Protein

Protein: A large molecule that the body uses to build essential parts such as muscles and tissue, hair, skin, nails, antibodies and the immune system, hormones, enzymes and neurotransmitters.

How much protein do I need? The RDA for an average sedentary adult is 0.8g per kilogram of body weight. 1.0g per kilo for moderate activity.

Calculation:
Body weight in pounds x 0.36 (light activity) or

Body weight in pounds x 0.45 (moderate activity)

Signs of protein deficiency: loss of muscle tone, thinning or loss of hair, brittle nails, impaired wound healing, fatigue, fluid retention, food cravings, irritability, mental confusion, bone loss, lowered immune response.

Best sources: fish, chicken, lamb, turkey, grass fed beef, eggs, legumes, tofu, tempeh, nuts and seeds, whey protein powder, rice protein powder, bean and rice combinations.

Note: meat should be free of hormones and antibiotics whenever possible.

Serving size: approximately the palm of your hand is 4 ounces which equals 20 grams.

Protein in Common Foods

Food	Quantity	Protein in Grams
Beans	1 cup	15
Cheese	1 ounce	6-10
Eggs	one	6
Meat	3-4 ounces	17-27
Milk	1 cup	8-9
Nuts	¼ cup	2-7
Oatmeal, cooked	1 cup	6
Rice, cooked	1 cup	6
Seeds	1 ounce	6
Yogurt, unsweetened	1 cup	8-9

Carbohydrates

Carbohydrates: are the main energy source for the body. They are easily converted to glucose, the fuel for the body's cells. There has been a shift away from the healthy consumption of fresh fruits and vegetables and complex carbohydrates – starches and fiber foods – toward a diet of more refined carbs and simple sugars that are implicated in a variety of diseases, including obesity, diabetes, cardiovascular problems and tooth decay.

Virtually all of the fiber, phytochemical, vitamin and trace element content have been removed from white sugar, white breads and pastries and many breakfast cereals.

Simple carbohydrates: include sucrose, glucose, maltose, high fructose corn syrup, maple syrup, etc. Eliminate these or severely restrict.

Use natural sweeteners like agave, honey, stevia, xylitol and items that are fruit juice sweetened.

Note: those with blood sugar issues will need to limit honey and fruit juice sweetened products.

Complex carbohydrates: break down more slowly, contain more fiber and lead to better blood sugar control. Examples: brown rice, buckwheat, millet, quinoa, oats, corn, whole wheat, potatoes, rye and vegetables.

Notes of Interest

* The average person takes in 12-15 grams of fiber per day. The goal is 30 grams per day.
* The diseases with the strongest correlation with a lack of dietary fiber are obesity, diabetes, heart disease, and diseases of the colon and gastrointestinal tract.
* The average person takes in 170 pounds of sugar per year.
* Sugar weakens the immune system, causes blood sugar imbalances and contains 0 fiber.

Fats

Fats: build and maintain healthy cells, insulates our tissues, protects our organs, helps to absorb fat soluble vitamins A, D, E and K, maintains skin and hair. Fat is satiating, making us feel full for longer periods of time.

Essential Fatty Acids: are components of nerve cells, cellular membranes, and are converted to hormone-like substances known as prostaglandins. There are two major types of essential fatty acids: omega- 3 and omega- 6.

Omega 3: found in abundance in hemp, flax and pumpkin seeds, walnuts, dark green leafy vegetables and cold water fish. Omega- 3 oils increase the concentrations of good cholesterol and decrease the concentration of bad cholesterol. They protect the heart by preventing blood clots and keeping other fats from injuring the arterial walls. They not only relax arteries but also help to decrease constriction of arteries and thickening of the blood.

Omega 6: come from safflower, sesame, sunflower, soy, canola and corn oils, as well as animal fats. Having a balance is important for optimal health. A 3 to 1 ratio of omega- 6 to omega- 3 is advised. Most people are easily getting enough omega- 6, yet are lacking in omega- 3. The average person has a ratio of 15- 20:1 which leads to cardiovascular problems and inflammation.

Trans Fats: also known as hydrogenated oils, these synthetic fats are not essential to the human body. In fact, they are highly damaging, correlated to an increase in heart disease, prostate disease, cancer , diabetes and obesity. Hydrogenated oils are popular in packaged goods such as crackers, cookies, pastries, margarine and shortening. These oils are added to foods to enhance flavor and extend shelf life.

