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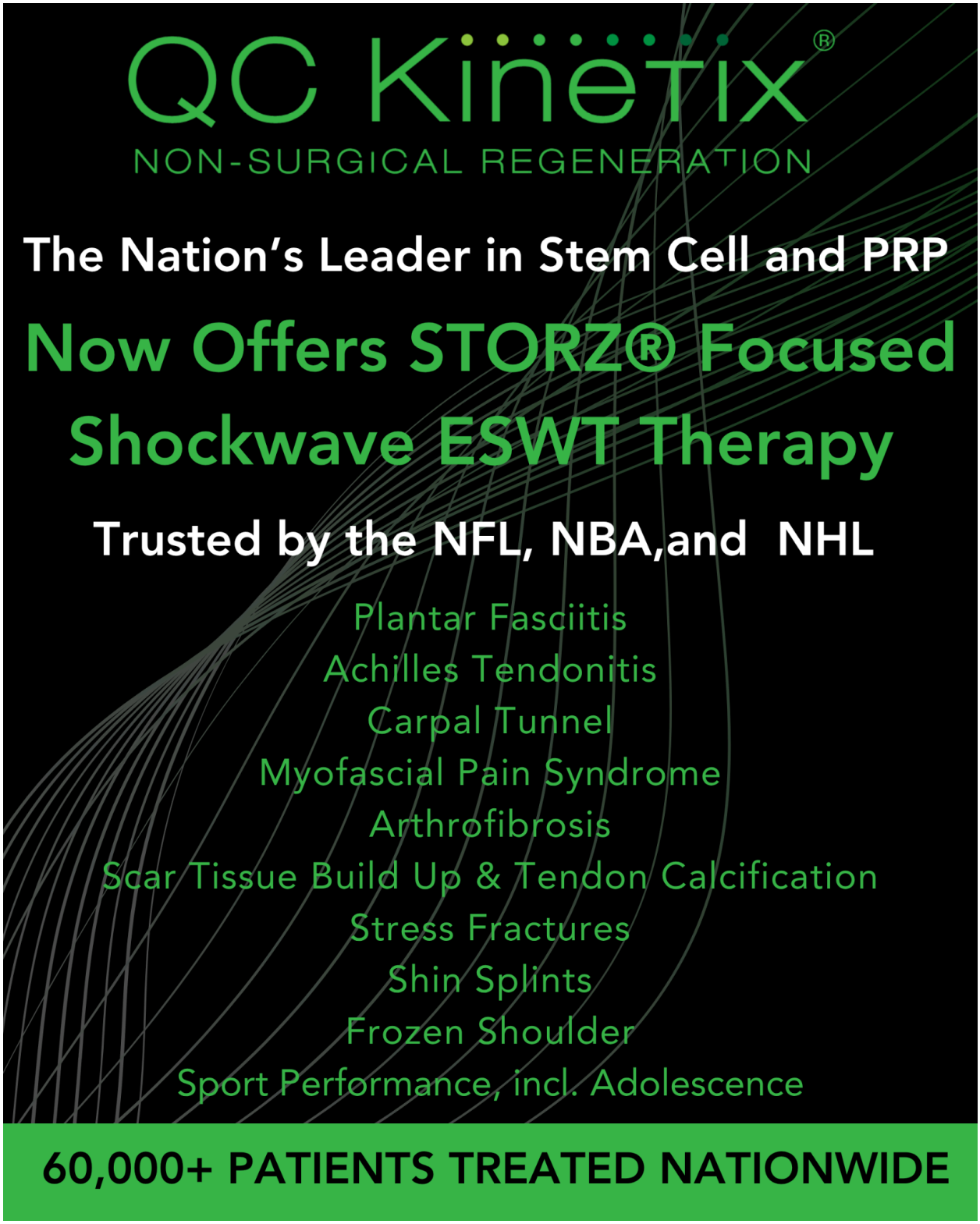

QC Kinetix - ENC Greenville, 1103 Corporate Drive, Suite B, Greenville, NC 27858

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Storz® Focused ESWT Shockwave Therapy

Overview

Storz® focused shockwave (ESWT) is a noninvasive, high-energy acoustic therapy used to stimulate healing and reduce pain for targeted musculoskeletal conditions. It delivers precise, focused sound waves into injured structures to drive biological repair in ways that light-based therapies and generic "acoustic wave" devices do not.

