

**CAPE**  
**SPORTS**  
MEDICINE



EXTRA  
CORPOREAL  
SHOCK WAVE  
THERAPY

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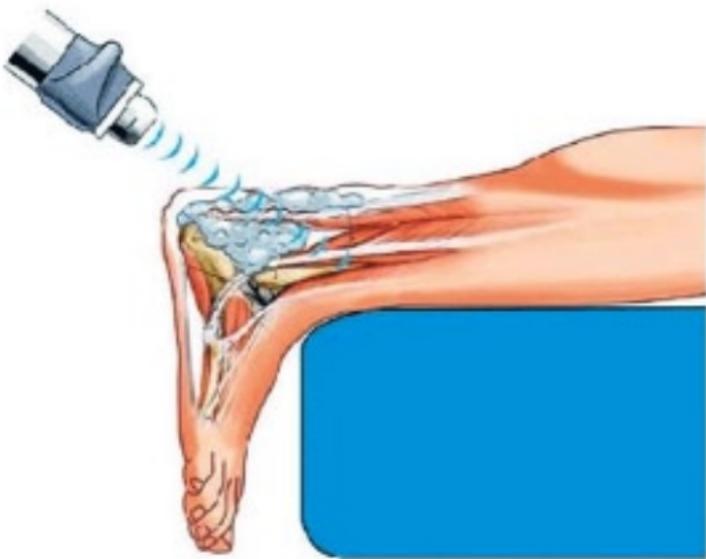
## INDICATIONS

- Plantar Fasciitis
- Insertional Achilles tendinosis
- Mid-tendon Achilles Tendinosis
- Patellar Tendinosis
- Greater Trochanter Pain syndrome
- Medial and Lateral Epicondylitis
- Shoulder Calcific Tendinosis

## ECSWT HISTORY

**Extra Corporeal Shock Wave Therapy (ECSWT)** was first used in a patient in 1980 to disintegrate a kidney stone.

In 1993 Loew and Jurgowski used it to disintegrate calcifications in a rotator cuff. Since then the therapeutic indications have expanded to include the treatment of enthesopathies and insertional tendinopathies, including plantar fasciitis, tennis elbow, Achilles tendinopathy and patella tendinopathy.



## HOW DOES SHOCK WAVE THERAPY WORK?

A tendon is a tough band of fibrous tissue that connects muscle to bone. Tendons are made up of tendon cells -tenocytes- and the extra cellular matrix (ECM) made up of collagen, elastin and ground substance. It was previously thought that tendons could not repair, however it has recently been shown that there are enzymes – the Matrix Metallo Proteinases (MMP's) that can reduce degradation and allow repair in damaged tendons. ECSWT produces pressure waves that provide an increase in 3 -D pressure within a few nanoseconds of being initiated.



This causes interstitial and extracellular biological responses and tissue regeneration. This includes hyper stimulation analgesia; decrease of inflammatory mediators (MMP's); Neovascularization and up regulation of Growth Factors. At High energy's ECSWT  $<60\text{mJ/mm}^2$ ) has been shown to be effective in the treatment of calcific deposits, and at low energy ( $0,001-0,4\text{mJ/mm}^2$ ) it has been shown to be effective in stimulating NO<sub>2</sub> release, angiogenesis and anti-inflammatory – all important in the tendon healing response.

## INDICATIONS

ECSWT is a tool that we use in the treatment of chronic tendon injuries, and the type, duration and frequency of treatment will vary depending on the tendon or structure injured and the effect we want to induce on that tendon.

ECSWT has been shown to be most effective when combined with an individualized rehabilitation programme that progressively loads the tendon and allows it to be remodeled slowly and safely.

**ECSWT IS INDICATED, BUT NOT LIMITED FOR THE FOLLOWING CONDITIONS. THESE CONDITIONS ARE WHERE THERE HAS BEEN EVIDENCE OF SUCCESSFUL TREATMENT IN A LARGE META-ANALYSIS:**

- Plantar Fasciitis
- Insertional Achilles tendinosis
- Mid-tendon Achilles Tendinosis
- Patellar Tendinosis
- Greater Trochanter Pain syndrome
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- Shoulder Calcific Tendinosis



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