



BONE HEALTH

BONE

- is a living tissue
- resists the pull of muscles to provide movement
- is in a constant state of change by the process of bone turnover
- needs an essential balance between resorption and remodelling throughout life

THE MAIN DETERMINANTS OF BONE HEALTH

Genetics, Nutrition, Physical Activity, Gonadal Status. Puberty has a fundamental role in the acquisition of bone mass. [Ref \(1-3\)](#)

MAXIMISING BONE HEALTH - PHYSICAL ACTIVITY/EXERCISE

- Bones need to be subjected to unfamiliar loading forces to maintain good bone health; exercise/activity must be therefore be progressive and involve changes in speed and direction
- Peak Bone Mass is achieved by late teens/early 20s
- Weight-bearing exercise/activity plays a vital role in promoting and maintaining bone health throughout adulthood and managing the natural ageing process
- Research has indicated that sufficient appropriate exercise can maintain bone mass and quality and/or reduce the speed of bone loss. [Ref \(4,5\)](#)
- Exercise is the only single therapy that can simultaneously ameliorate low bone density, augment muscle mass, promote strength gain and improve dynamic balance – all of which are independent risk factors for fracture (fragility). [Ref \(6\)](#)
- The ISCP emphasises that therapeutic exercise for bone health management should be prescribed, tailored and directed by a Chartered Physiotherapist.
[Ref ISCP Doc. '08](#)

RISK FACTORS TO BONE HEALTH: Modifiable and Non-Modifiable (not exhaustive)

Female, advancing age, positive family history, low BMI, RA, steroid therapy, smoking, physical inactivity/excessive exercise, eating disorders, low calcium and vitamin D, endocrine disorders, late onset menarche, early menopause, low testosterone levels, hypogonadism, post-transplant, coeliac, malabsorption disorders.

Both males and females presenting with a number of risk factors should avail of a DXA scan to determine their bone density when Osteopenia/Osteoporosis can be diagnosed, managed and treated at the earliest opportunity.

Timely physiotherapy intervention will substantially reduce the impact of Osteopenia / Osteoporosis and the consequences of low-trauma / fragility fractures in all age-groups
[Ref ISCP Doc. '08](#)

