Joints & Muscles

Your 'at a glance' guide to staying healthy for life By Quest Vitamins

Bones do not work alone, they employ muscles and joints. Skeletal muscle is attached to bone, mostly in the legs, arms, abdomen, chest, neck, and face; these muscles, composed of fibres, hold the skeleton together and facilitate everyday movement. Muscles constitute 40 – 50% of total body weight. Joints occur where two bones meet, they are what give the skeleton its flexibility; bones at the site of joints are covered by a layer of cartilage, which acts as a buffer to stop bones rubbing together.

So What Can Go Wrong?

Arthritis

Over time cartilage can become worn down, resulting in inflammation, pain and eventually osteoarthritis. The body's immune system can attack cartilage tissue resulting in rheumatoid arthritis.

Key Nutrients For Joints & Muscles:

- ✓ Glucosamine
- ✓ Omega 3
- ✓ Magnesium
- ✓ Devils Claw
- ✓ 5-HTP
- ✓ DL-phenylanine
- ✓ Bromelain

Tennis elbow

Tendinitis is the painful inflammation of a tendon and its ligaments, which attach it to the bone. It often results from the stress of repetitive movements. The areas most commonly affected are the shoulder, elbow, wrist, knee, ankle and hip.

Muscle cramping and tension headaches

Motion results from the alternating contraction and relaxation of muscles; if this process is not adequately regulated the result can be muscle spasms, cramps, weakness and pain. Tension headaches are very common. Pain is caused by tightness (contraction) of the neck and scalp muscles. With a tension headache, the pain often starts at the back of your head and moves forward

Fibromyalgia

Fibromyalgia is a chronic condition characterized by pain in the muscles, multiple tender points on the body and overwhelming fatigue. The underlying cause is not fully understood.

Natural Support For Joint And Muscle Health

Glucosamine sulphate

Glucosamine sulphate is a fundamental structural component of cartilage, it is synthesised in the body but is not present in significant amounts in most diets; glucosamine sulphate is a well-established supplement for maintaining joint health.

Omega-3 fatty acids

The omega-3 fatty acids are essential nutrients. They can be found in the form in which they are used by the body, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), in oily fish, or they can be synthesised from a-linolenic acid (ALA), found in walnuts, flaxseeds and soy. Both EPA and the omega-6 arachidonic acid (AA) serve as a source of eicosanoids (prostaglandins, leukotrienes, thromboxanes), chemicals with major regulatory roles in blood pressure, blood clotting and inflammation. EPA inhibits the synthesis of eicosanoids from AA, this is important because eicosanoids derived from EPA are much weaker inducers of inflammation than eicosanoids derived from AA. In addition EPA and DHA give rise to substances called E- and D-series resolvins respectively; these substances are known to reduce inflammation. Due to these actions of DHA and EPA fish oil is an established anti-inflammatory; doses of 3-5 grams of EPA and DHA daily have been used for up to three months with rheumatoid arthritis patients.

Magnesium

Muscles rely on the minerals calcium and magnesium for contraction and relaxation. When a muscle fiber receives a signal that stimulates it to contract, calcium channels open to allow calcium ions into the muscle cell. These calcium ions bind to proteins

Information created by Quest Vitamin's Nutritionist. Questions and Comments please email us; nutritionists@questvitamins.co.uk

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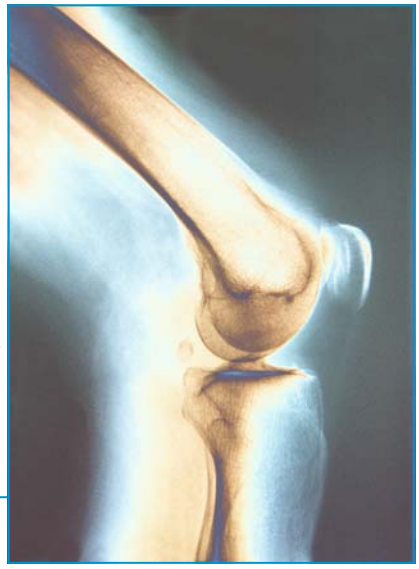
within the cell initiating a series of steps that lead to muscle contraction. Magnesium's role is as a regulator, it is necessary for ions to cross cell boundaries, it can thus put up a barrier to calcium ions, preventing muscle contraction. Low levels of magnesium have been found in those suffering from fibromyalgia, frequent headaches and pre-menstrual pain. Magnesium (200 mg two to three times per day) with malic acid (1,200 mg one to two times per day) has been used successfully with fibromyalgia patients.



Herbal Support

Certain herbs have an established anti-inflammatory effect without the side effects associated with conventional painkillers (NSAID). In particular the herb devil's claw, which contains harpagoside, and the spice tumeric, which contains curcumin, have been found to be highly effective regulators of the immune pathways responsible for inflammation.

Additional Support

Antioxidant nutrients

Inflammation creates a great deal of oxidative stress (oxidative stress occurs when there is an excess of highly reactive, damaging substances known as free radicals); oxidative stress may itself contribute to the development of joint and muscle problems. Antioxidant nutrients can help control this process. Vitamin C is a powerful water-soluble anti-oxidant, it is also essential for the synthesis of collagen, the main protein found in connective tissue. Vitamin E is a powerful fat soluble antioxidant. The minerals selenium and zinc are components of the body's antioxidant compounds glutathione peroxidise and superoxide dismutase respectively.

5-hydroxytryptophan (5-HTP)-

5-HTP is directly converted by the body to serotonin, a type of hormone responsible for elevating mood and reducing the perception of pain.

DL-phenylanine -

D-phenylanine inhibits the breakdown of endorphins, feel good substances that reduce the perception of pain, thus increasing the amount of time endorphins exert their effects. L-phenylanine produces a metabolite that elevates mood.

Bromelain -

Bromelain is an enzyme found in pineapples. When taken with meals, bromelain assists in the digestion of proteins. Taken between meals it is often used to reduce the inflammation associated with tendinitis, sprains and strains, and other minor muscle injuries. 500 - 2,000 mg a day in two divided doses is suggested for arthritic conditions.

When joints and muscles are not functioning optimally the effects can be debilitating; key supplements such as glucosamine sulphate, can provide safe, powerful support.

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