Everyone knows exercise is good for you, but taking part in fitness activities or sports can lead to injury. Sports injuries can be caused by accidents, lack of fitness, poor training practices, improper gear or failure to warm up.

Sports injuries fall into two general types. Acute traumatic injuries occur suddenly and usually involve a single application of force, for example, a hard tackle in football. They include fractures, breaks, bruises, sprains, strains and abrasions. Chronic or overuse injuries, by contrast, happen over a period of time. These injuries are usually the result of training that involves repetitive movements, such as running or serving a ball in tennis. Common types include shin splints and tendonitis. While it may be tempting to ignore overuse injuries as minor, seeking treatment is advised, as, left untreated, chronic injuries tend to get worse.

Injured athletes who receive acupuncture are often able to return to training more quickly than would otherwise be possible, and the treatment is therefore used by top sports people and athletes, including the British Rugby team, many Premiership football teams and the British Olympic team, to treat musculoskeletal problems.

Since keeping the body in balance promotes more efficient training, acupuncture is also increasingly being used to enhance athletic performance.

**How acupuncture can help**

Acupuncture stimulates the nervous system and causes the release of chemical messenger molecules. The resulting biochemical changes influence the body's self-regulating systems, stimulating its natural healing abilities.

Research has shown that acupuncture treatment can promote resolution of injuries by:

- providing pain relief (Pomeranz, 1987).
- increasing local microcirculation (Komori et al, 2009) which aids dispersal of swelling and bruising.
- breaking down scar tissue – controlled microtrauma causes a local inflammatory response, which initiates reabsorption of inappropriate fibrosis or excessive scar tissue and facilitates a cascade of healing activities resulting in remodeling of affected soft tissue structures.
- promoting faster recovery after training sessions (Pan & Pan, 2007).

Acupuncture can be effectively combined with other treatments such as massage and rehabilitation exercises.

Randomized controlled trial of acupuncture for plantar fasciitis. Compared real electroacupuncture with sham acupuncture and conventional sports medicine. 43 subjects... 4 weekly treatments. At end of treatment period, and at 3-week follow-up, real acupuncture group experienced significantly greater decrease in pain than sports medicine group, allowing more rapid return to sports activity.


Randomized controlled trial of acupuncture for femoral adductors syndrome (FAS) caused by sports injury. 40 subjects, 32 treated with electroacupuncture plus moxibustion and 8 controls who received anti-inflammatory drugs. Both groups received 10 treatments. Acupuncture group performed better than control group with total effective rate of 87.5% vs 75%.


Randomized controlled trial of acupuncture for rotator cuff tendonitis involving 52 sportsmen. Compared real acupuncture with acupuncture using placebo needle. Patients received 8 treatments over 4 weeks. Found shoulder function scores in acupuncture group improved by 19.2 points, vs only 8.4 points in control group, a significant difference.


Randomized controlled trial of acupuncture for patellofemoral pain syndrome. 75 patients randomly assigned to receive either semi-individualised acupuncture or no treatment. Patients received 8 treatments... function scores improved by 17.2 points, vs 5.6 points in the controls, a significant superiority. Authors concluded that acupuncture showed a clear and long-lasting effect in reducing pain and improving function.


Randomized controlled trial of acupuncture for shin splints. 40 athletes with shin splints were divided between three groups... For overall effectiveness of the treatment on pain, 72.5% of the acupuncture group reported an improvement vs 54.5% of the combined group and 46.5% of the sports group. Self-medication with anti-inflammatories was also significantly lower in the acupuncture and combined groups.
Sports injuries


Observational study of effects of acupuncture on female swimmers. Found that acupuncture improved exercise tolerance, increased haemoglobin and blood glucose concentrations and promoted quick recovery. Authors concluded that acupuncture can delay the appearance of sports fatigue.


Prospective single blind crossover design study. 20 male cyclists underwent three tests a week, each test involving a 20-km ride. Cyclists receiving acupuncture before their ride achieved greater levels of exertion, with faster cycling times and experienced less pain.


Randomized controlled trial of acupuncture for exercise-induced muscle soreness. 22 healthy adults were randomly assigned to real acupuncture, sham acupuncture (superficial needling at non-acupuncture points) or control (no needling). Soreness of the elbow was induced through eccentric muscle activity. Authors concluded that acupuncture reduced perceived pain arising from exercise-induced muscle soreness.


Needle activation of A delta and C nociceptive nerve fibres in muscle send signals to spinal cord, where dynorphin and enkephalins are released. Afferent pathways continue to midbrain, triggering excitatory and inhibitory mediators in spinal cord. Ensuing release of neurotransmitters serotonin and norepinephrine onto spinal cord leads to pain transmission being inhibited both pre- and postsynaptically in spinothalamic tract. Finally, these signals reach hypothalamus and pituitary, triggering release of adrenocorticotropic hormones and beta-endorphin.


Suggests hypothesis for anti-inflammatory action of acupuncture. Insertion of acupuncture needle initially produces a short burst of stimulation leading to further stimulation of cytokines and NO. While high levels of CGRP have been shown to be pro-inflammatory, CGRP in low concentrations exerts potent anti-inflammatory actions, therefore, a frequently applied technique is the sustained release of CGRP with anti-inflammatory activity, without stimulation of pro-inflammatory cells.

Kim HW, Uh DK, Yoon SY, Roh DH, Kwon YB, Han HJ, Beitz AJ, Lee JH. Low-frequency electroacupuncture suppresses carrageenan-induced paw inflammation in mice via sympathetic post-ganglionic neurons, while high-frequency EA suppression is mediated by the sympathoadrenal medullary axis. Brain Res Bull. 2008 Mar 28;75(5):698-705. Epub 2007 Dec 26. Experimental study on rats. Results suggest that suppressive effects of low frequency electroacupuncture on carrageenan-induced paw inflammation are mediated by sympathetic post-ganglionic neurons, while suppressive effects of high frequency electroacupuncture are mediated by the sympatho-adrenal medullary axis.

Komori M, Takada K, Tomizawa Y, Nishiyama K. Microcirculatory responses to acupuncture stimulation and phototherapy. Anesth Analg. 2009 Feb;108(2):635-40. Experimental study on rabbits. Acupuncture stimulation was directly observed to increase diameter and blood flow velocity of peripheral arterioles, enhancing local microcirculation.