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Shock wave treatment



Shock wave has been used since the early 1980s to treat kidney stones (known as lithotripsy, in the kidneys meaning “breaking stones”). For the last 20 years, shock waves have been successfully used for musculoskeletal disorders, particularly tendon disorders involving calcifications. Fortunately, there is excellent scientific proof that shock waves are effective for many of these conditions (“excellent” meaning multiple studies comparing shock waves to placebo treatment, which is the highest standard of scientific proof) ¹⁻⁴. There is actually more evidence that shock wave is effective (that is, better at reducing pain than placebo in comparison studies) than there is evidence of exactly how it works, as in studies on the shoulder there is pain reduction associated with disappearance of the calcification³, whereas in the heel there is pain reduction even though spurs usually persist after treatment ¹⁻².

Technology

The shock wave machine generates a pulsed sound wave as a small ballistic ball bearing oscillates rapidly inside the canister of the shock wave gun. It looks and sounds a bit like a small jackhammer. The energy can be delivered to varying tissue depths, as adjusted by the treating doctor. Even though the treatment is called shock wave, there is no electric “shock” delivered – it is a sound wave only.

Dose and treatment frequency

At our clinic we have had success with a dose of around 2000 shocks (lasting around 2-3 minutes) for 1-5 treatment sessions, spaced 1-2 weeks apart. We tend to not increase dose much beyond this because of risk of short term damage to the nearby skin. Some good news (with respect to pain of the procedure) is that from multiple studies over the last 20 years, the best dose is generally the highest dose that can be (just) comfortably tolerated by the patient ⁴, so the doctor will be trying to set a dose which is minimally uncomfortable/painful for your treatment (but which aches slightly).

Side Effects

Although shock wave is effective in reducing pain related to the calcium deposits in a tendon, it can irritate the surrounding normal tissues. Although the majority of patients experience an immediate pain relief after shock wave and actually feel better in the day

afterwards, it is also not uncommon to be sore in the 48-hour period following a shock wave treatment. Very occasionally patients experience a delayed flare up of pain, which is quite different from the usual tendon pain. Apart from short-term pain worsening, the only side effect unrelated to the condition being treated is skin bruising or abrasions. Patients on blood thinning medication are more susceptible to skin bruising and may need to avoid shock wave or use very light doses. Skin bruising will usually settle within a week and not cause long term problems. Overall though, side effects are very minor and one of the attractions of shock wave treatment for soft tissue injuries is that long-term damage and worsening is very unlikely ⁴. Compared to injections or, in particular, surgery, it is a very safe treatment. Even with respect to kidney stones (where kidney organ damage is a much more theoretically severe risk), shock waves are considered “safe” and therefore they are particularly safe in the limbs. There is only one reported case history of concern in the literature of a patient who tore an Achilles two months after shock wave treatment ⁵, which the authors thought may have possibly been related.

Doctor experience at this Clinic

The doctors at this clinic have collectively performed more than 5000 shock wave treatments over the past 15 years with no major complications and high patient satisfaction rates. A recent study has been published (which you are welcome to read in full) surveying patients from this Clinic after shock wave treatment ⁶.

Other Tips

Ice the area every 6 hours for 10-15 minutes for the first day if sore. Avoid higher than usual step counts or prolonged standing during the first 2 days after treatment. For those patients who appear to worsen after shock wave, a common scenario appears to be feeling a lot better immediately after treatment, then exercising a lot more than usual off the back of this, then worsening after the large exercise upgrade. Seek medical attention if pain is persistent and severe at rest despite simple pain relief and ice, although there is no major complication that should be feared.

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4. Speed C. A systematic review of shockwave therapies in soft tissue conditions: focusing on the evidence. *Br J Sports Med.* 2014 Nov;48(21):1538-42
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