Best sources of fat: flax, olive and coconut oils, nuts and seeds- especially almonds, walnuts pumpkin and sunflower seeds, avocados, cultured dairy products-yogurt, cottage cheese, raw and goat cheese, grass fed beef.

Booster-foods rich in antioxidants

1) Spirulina (blue-green algae) spirulina contains not only the antioxidant phycocyanin but also a bundle of protein, plus omega fatty acids. Once a mainstay food of the Aztecs, spirulina additionally works as an ibuprofen like nonsteroidal anti-inflammatory. Add one teaspoon to one tablespoon of spirulina a day to smoothies or yogurt, or take it in capsule/tablet form.

2) Cranberries, blueberries, blackberries - these are jam packed with antioxidants called anthocyanins and polyphenols, which also have anti-inflammatory qualities. Try to work in a cup of berries a day.

3) Leafy greens (such as kale and spinach) - these are full of lutein, another super antioxidant that's been proven to protect against macular degeneration of the optic nerves, thus protecting eyesight. Scientists recommend eating a cup of cooked kale or one to two cups of raw spinach each day.

4) Almonds and walnuts - these nuts are a fantastic source of omega-6 fatty acids, as well as phytosterols (plant sterols) and vitamin E. People who regularly consume nuts tend to have both a lowered risk of Parkinson's and lower cholesterol. Try to eat a quarter cup of these nuts a day whenever you can.

5) Flaxseed - contains fiber and omega-3 fatty acids that help to clear plaque and bad fats from the cardiovascular system. The fiber also protect against colon cancer. For best results, buy flaxseed ground (or grind it yourself) and throw one to two tablespoons a day into everything from meat loaf to muffins or smoothies.

Vitality Smoothie

In a blender add:
12 oz. pure water
½ cup fresh or frozen berries
1-2 tsp. spirulina powder
1-2 Tbsp. whey protein powder
2 Tbsp. ground flaxseeds or flax oil
Blend and enjoy – variations, add banana, yogurt or juice

The top 10 mistakes most people make

1. Eating too many refined carbohydrates

2. Relying on artificial sweeteners and soft drinks as beverages

3. Lack of non-starchy vegetables

4. Over reliance on caffeine

5. Lack of fiber and water

6. Eating too small a variety of foods over and over, leading to food sensitivities

7. Over-eating at night

8. Lack of high quality protein throughout the day

9. Eating hydrogenated or partially hydrogenated oils

10. Eating as an attempt to deal with emotional issues

Benefits of Strength Training

1. **Increased metabolic rate-** strength training increases the body's metabolic rate, causing the body to burn more calories throughout the day.

2. **Increasing and restoring bone density-** inactivity and aging can lead to a decrease in bone density and brittleness. Studies have clearly proven that consistent strength training can increase bone density and prevent osteoporosis.

3. **Increased lean muscle mass and muscle strength, power and endurance-** everyone can benefit from being stronger. You can work harder, play more, workout longer and have more stamina.

4. **Injury prevention-** a wide variety of sports-related or life-related injuries can be prevented by strengthening muscles and joints.

5. **Improved balance, flexibility, mobility and stability-** stronger and more resilient muscles improves our balance, which means more comfortable living and fewer falls or accidents.

6. **Decreased risk of coronary disease-** participation in a consistent strength training program has a wide variety of affiliated health benefits, including decreasing cholesterol and lowering your blood pressure.

7. **Aids rehabilitation and recovery-** one of the best ways to heal many types of injuries is to strengthen muscles surrounding the injured area. The stronger your muscles, the quicker the healing process.

8. **Enhanced performance in sports or exercise-** no matter what your favorite sport or physical activity, with the proper strength training program, your performance can unquestionably be improved, and in some cases dramatically so.

9. **Aging gracefully-** there is no more important reason to making strength training a consistent part of your life, than to ensure you age gracefully. Physical activity keeps us alive and vibrant. Strength training ensures we are strong enough to participate in aerobic activities, outdoor recreation and sports. Strong seniors fall down less. If they do fall down, their stronger bodies are more resilient, are injured less by the fall, and are able to heal more quickly after an injury.

