

## Sarcopenia



**What is it** – A syndrome characterised by progressive and generalised loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life.

Muscle mass declines on an average of -1% per year from the peak. Peak muscle mass is likely somewhere between 20-30 years old in untrained individuals.

Basal rates of muscle protein synthesis and muscle protein breakdown are unchanged with healthy aging.

- **Why is Sarcopenia an issue?** – Sarcopenia individuals are over three times more likely to fall.
- Decrease in muscle mass (sharp decline in post menopause).
- Decrease in muscle strength and performance.
- Increase social withdrawal, anxiety and depression.
- Reduce physical activities and increase fractures (especially if bone density is low).

**What is the mechanism of sarcopenia?** – Prior to what people believe that it decreases in MPS and increase MPB, BUT its reduced response of skeletal muscle to anabolic stimuli (Anabolic resistance).



- **Practical Recommendations** - Resistance training plays a hugely important role in Sarcopenia. Exercise could improve the person's quality of life and help reduce further deterioration.
- **Increase Protein Intake** – This is a must in the elderly and aging population. Protein is not just for Sarcopenia, it helps with muscle mass retention, improve immune status, improve wound healing and help with weight management. Aim for 0.4-0.6g/kg of protein in Each meal.

### Supplements

- **Fish Oil** – (To improve sensitivity to amino acids), benefit CV health, joint health(arthritis), immunity.
- **Vitamin D** – (To help prevent osteoporosis and improve bone mineral density), Osteoporosis is another common age-related problem where bones become weaker increasing the chances of breaks and falls. It is most common in post-menopausal women due to reduced level of estrogen.
- **Multivitamins** – Because the elderly are less likely to be eating larger meals (due to appetite) which will make it more difficult for them to get a sufficient amount of micronutrients.
- **Calcium** – to help increase bone mineral density. Males-1000mg/ day, Females-1200mg/day (mostly from food)
- **Creatine** – Because supplementing with creatine and resistance training increased muscle mass and strength more than resistance training alone. Most of evidence-based studies shows that Creatine supplemented groups had lower incidences of Sarcopenia. Creatine enhances functional performance, enhance strength and lean muscle mass, (all elements of Sarcopenia).  
IF appetite is low, supplementing with leucine can help stimulate muscle protein synthesis which could help improve muscle retention.



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