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Home > Healthy eating >

Summary Read the full fact sheet ↓ • Protein is an important part of a healthy diet.

Protein

- Proteins are made up of chemical 'building blocks' called amino acids.
- Your body uses amino acids to build and repair muscles and bones and to make hormones and enzymes. They can also be used as an energy source. • You can easily meet your daily protein needs by following the Australian dietary guidelines.
- Most Australians get more than enough protein from foods alone. • Very high protein diets are not recommended.
- On this page

- **▶ Protein foods**

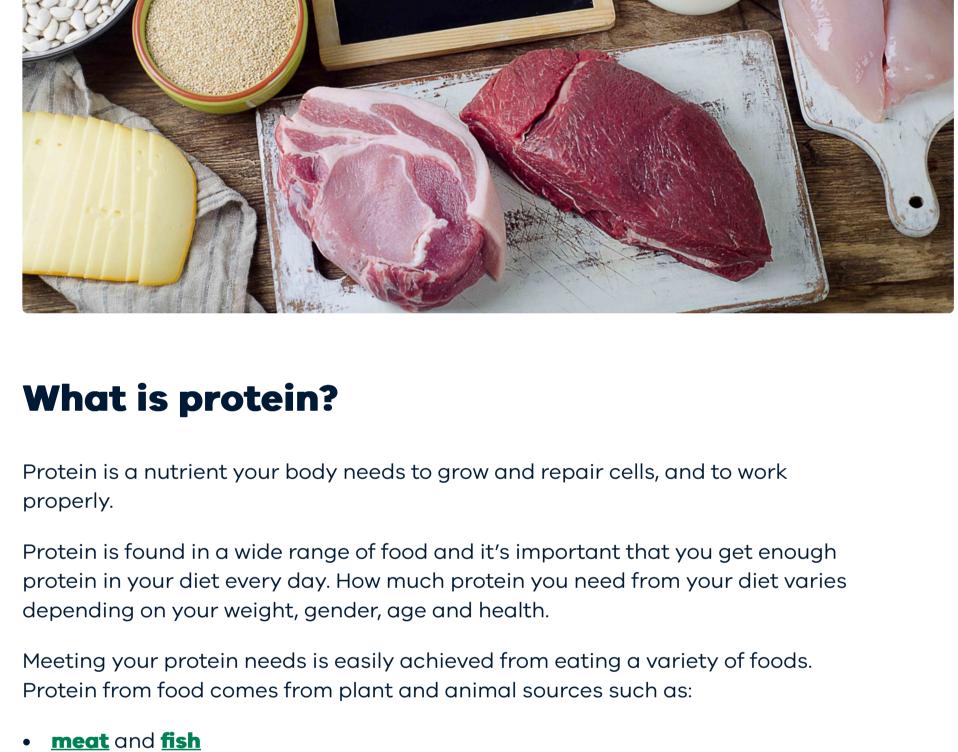
→ Nutritional value of protein

▶ Proteins are made of amino acids

- **↓** How to get your protein needs **↓ Getting more protein into your day, naturally**

- **↓ Getting too little protein (protein deficiency)** → Protein – maintaining muscle mass as you age
- **▶ Protein shakes, powders and supplements ▶ Protein and exercise**
- **♦ Where to get help**

Very high protein diets are dangerous Very high protein diets are dangerous



• dairy products

• seeds and nuts

• **legumes** like beans and lentils. Proteins are made of amino acids

Proteins are made up of building blocks called amino acids. There are about 20 different amino acids that link together in different combinations. Your body uses them to make new proteins, such as **muscle and bone**, and other compounds such as enzymes and hormones. It can also use them as an energy

The nutritional value of a protein is measured by the quantity of essential amino

Different foods contain different amounts of essential amino acids. Generally:

• Animal products (such as chicken, beef or fish and dairy products) have large amounts

Asia and the Mediterranean) also have large amounts of all of the essential amino

• Other plant proteins (beans, lentils, nuts and whole grains) contain all of the essential

amino acids, but the amounts of one or two of these amino acids may be low.

People following a strict **vegetarian or vegan diet** need to choose a variety of

source.

