Diet and Lifestyle Measures to Counterbalance Age-related Sarcopenia

Key Points

- Age-related sarcopenia is the loss of muscle mass, strength and/or muscle function associated with ageing
- Sarcopenia has serious implications including an increased risk of falls, frailty, immobility and loss of independence
- A healthy diet, including sufficient amounts of high-quality protein and vitamin D, and being physically active can help reduce age-related muscle loss and maintain muscle strength and function
- Spreading dietary protein intake evenly throughout the day may help maximize muscle-building and maintenance.
- Adding soyfoods to the diet is an easy and healthy way to increase protein intake, as they are good sources of high-quality protein, low in saturated fat and high in polyunsaturated fat.

What is Age-related Sarcopenia?

Sarcopenia is part of the natural process of ageing. It happens to all of us. How soon it occurs, and to what extent, depends on a number of factors. The good news is a number of these factors are within our control.

Age-related sarcopenia is the loss of lean muscle mass, strength and/or muscle function associated with advancing age. Between the ages of 40 and 80 years around 30 to 50% of muscle mass can be lost. After the age of 50, muscle function is estimated to be reduced by 1 to 2% each year, and as much as 3% a year after the age of 60.

Although there's no specific level of muscle mass and function used to diagnose sarcopenia, a critical loss has serious consequences. Not only can loss of lean muscle mass and strength prevent older people from undertaking the most basic day to day tasks, more serious implications include an increased risk of falls, frailty, immobility and loss of independence. Worldwide it's estimated that up to 25% of older adults are affected by sarcopenia, with this figure likely to rise with the growing ageing population. The health implications of this, both to the individual and to wider society, are considerable.

What Causes Sarcopenia?

It's not entirely clear what causes sarcopenia, although it's likely a number of factors associated with ageing play a role. These include: inflammation, lack of exercise, changes in hormone levels, a reduction in nerve cells that control muscle movement and changes in the way the body handles muscle formation versus muscle breakdown.

In addition, older adults are particularly prone to a reduction in food intake. This reduction can lead to inadequate amounts of calories and/or protein being consumed to maintain a healthy muscle mass. Poor food intake is not uncommon among the elderly with estimates suggesting calorie intake is reduced by as much as 30% between the ages of 20 and 80 years.

The Role of a Healthy Lifestyle

Age-related sarcopenia doesn't just happen, it's a slow, progressive condition. Fortunately a number of lifestyle steps have been found to be effective in preventing, delaying and managing this condition.

Eating a healthy diet, including sufficient amounts of high-quality protein, and being physically active can help to reduce age-related muscle loss and maintain muscle strength and function.

These actions over the years can help to build and maintain good levels of muscle mass and reduce the risk of sarcopenia in later life.

Protein…
Muscle is made up of proteins, so getting adequate amounts in the diet is important for building and maintaining muscle mass, strength and function.

The daily protein intake recommendation for adults is currently 0.8g of protein/ kg body weight. However research has shown older adults may need more protein to maintain proper levels of muscle mass and function. This is to help compensate for the age related decline in the body's ability to synthesise protein and build lean muscle, as well as to meet the increased requirements due to diseases that commonly occur in ageing. Many experts now suggest a daily intake of 1.25g to 1.5g of protein/ kg body weight for the older adult.

Not only is the amount of protein important but the timing may be of significance. Some research suggests that spreading dietary protein evenly across the day can maximize the building of muscle. This approach is contrary to our current dietary pattern where most protein is eaten at dinner. It's been suggested that 25 to 30g of high-quality protein should be included at each meal.

As well as adding more high-quality protein to the diet, and spreading it evenly throughout the day, the food sources of protein also need to be considered. While foods such as meat are good sources of protein, eating more meat could increase the unhealthy (saturated) fat in the diet. Also eating too much meat, particularly processed and red meat, has been associated with an increased risk of cancer.

Soy as a Source of Protein…

A healthy way to increase protein is to eat more soyfoods. Soyfoods provide high-quality protein, comparable to that in milk and eggs, are low in saturated fat and high in polyunsaturated (good) fat. As such, swapping animal protein for soy protein can help reduce saturated fat in the diet.

Table 1: Protein Content of Soy Foods

Food	**Portion moyenne**	**Protéines de soja pa portion (g)**
Serving Size	250 ml	7,5
Soy drinks	125 g	4,5 - 5
Soy yoghurt alternatives	125 g	3,8
(plain, vanilla and fruit)	200 g	6,6
Soy desserts	75 g	7,5 - 15

Vitamin D…
Research indicates that vitamin D may also be useful in maintaining muscle strength and reducing the risk of sarcopenia. Getting enough of this vitamin is particularly important for older adults because they are at an increased risk of vitamin D deficiency. Partly because as we get older the skin can't synthesise vitamin D as efficiently. Also less time is spent outdoors and dietary intake may be inadequate. The benefits of soyfoods go beyond their protein and fat content as many of these foods are also fortified with vitamin D.

Exercise…
Regular exercise is essential for preserving and increasing muscle mass. Both endurance and resistance (strength training) type exercises, tailored to an individual's ability, are recommended.

Top Tips to Maintaining Healthy Muscle Mass as You Age…

- Eat adequate amounts of healthy, high-quality protein foods, such as soyfoods. With the wide variety of soyfoods now available, it's never been easier to include soy in the diet:
  - Soy drinks and yoghurt alternatives are delicious served over cereal or fruit at breakfast.
  - Soy drinks are a great choice for hot drinks and sauces.
  - Tofu and meat substitutes are good replacements for meat at lunch and dinner.
  - Tasty soy shakes and desserts can be used as a dessert or snack.
- Spread your intake of protein evenly across the day so that protein is always available to the body for muscle-building.
- Enjoy a nutrient rich diet making sure enough vitamin D containing foods are included.
- Keep moving. Take part in regular physical activity