

# The Backbone of Mobility: Interconnected Musculoskeletal Health

The publication of this infographic was supported by Nestlé Health Science. EMJ. 2023;8[2]:28-29. DOI/10.33590/emj/10306291. https://doi.org/10.33590/emj/10306291.

## MOBILITY ISSUES ARE AN INCREASING CHALLENGE AND A GLOBAL PUBLIC HEALTH CONCERN

**1.71 billion** people have musculoskeletal conditions worldwide

- Leading contributor to global disability
- Significantly limits mobility and dexterity reducing QoL and ability to participate in society

Due to our ageing population the number of people living with musculoskeletal functional limitations is rapidly increasing

**>1 in 4 adults** do not meet the global recommended levels of physical activity, with even greater prevalence in higher income countries

Those who are insufficiently active have **20%–30%** increased risk of death

## IMPROVING MOBILITY DURING AGEING THROUGH EVIDENCE-BASED COMPLEMENTARY APPROACHES

**Physical activity**

- Aerobic exercises / walking
- Resistance training
- Balance exercises / gait training
- Power exercises

**MUSCLE**

- High quality protein intake, with 20–35g per meal

**BONE**

- Optimise vitamins and minerals such as Ca, Vit D, Phos, and Mg

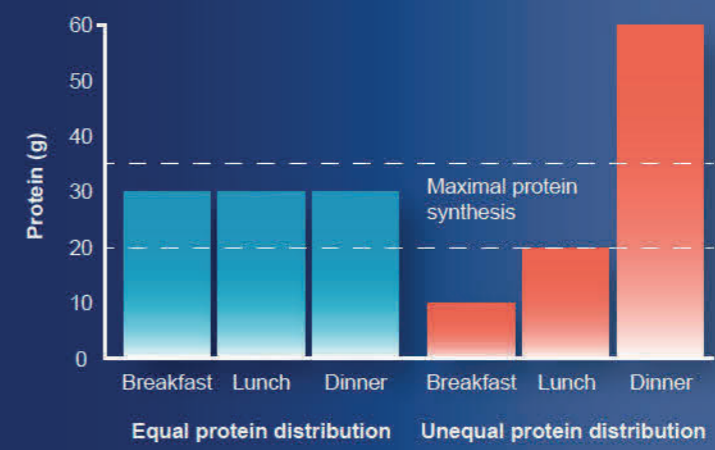
**JOINTS**

- Adequate and safe pain management e.g., with oral enzyme combinations
- Support cartilage through collagen, glucosamine, and chondroitin

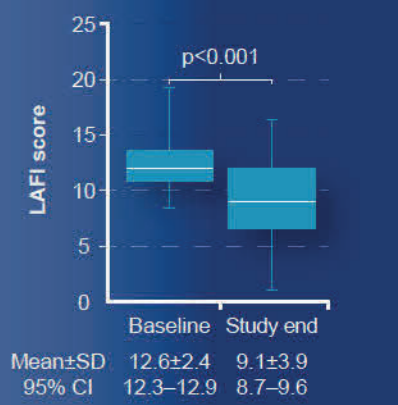
### International Expert Groups Recommend Higher Protein Intake for Adults >65 years



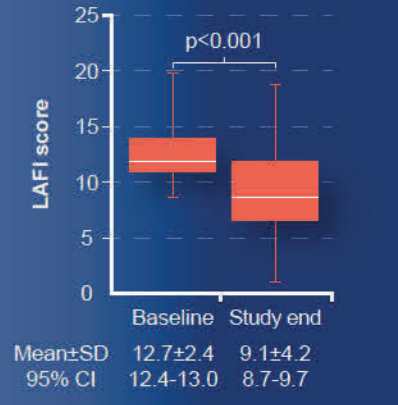
### Maximise Protein Synthesis with Even Distribution of Protein Throughout the Day's Meals



