

BEST FATS FOR RAISING TESTOSTERONE PRODUCTION (FULL ARTICLE)

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Eat a low fat/low cholesterol diet, especially one with less saturated fat, you'll live longer, be healthier, and just enjoy life so much more!! We have had this line of bullshit shoved down our throats for the last decade by major health organizations. For years, doctors warned us that eating high saturated/ high cholesterol meals would cause you to keel over and die of a heart attack. Television commercials are bombarded with ads stating that the use of cholesterol medications in conjunction with a low fat diet can increase quality of life and reduce death.

Eat a low fat/low cholesterol diet, especially one with less saturated fat, you'll live longer, be healthier, and just enjoy life so much more!! We have had this line of bullshit shoved down our throats for the last decade by major health organizations. For years, doctors warned us that eating high saturated/ high cholesterol meals would cause you to keel over and die of a heart attack. Television commercials are bombarded with ads stating that the use of cholesterol medications in conjunction with a low fat diet can increase quality of life and reduce death. First little problem - dietary intake of cholesterol has no impact on the level of cholesterol in your blood. Two major long-term studies, Framingham and Tecumseh, reported that that those who ate the most cholesterol had exactly the same level of cholesterol in their blood as those who ate the least cholesterol. For the science of fat metabolism confirms that there cannot be any connection whatsoever between saturated fat consumption and cholesterol levels. Contrary to popular belief of what drug companies are telling us, dietary cholesterol is poorly correlated with sudden cardiac death in men. For instance, in a prospective study on healthy men, investigators found that only C-reactive protein (CRP) was significantly associated with the risk of sudden cardiac death, whereas blood homocysteine and all lipid parameters, including serum total and LDL cholesterol levels, were not¹⁶. Remember a few years ago when doctors warned people to limit their consumption of eggs...another bullshit lie!! In fact, researchers from the University of Connecticut reported this month in the Journal of Nutrition that dietary cholesterol from eggs can increase in HDL (cardioprotective proteins). In the study, subjects were counseled to consume a carbohydrate restricted diet (10-15% energy from carbohydrate) and they were randomly allocated to the EGG group [intake of 3 eggs per day (640 mg/d additional dietary cholesterol)] or SUB group [equivalent amount of egg substitute (0 dietary cholesterol) per day]. At the end of the study, the overall fat percent contribution in the diet increased from 39.6% at baseline to 55.6% at the end of wk 12. Surprisingly, plasma HDL-C concentration increased in the EGG group, whereas HDL-C did not change in the cholesterol free egg substitute group¹⁷. Despite the fact that Americans are eating less saturated fats, the incidence of heart disease has not decreased. Proponents of the low fat diet are the American Heart Association, the World Cancer Research Fund, and the American Dietetic Association. The governing bodies' standby claims that a reduction in saturated fat in one's diet provides a number of positive results including healthier heart, better cholesterol and blood pressure and reduced risk of many obesity-related illnesses. In his

best-selling book, Dr. Dean Ornish's Program for Reversing Heart Disease, Dr. Ornish presents two diets: the Reversal Diet and the Prevention Diet. The diet recommends that you consume 10% of calories as fat. The Ornish Diet is very strict and places specific limitations on all foods containing more than slight amounts of cholesterol and saturated fat. Animal fats, found in dairy and red meat, are thought to be contributors to poor heart health, body fat and high cholesterol. If you examine the FDA's food guide pyramid for a healthy diet; the healthiest type of diet plan is a balanced diet which includes foods from all food groups, all fats and oils should be eaten sparingly. This means your diet should be low in fat, especially saturated fat. As a rough guide, no more than about 30 percent of your calories should be eaten in the form of fat

Here is what the major governing agencies for health are saying about low fat diets:

- Better for Low Cholesterol and Prevention of heart disease, says the American Heart Association.
- Better for Prevention of Cancers, says the World Cancer Research Fund.
- Better for Health and Weight Control, says the American Dietetic Association and the Food and Drug Administration.

More
Cholesterol Enhances Muscle Mass!