10. **Feeling better and looking better-** there is nothing more satisfying than the feeling after a good solid work-out. Stronger muscles and joints can have a dramatic impact on posture and leaner toned muscles tend to make everyone feel better about their appearance. This all leads to improved self-esteem and increased self-confidence

Dietary Supplements

Multi-vitamins

The NIH (National Institute of Health) recommends all Americans take a daily multi-vitamin. Multi-vitamins help one to obtain the nutrients needed that are not being taken in from food. Most people do not eat well enough to obtain all the nutrients necessary for optimal health. Another reason is the soil today is not as rich as it was 20-30 years ago and even if you do eat very well, there is a chance you are not getting all the nutrients needed solely from food, so it makes sense to take a multi-vitamin.

Look for a multi at a health food store or professional grade supplements from a health practitioner, not drug stores or discount warehouses. Why?

1. The health food store or professional product will have far less fillers and excipients added to it. For example Centrum has two aluminum containing compounds in the ingredient list. Aluminum causes cancer. Yellow dye #6 is also added. Yellow #6 also causes cancer.

2. The minerals are in their cheapest, most poorly absorbable forms. The vitamin E is synthetic. The vitamin D is the inferior D2, not the absorbable form of D3. In short you are getting a cheaper product.

3. The actual milligrams is lower in drug store bought multi's than health food store ones. You are not getting as high a milligram content as you would in a quality multi-vitamin.

* Good health food store brands to look for include: New Chapter, Source Naturals, Rainbow Light, Now, Nature's Plus and Garden of Life to name a few.

Omega-3

Omega-3 fatty acids are crucial for good health and perform a number of vital functions in the body. Over 60 health conditions can benefit from essential fatty acid supplementation with a few examples given below.

* Hundreds of studies indicate omega-3 fatty acids lower cholesterol and triglyceride levels.

* Another benefit of omega-3 oils is their ability to reduce platelet stickiness and prevent clot formation.

* Population studies demonstrate that people who consume a diet rich in omega-3 oils have a significantly reduced risk of developing heart disease.

* Increasing the intake of omega-3 fatty acids can also assist in lowering blood pressure. Over 60 double-blind studies have demonstrated that either fish oil supplements or flaxseed oil are very effective in lowering blood pressure.

* Fish oil supplementation has been shown to help those with rheumatoid arthritis and multiple sclerosis.

* Quality brands include Nordic Natural, Renew Life, Natural Factors and Enzymatic Therapy.

Thyroid Health

* The thyroid gland has a crucial role in metabolism, fat burning, and oxygen utilization, as well as in gastrointestinal and neuromuscular function. Thyroid hormones influence almost every cell of the body.

* Symptoms of an underactive thyroid include: weight gain, colds hands and feet, dry skin, brittle hair, skin and nails, fatigue, slow to start in the morning, decreased metabolic rate, elevated cholesterol, infertility, slow heart rate and poor coordination.

* Nutrients needed: in order for the thyroid gland to produce T4, it needs iodine, chromium, selenium, zinc and tyrosine. Without sufficient supply of these nutrients in the diet, thyroid function is diminished. (Eating processed foods, chromium, zinc and selenium are destroyed easily)

* Assessment: basal body temperature under 97.8 indicates hypothyroidism.

Stress and Weight Gain

* Elevated stress hormones contribute to the breakdown of lean muscle tissue, an increase in blood sugar and an increase in the storage of abdominal fat. The breakdown of muscle tissue is very detrimental because muscle tissue is metabolically much more active than fat, meaning it burns more calories.

* Elevated cortisol (stress hormone) leads to increased cravings for carbohydrates and sugar, anxiousness and nervousness, fatigue, decreased serotonin, sleep disturbances, poor immune function and weight gain.

* Numerous studies have linked oversecretion of cortisol with obesity and increased storage of abdominal fat.

* Assessment: adrenal stress index

Insulin Resistance

* Is the inability of insulin to facilitate glucose uptake from the blood into the cells. Insulin is produced and carried to the cells, but glucose uptake in sluggish. Consequently, blood sugar remains elevated.

* With nowhere to go, excess glucose is converted to fat by the liver and triglyceride levels increase. Changes in LDL cholesterol, stimulated by insulin, promote plaque formation and atherosclerosis.

* Assessment: fasting and post-challenge glucose and insulin blood test, glycated hemoglobin A1C. Normal fasting glucose is 65-120 mg/dl. An ideal level would be 80-100 mg/dl.

Waist to hip ratio: to check for insulin resistance and obesity. Divide waist measurement by hip measurement.
Men: greater than 1.0 – Women: greater than 0.8 indicates abdominal obesity and likely insulin resistance.

* A whole food diet, exercise and supplements including chromium and alpha-lipoic acid are key to dealing with insulin resistance.