What focused ESWT is

- Extracorporeal shockwave therapy (ESWT) is a noninvasive treatment that uses high-energy acoustic (sound) waves from outside the body to promote healing and relieve pain.
- Storz® focused systems concentrate this energy into a defined focal zone in tissue, allowing you to target specific structures at depth (up to 12.5 cm) with high precision.
- Storz® devices are widely regarded as "gold-standard" platforms in shockwave.

Conditions it commonly treats

- Chronic tendinopathies such as plantar fasciitis, Achilles tendinopathy, patellar tendinopathy, lateral epicondylitis, and calcific shoulder tendinopathy.
- Localized pain points, deep trigger points, bone stress injuries, delayed unions/non-unions, and chronic connective-tissue pain syndromes.
- Emerging applications include support of wound healing, scar remodeling, and select soft-tissue regenerative indications where improved microcirculation and tissue regeneration are desired.

How the technology works

- Focused shockwaves are high-pressure acoustic pulses that travel through soft tissue and deposit peak energy at a controllable depth, creating controlled micro-trauma and mechanical stress.
- This mechanical stimulus increases local blood flow, promotes angiogenesis (new blood vessel growth), and triggers release of growth factors that drive tissue repair and regeneration.
- The same process helps break down pathologic calcifications and scar tissue, modulate inflammation, and disrupt pain signaling—all without incisions, anesthesia, or downtime.

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Focused ESWT vs Other Noninvasive Energies

Modality	Core energy & target	Clinical feel & use	Key distinctions
Storz® focused ESWT	High-energy acoustic waves focused into a small, adjustable focal zone in tissue.	Short sessions (often 5–15 minutes per region), strong mechanical pulses with minimal downtime.	Designed to create biologically meaningful mechanical stress at depth, especially for chronic, recalcitrant musculoskeletal conditions.
Therapeutic laser	Coherent light energy; typically targets superficial to moderate depths to stimulate cellular metabolism and reduce inflammation.	Gentle warmth or mild heat, often used for broader areas or more superficial issues.	Primarily photochemical/photobiomodulation; ESWT is mechanotransductive and generally delivers higher peak energy at focal depth for structural change.
Infrared therapy	Non-coherent light/heat; enhances superficial circulation and comfort, often used for generalized soreness and stiffness.	Comfortable warmth, often longer session times and larger treatment fields.	More systemic heating and circulation support; does not generate the same focused mechanical micro-trauma and calcific disruption as ESWT.
StemWave/ Radial-type acoustic devices	Typically radial or unfocused acoustic pressure waves branded for tissue regeneration.	Broader, more diffuse energy spread; often described as gentler at depth.	Focused Storz® ESWT delivers higher energy density with a sharply defined focal zone, enabling precise treatment of deep, localized pathology that diffuse radial systems may not reach as effectively.

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Why clinics adopt Storz® focused ESWT

- Focused Storz® ESWT gives you a noninvasive option that targets the root of chronic musculoskeletal pain, often where rest or basic modalities have failed.
- For patients, it offers fast in-office sessions, no anesthesia, little to no downtime, and a clear value proposition: “precision energy, targeted healing, and a chance to rebuild instead of just masking pain.”
- Comprehensive protocols integrating ESWT, PRP, A2M, and stem cells address every aspect of the healing cascade. ESWT prepares the tissue environment through increased blood flow and stem cell recruitment, A2M protects against cartilage breakdown, PRP delivers concentrated growth factors, and stem cells provide both differentiation capacity and paracrine signaling. This integrated approach produces superior outcomes by simultaneously stimulating angiogenesis, modulating inflammation, enhancing collagen synthesis, protecting cartilage, and recruiting/activating multiple repair cell populations.

