PYCNOGENOL® FOR HEALTHY JOINTS

Our joints are subject to wear and tear and with increasing age the lining of joints, the cushioning cartilage, gradually degenerates. When cartilage has reached significant abrasion tissue will be affected and tissue trauma initiates a local inflammation. Inflammatory cells accelerate degeneration of joints by secreting reactive oxygen species ("oxidative burst"), nitric oxide and matrix metalloproteinases (MMPs). The consequence is a reduced flexibility of joints and predominantly pain which, left untreated, may reach excruciating levels.

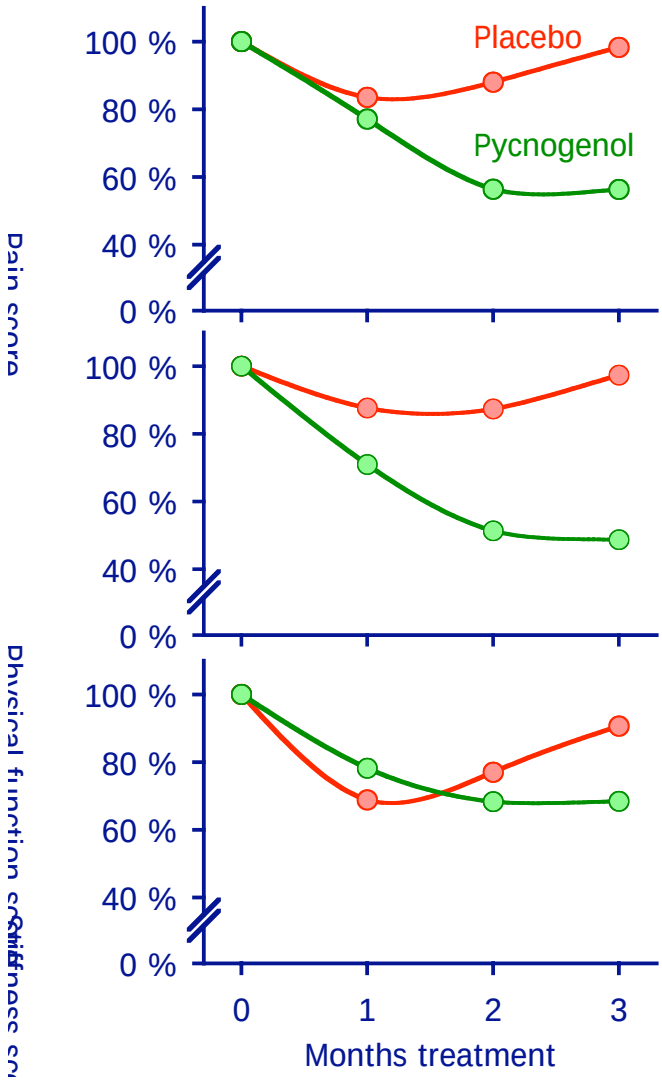
There are specific risk factors for developing osteoarthritis, such as obesity as it increases mechanical obstruction of joints. According to statistics women are significantly more frequently affected than men. Osteoarthritis is the leading medical condition for which people use alternative therapies. The primary goal is the relief from joint and back pain and in some cases reduction of joint stiffness.

Current alternative therapy strategies comprise nutritional delivery of significant quantities of cartilage "building blocks" with the aim to accelerate cartilage regeneration. Clinical studies have shown that this strategy is indeed successful [Reginster et al., 2001]. However, these studies suggest that significant effects on joint-space and arthritis symptoms may only be expected after long term supplementation with glucosamine over several years. Because glucosamine apparently possesses only mild anti-inflammatory activity the articular inflammation is only insufficiently addressed.

The joint inflammation needs to be brought under control so that chondrocytes can regenerate and cartilage can be renewed. Otherwise the destructive forces of inflammation degrade the cartilage faster than it can regenerate.

Pycnogenol® is known to possess significant anti-inflammatory potency.Pycnogenol inhibits gene transcription factor NF-B which represents one of the "main switches" controlling production of pro-inflammatory molecules [Packer et al., 1999]. Pycnogenol was shown to inhibit generation of reactive oxygen species and inducible nitric oxide synthase in activated leukocytes. Moreover, Pycnogenol® was shown to be more potent than hydro-cortisone to inhibit macrophages from releasing matrix metalloproteinases, enzymes responsible for cartilage degradation in inflamed joints [Grimm et al., 2004].

These findings prompted the investigation of anti-inflammatory effects of Pycnogenol® in patients suffering from mild to moderate osteoarthritis of the knee [Farid et al., 2005]. Three men and 37 women were taking part in a double-blind placebo-controlled study to investigate the symptoms "pain", "joint stiffness", and "physical function" using the well established "Western Ontario McMasters Universities Osteoarthritis Index" (WOMAC).



The results of the study show a statistical significant improve of the pain level of the knee following two months treatment with Pycnogenol®. The control group displayed a mild "placebo" effect after one month but soon after showed no benefit. Interestingly, no further improvement of pain was seen after the third month treatment with Pycnogenol, suggesting that inflammation is largely under control after 2 months treatment.

Likewise, the physical function significantly improved after two months treatment with Pycnogenol®, but as in the case of pain no further improved after another month's treatment was found.

In contrast, only a minor improvement of joint stiffness was observed in response to Pycnogenol® treatment. As the stiffness is not directly related to inflammation this symptom should be improved subsequent to cartilage renewal.

This study shows that Pycnogenol® can fight joint inflammation and soothe the pain, and thus pave the path for cartilage renewal with substances such as glucosamine.

Pycnogenol® offers a safe nutritional approach to to significantly reduce pain and improve physical functional of arthritic joints. Pycnogenol® offers a unique nutritional tool for controlling inflammation of arthritic joints and thus ideally complements existing strategies which comprise delivery of "building blocks" for replacement a degenerated cartilage.

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