Extracorporeal Shock Wave Therapy

- Effect of Extracorporeal Shock Wave Therapy on Post-Laminectomy Lumbar Epidural Fibrosis
- Cracking the code: Understanding ESWT's role in bone fracture healing
- Extracorporeal shock waves effectively suppress colorectal cancer proliferation and growth
- Comparing the long-term effect of extracorporeal shockwave therapy and therapeutic ultrasound in treating trigger finger: A prospective cohort study
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- Focused extracorporeal shockwave therapy for the treatment of low back pain: a systematic review
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- The application of extracorporeal shock wave therapy on stem cells therapy to treat various diseases

Extracorporeal Shock Wave Therapy (ESWT) is a non-invasive medical treatment that uses acoustic shock waves to treat various musculoskeletal conditions, including tendinitis, plantar fasciitis, and other chronic pain conditions. Here's a detailed look at ESWT:

How ESWT Works Shock Waves: High-energy sound waves are generated and focused on the affected area. Mechanical Stress: These waves create controlled mechanical stress on tissues. Healing Response: The stress stimulates biological responses, promoting blood circulation and cellular repair processes, which can reduce pain and inflammation. Indications for ESWT ESWT is commonly used to treat conditions such as:

Plantar Fasciitis: Chronic heel pain due to inflammation of the plantar fascia. Tendinitis: Inflammation of tendons, such as in the shoulder (rotator cuff), elbow (tennis elbow), or Achilles tendon. Calcific Tendonitis: Calcium deposits in tendons, commonly in the shoulder. Medial Tibial Stress Syndrome: Shin splints, especially in athletes. Other Musculoskeletal Pain: Chronic pain in muscles and joints that have not responded to other treatments. Procedure Preparation: The patient is positioned comfortably, and the area to be treated is located using ultrasound or manual palpation. Application: A gel is applied to the skin to facilitate the transmission of shock waves. The shock wave device is then placed on the area. Shock Waves Delivery: Shock waves are delivered in pulses over a few minutes. The intensity and frequency can be adjusted based on the patient's tolerance and the specific condition being treated. Post-Treatment: There may be some immediate pain relief, but the full effect may take a few weeks as the tissue heals. Types of ESWT Focused ESWT: High-energy waves that are targeted at deep tissues. Radial ESWT: Lower-energy waves that spread out and cover a larger area, often used for more superficial conditions. Benefits Non-Invasive: No surgery or incisions are needed. Minimal Side Effects: Generally limited to minor bruising, swelling, or pain at the treatment site. Quick Recovery: Patients can often resume normal activities shortly after treatment. Effective for Chronic Conditions: Particularly useful for conditions that have not responded to other treatments. Risks and Side Effects Pain and Discomfort: Some patients experience pain during and after the procedure. Swelling and Bruising: Minor bruising and swelling can occur at the treatment site. Numbness or Tingling: Temporary numbness or tingling may be experienced. Effectiveness The effectiveness of ESWT can vary. It is often used as a treatment option when conservative treatments like physical therapy, rest, and medication have not provided sufficient relief. Success rates can be high for certain conditions, with many patients experiencing significant pain relief and improved function.

Contraindications ESWT may not be suitable for:

Pregnant women Individuals with blood clotting disorders Patients with infections or tumors in the treatment area Those with certain cardiovascular conditions Conclusion Extracorporeal Shock Wave Therapy is a valuable tool in the treatment of chronic musculoskeletal pain and tendinopathies. Its non-invasive nature and minimal recovery time make it an appealing option for many patients. As with any medical treatment, it is important for patients to consult with their healthcare provider to determine if ESWT is the right choice for their specific condition.

We aimed to investigate the efect of Extracorporeal Shock Wave Therapy (ESWT) applied to patients with hemiplegia on somatosensory data, spatiotemporal parameters, posture, and muscle tone. This was a double-blind, randomised, controlled trial. Patients were randomised within pairs to either the experimental (ESWT) group (n=20) or the control group (n=20). All patients participated in the same conventional stroke rehabilitation program for 60 minutes of treatment a day, 5 times a week for 6 weeks (30 sessions). Patients assigned to the ESWT group received additional ESWT over the plantar fascia 3 days/week for 6 weeks. Timed Up and Go (TUG) test, Modified Ashworth Scale (MAS) score, Posture Assessment Scale for Stroke Patients (PASS), spatiotemporal parameters, Semmes-Weinstein monofilament (SWM) test, and vibration sensation test (VST) were performed in all participant before and after treatment. In the ESWT and control groups, statistically, significant diferences were obtained in the posttreatment analysis than pre-treatment. Significant diferences were found in foot angle, step cycle duration, swing phase, cadence, gait cycle distance, and VST values after ESWT treatment (P < .01). When combined with a neurological rehabilitation program, it was determined that ESWT applied to the plantar face of the foot in individuals with hemiplegia increased somatosensory functions and was more successful in developing postural control and balance ¹⁾.

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Deniz G, Bilek F, Gülkesen A, Çakır M. Extracorporeal Shock Wave Therapy with Low-Energy Flux Density Treatment Applied to Hemiplegia Patients on Somatosensory Functions and Spatiotemporal Parameters. Eurasian J Med. 2024 Mar 5;56(1). doi: 10.5152/eurasianjmed.2024.23270. PMID: 39109934.

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