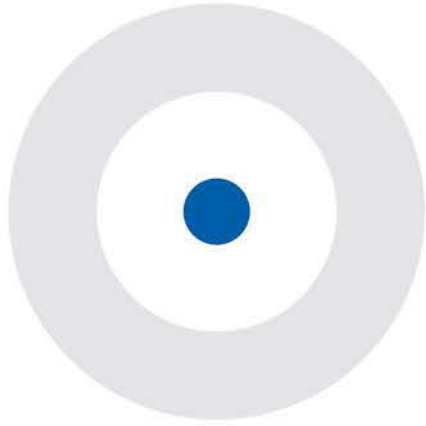


# Piezo Shockwave Technology

focused and precise

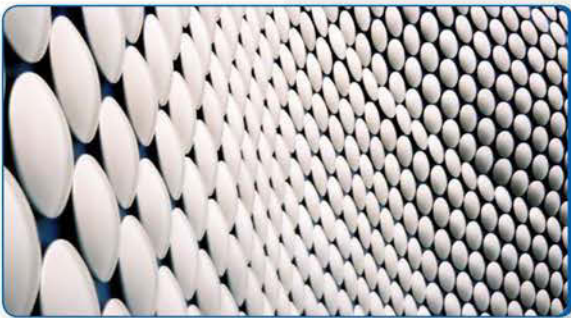


## ELvation Medical GmbH specializes in offering consultancy services for piezo shockwave systems together with the sale and maintenance of these systems.

Elvation Medical is a company which specializes in the financing and sale of high-quality medical equipment. Combining sales and financing expertise with many years' knowledge of medical equipment, we offer customized solutions to create value with long-term investments and medical supplies – for hospitals and medical practices.

Elvation Medical's ESWT division has been successfully involved since many years in piezo shockwave technology. We consider it to be the most precise, effective and economic method of generating shockwaves for focused shockwave therapy (ESWT/TPST) and lithotripsy (ESWL) applications.

### Focused piezo shockwave technology: the PiezoWave of Richard Wolf GmbH.

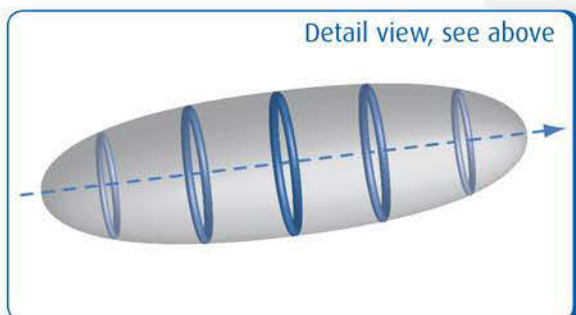


The shockwave energy is generated by several thousand piezo-ceramic crystals mounted in the applicator.

The crystals are arranged as a mosaic and are precisely aligned with the therapy focus. When excited by a high-voltage pulse, the piezo-ceramic elements expand briefly along their axis by a few micrometers, creating a shockwave. The piezo system is an extremely robust and low maintenance technology.



A characteristic of piezoelectric shockwaves is that they can be precisely focused to achieve their maximum efficacy at the point of focus of the therapy – targeted, precise and effective. The penetration depth is defined using exchangeable gel pads of different thicknesses. The penetration depth can be varied between 5 and 40 mm. The large diameter and concomitant large aperture angle ensure that the energy density on the skin surface is low, consequently minimizing pain at the surface of the skin.



With a maximum intensity setting of the therapy source (here F10 G4), a maximum pressure of 82 MPa is obtained in the ellipsoid-shaped therapy focus of the PiezoWave system. The focal length is 4.8 mm and the largest focal width is 1.2 mm.

# Stay flexible with piezo shockwave technology

## Painless relief of chronic pain

Chronic pain is one of the most common syndromes affecting many hundreds of thousands of patients. The majority of these painful conditions are triggered by ailments such as tennis elbow, calcaneal heel spurs or calcifications of the shoulder. A chronic course with the pain continuing over many years, both at rest and during activities, is not uncommon. Since a few years, extracorporeal shockwaves have been successfully used to treat such syndromes. The shockwave technology has also proven its value for the precise localization and therapy of myofascial trigger points.

The elimination of chronic pain using focused, extracorporeal shock wave therapy (ESWT) and trigger point shock wave therapy (TPST). Described and discussed indications.



## Advantages of piezo shockwave systems

- Exact, precise focus
- Targeted application with almost no collateral injury to adjacent tissue
- Extensive scientific proof of effectiveness
- Limited superficial and deep pain
- Compact, ergonomic therapy source
- Low noise levels
- Long lifespan of the shockwave source
- Low maintenance costs, virtually no wear parts

# Piezo Shockwave

Cause and effect scientifically proven

## Literature and scientific evidence

- Focused Extracorporeal Shock Wave Therapy in Calcifying Tendinitis of the Shoulder: A Meta-Analysis  
Patrick Vavken, Johannes Holinka, Jan Dirk Rompe; Ronald Dorotka Sports Health 2009
- Value of exact focusing of extracorporeal shock waves (ESWT) in therapy of tendinitis calcarea.  
A prospective randomized study. Haake M, Deike B, Thon A, Schmitt J. BioMed Tech 2001
- High energy extracorporeal shockwave therapy (ESWT) in pseudo- arthrosis.  
Schoellner C, Rompe JD, Decking J, Heine J. Orthopaede 2002
- DIAGNOSIS AND THERAPY OF MYOFASCIAL PAIN SYNDROME WITH FOCUSED SHOCK WAVES (ESWT)  
H. Müller-Ehrenberg, G Licht MOT 2005

