



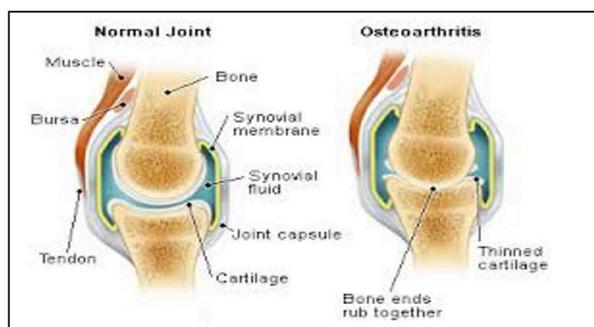
## ○ NUTRICIA COLLAGEN BONES AND JOINTS

○ Nutricia collagen peptides may help prevent the negative effects of osteoarthritis, osteopenia (loss of bone mass) and sarcopenia (loss of muscle mass). Staying active and healthy for longer is key to maintaining a good quality of life as we get older.

### OSTEOARTHRITIS

Osteoarthritis is a joint disease that mostly affects cartilage. Cartilage is the slippery tissue that covers the ends of bones in a joint. Healthy cartilage allows bones to glide over each other. It also helps absorb shock of movement. In osteoarthritis, the top layer of cartilage breaks down and wears away. This allows bones under the cartilage to rub together.

The cartilage contains cellular building blocks (chondrocytes). These produce the extracellular matrix, which consists of collagen and proteoglycans (mainly aggrecan). Collagen fibers make up 70-95% of cartilage and are responsible for its structure and strength, while proteoglycans lubricate and cushion our joints. Healthy cartilage is maintained by a finely balanced process that breaks down collagen and aggrecan and replaces them both with newly-formed matrix. In joints of osteoarthritic people, this process is disturbed, increased matrix breakdown leads to a loss of cartilage and joint function.



○ Nutricia collagen peptides can promote chondrocytes (cartilage cells) synthesis, producing increased aggrecan and collagen type 2, the two main components of cartilage. This can reduce the cartilage-degrading effects of osteoarthritis.

### OSTEOPENIA

Osteopenia is the first stage towards developing osteoporosis. It is an age-related condition which results in reduced bone mineral density (BMD). ○ Nutricia collagen has been proven in multiple in-vivo studies to stimulate osteoblasts (bone formation cells), restoring BMD and increasing bone size and strength.

Research has also indicated that collagen peptides could be more effective than whey protein in preserving muscle mass during the consumption of an older person's typically low protein diet.

Daily dose of only 10 grams ○ Nutricia hydrolyzed collagen can help

In vivo\* tests have proven that 10g of ○ Nutricia hydrolysed collagen, when taken daily over a period of at least six months, can not only prevent, but even slow down the progress of osteopenia.

Studies show that the body completely integrates the nutrient hydrolysed collagen into the bones, making them stronger and less brittle.

○ Nutricia hydrolysed collagen activates the osteoblasts, which, in turn, produce more calcium. The same dose of hydrolysed collagen is also recommended as a dietary supplement for those suffering from painful arthritis in the joints to alleviate pain and strengthen the cartilage tissue again.