



*The Australian Orthopaedic Association is the peak professional body representing orthopaedic surgeons in Australia and is happy to provide the following comments about osteoporosis in the interests of public education.*



## OSTEOPOROSIS

### ***What is osteoporosis?***

Osteoporosis is the reduction in the quantity or mass of normal bone, which leaves it vulnerable to fail as the result of a relatively minor injury.

### ***Symptoms and results***

Osteoporosis has no symptoms, but results in a more fragile skeleton and potential fractures from relatively minor injuries. The most common areas of the skeleton to fail because of osteoporosis are the spine, the neck of the femur (hip) and the wrist. As a result, elderly people who have minor falls typically can suffer compression fractures of the spine, broken hips and fractures of the wrist.

### ***Childhood and adolescence***

As children, our skeleton develops in response to activity, growth hormone and appropriate nutrition—which must include adequate protein and calcium.

The skeleton continues to grow and increase in mass and strength in childhood and particularly during adolescence, under the influence of oestrogen in the female and testosterone in the male, reaching its maximum strength in our late teens and early 20s.

The strength and mass of the skeleton as we enter adulthood is determined by activity, adequate nutrition and normal hormone balance in our growing years. The greater the bone mass we develop in childhood, the less likely it is that our skeleton will become fragile and vulnerable in later life.

The bone mass we achieve in those growing years can be reduced by inactivity, eating disorders, dietary deficiencies and diseases which affect the gastro-intestinal system.

### ***In our 20s and 30s***

In our 20s and 30s, the mass and strength of the skeleton is maintained by activity, appropriate nutrition and our hormone balance, which in females includes the regular oestrogen cycles.

***The later years***

From our 50s and 60s, there is a slow but progressive decline in our bone mass as a natural process of our skeleton ageing. This happens equally for men and women, but is compounded by a sedentary lifestyle, poor diet or disease which limits activity, or illness which results in poor absorption of nutrients through the gut.

***How to fight osteoporosis***

The main protection for the skeleton at any age is activity and a good diet.

A family history of osteoporosis, smoking, eating disorders in adolescence or a sedentary lifestyle all leave the skeleton more prone to reach the threshold of failure earlier in our senior years.