and

[Reading Food Labels](#).



## Cut fats first Reducing trans and saturated fats

The first step for a heart-healthy diet is to reduce your intake of bad fats – especially trans and

saturated fats<sup>7</sup> – and also dietary cholesterol. Let’s review these terms and see how these types of fat fit within the guidelines for a healthy heart.

### Trans Fat

“Also referred to as trans-fatty acids, trans fat comes from adding hydrogen to vegetable oil through a process called hydrogenation. This [process] makes the fat more solid and less likely to spoil.

[So, when looking for trans fats, consider how solid the fat is. For example, a spreadable margarine



typically has less trans fat than a solid stick margarine.]

Hydrogenated fat is a common ingredient in commercial baked goods – such as

crackers, cookies, and cakes – and in fried foods, such as doughnuts and French fries. Shortenings and some margarines are also high in trans fat. Food manufacturers are required to list trans fat content on the Nutrition Facts on the food label. Amounts less than 0.5 grams per serving are listed as 0 grams trans fat on the food label.”<sup>3</sup>

How do you know whether food contains trans fat? Look in the ingredients list for the words:

- partially hydrogenated vegetable oil (that’s another term for trans fat),
- shortening (shortening contains some trans fat), and
- hydrogenated vegetable oil (**Note:** “Fully” hydrogenated oil doesn’t contain trans fat. Unlike “partially” hydrogenated oil, the process used to make “fully” hydrogenated oil doesn’t

result in trans fatty acids.

However, if the label only says *hydrogenated* vegetable oil, that usually means the oil contains trans fat).<sup>8</sup>

“Although small amounts of trans fat occur naturally in some meat and dairy products, it’s the trans fats in processed foods that seem to be more harmful.”<sup>8</sup>

### Saturated Fats

Saturated fat is usually solid or waxy at room temperature and is most often found in animal products, such as:

- red meat,
- poultry,
- butter, and
- whole milk.<sup>3</sup>

Other foods high in saturated fat include the tropical oils, such as:

- coconut oil,
- palm kernel oil, and
- palm oil.<sup>3</sup>

### Dietary Cholesterol

Your body naturally manufactures all of the cholesterol it needs, but you also get cholesterol from animal products, such as:

- meat,
- poultry,
- seafood,
- eggs,
- dairy products,
- lard, and
- butter.<sup>3</sup>



Egg yolks and organ meats (liver, kidney, sweetbread, and brain) are high in cholesterol. Fish generally contain less cholesterol than other meats, but some shellfish are high in

cholesterol. Foods of plant origin (vegetables, fruits, grains, cereals, nuts, and seeds) contain no cholesterol.<sup>9</sup>

**Note:** Fat content is not a good measure of cholesterol content. For example, liver and other organ meats are low in fat but very high in cholesterol.

## Replacing Bad Fats with Good Fats...

### In a plan that follows heart-healthy guidelines

#### Unsaturated Fats

Unsaturated fats – monounsaturated and polyunsaturated – are considered the *good* fats. It is more healthy to choose these fats over the trans and saturated fats. “These fats, if used in place of others, can lower your risk of heart disease by reducing the total and low-density lipoprotein (LDL) cholesterol levels in your blood.”<sup>3</sup> Remember that you are striving for 30 percent or less of the day’s total calories from fat, less than 7 percent of the day’s total calories from saturated fat, and less than 1 percent of the day’s total calories from trans fat.

In a 2,000 calorie diet that is 67 g (or less) total fat, less than 16 g of saturated fat, and less than 2 g of trans fat. So, if only 18 g (or less) of *bad* fat (16 g + 2 g) are *allowed* in our diet, then the remaining 49 g (or less) of fat should come from sources of monounsaturated or polyunsaturated fat – the *good* fats.



#### Monounsaturated Fats

Monounsaturated fat remains liquid at room temperature but may start to solidify in the refrigerator. Foods high in monounsaturated fat include:

- olive oil,
- peanut oil, and
- canola oil.<sup>2,3</sup>

Avocados, olives, and most nuts also have high amounts of monounsaturated fat.<sup>2,3,10</sup>

### Polyunsaturated Fats

Polyunsaturated fat is usually liquid at room temperature and in the refrigerator. Foods high in polyunsaturated fats include vegetable oils, such as:

- corn oil,
- cottonseed oil,
- safflower oil,
- soybean oil, and
- sunflower oil.<sup>3,10</sup>

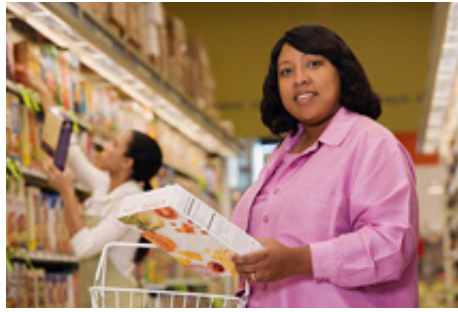
Omega-3 fatty acids are also polyunsaturated fats. Good sources of omega-3s include:

