

SECRETS OF

LIFELONG
UNLIMITED
HEALTH
A COMPLETE GUIDE

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What foods are good overall protein sources? Many are listed in the following Table. Details for fruit and vegetables are in **Chapter 2**.

Main Food Sources Of Protein* :

Approximate % By weight

| | |
|-----------------------|-----------------------|
| Soybeans,dry 34.1 | Ham,cooked 22.0 |
| Ham,lean 29.0 | Beef,porterhouse 19.3 |
| Pork chops,loin 28.8 | Salmon 18.4 |
| Cod 28.3 | Almonds 16.9 |
| Beef,round steak 27.8 | Cheese,cottage 13.6 |
| Turkey 26.2 | Eggs 13.2 |
| Cheese,cheddar 26.0 | Spaghetti 12.0 |
| Beef,stewing 25.4 | Oatmeal 10.9 |
| Lamb,leg 25.0 | Bread,wholemeal 9.0 |
| Peanuts,roasted 24.3 | Bread,white 8.2 |
| Salami 23.6 | Lentils,cooked 7.6 |
| Tuna 22.8 | Rice 7.0 |
| Prawns 22.6 | Peas,canned 6.9 |
| Peanut butter 22.6 | Yoghurt,low fat 5.1 |
| Chicken 22.2 | Milk,skimmed 3.4 |
| Red kidney beans 22.1 | Milk,whole 3.2 |

* These figures are only guides with large margins of variability and dependence on the source and local conditions.

Note: If **any** essential amino acid is not available in the diet, then protein synthesis soon stops as there is a limited store of amino acids.

VITAMINS

We cannot live without **vitamins**. These substances are required in small amounts for chemical reactions in the cells of living things to proceed properly. (An organic substance is defined chemically as one containing carbon. The first such compounds studied were of organic origin. Vitamins play an enzymatic role in biochemical reactions, enabling them to proceed at their proper rates. A cell is the basic unit of living organisms.)

**Amounts Of Foods Derived Only From Plants
Whose Protein Content Is About 60 Grams**

| Food | Protein in grams |
|-----------------------------|------------------|
| 1 glass of soy-bean drink | 9 |
| 1 cup oatmeal (cooked) | 6 |
| 5 slices of bread | 15 |
| 1/2 cup red kidney beans | 18 |
| 1/2 cup peas | 4 |
| 1½ cups brown rice (cooked) | 8 |
| Total | 60 |

Remember that it is important to obtain an adequate supply of all the **essential amino acids**. One serving of lean meat, fish or chicken can give nearly half of the daily requirement; two egg whites yield 8 g. **Meat, fish, eggs, cheese and nuts** provide substantial amounts of protein:- the following Table gives details of their composition.

Composition Of Meat, Fish, Eggs, Cheese and Nuts

| Food | Protein % | Fat % | Kilojoules per 100 g |
|-----------------|-----------|-------|----------------------|
| White fish | 30.3 | 2.5 | 670 |
| Tuna in water | 28.2 | 3.1 | 535 |
| Cheese,cheddar | 26.2 | 34.0 | 1700 |
| Chicken,no skin | 25.3 | 5.5 | 670 |
| Pork,average | 24.5 | 28.0 | 1420 |
| Peanuts | 24.3 | 49.0 | 2390 |
| Liver | 20.3 | 6.2 | 590 |
| Salmon | 18.8 | 10.8 | 750 |
| Beef,average | 18.3 | 22.0 | 1250 |
| Almonds | 16.9 | 53.5 | 2340 |
| Lamb,average | 16.2 | 24.0 | 1210 |
| Egg yolk | 16.1 | 30.6 | 1420 |
| Cheese,cottage | 13.6 | 4.0 | 400 |
| Eggs whole | 12.5 | 11.6 | 615 |
| Egg white | 10.4 | 0.2 | 209 |

Energy Expenditure (Calories) For Specific Activities

| Activity | Kilojoules/kg/h | Calories/lb/h |
|---|-----------------|---------------|
| Dining,sewing,watch TV, reading book,sitting | 1.7 | 0.2 |
| Playing violin,standing | 2.5 | 0.3 |
| Knitting | 2.9 | 0.3 |
| Playing piano, singing | 3.3 | 0.4 |
| Driving | 3.8 | 0.4 |
| Ironing,washing dishes keyboarding,typing | 1.0 | 0.5 |
| Mopping floor | 5.0 | 0.6 |
| Sweeping floor,horseriding | 5.9 | 0.6 |
| Painting (household) | 6.3 | 0.7 |
| Walking 4.8kmph (3mph) | 8.4 | 0.9 |
| Woodworking | 9.6 | 1.1 |
| Bike riding,slow | 10.5 | 1.1 |
| Vacuum cleaning | 11.3 | 1.2 |
| Dancing (ballroom) | 12.6 | 1.4 |
| Walking 6.4kmph (4mph) | 14.2 | 1.6 |
| Tennis | 15.9 | 1.7 |
| Table tennis | 18.4 | 2.0 |
| Skiing,cross country* | 19.3 | 2.1 |
| Disco dancing* | 20.1 | 2.2 |
| Jogging,medium | 21.0 | 2.3 |
| Lovemaking,vigorous* | 25.2 | 2.7 |
| Running,medium | 29.4 | 3.2 |
| Racquetball | 29.8 | 3.2 |
| Squash | 31.5 | 3.4 |
| Swimming | 33.2 | 3.6 |
| Sprinting | 35.7 | 3.8 |
| Skiing,downhill* | 37.4 | 4.0 |
| Race-walking | 37.8 | 4.1 |
| Walk up/down stairs | 39.1 | 4.4 |
| Bike ride uphill | 39.5 | 4.4 |
| Boxing | 49.6 | 5.3 |
| Rowing continuously | 67.2 | 7.3 |