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Representative focused ESWT studies

1. **Gerdesmeyer et al., randomized multicenter trial – Chronic plantar fasciitis**
   Focused ESWT (including Storz devices) significantly reduced heel pain and improved function versus sham in chronic plantar fasciitis patients who had failed conservative care.[shockwavecanada]
2. **Systematic review and meta-analysis of ESWT for tendinopathies and MSK disorders (e.g., Buchbinder et al., 2015)**
   Across multiple RCTs, focused ESWT was found to be safe and to provide clinically meaningful pain reduction and functional improvement in plantar fasciopathy, Achilles tendinopathy, lateral epicondylitis, and shoulder tendinopathies.[pmc.ncbi.nlm.nih]
3. **Focused ESWT for low back pain – Frontiers in Medicine 2024**
   Focused ESWT was described as a modern physiotherapeutic option that can improve pain and disability scores in patients with various causes of chronic low back pain compared with baseline or conservative measures.[frontiersin]
4. **RCT: Focused ESWT vs ultrasound for lateral epicondylitis (tennis elbow)**
   A randomized controlled trial showed that focused ESWT produced greater improvements in pain and upper-limb function than therapeutic ultrasound in patients with chronic lateral epicondylitis.[softwavetrt]
5. **Focused ESWT in non-calcific and calcific rotator cuff tendinopathy**
   Recent trials summarized in focused-ESWT reviews report that high-energy focused ESWT improves shoulder pain and Constant scores, with some data showing superior long-term outcomes to radial ESWT in non-calcific rotator cuff tendinopathy.[adisihealth]
6. **High-energy focused ESWT for delayed unions and bone stress injuries**
   Case series and cohort studies have documented radiographic evidence of healing and reduced pain after high-energy focused ESWT in delayed union, nonunion, and bone stress injuries, supporting its role as a nonoperative bone-stimulation option.[mayoclinic]
7. **Focused ESWT in chronic plantar fasciopathy – pooled RCTs**
   Meta-analyses that include focused devices report statistically significant reductions in VAS pain and improvements in function compared with sham, with typical protocols of three sessions at weekly intervals and 2,000 pulses per session.[pmc.ncbi.nlm.nih]
8. **Focused ESWT for Achilles tendinopathy**
   Focused ESWT combined with eccentric loading has been shown to provide superior pain relief

and functional recovery compared with exercise alone for chronic mid-portion Achilles tendinopathy.[mayoclinic]

9. **Focused ESWT for patellar tendinopathy (jumper's knee)**
   Clinical studies summarized in recent ESWT reviews indicate that focused ESWT improves pain and sports function scores in athletes with chronic patellar tendinopathy who failed prior conservative management.[pmc.ncbi.nlm.nih]
10. **Focused ESWT for knee osteoarthritis – head-to-head with radial ESWT**
    In comparative studies, focused ESWT has demonstrated greater improvements in pain and function than radial ESWT for knee osteoarthritis, likely due to its higher energy density at joint depth.[adisihealth]
11. **Shockwave treatment in sports and in-season athletes (Tenforde et al., Healthcare)**
    Focused and radial ESWT were reported as effective and time-efficient tools for common overuse injuries in athletes, allowing symptom control and faster return to play when integrated into a broader rehab program.[curamedix]
12. **Focused ESWT for chronic wounds and burns**
    Low-intensity focused ESWT has been reported to improve healing rates and tissue quality in chronic wounds and superficial second-degree burns by enhancing microcirculation and growth-factor mediated repair.[softwavetrt]
13. **Neuromodulatory and biological mechanism studies (e.g., Alshihri 2020, Ryskalin 2022)**
    Experimental work shows that focused ESWT increases microvascular density and collagen remodeling while modulating nociceptors and inflammatory mediators such as substance P, supporting its mechanistic basis for pain reduction and regeneration.[softwavetrt]
14. **ISMST-aligned indications summary – Mayo Clinic review 2025**
    A large clinical overview notes strong evidence for ESWT (including focused systems) across chronic tendinopathies, bone pathologies, chronic wounds, and emerging indications like spasticity, with generally low complication rates when protocols and contraindications are respected.[mayoclinic]

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Sources

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