“Great spirits have always encountered opposition from mediocre minds. The mediocre mind is incapable of understanding the man who refuses to bow blindly to conventional prejudices and chooses instead to express his opinions courageously and honestly.” —Albert Einstein

High-Protein Intake, Kidneys and Liver
Scientific studies have shown that high-protein diets increase thermogenesis (production of heat) and satiety and thus facilitate fat loss and weight management. Furthermore, epidemiologic studies show a significant relationship between increased protein intake and lower risk of hypertension (high blood pressure) and coronary heart disease. However, some well-meaning health authorities have told us that high-protein intake may have adverse effects on kidneys.

The recent paper by Dr. Martin and colleagues at the University of Connecticut reviewed the available evidence that increased dietary protein intake is a health concern in terms of the potential to initiate or promote kidney disease. While protein restriction may be appropriate for treatment of existing kidney disease, the investigators didn’t find significant evidence for a detrimental effect of high protein intakes on kidney function in healthy persons. Other reviewers, including this author, agree with this conclusion. However, some have recommended that all individuals should double-check their kidney function before the initiation of a high-protein diet, because kidney disease is often a silent disease.

There have also been some concerns that high-protein intake may have adverse effects on liver function; however, there’s no evidence supporting this notion. For example, Dr. Jorda and co-workers reported that the liver responds to long-term (420 days) high-protein intake by a proliferation of normally functioning mitochondria (powerhouses of cell). The authors felt their results constitute a good example of how the liver adapts to metabolic stress.

Based on the mean maximum rate of urea synthesis in normal subjects, Dr. Cordain and colleagues calculated that the mean maximum protein intake for an 80-kg (176 pound) human to be 250 grams per day. For a 12552-kJ energy intake, the mean maximum dietary protein intake would be 35.1 percent of energy (range: 29.7–40.9 percent of energy). Higher intakes may result in hyperammonemia (elevated blood ammonia), which may explain at least some of the clinical symptoms (e.g., vomiting, weight loss, fatigue) responsible for the “rabbit starvation syndrome.” Rabbit starvation reportedly occurred among explorers who would live for very long periods of time on very-low fat small game animals (i.e., rabbits).

Long-term Effects of Popular Diets on Weight Loss
Dr. McAuley and colleagues at the University of Otago in New Zealand reported a randomized trial comparing very-low-carb/high-fat (no more than 20 grams of carbs per day) and high-protein diets (“Zone”) with the conventional high-carb/low-fat approach (at least 55 percent of total
energy from carbs). A total of 93 overweight women received advice following randomization to very-low-carb, Zone, or high-carb/low-fat dietary regimes, to achieve weight loss followed by weight maintenance over 12 months.

After six months, both “alternative diets” (i.e., very-low-carb and Zone) had several advantages when compared to the conventional high-carb/low-fat diet. Reductions in body fat, waist circumference and harmful blood lipids were all greater in those on the high-protein and high-fat diet than those recommended the high-carb/low-fat diet. Despite the initial improvements in the very-low-carb group, during the final six months, this group had an increase in fat mass and waist circumference, which was greater than the increase seen in the Zone and high-carb/low-fat groups. However, those following the Zone diet had a particularly favorable outcome; the improvements were largely maintained so that at 12 months, weight and fat mass were around six and four kilograms lower than at baseline.

According to the authors, “This study provides strong support for the use of high-protein diets as an alternative to the conventional approach. Bodyweight, fat mass and several major metabolic features of [insulin resistance] were improved in the long-term and to the extent that the benefit appeared to be comparable to the change seen on drug therapy.”