### Comparable Efficacy with a Superior Safety Profile: Oral Enzyme Combination with Bromelain/Trypsin/Rutin

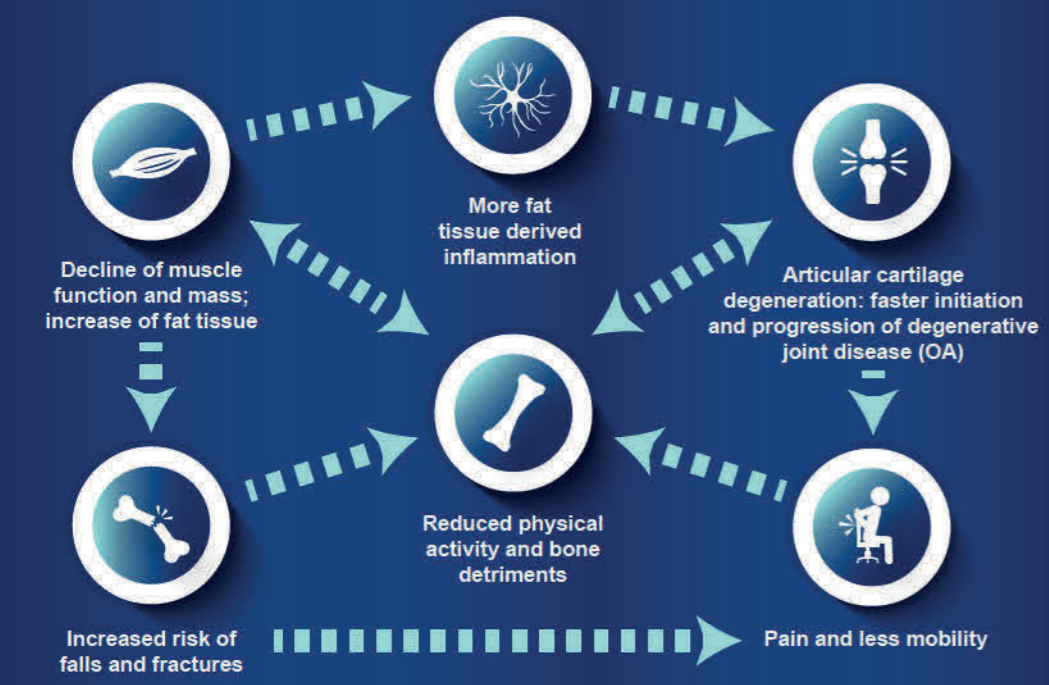


### Diclofenac (NSAID)



LAFI: self-assessment of OA-related joint pain and functional disability in daily life

## ADDRESSING ALL ASPECTS OF THE MUSCULOSKELETAL SYSTEM IS NECESSARY TO BREAK THE VICIOUS CYCLE



## THE IMPACT OF AGEING CAN BE SEEN AS EARLY AS 40Y

20–30 years old	40–50 years old	50–60 years old	60–70 years old	Over 70 years old
Peak muscle and bone mass	Approximately 1% year average loss of muscle mass begins 2–5 times faster loss of muscle strength	Bone loss with a decline in mineral density; prevalent in females due to menopause 30% of post-menopausal females have osteoporosis, and over 40% of them will have fragility fractures in their lifetime	Cartilage that lines the joints tends to thin and efficiency of repair mechanisms are reduced Ligaments and tendons become less elastic and weaken	Significant muscle and strength loss, declining to <50% in the 80s compared with peak Percentage of body fat increases, along with risk of health problems such as diabetes Food intake often declines, increasing risk of calorie-protein malnutrition

A poor diet, sedentary lifestyle, comorbidities, or injuries will hasten this progression

## TOP RISKS TO SCREEN FOR:

- Measure functional capacity (handgrip strength, walking speed, chair rise test, balance)
- Assess dietary intake (ensure higher protein across the day and nutritional adequacy including nutrients for bone health)
- Discuss joint pain management (recommend safe natural options)

**ACRONYMS**

Ca: calcium; CI: confidence interval; LAFI: Lequesne Algofunctional Index; Mg: magnesium; NSAID: non-steroidal anti-inflammatory drug; OA: osteoarthritis; Phos: Phosphorus; QoL: quality of life; SD: standard deviation; Vit D: Vitamin D.

Please [click here](#) for references.