Cholesterol is a pre-cursor for testosterone so increasing cholesterol production may promote more conversion into testosterone. A 2007 reported that a dose-response relationship between dietary cholesterol (from food logs) and gains in lean mass that was not affected by variability in protein intake. This means that higher dietary cholesterol is associated with greater gains in lean body mass! Higher intake of protein did not yield greater gains in muscle mass. Cholesterol may also play a role as an essential building block to repair microtears that occur in the skeletal muscle membrane with resistance training. Immediate reductions in serum cholesterol (within 2 hours, lasting up to 72 hours) following exercise causing muscle injury have been suggested to be part of the process to repair the membrane damage^{24,25}. The scientists noted that cholesterol facilitates the body's inflammatory immune response to the damage that exercise does to muscle, and that this inflammation response stimulates the body's muscle-building "anabolic" processes. (While chronic inflammation in arteries or other tissues is unhealthful, short-lived inflammation is an integral part of the muscle-building process.) In addition, they observed that cholesterol probably serves as an essential building block for repair of the "micro-tears" that occur in muscle membranes stressed by exercise²². An abstract presented at Experimental Biology reported that the conversion of cholesterol to testosterone may be important for muscle hypertrophy. Adults were placed on a 12-week weight-training program and tested them before and after for changes in muscle mass and strength. While all subjects ate a diet that was moderate in protein, about half consumed a low-cholesterol diet (1.6 mg per pound of bodyweight or

about 150-250 mg per day) while the other half consumed a high-cholesterol diet (2.6 mg per pound of bodyweight or about 250-450 mg per day). After 12 weeks of weight training, the lower-cholesterol group did not increase muscle mass but strength increased by 35%. The higher-cholesterol group, on the other hand, saw an increase in muscle mass of about 5 pounds and increased strength by about 90%. Although the researchers were not sure exactly why cholesterol influences muscle and strength gains, the reason can be speculated: Cholesterol is important for testosterone production as well as maintaining the integrity of muscle cell membranes. In other words, cholesterol isn't all bad and may be necessary for building muscle and strength. The increase in cholesterol could have lead to a boost in testosterone production.

More Fat Equals Greater Testosterone

Let's just say that you decide to follow the advice of the main steam health promoters and go on a low fat diet: Chances are you going to see a significant drop in testosterone levels!

It has been reported that reducing dietary fat from (>30 percent calories from fat and low fiber < 20 g/day) to a low fat diet (<15 percent calories as fat and 25-30g fat per day) significantly reduced total and free testosterone levels and adrenal androgens (androstenedione and DHEA)¹. Another study found that when men were fed a vegetarian diet without any meat or meat products, their testosterone levels dropped, but when the men were switched to a Western diet including meat, their testosterone levels increased^{14,15}. Who the hell wants to live longer if you have the testosterone levels of a girl scout! Here are a few other studies which demonstrate what low fat diets can do to your testosterone levels:

- Middle age men fed a low fat (<25 %), high fiber diet for 6 weeks experienced a significant decrease in testosterone and free testosterone. These participants experienced a return of testosterone and free testosterone levels to baseline when the subjects were reassigned to the moderate-fat diet (37 % fat) ².

- The average plasma concentrations of total testosterone levels were 13% higher when subjects were placed on a high-fat (~ 40% of energy from fat), low fiber (27 g) diet compared to a low-fat diet (< 20% of energy from fat), and high-fiber diet (63 g)³.

- Men consuming isocaloric diets (i.e. diets containing the same amount of calories) from low fat diets from vegetarian sources (~25% kcals from fat) resulted in significant decreases in plasma testosterone and the nocturnal release of testosterone, compared to men receiving moderate fat diets (~40% kcals from fat).

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Vegetarians tend to have lower testosterone levels than their meat eating counterparts^{4, 5, 6}.

A recent study in the International Journal of Sports Medicine highlights the importance of having adequate fat in your diet and its effects on testosterone production. In the study, men completed 21 weeks of resistance exercise and were assigned to 2 groups: one group received nutritional counseling (instructing clients to eat healthier fats) + strength training and the other group was assigned to strength training alone with no nutritional help. Here are some really interesting findings of the study. There was a significant relationship between the individual average basal serum testosterone / sex hormone binding globulin ratio and the average intake of energy, protein, and fat in the total group of participants during the training. Remember, when testosterone levels are tested in men, testosterone is only part of the picture. Another item that is examined is sex hormone binding globulin (SHBG). As the name implies, this hormone binds to testosterone rendering it not bioavailable to the body. Serum T/SHBG-ratio has been suggested to be even a better predictor of muscle mass and strength than serum testosterone concentration alone. Keeping SHBG levels low will allow for more release of testosterone to its receptor. The individual serum SHBG concentrations have correlated negatively with dietary protein intake. This means eating a high protein diet will keep SHBG levels down and result in enhanced testosterone production. The study indicates that dietary intake of energy, especially protein and fat, may contribute to the increase in circulating unbound testosterone during prolonged strength training in men⁷.