• eggs

Some amino acids can be made by your body – there are 11 of these and they're known as non-essential amino acids. There are 9 amino acids that your body cannot make, and they are known as essential amino acids. You need to include

acids it contains.

acids.

eggs

cheese)

Nutritional value of protein

of all of the essential amino acids and are known as high-quality protein. • Soy products, quinoa and the seed of a leafy green called amaranth (consumed in

enough of these in your diet so that your body can function.

cereals and legumes, such as baked beans on toast, provides all the essential amino acids found in a typical meat dish.

- poultry chicken, turkey, duck, emu, goose, bush birds • fish and seafood – fish, prawns, crab, lobster, mussels, oysters, scallops, clams
- legumes and beans all beans, lentils, chickpeas, split peas, tofu. Some grain and cereal-based products are also sources of protein, but are generally not as high in protein as meat and meat-alternative products.

hazelnuts, cashews, pumpkin seeds, sesame seeds, sunflower seeds

How to get your protein needs

from each of the 5 food groups.

- 'lean meat and poultry, fish, eggs, tofu, nuts and seeds and legumes/beans' group • 'milk, yoghurt, cheese and/or alternatives (mostly reduced fat)' group.
- effective way of meeting your daily protein requirement is to eat small amounts at every meal. Daily recommended serves of 'lean meat and poultry, fish, eggs, tofu, nuts

and seeds, and legumes/beans' and 'milk, yoghurt, cheese and/or

alternatives (mostly reduced fat)' for adults

2 1/2

2 1/2

Men

Men

years

aged 51–

70 years

aged 70+

As part of a healthy diet, the guidelines recommend particular serves per day

The human body can't store protein and will excrete any excess, so the most

Recommended average daily Recommended average daily Person number of serves of milk, number of serves of lean meat

2 1/2 Men aged 19-

2 1/2 2 1/2 Women aged 19-50 years Women 2 4 aged 51-70 years

Getting more protein into your day, naturally

If you're looking for ways to get more protein into your diet, here are some

Protein requirements for children and teenagers change as they grow. Read

about the recommended number of serves for children, adolescents and

toddlers for all 5 food groups.

suggestions:

deficiency)

- A plate of hummus and freshly cut vegetable sticks as a snack or hummus spread on your sandwich will give you easy extra protein at lunchtime. • Greek yoghurt is a protein rich food that you can use throughout the day. Add some on your favourite breakfast cereal, put a spoonful on top of a bowl of pumpkin soup or serve it as dessert with some fresh fruit.
- slow growth (in children). Protein – maintaining muscle mass as you age

From around 50 years of age, humans begin to gradually lose skeletal muscle.

Meeting the daily recommended protein intake may help you maintain muscle

mass and strength. This is important for maintaining your ability to walk and

To maintain muscle mass, it's important for older people to eat protein

This is known as sarcopenia and is common in older people. Loss of muscle mass

health needs. According to the most recent **national nutrition survey** 2, 99% of Australians get enough protein through the food they eat. your body as waste, or stored as weight gain.

is worsened by chronic illness, poor diet and inactivity.

reducing your risk of injury from falls.

and supplements, talk to your doctor.

Protein and exercise

supplements

protein (such as a glass of milk or tub of yoghurt) with a carbohydrate meal to help maintain your body's protein balance. Studies have shown this is good for you, even after low to moderate aerobic exercise (such as walking), particularly for older adults. People who exercise vigorously or are trying to put on muscle mass do not need to consume extra protein. High-protein diets do not lead to increased muscle

Soon after **exercising**, it's recommended that you have a serve of high-quality

Where to get help • Your **GP (doctor) Dietitians Australia Tel. 1800 812 942**

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- - **Dairy and dairy alternatives Healthy eating and diet**

Meat and poultry

Nuts and seeds

<u>eating</u>

website.

