



CHOLESTEROL & DIETARY FATS

Advice

Target Blood Levels

- Triglycerides (TGs): < 150 mg/dl (serum level)
- Total cholesterol: <200 mg/dl (serum level)
- HDLs: >40 mg/dl in men, >50 mg/dl in women (serum level)
- LDLs: <100 mg/dl (serum level)

Dietary Advice

- Include foods rich in both insoluble and soluble fibers.
- Keep your total fat intake to between 20-35% of your total calorie intake. The exception could be for an individual needing to gain weight.
- Choose foods low in saturated fats and avoid as much *trans* fats from foods as possible. Choose lower fat dairy products (cheeses, milk, sour cream).
- Avoid grilling meats, especially those with higher fat content, since the fats are oxidized and believed to be readily deposited as plaque along artery walls.
- Add fish as a regular entrée to your meals. Salmon, herring, mackerel, halibut and tuna are examples of fish rich in desirable omega-3 fatty acids. Unless you are trying to gain weight, skip the fried fish options.

Common Questions

Q: What is Cholesterol and where does it come from? Does my body need it?

A: Cholesterol is a waxy lipid substance that is found in the tissues of all animals. The human body needs cholesterol. Its 3 main functions in your body are:

1. It is used by certain glands to produce steroid or cortisone-like hormones, including Vitamin D.
2. It is used by the liver to make bile acids which are key in digesting dietary fats.
3. It is a main component of the body's cell membranes and structure, including the brain and nervous systems.

80% of the body's cholesterol is made by the liver. We need little or no cholesterol from our diets. Advice is to keep your intake from foods to less than 300 mg daily.

Q: Why are some fats considered heart-friendly while others are said to be bad for your heart and health?

A: Heart-friendly fats are the unsaturated type. Fats in our diets, such as mono and poly unsaturated fats, are beneficial when eaten in moderation. They contribute essential fatty acids and vitamins to the body and can help raise the "good" cholesterol (HDL cholesterol). HDL cholesterol, or high density lipoproteins, carry cholesterol away from your arteries to your liver for recycling or disposal. It is comprised of a higher % of protein than the LDL cholesterol, or low density lipoproteins.

Fats found in cold-water fish contain higher, desired levels of omega-3-fatty acids. These unsaturated fats have been shown to lower blood triglyceride levels, reduce blood clots and lower blood pressure. Repeated studies show that when HDLs increase, the mental function of older people is better preserved.

Q: What are *Trans* Fats (*trans* fatty acids) and why are they to be avoided in foods?

A: *Trans* fatty acids are found in small amounts in some animal-based foods. However, most *trans* fats are made when liquid oils are made into solid fats (such as margarines and shortenings) by the chemical process of “hydrogenation”. This creates a food product that has greater “shelf life” and works well in baked goods, fried foods and spreadable margarines. In the process of “saturating” the oil, a chemical double bond is created that is in a “*trans*” position (“across” in Latin) and is not a common configuration naturally. Studies are linking the dietary consumption of *trans* fats with raised LDL (bad) cholesterol and lowered HDL (good) cholesterol. As of January 2006, nutrient labels must identify the amount in grams per serving of *trans* fats.

Foods most likely to contain *trans* fats:

- Baked goods (cookies, crackers, pastries, pizza dough, etc.)
- Vegetable shortenings
- Margarines
- Snack foods
- Some fast food (mostly fried options)

Make sure to read the ingredient label for “partially hydrogenated” oils. Even if a product claims to be “0 grams *trans* fat” or “*trans* fat free”, it may still contain less than 0.5 grams *trans* fat per serving if “partially hydrogenated” oils are in the ingredients. If you eat several servings at a time you could still be eating a substantial amount of *trans* fat.

Q: What are triglycerides, how do they relate to the diet and my health, and how would I reduce elevated levels?

A: Triglycerides (**TGs**) are a type of fat which comes from both the body and your foods. After a meal, leftover calories are packaged as TGs to be stored in fat cells for later use. A high TG level could be an indicator that you are taking in more calories than your body needs. TGs are stored as fat or can be converted to LDL (“bad”) cholesterol. By cutting alcohol, simple sugars and low fiber carbs, eating lean meats and increasing high fiber grains, veggies and whole fruits, your TG level should improve. Adding exercise to the healthy mix certainly will help a lot! Some medications can also alter your TG levels.

Summary

Since research continues to show that consumption of *trans* fats, along with saturated fats and cholesterol, raise LDL (“bad”) cholesterol levels and increase the risk of heart disease, the FDA now requires that *trans* fats be listed on the nutrient facts panel of food products. Amounts are stated in “grams per serving”. To help maintain a healthy heart:

- Try to keep your total daily cholesterol intake below 300mg
- Limit the amount of *trans* fat you eat to 1% or less of your total calorie intake
- Keep saturated fat to less than 7% of your total calorie intake
- Check out the My Fats Translator at: <http://www.myfatstranslator.com/> to see exactly how much fat you should have each day.

Additional Reading & Resources

- <http://nhlbisupport.com/chd1/why.htm> (Framingham Study)
- <http://www.medicalnewstoday.com/articles/63769.php> (from Harvard Health publications for men)
- <http://www.med.yale.edu/library/heartbk/4.pdf>
- <http://www.nlm.nih.gov/medlineplus/ency/article/003493.htm>
- <http://www.gicare.com/pated/edtot24.htm>
- <http://americanheart.org>
- <http://www.mayoclinic.com/health/cholesterol/QZ00046>