SHBG is the carrier protein for testosterone, so lowering SHBG is going to help release more testosterone. SHBG is increased in response to increased fiber intake and decreased with high protein and fat intake. To be more precise, saturated fats have been found to inhibit SHBG activity and increase free testosterone levels¹². It has been found SHBG was found to be significantly decreased after a two week high fat diet (i.e. 100 g fat per day) compared to a low-fat diet (i.e. < 20 g fat per day)¹³. Additionally, researchers from Penn State University conducted a similar study in which they compared the dietary intake of fat and testosterone of 12 men with at least one year of weight training. The researchers found significant correlations between testosterone levels and total fat and testosterone⁸.

**ALL FATS ARE NOT
CREATED EQUAL**

Just like proteins

have different biological effects on the body (slow (casein) and fast (whey) digesting proteins); the types of fats differentially regulate testosterone levels as well. Saturated fats and

monounsaturated fats have been shown to increase testosterone whereas polyunsaturated fats seem to lower testosterone levels. Additionally, rats that are fed diets rich in monounsaturated fats had greater 17 β -dehydrogenase activity (a key enzyme in the testosterone synthesis pathway in the male rat) and plasma androgen concentrations compared to rats fed diets rich in polyunsaturated fats^{10, 11}.

Polyunsaturated fats seem to have a negative impact on testosterone levels. For example, men had a 15%

reduction in serum testosterone concentrations along with a decrease in androstenedione levels when subjects were switched from a diet rich in saturated fats to a diet high in polyunsaturated fats⁹. Total dietary

fat, saturated fats, and monounsaturated fats have been found to increase resting testosterone concentrations in men, whereas diets that are high in

polyunsaturated fats are shown to be inversely correlated with T levels⁸. In rats, a diet rich in omega 3 fatty acids was found to decrease testosterone levels²³. Does that mean you should be eating a bucket a greasy KFC chicken with every meal?

NO. It seems that there may be a

threshold in which consuming an excess of fats does not lead to further increases in testosterone. For example,

healthy young men were assigned to a high fat diet. Subjects were consuming approximately 37% fat intake at the start of the study and switched to a diet consisting of 67%

fat. Interestingly, despite an increase

in fat intake there were no increases in testosterone responses²⁰. The

author hypothesized that there may be a threshold in which further increase in fat do not increase testosterone.

Another possible reason for no changes in testosterone was the high-fat

diet in the study was rich in n-3 polyunsaturated fatty acids from fish oil and

oleic acid from olive and canola oil, and relatively low in cholesterol. As mentioned previously, diets rich in polyunsaturated fats are not conducive to raising testosterone levels.

Trans Fats=

Testosterone Killer

Trans fatty acids (trans-fats) are formed when liquid

vegetable fats are hardened through a process of partial hydrogenation. These Trans fatty acids are partially hydrogenated fats remain solid at room temperature and are more resistant to

oxidation and spoilage. Not surprisingly such partially hydrogenated oils and hence trans fatty acids are found in shortenings, some margarines, industrial

cooking oils and are commonly found in processed foods such as fast foods,

French fries, donuts, cookies, dry soup powders and pastries. Trans fatty acids have been shown

to lead to a high LDL, low HDL cholesterol profile and have been shown to increase cardiovascular disease and diabetes¹⁸. Some studies have shown that Trans fats can produce a

LDL/HDL cholesterol profile that is even less favorable than for saturated fats¹⁹. A few issues

back, Dr. Gwartney wrote an interesting article on how there is a decline in

testosterone among US men. One possible cause is that there has been an

increase in hydrogenated fats in the American diet over the last decade. Besides being detrimental to your heart,

hydrogenated fats or Trans fats can decrease testosterone. For example, in males rats fed a diet of

hydrogenated fats led to a significantly higher incidence of abnormal sperm and

lower concentration of testosterone compared to other fats²¹.

There are many diets being advocated to the

public such as the Dean Ornish diet which is extremely low in fat to reduce cardiovascular disease, yet these diets may be detrimental to building muscle due to significant reductions in testosterone.

Based on the literature, diets that are low in fat can result in reductions in testosterone in man possibly by increasing SHBG and decreasing testosterone production. In addition, a diet with high saturated and monounsaturated fats seems to raise testosterone levels. Diets that contain rich sources of polyunsaturated fats and trans-fats have been shown to reduce testosterone. Does this mean you the green light to eat fast food and pig out on high fat foods? NO! There is a certain threshold in which consumption of additional fats does not further enhance testosterone production. The intention of this article is for those that consume low fat diets year round may be missing out of strength and size gains due to sub-optimal testosterone production. Incorporating some olive oil and red meat into your diet in moderation may lead to a more anabolic hormone production for optimal muscle gains. Listed on table 2 are sources of dietary fats and what foods commonly contain the highest amounts of them.

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