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• dairy products - milk, yoghurt (especially Greek yoghurt), cheese (especially cottage • nuts (including nut pastes) and seeds – almonds, pine nuts, walnuts, macadamias,

seeds, and legumes/beans alternatives (mostly reduced fat) 50 years

2 1/2

3 1/2

| | 70 years | | | | |
|--|--|---|-------|-------|--|
| | Women aged 70+ years | 2 | 4 | | |
| | Pregnant women | 3 1/2 | 2 1/2 | | |
| | Lactating women | 2 1/2 | 2 1/2 | | |
| | | erve ? A standard serving size of seeds, and legumes/beans' is one | | fish, | |
| • | 65 g cooked lean meats such as beef, lamb, veal, pork, goat or kangaroo (about 90 to 100 g raw) | | | | |
| • | 80 g cooked lean poultry such as chicken or turkey (100 g raw) | | | | |
| • | 100 g cooked fish fillet (about 115 g raw weight) or one small can of fish | | | | |
| • | 2 large eggs | | | | |
| • | 1 cup (150 g) cooked dried beans, lentils, chickpeas, split peas or canned beans (preferably with no added salt) | | | | |
| • | • 170 g tofu | | | | |
| • | 30 g nuts, seeds, peanut or almond butter or tahini or other nut or seed paste (no added salt). | | | | |
| A serve of 'milk, yoghurt, cheese and/or alternatives (mostly reduced fat)' could include: | | | | | |
| • | 250 ml (1 cup) fresh, UHT long life, reconstituted powdered milk or buttermilk | | | | |
| • | 120 ml (1/2 cup) evaporated milk | | | | |
| • | 200 g (3/4 cup or 1 small carton) yoghurt | | | | |
| • | 40 g (2 slices) hard cheese such as cheddar | | | | |
| • | • 120 g (1/2 cup) ricotta cheese. | | | | |
| | | | | | |

• Try a peanut butter sandwich. Remember to use natural peanut butter (or any other nut paste) with no added salt, sugar or other fillers. • Low-fat cottage or ricotta cheese is high in protein and can go in your scrambled eggs, casserole, mashed potato or pasta dish. Or spread it on your toast in the morning.

• Eggs are a versatile and easy option that can be enjoyed on their own or mixed in a variety of dishes.

Getting too little protein (protein

• wasting and shrinkage of muscle tissue

- **oedema** (build-up of fluids, particularly in the feet and ankles) • anaemia (the blood's inability to deliver sufficient oxygen to the cells, usually caused by dietary deficiencies such as lack of iron)
- 'effectively'. This means consuming high-quality protein foods, such as lean meats. Protein shakes, powders and
- mass. It's the stimulation of muscle tissue through exercise, not extra dietary protein, which leads to muscle growth. Studies show that weight-trainers who do not eat extra protein (either in food or protein powders) still gain muscle at the same rate as weight-trainers who supplement their diets with protein.

References

Australian guide to healthy eating

and repair muscles, even for body builders and athletes.

osteoporosis.

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protein sources from a combination of plant foods every day to make sure they get an adequate mix of essential amino acids. If you follow a vegetarian or vegan diet, as long as you eat a wide variety of foods, you can usually get the protein you need. For example, a meal containing **Protein foods** Some food sources of dietary protein include:

• lean meats – beef, lamb, veal, pork, kangaroo

Your daily protein needs can easily be met by following the **Australian dietary <u>guidelines</u>** . The guidelines group foods into 5 different food groups, each of which provide key nutrients. The 2 main food groups that contribute to protein are the:

and poultry, fish, eggs, nuts and yoghurt, cheese and/or

• Nuts and seeds are fantastic in salads, with vegetables and served on top of curries. Try toasting some pine nuts or flaked almonds and putting them in your green salad. • Beans are great in soups, casseroles, and pasta sauces. Try tipping a drained can of cannellini beans into your favourite vegetable soup recipe or casserole.

deficiency is rare in Australia, as the Australian diet generally includes far more protein than we actually need. However, protein deficiency may occur in people with special requirements, such as older people and people following strict vegetarian or vegan diets. Symptoms of protein deficiency include:

Protein deficiency means not getting enough protein in your diet. Protein

Any protein you eat on top of what your body needs will either be excreted from The best way for you to get the protein you need is to eat a wide variety of protein-rich foods as outlined in the **<u>Australian dietary guidelines</u>**, as part of a balanced diet. But if you are still interested in using protein shakes, powders

Protein shakes, powders and supplements are unnecessary for most Australians'

Very high protein diets are dangerous Some **fad diets** promote very high protein intakes of between 200 and 400 g per day. This is more than 5 times the amount recommended in the Australian dietary guidelines.

The protein recommendations in the guidelines provide enough protein to build

A very high-protein diet can strain the kidneys and liver. It can also prompt

excessive loss of the mineral **calcium**, which can increase your risk of

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