



AIDS FOR

STRONG JOINTS

BONES

are complex organs primarily composed of calcium, phosphorus and a collagen matrix.

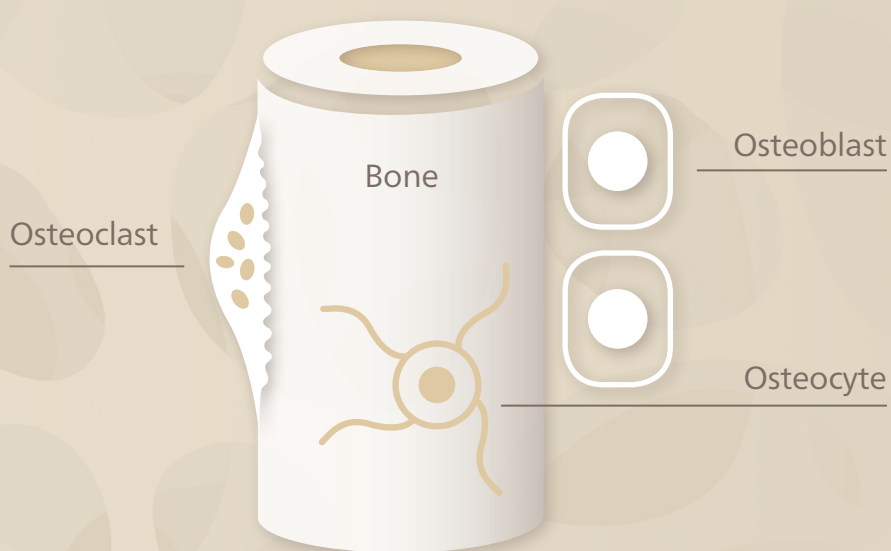
BONE CELLS

Osteoblast: a cell from which bone develops.

Osteocyte: a mature bone cell involved in bone maintenance.

Osteoclast: a large cell associated with bone resorption. Osteoclasts break down the tissue in bones and release minerals.

Bone loss may be due to decreased osteoblastic bone formation and increased osteoclastic bone resorption.



BONES & JOINT HEALTH

30
Zn
65.39
Zinc

Zinc has been shown to have a stimulatory effect on osteoblastic bone formation and an inhibitory effect on osteoclastic bone resorption, thereby increasing bone mass.

29
Cu
63.546
Copper

Copper is a co-factor of the enzyme lysyl oxidase, which is necessary for the cross-linking of collagen.

26
Fe
55.845
Iron

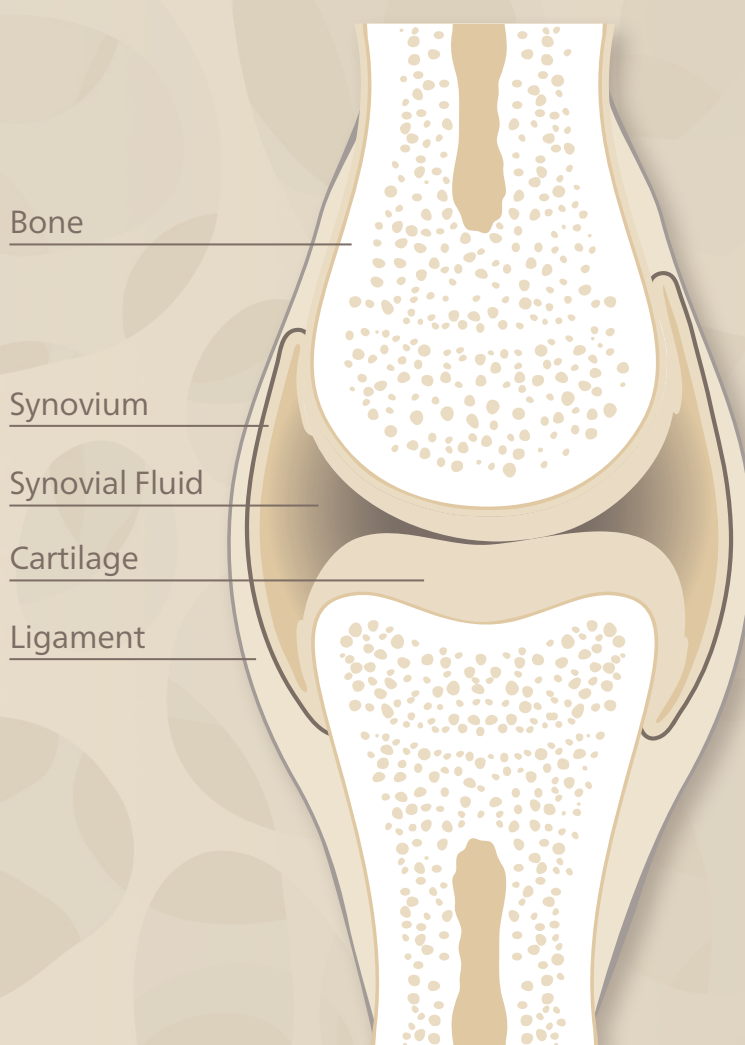
Iron is a co-factor of the enzymes prolyl and lysyl hydroxylases, which are important in the synthesis of collagen.

