

## **Fat, it's not all bad**

When we think of fat, the image conjured up is likely something unpleasant. Not fitting into your favorite clothes, being unhappy and out of shape, or maybe a picture in your mind of that forbidden plate of cheese fries or bacon burger. Not all fat may be good, but the fact of the matter is that fat and oils are a lot more healthful than you may think. Better yet, knowing how they work will help you attain better health.

Ever wonder what's so good about olive oil or why they call them 'essential' fatty acids? There is actually a metabolic need for us to consume fat in our diet. A mistaken fact I have to dispel almost daily is that the fat that we eat does not produce the fat on our bodies! Furthermore, it has been well published in clinical research that the 'no fat, low fat' diet craze of the past decades has done more harm to our health than almost any other factor. Don't get me wrong, balance and moderation is necessary, but let's take a look at what can help us to better understand dietary fat.

### **We are made up of fat.**

As for our make-up, we have quite a bit of fat in and around our bodies. Adult males and females of healthy weight should have approximately 15-18% and 20-25% body fat respectively. While some may attempt to maintain more lean fat percentage, there are serious health risks with lowering body fat too much. The most vitally important places where fat exists are in all cell membranes, nerve fibers and the brain.

If you can imagine that we have somewhere around 50 trillion cells in our bodies, it's more astounding to know that the membrane of every cell is actually a sea of fatty acid molecules. That's a lot of fat molecules! The healthy function of the cell is dependent on the quality of fats in the membranes. Another important membrane that is comprised of a more specific fat is in the long fibers of all your billions of nerves.

One of the most vitally important areas dependent on healthy fat is the brain. In fact almost 70% of your brain is made of fat, the most important of which is Omega-3 fats. They are the only fat your brain can use in the transmission of nerve signaling.

A great number of health problems, hormone dysfunction, neurologic disorders and depression come about from the poor makeup of the fats of our membranes and brain tissues.

### **Consuming fat.**

When consuming fats and oils, I like to describe three general groups. The good fats, in the form of oils, which should be the predominant part of our fat calories, are mono and polyunsaturated fats. The next group is saturated fats which are typically solid at room temperature such as butter and lard. These can provide an efficient source of fuel, and while we should eat them in moderation, saturated fats are a perfectly acceptable source of calories. The last group which we should avoid at all cost is trans fatty acids often labeled as hydrogenated oils. These 'altered' fats are solid like saturated fats, but are actually carcinogenic and very detrimental to our health. They can get incorporated into our cells but interfere with our normal biochemistry, most notably in cardiovascular and brain health.

## **Different kinds of fat.**

The term saturated fat refers to the chemical structure which is a long chain of carbon atoms that are 'saturated' with attached hydrogen atoms. This makes them characteristically stiff but a very efficient fuel source. Saturated fats typically come from animal meats.

The chain structure of unsaturated fats is disrupted which replace one or more hydrogen atoms with a 'double bond' between the carbons in place of hydrogen atoms. Mono and polyunsaturated fats comprise more fluid fats and are predominantly from plant sources. The most fluid of the polyunsaturated fats are the essential fatty acids, omega-3 and omega-6. Aside from the healthful benefits of the many other polyunsaturated fats of our dietary sources, the two essential fatty acids are the most critical in terms of our dietary intake.

When certain fats are heated at high temperatures for prolonged periods (deep frying), or altered through a process of hydrogenation, they become 'trans' fats. The hydrogen atoms become located across or 'trans' from each other in the molecule, unlike the normal 'same-sided structure', and while this creates a stable molecule that allows for the extended shelf life of processed foods, they create serious health risks. Think of these molecules as just another synthetic formula like any drug with all its dangerous side-effects.

## **Metabolism of fat.**

Fatty acids are broken apart during digestion into the various components of triglycerides. They are then repackaged into 'lipoproteins' which are mixtures of protein and lipids (different forms of fat). There are a number of different lipoproteins that perform a variety of important functions such as transporting vitamins and cholesterol in the blood. They also act as enzymes and have important signaling functions of cell membranes, necessary for the way cells must communicate with one another.

Incidentally, understand that it's the fat we eat which contributes to important components of our biochemistry, metabolism and hormone function. It's the carbohydrates we eat which produce the fat we store in our bodies. The simple refined carbohydrates in the overabundance of breads, pastas and sugary foods we consume are the source of the excessive fat weight we are rife with.

The two highly popularized lipoproteins are low density (LDL) and high density lipoprotein (HDL). Technically these are not cholesterol, but they act to carry cholesterol in the blood. The 'good' form, or HDL, is more dense, having more protein, and carries cholesterol from the body back to the liver to be metabolized. The less dense form, being higher in fat content, carries cholesterol from the liver to the cells for necessary functions, however this form allows for the cholesterol to be deposited in vessel walls (mostly because of inflammatory damage).

Regardless of the misinformed media and medical propaganda, cholesterol is vitally important to life. Even though the liver produces most, every single cell has the ability to make cholesterol – it is that important. Imbalance in the amount of fat in our bodies and the excessive amount of inflammation from poor dietary sources contributes the greatest threat of cholesterol deposition in the arteries. We are greatly efficient at producing saturated fat from simple carbohydrates which is readily stored into adipose tissue. Consuming high amounts of saturated fat and carbohydrates is the double edge sword which creates the road block of metabolism, whereby the

only choice the body has is to start depositing the excess within the blood vessel walls.

The other important balance to strive for is the proper intake of the essential omega-3 and omega-6 fatty acids. While we must consume these in the diet, the one we really need to be concerned with is Omega-3, often referred to as fish oil since that is our most efficient source. Omega-6 fatty acids are found in most animal meats and are the more predominant fats in simple refined vegetable oils. While omega-3's are present in plant sources such as deep green leafy vegetables, flax and pumpkin seeds, they are not highly prevalent (concentrated). Also we are not very efficient at metabolizing the 'alpha-linolenic acid' source to produce the needed EPA and DHA forms of the fat. We get those most easily from deep cold water fish. While the optimal ratio of these fats is 1:1 – 3:1 of omega-6 : omega-3, the average balance in the American diet is 30:1, meaning we consume way too much omega-6 (pro-inflammatory) versus way too little omega-3's (anti-inflammatory) fats. Many studies have shown for years an even more diminished relative amount of omega-3's in individuals with depression and Alzheimer's.

Overall, our metabolism is dependent on the intake of a proper balance of healthy fats. From the best sources of scientific and metabolic experts, the recommended intake is approximately 25 – 30% of daily calories. To learn more details about how to apply better dietary practices for you and your family, please contact me for discussion or attend one of my nutrition presentations.

To further answer questions and 'fill in the blanks' that I didn't elaborate on here, you will learn things like:

- Why does the body make more cholesterol than consumed in the typical diet?
- Why is the cholesterol I eat better for me than the cholesterol my body produces and what foods affect that differently?
- What foods will provide me optimal omega-3's and why do I still need to supplement?
- How much omega-3's do I need each day?
- How do the breads and simple carbohydrates I eat affect my cholesterol?
- Why do diabetics have greater cholesterol and blood lipid problems and what can be done without drugs?
- How do I know whether a food has trans fats in it even though the label says "No Trans Fats"?

If you would like to receive more information about your nutritional health, or if you would like to schedule a consultation with Dr. Wilson, email him here.