Loughborough Physiotherapy and Sports Injuries Clinic
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Using our years of experience to keep you active

Shockwave Treatment at Loughborough Physiotherapy and Sports Injuries Clinic

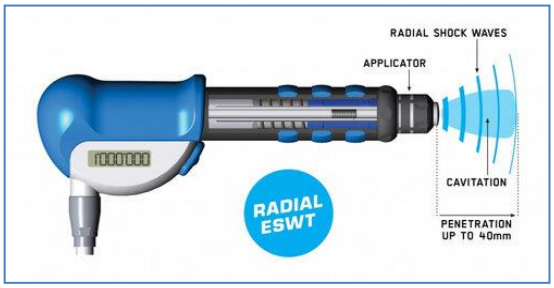
What is Shockwave?

The full name for the treatment is **Extra Corporeal Shockwave Therapy** (ESWT). It is a procedure where shock waves are passed through the skin to the injured part of the body, using a special device.
Extracorporeal means outside of the body. The Shockwave device sends an acoustic wave of high energy into the targeted tissues. It is a mechanical wave, not electrical and is completely non-nvasive. The kinetic energy wave is carried into the tissues and has beneficial effects.

How is it applied?

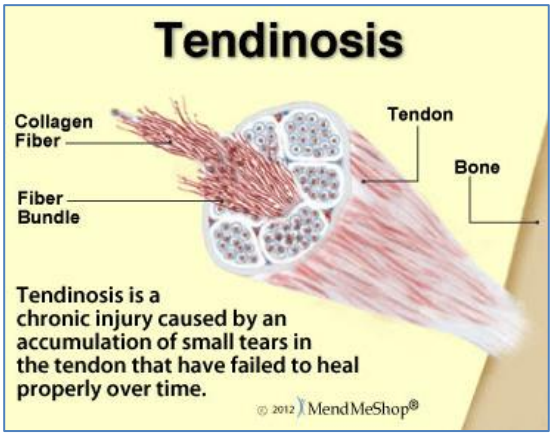
A high water contact gel is applied to the skin This has no effect other than to helping to carry the wave of energy through the skin into the tissues. The applicator is then paced over the painful tendon and is moved over the area of tenderness. Compressed air hits a widget inside the applicator head and the widget then hits a metal plate on the applicator breaking the sound barrier momentarily and producing a sonic wave which then travels into the tissues. The impact of the energy wave passing into the tissues can feel uncomfortable. The machine makes a clicking sound as it operates. The usual length of treatment is approximately 5 minutes.

How does it work?



The treatment initiates a pro-inflammatory response in the tendon that is being treated. The body responds by increasing the blood circulation and metabolism in the affected area, accelerating the body's own healing processes. The shockwaves breaks down injured tissues and calcifications. As a result of cellular tissue micro-trauma, it can provide a temporary analgesic effect on afferent nerves providing immediate pain relief, known as 'hyper-stimulation anaesthesia'.

What are the effects of 'Shockwave'



1) New blood vessel formation:-
Arterioles are re-modelled, stimulated to grow and new ones are formed. The new blood vessels improve blood supply and oxygenation of the treated area and support faster healing of both the tendon and the bone.

2) Reversal of chronic inflammation:-
Chronic inflammation occurs when the inflammatory response is not completely stopped. Shortwave has been shown to decrease the high level of inflammatory mediators.

3) Stimulation of collagen production:-
Collagen synthesis is critical for repair of the injured tendon and shockwave therapy accelerates pro-collagen synthesis and also encourages a longitudinal alignment of fibres making the tendon denser and firmer

4) Chronic pain reduction:-
Chronic pain travels along C-fibres and is mediated by the neurotransmitter Substance-P. Shockwave treatment reduces the amount of Substance-P in the area, so reducing chronic pain.

How many sessions should I have?
We recommend between 3 and 5 sessions no more than a week apart.

How will I feel after treatment?
The treatment can be painful and leave a small area of redness and inflammation. Rest is recommended, except for the exercises given. If the after –treatment is very sore the therapist can reduce the intensity of application, which may elongate healing time but will make the area less painful following treatment. We recommend that anti-inflammatory are not used as these can reduce the effectiveness of treatment.

Are the circumstances which will prevent treatment? **(Contra-indications)**
- If you have a blood clotting disorder (including thrombosis)
- If you are taking oral anti-coagulants
- If you have received a Steroid injection within 6 weeks
- If tumours are present at the treatment site
- If you have an infection or skin abrasion at the treatment site
- If you are Under 18

Caution:
- If you are pregnant
- If you have a pacemaker

What machine do you use?
We use the **Storz Shockwave Machine**. There are different types of machine producing waves with different methods, so it is important to look at information about this particular machine as results for different types of machine vary.

References:
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