- salmon,
- mackerel,
- herring,
- lake trout,
- sardines,
- albacore tuna,<sup>7</sup>



- flaxseeds,
- flax oil, and
- walnuts.<sup>3</sup>

Small amounts of omega-3 fatty acids are also found in soybean and canola oils. "...Scientific evidence indicates that these fatty acids [omega-3 fatty acids] may be beneficial in reducing CHD [coronary heart disease]."<sup>11</sup>



Remember "a healthy diet includes some fat, but there's a limit."<sup>8</sup> Even unsaturated fats have a lot of calories, so you still need to limit them.<sup>12</sup> "Fat contains 9 calories per gram, compared with 4 calories per gram for protein and carbohydrates."<sup>3</sup>

Also, "many foods contain different kinds of fat and varying levels of each type. For example, butter contains unsaturated fats, but a large percentage of the total fat is saturated fat. And canola oil has a high percentage of monounsaturated fat but also contains smaller amounts of polyunsaturated fat and saturated fat."<sup>3</sup> And, although trans fats are beginning to show up less in foods on grocery store shelves, also be aware that some manufacturers are substituting other ingredients, such as the tropical oils, which contain a lot of saturated fat.<sup>8</sup> Be sure to read food labels carefully as you work toward more healthy food choices. "Monounsaturated and polyunsaturated fats have few adverse effects on blood cholesterol levels, but you still need to consume all fats in moderation. Eating large amounts of any fat adds excess calories.... Also make sure that fatty foods don't replace more nutritious

options, such as fruits, vegetables, legumes or whole grains."<sup>3</sup>

## Goals at a Glance

### Heart-healthy nutrition guidelines for you

Let's take a moment to review and set some goals for heart-healthy nutrition.

- Talk with your doctor or registered dietitian to decide how many calories you need per day to have optimum health.
- Read and gain an understanding of food labels.
- Cut fats first.
- Replace trans and saturated fats with monounsaturated and polyunsaturated fats (including omega-3 fatty acids).
- Reduce sodium intake to a level of about 1 teaspoon per day or less.
- Increase fiber intake to 25-35 g per day.



To view the references used in this newsletter, go to:

<http://fcs.tamu.edu/health/healthhints/2007dec/ref.php>

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## Making Sense of the Guidelines

### Finding your numbers

To find out how much and what type of food you should be eating for good health, try using one of the two methods discussed in this handout.

#### Counting by Grams & Milligrams

It can be hard to understand dietary guidelines written as percentages, so let's break them down into actual amounts. If you are to eat approximately 2,000 calories per day (ask your doctor or registered dietitian how many calories are right for you), here's what your numbers would look like:

**30 percent total fat would be 67 grams (g) of total fat (or less) per day**, which means that if you consume 2,000 calories a day, you should consume no more than 67 grams of total fat a day. (To figure: multiply 2,000 by 0.30 to get 600 calories, and divide that number by 9 [the number of calories per gram of fat] to get 67 grams of total fat.) Keep in mind, however, that this amount is an upper limit; most of these fat calories should come from monounsaturated and polyunsaturated sources.<sup>1</sup>

**7 percent saturated fat would be 16 g (or less) per day**, which means that if you consume 2,000 calories a day, you should actually try to consume no more than 16 grams of saturated fat a day. (To figure: multiply 2,000 by 0.07 to get 140 calories, and divide that number by 9 [the number of calories per gram of fat] to get 16 grams of saturated fat.)

**1 percent trans fat would be 2 g (or less) per day**, which means that if you consume 2,000 calories a day, you should consume no more than 2 grams of trans fat a day. (To figure: multiply 2,000 by 0.01 to get 20 calories, and divide that number by 9 [the number of calories per gram of fat] to get 2 grams of trans fat.)

The remainder of the guidelines are not written as percentages and, therefore, can be more easily understood. Cut dietary cholesterol to 200-300 milligrams (mg) or less per day, and cut sodium (salt) to 2,400 mg or less per day (1,500 mg or less if at high risk). Don't forget to increase your intake of fiber. You want to eat at least 25-30 g of dietary fiber each day.

Note:

- One egg yolk has about 200 mg of dietary cholesterol.
- One teaspoon of salt is about 2,300 mg of sodium.<sup>2</sup>
- One tablespoon ground psyllium seed contains 6 g dietary fiber; ½ cup lima beans contains 6.5 g dietary fiber; ½ cup brussel sprouts contains 4.5 g dietary fiber; 1 medium orange or grapefruit contains 2-3 g of dietary fiber; ¼ cup prunes contains 3 g dietary fiber; ½ cup cooked oatmeal contains 2 g dietary fiber.<sup>3</sup> For more suggestions on dietary fiber see [Food Sources of Soluble Fiber](#).

