

Protein

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If your doctor says you need more protein, rather than dig your fork into that 12 ounce T- bone, take a minute to learn more about where protein comes from and why it is so important.

Everyone, and certainly those who have been diagnosed with cancer, must consume adequate calories and appropriate amounts of protein for cellular regeneration. After all, if you don't make enough red blood cells you will feel weak and tire easily and if you don't make enough white blood cells you will have a tough time fighting off even the mildest of colds.

The word "protein" comes from the Greek root meaning "of first importance". Indeed, protein is needed for every cell in the body and is critical for nutritional well being. The key is determining how much protein you need. Too much protein may tax the kidneys and too little protein may lead to malnutrition. Most healthy adults need between 45 and 60 grams of complete protein per day, which should account for 10 to 15 percent of their daily caloric intake. Adjustments may need to be made for specific disease states. Check with your nutritionist to see what your protein requirements are.

Protein can be divided into two groups: complete and incomplete. Complete proteins have all essential amino acids in the correct proportion for growth. Sources of complete proteins include dairy products, eggs, fish, fowl and meats. Incomplete protein, otherwise known as low quality protein, lacks one or more of the essential amino acids or contains them in the wrong proportion for growth. Sources of incomplete proteins include beans, grains, fruits, nuts and vegetables.

If you combine two types of incomplete proteins, they can become complementary to each other, creating a complete protein in the process. These complementary proteins are formed by combining legumes and grains, legumes and nuts or seeds and nuts or seeds and grains together. See the attached page for complementary protein specific guidelines.

Should you choose to consume animal products for their protein content, try and purchase products derived from organically fed, hormone free animals. Plant based proteins should be organic as well.

Along with being the only plant based complete protein, soy has many other cancer fighting characteristics, including being a good source of calcium, acting as a phytoestrogen, and promoting antiangiogenesis. So, instead of ordering that steak, how about asking for a veggie burger?

Guide to Complementary Proteins

Combing two or more plant proteins to obtain high quality protein depends on matching the amino acid strengths and weaknesses of individual foods. Nuts, seeds, and grains are generally low in lysine and relatively high in tryptophan and sulfur-containing amino acids. In general, legumes are good sources of lysine and poor sources of tryptophan and sulfur- containing amino acids.

Sample Menu Items

- **Legumes + Seeds and Nuts:**

1. Navy bean soup with sesame crackers

2. Peanut butter toast with sunflower seeds
3. Trail mix of peanuts, raisins, sunflower seeds

- **Legumes + Grains and Cereals:**

1. Baked beans and brown bread
2. Split pea soup and a sandwich
3. Red beans and rice
4. Pintos and corn bread
5. Peanuts and pretzels

- **Animal + Vegetable Protein:**

1. Macaroni and cheese
2. Vegetable lasagna
3. Peanut butter toast and soy milk
4. Cheese sandwich
5. Tuna noodle casserole
6. Baked beans and veggie hot dogs

- **Plant Protein Food Groups**

1. **Beans:**

adzuki	kidney	black
cranberry	pinto	fava
mung	navy	marrow
lima		

2. **Peas:**

black-eyed	chick	cow
split pea	soy	sprouts
field		

3. **Peanuts**

4. **Lentils**

- **Nuts and seeds group:**

1. **Nuts:**

almonds	Brazil nuts	cashews
pecans	walnuts	filberts

2. **Seeds:**

pumpkin	sesame	sunflower
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3. **Grain group:**

barley	corn	oats
rye	quinoa	millet
amaranth	buckwheat	rice
wheat (bulgur, wheat germ, sprouts) also, flours and cereals made from these grains		

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