

Nutrition for improving muscle strength

This advice explains how to improve your nutritional intake to maintain or build strength, improve mobility, or to support your recovery, e.g. after a fall or fracture.

Protein

Protein is the main component of muscle and connective tissue. Older people may require more protein due to risks of sarcopenia, which is a condition used to describe a loss of muscle mass strength and function.

Weight loss can also lead to a reduction in muscle mass; therefore, if you have lost weight unintentionally, you may be at a greater risk of sarcopenia.

As we age, we tend to become less active, and our muscles are less responsive to the protein that we eat.

Research shows 20-40g protein per meal helps to maintain or build muscle mass.

Most people require around 1.2-1.5g of protein per kg body weight per day, ideally spread evenly across meals and snacks day to support retention of muscle mass and satiety.

Aim for 4-6 smaller meals or snacks per day, choosing options high in protein where possible.

Try to limit ultra processed foods and chose whole foods where possible.

Below are some examples of 20g protein portions.

Examples of protein rich snacks include high protein yogurts, Greek yogurt, protein bars, boiled eggs, a handful of nuts, cheese and biscuits.

Good protein sources:		Serving size to provide 20g protein:
	Chicken, meat, fish	A palm size or approx. 100g
	Greek yogurt	Approx 200-400g, depending on brand
	Eggs	3 medium-sized eggs
	Tofu	Approx. 120g
	Baked beans	1 can or approx. 400g
	Other beans and pulses, e.g. kidney beans, chickpeas, black beans, lentils	Approx. 300g
Cow's milk or soya milk		1 pint or approx. 560ml
Soya or Quorn mince		100-150g

Speak to your doctor or dietitian if you have kidney disease, as a high protein diet may not be appropriate for you.

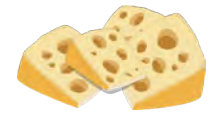
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Calcium and Vitamin D:

Calcium and Vitamin D have important roles in muscle strength and function, as well as bone strength.

Examples of dietary sources of calcium include: milk, cheese, dairy products, green leafy vegetables, fortified products, such as plant-based milk alternatives, bread, and cereals.



Vitamin D helps absorb calcium from our diet. Our main source of vitamin D is from sunlight. During the winter months (October to early March) it is recommended everyone should take 10 micrograms (µg)/ 400IU vitamin D3 supplement. People with very little or no sunlight exposure should take 10µg/ 400IU vitamin D3 supplement throughout the year.

Vitamin D can also be obtained in small amounts from oily fish, such as salmon, sardines, herring and mackerel, red meat, liver, egg yolks, fortified fat spreads and breakfast cereals.

Hydration: Stay well hydrated. If you feel full quickly, have drinks between meals rather than with meals.

Physical activity:

Any physical activity is beneficial. whether it is walking, gardening, cleaning, or a planned activity, such as swimming and dancing. Try to find activities that can be part of your daily routine.

Resistance exercise:

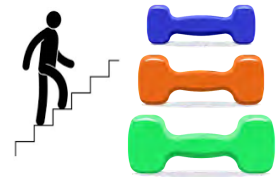
A form of exercise where you pull or push against resistance. It can help improve strength and can reduce the risk of muscle wasting and weak bones (osteoporosis).

Aim for at least 3 sessions of resistance training per week to support muscle mass and bone health.

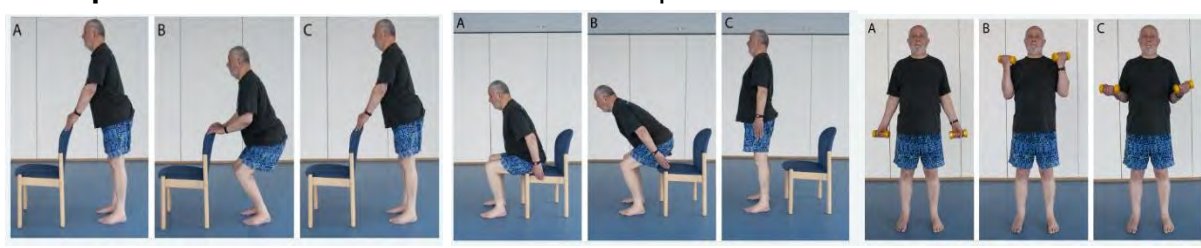
If you've had a fall, doing exercises to improve your strength, balance and flexibility can help improve your strength and confidence.

Examples of resistance exercise:

- Chair-based exercises
- Stair climbing
- Weightlifting
- Body weight exercises, e.g. push-ups, sit-ups and squats
- Heavy gardening, e.g. digging and pushing a lawn mower



Examples of exercises at home: Aim to complete each movement 8-12 times.



For guidance on resistance exercises at home visit: [Strength exercises - NHS \(www.nhs.uk\)](https://www.nhs.uk)
Check with your GP / exercise specialist, such as a physiotherapist, to ensure you are starting at an appropriate level for your ability.

Your dietitian: _____	Contact number: _____
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