Shockwave therapy breaks new ground

- **Piezoelectric “direct focusing” technology** – minimal pain during applications
- **Well-defined, precise focus** – perfect for diagnostics and therapy
- **Uniquely durable therapy source**
- **Finely adjustable penetration depth of up to 40 mm using interchangeable gel pads**
- **Independently adjustable penetration depths and energy levels**
- **Wide range of energy settings with a pulse rate of up to 8 Hz**
- **Plug&Play – therapy source recognition**

**PiezoWave**

Focused Piezo Shockwave System
The PiezoWave®

The piezoelectric principle / focused

Piezo-ceramic elements are geometrically arranged on a concave surface so that when they are excited simultaneously by a brief, high-voltage pulse, they expand by a few micrometers to generate a pressure pulse. The piezo elements are precisely aligned so that each pressure pulse generated focuses in a specific area. This precise focusing of the pulses creates a shockwave at the point of focus.

The piezo shockwave’s ‘direct focusing’ technology eliminates the need for additional reflectors, resulting in a compact therapy source design and a precise and well-defined focal zone. The virtually painless therapy is quiet and energy levels can be freely adjusted with almost no adverse effect on the size of the focal zone. The piezo shockwave technology is extremely durable.

Efficacy of focused ESWT

Extracorporeal shockwaves are mechanical stressors capable of inducing biochemical changes in living tissue; at a molecular level these changes can influence gene expression in cells and, if used selectively, can produce specific reactions in tissue. This process is referred to as mechanotransduction.

Mechanical stimuli can affect almost all cellular functions in living tissue, including growth, cell differentiation, cell migration, protein synthesis, physiological apoptosis, and tissue repair. Many studies have shown that ESWT is able to stimulate the continuous production of hormones in tendons and joints.

Scientific studies and publications which have used the highly accurate piezo shockwave technology have confirmed the effectiveness of focused shockwaves to treat various common musculoskeletal conditions as well as for the diagnosis and treatment of trigger points. ESWT has now become established as a useful method for the treatment of many acute and chronic pain syndromes of the musculoskeletal system.

The PiezoWave®

Piezo-ceramic elements are placed on the patient to ensure that the shockwave penetrates precisely to the desired depth with a little scattering as possible. These gel pads are used as spacers and change the penetration depth in increments of a few millimeters. Maximum penetration depths of between 30 mm and 40 mm (measured to the focal center) are possible, depending on the therapy source.

Penetration depth

The PiezoWave®

Penetration depth: up to 30 mm (focal center)
Energy Flux Density: 0.403 mJ/mm²

Penetration depth: up to 40 mm (focal center)
Energy Flux Density: 0.822 mJ/mm²

Densities of up to 0.822 mJ/mm².
Up to 82 MPa peak pressure and energy flux densities of up to 6000 Hz/1000 Hz.

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Range of indications

ESWT - Musculoskeletal system

Acute and chronic pain of the musculoskeletal system is one of the most common debilitating conditions affecting people in modern society. The majority of these painful conditions are the result of overuse or misuse such as office syndrome, tennis elbow, plantar fasciitis, Achilles tendinopathy, and much more...

- Achilles tendinopathy
- Plantar fasciitis, with or without heel spur
- Tibial stress syndrome
- Patellar tendinopathy
- Greater trochanteric pain syndrome
- Medial epicondylopathy of the elbow
- Lateral epicondylopathy of the elbow (tennis elbow)
- Calcifying tendinopathy of the shoulder
- Pseudofractures / Stress fractures
- Myofascial syndrome / Trigger point treatment
- Calcifying tendinopathy of the shoulder
- Lateral epicondylopathy of the elbow (tennis elbow)
- Myofascial syndrome / Trigger point treatment
- Tendinopathy
- Achilles tendinopathy
- and much more...

The PiezoWave®

Single-layer technology: The base of the therapy source with penetration depths up to 30 mm (focal center), or to 40 mm peak pressure and energy flux densities of up to 6000 Hz/1000 Hz.

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Penetration depth: up to 40 mm (focal center)
Energy Flux Density: 0.822 mJ/mm²