It’s of some interest how the mainstream media manipulates the results of popular diet studies. According to a recent news article, “High-protein diets were fine for short-term weight loss, but people should switch to more balanced diets for the long term, McAuley said.” Obviously, this statement disagrees with her study conclusion, so I contacted Dr. McAuley and asked if she was trying to mislead the public. Well, I received an e-mail from her assistant and it’s now clear that Dr. McAuley isn’t the one who misled the public: “The NZ news article you refer to in your e-mail should have said ‘High-fat diets were fine for short-term weight loss, but people should switch to more balanced diets for the long term, McAuley said.’ Confusion arose when Dr McAuley was explaining to the reporter the differences in the compositions of the three diets.”

**Top 10 “Superfoods”**

In her recent “Health Telegraph” column, Lucy Hoo provided a list of the top 10 health-boosting foods. Although this list is based on limited scientific evidence, I tend to agree with Lucy:

- **Strawberries.** Rich in disease-fighting antioxidants.
- **Blueberries.** May help to reduce cholesterol and may also slow down mental aging.
- **Oily fish.** High levels of heart-healthy omega-3 fatty acids and high-quality protein. Also improves inflammatory conditions, such as arthritis.
- **Walnuts.** According to the FDA, “Research shows that eating one and a half ounces of walnuts per day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of coronary heart disease.”
- **Garlic.** Protects the heart and may also help ward off the common cold.
Mushrooms. Can help you avoid colds and other viruses.

Pineapples. The bromelain in pineapples acts as a potent painkiller.

Broccoli. Contain substances that appear to act in the same way as the drugs used to treat Alzheimer's disease.

Olive oil. Contains heart-healthy fatty acids and a compound with the same pain-relieving effects as the popular over-the-counter drug ibuprofen.

Tomatoes. One of the richest sources of the potent antioxidant lycopene, which may lower the risk of prostate cancer and cardiovascular disease.

New Book for Serious Gym Rats
Muscular Development’s Columnist Carlon Colker, M.D. is an internationally recognized consultant in the area of fitness and health. His recent book, "Extreme Muscle Enhancement," lays out the guidelines for getting ripped and huge. This easy-to-read book tells you how to train, what to eat, when to eat, what supplements work and which ones don't. Dr. Colker recommends the following diet for serious strength-power athletes. Obviously, he feels that gym rats don’t need to take in lot of carbohydrates. Give it a try and let us know how it worked.

The Extreme Muscle Enhancement Diet: A Sample Day

Breakfast, 7 a.m.
5 scrambled eggs with cheese
1 cup tomato, cucumber and chive mixed with oil/vinegar or 1 cup of pea and carrot mixture
2–3 8-ounce glasses of water
Supplements: Multivitamin/multimineral, zinc/copper, calcium, magnesium, essential fatty acids (EFAs)

Mid-Morning Snack, 9:30 a.m.
1/2 cup almonds and/or macadamia nuts
Supplements: Basic protein shake or meal replacement shake, EFAs

Pre-Workout, 10:30 a.m.
Supplements: Creatine, arginine-alpha-ketoglutarate (A-AKG), niacin/B-vitamins, phosphorus

Workout, 11 a.m.
Water or hypotonic hydration drink during the workout

Post-Workout, 12 noon
1–2 glasses water or hypotonic hydration drink
Supplements: Whey protein isolate drink branched-chain amino acids (BCAAs), EFAs, conjugated linoleic acid (CLA), zinc/copper, magnesium

Lunch, 1 p.m.
Large serving tuna salad or large plate of sashimi or large grilled chicken breast
2–3 cups mixed green salad with tomatoes, cucumbers, and dressing or 2-3 cups steamed broccoli or 2–3 cups of mixed vegetables with 2 Tbsp. salad dressing
2–3 glasses water

**Mid-Afternoon Snack, 3:30 p.m.**
Supplements: Basic protein shake or meal replacement shake, EFAs, calcium, antioxidants

**Dinner, 5:30 p.m.**
Ribeye steak
Creamed or steamed spinach
Mixed green salad
2-3 glasses water

**Last Meal, 8 p.m.**
Supplements: Basic protein shake, ornithine-alpha-ketoglutarate (O-AKG), glutamine.

**References**