

Patient Information on Extra-corporeal Shockwave Therapy (ECSWT)

What is extracorporeal shockwave therapy?

Extracorporeal means “outside of the body”. A “shockwave” is a high energy sound wave. “Therapy” describes non-invasive treatments used for chronically painful tendons and other soft-tissues. ECSWT is now an established treatment alternative for many bone and soft tissue disorders

Mr McNicholas has been using ECSWT for over 20 years, originally using the equipment that was used by Urology Surgeons for bursting kidney stones, with its settings at a lower energy level. Since 2012 Mr McNicholas has been using the Swiss Dolorcast® method, which uses a hand held probe to deliver radial shockwaves, and is specifically designed for treating musculoskeletal conditions. This tried and tested method has been used in over 100 million patients worldwide.

ECSWT is suitable for most patients who have chronically painful conditions for a minimum of 9-12 months despite appropriate treatment (physiotherapy, exercises or insoles for example) but in some circumstances may be used earlier, Mr McNicholas will discuss this with you at the appropriate time for your individual circumstances.

Conditions suitable for ECSWT

Quads tendiopathy (tendinitis)

Patellar Bursitis.

Osgood-Schlatter’s Disease

Sinding-Iarsen Johansen Syndrome,

Jumper’s knee

Patellar tendinopathy (tendinitis)

Pes Anserine Bursitis

Medial Tibial Stress Syndrome (Shin splints)

Trochanteric bursitis (gluteal tendinopathy / greater trochanteric pain syndrome)

Plantar fasciitis

Achilles tendinopathy (tendinitis / peritendinitis)

Lateral epicondylitis (tennis elbow)

Medial epicondylitis (golfer’s elbow)



How does ECSWT work?

A hand-held probe is used to deliver sound waves to the painful area. Ballistic generation uses compressed air that accelerates a projectile which strikes a fixed applicator. That kinetic energy is converted into a shock wave delivered to the target tissue through the skin. These shock waves are conveyed radially for broad treatment areas to target the

pain. In studies this has been shown to reduce the quantity of nerve fibres that transmit painful impulses, causing a reduction in pain sensation.

The persistent pain of chronic inflammation is due to chronic inflammatory tissue that the body's usual mechanism to remove has "stalled". The shockwaves initiate a new inflammation within the tissues being treated. This results in increased blood flow and metabolism in the area, which should accelerate the body's own healing response. As a part of the body's response new blood vessels form with thin walls (neovascularization). MSC's (mesenchymal signalling cells) then call up the body's defence cells that gobble up and destroy bad cells (macrophages) that are able to pass through the walls of these new vessels and then remove the chronic inflammatory tissues that have been causing the pain.

What does the treatment involve?

"Shockwave" uses a series of high energy pneumatic (compressed air) shockwaves delivered to the problem area via a hand-piece. No anaesthetic is required.

The painful area will be located by palpation (touch) and the treatment area will then be marked and gel applied to the skin which helps the machine transmit impulses to the painful area. The treatment is delivered via a hand-piece, the shock wave probe, which is pressed lightly onto the skin to deliver the rapid impulses which is placed on the skin for the length of the procedure. Some noise is created during the treatment and mild to moderate pain can be expected. In the majority of cases it is uncomfortable rather than painful. To ease any symptoms, Mr McNicholas may advise that you take painkillers before your treatment.

Treatment typically takes only 5-10 minutes.

After treatment you may have less pain or no pain at all. A mild dull aching pain may appear a few hours later, which can last for a day or two.

Although you may feel some improvement during the treatment process, healing normally occurs four to six weeks afterwards.

There is no need to alter your daily activities. It is advisable, however, to stop some rehabilitation exercises that you have been given previously until the treatment period is over. Combining eccentric exercises with ECSWT has been shown to be better for patellar tendinopathy, plantar fasciitis and Achilles insertional and midtendon tendinopathies.

You may take simple analgesics (painkillers such as Paracetamol) but please avoid NSAID's (anti-inflammatories such as Ibuprofen, Diclofenac or Naproxen) as these may inhibit the healing response.

The number of sessions required will vary; most people need ECSWT treatment typically repeated 3 times (1-2 weeks apart) followed by an assessment approximately 6 weeks later.

Precautions include:

Cardiac pacemaker.

Anti-coagulant therapy (e.g. Warfarin).

Past history of cancer. Pregnancy.

Treatment within 3 months of a steroid injection to the affected area.

Please inform the practitioner if any of these apply to you.

Risks or complications?

There is no risk of infection from wound complications and the procedure is considered completely safe, with potentially huge benefits.

Some patients may experience the following:

In tendinopathies rupture may occur which the ECSWT may not stop happening.

Transient pain (during and after the procedure).

Transient numbness.

Transient skin reddening.

Bruising.

Local skin or soft-tissue damage.

What if the treatment doesn't work?

Mr McNicholas will use shockwave therapy after other non-operative treatments have failed. If shockwave therapy doesn't work, the next step is either that you accept that you have to live with the painful condition and possibly reduce its impact upon you by lifestyle modifications such as avoiding the activity or sport that caused the problem, or alternatively that you may need to have surgery. Mr McNicholas would discuss with you the potential risks and benefits of any operation indicated.

References:

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3. Rompe JD, Furia JP, Maffulli N. Eccentric loading versus eccentric loading plus shock-wave treatment for midportion Achilles tendinopathy: a randomized controlled trial. *Am J Sports Med* 2009;37:463-470.
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6. <https://www.ems-dolorclast.com/swiss-dolorclastr-method>

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