# Extracorporeal Shockwave Therapy (SoftWave)

*Patient Information Sheet*

## What Is Shockwave Therapy?

Extracorporeal shockwave therapy (ESWT) uses acoustic pressure waves, delivered through the skin, to stimulate the body's own healing response in injured or chronically painful tendons, ligaments, muscles, and bone. The waves trigger a process called mechanotransduction: the mechanical energy is converted into biological signals that increase blood flow, activate stem cells and growth factors, reduce inflammation, and promote tissue repair and remodeling.

## The SoftWave Difference: Unfocused Shockwave

Not all shockwave devices work the same way. Traditional focused shockwave concentrates its energy down to a single point inside the body. To do this, it relies in part on a phenomenon called cavitation, in which the wave creates tiny bubbles in tissue fluid that then collapse violently, producing a localized microtrauma. This is useful for breaking up hard, calcified tissue, but it carries a theoretical risk of injuring sensitive structures such as nerves, blood vessels, or growth plates that lie near the focal point.

**Dr. Mulvaney uses SoftWave, an unfocused, electrohydraulic shockwave device.** Rather than converging to a single point, SoftWave spreads a broad, parallel band of high-energy acoustic waves across a large treatment zone, penetrating several inches deep without creating the damaging cavitation bubbles associated with focused devices. This allows a very potent dose of shockwave energy to be delivered safely, including near structures that a focused device would need to avoid, while still triggering the same mechanotransduction pathways that drive healing.

## What It Is Used For

Shockwave therapy has specific, well-established indications in musculoskeletal medicine, including:

- Plantar fasciitis and chronic heel pain
- Lateral epicondylitis (tennis elbow) and medial epicondylitis (golfer's elbow)
- Rotator cuff tendinopathy, including calcific tendinitis of the shoulder
- Patellar tendinopathy (jumper's knee) and Achilles tendinopathy
- Greater trochanteric pain syndrome (hip bursitis/gluteal tendinopathy)
- Chronic tendon and muscle injuries that have not responded to rest, physical therapy, or other conservative care
- Delayed or slow-healing bone injuries

## The Research Evidence

Shockwave therapy is one of the more heavily studied treatments in musculoskeletal medicine, with dozens of randomized controlled trials and multiple meta-analyses. Because most published trials were conducted using focused or radial shockwave devices, that is the evidence cited below. SoftWave's unfocused technology triggers the same core mechanotransduction biology thought to drive these results, delivered as a broader, non-cavitating wave rather than a focused, cavitating one.

- Meta-analyses of randomized trials show that medium- and high-energy shockwave significantly improves pain and function in plantar fasciitis compared with placebo, with benefit persisting out to 12 months (1,2).
- A meta-analysis of 13 randomized trials (over 1,000 patients) found shockwave therapy significantly reduced pain and improved grip strength in lateral epicondylitis (tennis elbow) compared with other treatments (3).
- Systematic review evidence supports high-energy shockwave for chronic calcific tendinitis of the shoulder, with reduction in calcium deposits and improved pain and function (4).
- A 2023 systematic review and meta-analysis found shockwave therapy effective across patellar tendinopathy, Achilles tendinopathy, and plantar fasciitis, three of the most common chronic overuse tendon conditions (5).
- Shockwave therapy has also been shown to augment other regenerative treatments: a randomized clinical trial found that adding shockwave to platelet-rich plasma (PRP) improved shoulder range of motion more than PRP alone in patients with rotator cuff partial tears (6), and laboratory research has shown that shockwave exposure increases the release of growth factors from PRP (7).

## What to Expect

Many patients prefer shockwave therapy because there is no needle involved. You walk in, receive the treatment in a matter of minutes, and walk out, with no incision, no injection, and no need to change the rest of your recovery plan around the visit. Most patients feel a light tapping or pulsing sensation during treatment and can resume normal activity immediately afterward. A treatment course typically consists of a series of three to six weekly sessions. Although you may feel improvement after each session, it will still be about four to eight weeks before you see true healing take place in the area treated.

## Safety and Who Should Avoid It

Because SoftWave does not rely on cavitation to produce its effect, side effects tend to be mild and short-lived, most commonly some local redness, warmth, or mild soreness in the treated area for a day or two. Shockwave therapy is generally not used over an area with an active infection or tumor, over the abdomen or lungs during pregnancy, over an open growth plate in a child, or in patients on blood thinners or with a bleeding disorder, unless Dr. Mulvaney has specifically reviewed and cleared the treatment for that situation.

**References**


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5. Charles R, Fang L, Zhu R, Wang J. The effectiveness of shockwave therapy on patellar tendinopathy, Achilles tendinopathy, and plantar fasciitis: a systematic review and meta-analysis. Front Immunol. 2023;14:1193835.
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7. Seabaugh KA, Thoresen M, Giguère S. Extracorporeal Shockwave Therapy Increases Growth Factor Release from Equine Platelet-Rich Plasma In Vitro. Front Vet Sci. 2017;4:205.


*This sheet is for general patient education and does not replace a conversation with Dr. Mulvaney about whether shockwave therapy is appropriate for your specific condition.*