Some Foodstuffs Associated With Heart Disease

| Foodstuff | Correlation |
|-----------------------|-------------|
| Animal protein | 0.782 |
| Cholesterol | 0.762 |
| Meat | 0.697 |
| Total fat | 0.676 |
| Eggs | 0.686 |
| Sugar | 0.638 |
| Total kilojoules | 0.633 |
| Total animal fat | 0.633 |

In addition, the following are associated with a high risk of cardiovascular disease:

Lack of regular exercise

Drinking soft instead of hard water

Low ratio of polyunsaturated to saturated fats

High heart rate

High sodium/salt intake

High alcohol intake.

On the other hand, the following dietary factors have been found to negatively correlate with AS. That is, if large amounts of these are consumed there is a decrease in the chance that AS will develop.

Foodstuffs Associated With The Absence Of Heart Disease

| Foodstuff | Correlation |
|-------------------|-------------|
| Starch | -0.464 |
| Vegetable protein | -0.403 |

It is a fact that **vegetarians are less likely to suffer AS** than those who include animal foodstuffs in their diet.

It is worth noting that the following foodstuffs neither increase nor decrease the likelihood of AS.

Fish

Vegetable-derived fat

Vegetables in general.

CANCER

A high fat/low fibre diet has a strong association with **increased risk of cancers** of colon, breast (females) and prostate (males). Thus, decreasing the amount of fat in your diet and increasing its fibre content reduce your risk of cancer. In particular, you should eat ample grains and grain products, fruits and vegetables.

A recent study (*Medical Observer, 1995*) has shown that a low-fat diet, high in fruit and vegetables and accompanied by unprocessed wheat bran, greatly reduces the risk of bowel cancer. Less protection is obtained if any of these three components is missing.

The following foodstuffs have been found to correlate **positively** with cancer of the breast, colon and prostate.

Foods Associated With Certain Cancers

| | |
|-------------|--------------------------|
| Beef/Veal | Animal fats |
| Pork | Beer |
| Eggs | Food Intake - kilojoules |
| Milk | All fat |
| All protein | |

Salt intake correlates with stomach cancer and both saturated fat and a high ratio of red to white meat, including fish, correlates with colorectal cancer. Lipids (fats) lead to secretion of bile acids which promote colon cancer. Other foodstuffs associated with this cancer are red meat, dairy products, liver, seafood (women) and poultry (men).

Protection is afforded by onions, cabbage and other green leafy vegetables, legumes and carrots. And the following have been found to have a **negative correlation** with the above cancers : that is, they also tend to afford protection against them.

Foods Which Protect Against Certain Cancers

| | |
|-------|------|
| Rice | Corn |
| Beans | |

VITAMIN B6 (PYRIDOXINE or PYRIDOXOL)

Also called pyridoxamine.

Occurs as pyridoxine hydrochloride in some supplements.

Type: Water-soluble.

FUNCTION & BENEFITS

Vitamin B6 is active as a coenzyme in the form of pyridoxol-5-phosphate. This is involved in amino acid synthesis and metabolism, as well as protein, carbohydrate and lipid metabolism. As seen earlier, it is needed for the conversion of tryptophan to niacin. The synthesis of several **neurotransmitters** depends on Vitamin B6. These include GABA, serotonin, noradrenaline (norepinephrine) and histamine. In addition it is required for the manufacture of haemoglobin, glycogen breakdown and hormone metabolism.

Vitamin B6 has been found useful for the treatment of (1) **carpal tunnel syndrome** in which nerves of the wrist are adversely affected by inflammation (**carpus** is a set of bones in the wrist) (2) **premenstrual syndrome**, with concomitant depression and tension (3) **asthma** (4) **arteriosclerosis** (5) deterioration of nerve tissue in diabetics (**diabetic neuropathy**) (6) **seizures** due to alcohol withdrawal (7) some **kidney stones** (8) **chorea** (a nervous disorder with irregular movements).

RECOMMENDED DAILY INTAKE

Adults: 2.0 mg

However, the amount of Vitamin B6 required depends on protein intake. Between 1.75 and 2.0 mg is recommended if one's protein intake is about 100 gm, and between 1.25 mg and 1.5 mg if it is about 30 grams. Niacin and riboflavin are needed for many reactions involving Vitamin B6.

You need more than average if you (1) are an oral contraceptive user (2) have liver disease or uraemia (3) consume alcohol frequently (4) are elderly (5) are overstressed or overworked (6) are pregnant (7) are a