

Shock Waves in Medicine

Acute and chronic pain can often be quickly alleviated with this method

Shock wave therapy has been successfully used in orthopaedic medicine for more than 15 years. Major areas of application where the healing rate is particularly satisfying are calcified tendonitis of the shoulder, tennis and golfer's elbow, heel spur and irritation of the Achilles tendon.

All those cases involve acute or chronic pain in the area of the tendon insertions, with or without calcifications. By treating patients with shock waves, surgery can often be avoided, especially when treating chronic and painful conditions of irritation.

Pain due to overexertion at the big joints (knee and hip joints), which occurs during a beginning osteoarthritis, can also be treated very effectively in the early stage. New fields of application are poorly healing bone fractures and painful scars after surgery.

Currently, the positive effects of shock waves in the field of aesthetic medicine are being investigated. The results are promising, especially in the treatment of orange peel skin and wrinkles. Deep muscle hardenings and muscle tension can also be treated very effectively with shock wave therapy. As the method is almost as effective as injections and

medication, it could be an alternative to those, especially as it has an additional advantage: there are almost no side effects.

What are shock waves? Shock waves are pressure waves that increase steeply and which are generated either mechanically or with a piezoelectric spark. The generated waves are "caught" and their energy can be controlled. That way it is possible to use them for medical purposes.

In practice, shock waves are transmitted into superficial and deep tissue layers with a hand piece (applicator). This happens without causing any injuries. The waves become effective exactly "where it hurts", depending on the physician's diagnosis.

This form of therapy is based on two fundamental therapeutic mechanisms. The shock waves cause a local anaesthesia of pain fibers and also stimulate the body's repair processes in the injured tissue. That is why most patients report pain relief already during or after the first treatment.

It is often difficult to localize chronic inflammation processes. By stimulating the body's own self-healing powers the starting situation is made visible again. The pain subsides due to the positive effects of tissue regeneration. Depending on the region and the extent of the injury it takes two to six weeks to heal. Patients have to avoid undue physical stress and overworking during this period.

The treatment itself is not very complicated. Experienced physicians usually have a success rate between 60 and 80 percent. The therapy is performed in an outpatient setting in a medical practice. The physician examines the patient thoroughly, makes a diagnosis and locates the painful area with ultrasound.

After applying contact gel on the affected area, the therapist treats it with the applicator for five to ten minutes. During the treatment session, energy and force of the shock wave depend on the patient's perception of pain. After the treatment the patient is allowed to go home.

Sometimes other treatments can complement shock wave therapy. Physical therapy, massages and other healing methods can further improve treatment results. Gymnastics, stretching exercises and warmth are perfect complements, especially when treating chronic tension. As a result, tension is relaxed and muscle blood flow is further increased.



Of course Andy Roddick is not suffering from tennis elbow, but many amateur players are affected by it

**Dr. Peter Zillner,
Medical specialist for physical
medicine, Vienna**

**Further information:
www.pain-clinic.at**

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Dr. Zillner works with both DUOLITH SD1 and CELLACTOR SC1 from STORZ MEDICAL