

Myths Surrounding High Protein Diet Safety

By Dr. Layne Norton

Ever since the day I first touched a weight I've heard all the myths surrounding weightlifting and bodybuilding. I'm sure you've heard some of them at one time or another as well. Everything from "weightlifting stunts your growth" to "lifting weights shrinks your penis" to "you know creatine is a steroid, right?" While many myths are easy to write off as being ridiculous, the myths surrounding protein intake are more widespread. Many people have the impression that high protein diets are unhealthy. Kidney damage, liver damage, heart disease, osteoporosis and others have all been blamed to some degree high protein intakes. What is even more shocking is that many in the medical and scientific community have accepted this as fact without hardly any evidence. So what does the actual research say? Is protein going to kill us?

"High protein intake can damage your kidneys!"

The kidneys are involved in nitrogen excretion, and thus it has been theorized by some that a high nitrogen intake (protein) may cause stress to the kidneys. Additionally, low protein diets have typically been recommended to people who suffer from renal disorders. To conclude that a high protein intake damages the kidney is very tenuous however. A study examining bodybuilders with protein intakes of 2.8g/kg vs. well trained athletes with moderate protein intakes revealed no significant differences in kidney function between the groups.¹

Additionally, a review of the scientific literature on protein intake and renal function concluded that "there is no reason to restrict protein in healthy individuals." Furthermore, the review concluded that not only does a low protein intake NOT prevent the decline in renal function with age, it may actually be the major cause of the decline!² This conclusion is supported by the fact that low proteins diets have NOT been shown to be beneficial for blunting the progression of chronic renal failure.³

"High protein intake can contribute to liver disease."

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There is absolutely no evidence to support the notion that a high protein intake is detrimental to the liver. Protein is needed to repair liver tissue and for the conversion of fats to lipoproteins so that they may be removed from the liver.⁴ Amino acids are also the main fuel source for the liver. Additionally, in alcoholic liver disease a high protein diet has been shown to improve liver function and reduce mortality and BCAAs are also being investigated as a treatment for liver disease.^{5,6} It could even be postulated that in the case of liver damage/disease a high protein diet may be required in order to repair liver tissue damage and to aid in recovery.

“High protein intake causes bone loss.”

Another major knock on high protein diets is that they cause increased calcium excretion. Thus a hypothesis stands that over a long period of time, a high protein diet may contribute to the onset of osteoporosis. However, the real world data is somewhat equivocal as early studies that demonstrated calcium loss due to increased protein intake.⁷ However, there is some recent evidence suggesting that an increase in dietary protein may not cause an increase in calcium excretion at all and an increase in dietary protein may potentially improve bone mass in the elderly.⁸ Moreover, several epidemiological studies actually found a positive association between protein intake and bone mineral density.^{9,10} Furthermore, low protein diets may actually have a detrimental effect on bone. Although low protein intakes cause less calcium to be excreted, they also cause a reduction in calcium absorption through the intestine.¹¹ The net effect is a DECREASE in calcium balance due to a reduction in protein intake. Thus, while increasing protein may increase calcium excretion, there is no evidence that the increased calcium lost in urine is from bone, and the overall net calcium balance is either unaffected or actually improved by a high protein diet.

“High protein diet cause heart disease.”

Much has been written about the association of high intakes of red meat with heart disease, but these associations are from the fact that 1) red meat is typically high in fat 2) people who

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eat high amounts of red meat are less likely to consume adequate fiber and 3) people who eat large amounts of red meat also typically exercise less than other people. If you statistically correct for those three confounding variables you find that red meat has virtually no association with heart disease. Not only does the scientific literature not support the statement that a high protein diet may have a negative impact on the heart, it actually supports a high protein diet for the prevention of heart disease. Research suggests that replacing dietary carbohydrates with protein may decrease the risk of heart disease.¹² This is supported by the fact that replacing dietary carbohydrates with protein improves blood lipid profiles by decreasing triglyceride levels and increasing HDL (good) Cholesterol levels.¹³ Furthermore, metabolism of carbohydrates and/or fats increases the production of free radical levels to a much greater degree than the metabolism of protein.¹⁴ High levels of free radicals are thought to accelerate the formation of atherosclerosis, the major cause of heart disease.¹⁵

“High protein intakes can increase the risk of diabetes.”

This one is just completely false. In fact, a high protein diet may be beneficial for combating obesity and diabetes. Recent research indicates that a diet consisting of 30:40:30 (protein:carbs:fats) was superior to the food guide period diet of 15:55:30 in maintaining glucose homeostasis, increasing insulin sensitivity, and improving glucose control in normal people and those suffering from type II diabetes.^{13,16,17} This same high protein diet has also been shown to be superior to the food guide pyramid diet for weight loss. Furthermore, subjects consuming the high protein diet maintained more lean muscle tissue and lost a greater proportion of fat than those subjects consuming the high carb diet.¹⁷ Several investigators have also reported increased satiety with the high-protein diet compared to a control high carb diet.^{18,19} In summary, a high protein, lowered carbohydrate diet is superior to a high carb (i.e. food guide pyramid) diet in promoting fat loss, muscle maintenance, and appetite suppression.

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uch of this evidence I have presented not only contradicts statements that high protein diets are unsafe, but supports high protein diets in the prevention/treatment of heart disease, diabetes, and obesity. Those are three of the world's biggest killers, and a high protein diet may be the key to reducing the incidence of all of them! Perhaps the American Heart Association and the rest of the high protein naysayers would be best served to get the facts first, rather than making statements with little to no scientific support. So next time someone tells you that a high protein diet is bad for you, slide this article on over to them, then sit back and enjoy your next high protein meal.

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