34
Se
78.96
Selenium

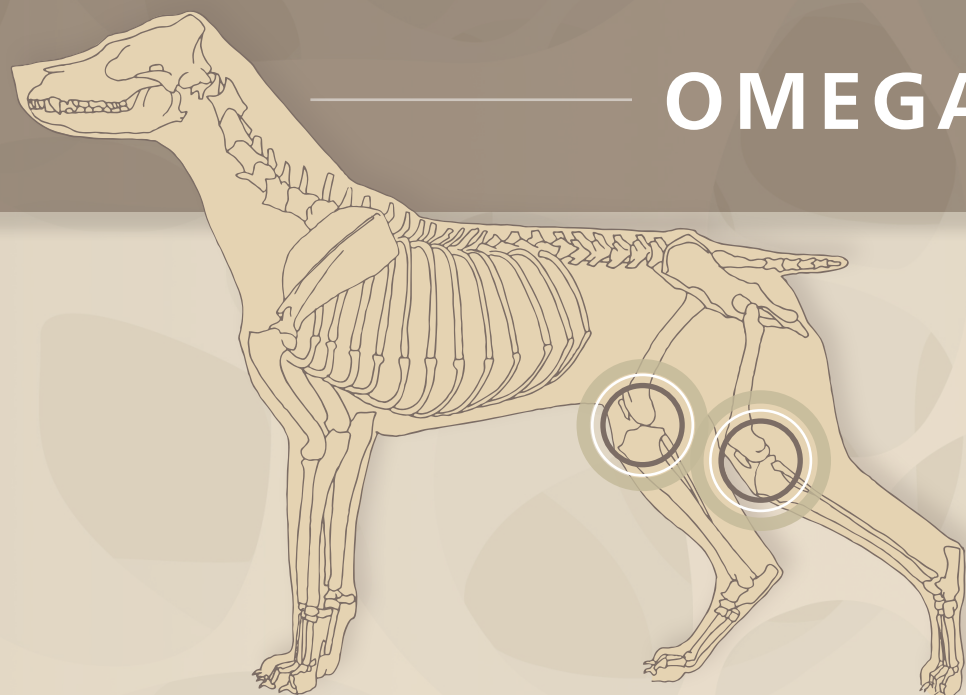
Selenium helps with improving long-term joint health (Sudre and Mathieu, 2001; Levander and Beck, 1997; Beck et al., 2003). It is also thought to help prevent hip dysplasia (Hamilton, 1999).

25
Mn
54.938
Manganese

Manganese is a co-factor in the formation and elongation of the glycosaminoglycan chain, which forms the basal substance of the cartilage model. Many bones are built using a cartilage model as a foundation.



OMEGA-3s



Omega-3s (DHA,- EPA) have anti-inflammatory properties that have been shown to reduce joint pain.

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 • Rucker, R.B., T. Kosonen T, M.S. Clegg MS, A.E. Mitchell AE, B.R. Rucker BR, J.Y. Uriu-Hare JY, 1998. Copper, lysyl oxidase, and extracellular matrix protein cross-linking.
 • Toxqui, L.; Vaquero, M.P, 2015. Chronic Iron Deficiency as an Emerging Risk Factor for Osteoporosis: Role of iron in the collagen synthesis, 2015. .



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