#### What Does a Gram Look Like?

A gram is a measure of weight, but how much is a gram? What does it look like? "It is always good to have something you know to compare to a weight, so you can better understand how much that weight is."<sup>4</sup> A dime weighs about 1 gram and so does an average-sized paper clip. A nickel weighs about 5 grams.<sup>5</sup> Picturing these objects can help us better understand how much a gram is. Other items that weigh about 1 gram include:

- a plastic pen cap
- a dollar bill
- a single Smartie candy.<sup>6</sup>

In a practical sense then, one gram of sugar is about 1 ½ teaspoons, while 455 grams is about 1 pound.<sup>7</sup>

Note: milligrams are much smaller than grams – 1,000 times smaller, in fact. In other words, there are 1,000 milligrams in 1 gram.<sup>8</sup>

To figure your numbers in the "Want to Know Your Numbers?" table on the next page, simply replace the 2,000 calories in these calculations with the number of calories you need each day. Then read food labels and add up your numbers to see if you consume a heart-healthy diet.

Want to Know Your Numbers?	
Example: Healthy adult on 2,000 calorie diet:	Your Numbers:
2,000 calories/day	_____ calories/day
67 g total fat/day	_____ total fat/day
16 g saturated fat/day	_____ saturated fat/day
2 g trans fat/day	_____ trans fat/day
2,400 mg sodium/day	_____ sodium/day
300 mg dietary cholesterol/day	_____ dietary cholesterol/day
25-30 mg dietary fiber/day	_____ dietary fiber/day

### Selecting the Right Number of Servings

Sometimes, rather than counting gram and milligram measurements, it is easier to count servings. A great resource for helping count the right number of servings in each food group you should eat (or those you should limit) is the Krames on-line site from Northern Inyo Hospital.<sup>9</sup> Here's how it works:

1. First, look at *Eating the Right Number of Servings* to understand each food group.
2. Next, read *Eating the Right Number of Calories* to find out the approximate number of calories you should eat daily based on your age and activity level. Be sure to discuss this information with your doctor or registered dietitian, especially if you have a health/medical condition, such as diabetes or heart disease.
3. Finally, choose the *MyPyramid Daily Food Recommendations and Servings Worksheet* (on the left-hand side bar of the screen) for your appropriate calorie needs (e.g., *MyPyramid Daily Food Recommendations and Servings Worksheet: 1,800 Calories* or *MyPyramid Daily Food Recommendations and Servings Worksheet: 2,600 Calories*).

Now you can start counting your servings. Be sure to note portion sizes and eat the right amounts. You might try measuring some of your portions when you start counting servings. After measuring portions for a while, you will be able to more easily see what a single serving looks like.

### Sources:

1. Mayo Clinic (2007). Dietary fats: Know which types to choose [on-line]. Retrieved September 26, 2007 <http://mayoclinic.com/health/fat/NU00262>.
2. American Heart Association (2007). Eat a heart-healthy diet [on-line]. Retrieved September 26, 2007. From <http://www.americanheart.org/presenter.jhtml?identifier=1510>.
3. National Heart, Lung, and Blood Institute (2007). Food sources of soluble fiber [on-line]. Retrieved October 10, 2007. From <http://www.nhlbi.nih.gov/chd/Tipsheets/solfiber.htm>.
4. Rice, S. (2007). Ms. Rice's workpage: How much is a gram? [on-line]. Retrieved November 16, 2007. From <http://susanrice07.wordpress.com/?s=gram>
5. WikiAnswers (2007). How much is one gram? [on-line]. Retrieved November 16, 2007. From [http://wiki.answers.com/Q/How\\_much\\_is\\_one\\_gram](http://wiki.answers.com/Q/How_much_is_one_gram).
6. YahooAnswers (2007). How much is a gram? [on-line]. Retrieved November 16, 2007. From <http://answers.yahoo.com/question/index?qid=1006052922695>.
7. YahooAnswers (2007). How much is one gram of sugar? [on-line]. Retrieved November 16, 2007. From [http://answers.yahoo.com/question/index;\\_ylt=AodpsG47eyk5xOzCeUVsNsAjzKIX;\\_ylv=3?qid=20070109235830AAFNJGJ](http://answers.yahoo.com/question/index;_ylt=AodpsG47eyk5xOzCeUVsNsAjzKIX;_ylv=3?qid=20070109235830AAFNJGJ).
8. Nemours Foundation (2003). Figuring out food labels [on-line]. Retrieved November 27, 2007. From [http://www.kidshealth.org/kid/stay\\_healthy/food/labels.html](http://www.kidshealth.org/kid/stay_healthy/food/labels.html).
9. Northern Inyo Hospital (2007). Welcome to Northern Inyo Hospital [on-line]. Retrieved November 26, 2007. From <http://www.nih.org/>.

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