

# PiezoWave<sup>2</sup> VET

The Next Piezo Shockwave Generation  
for Veterinary Medicine



# The PiezoWave<sup>2</sup>

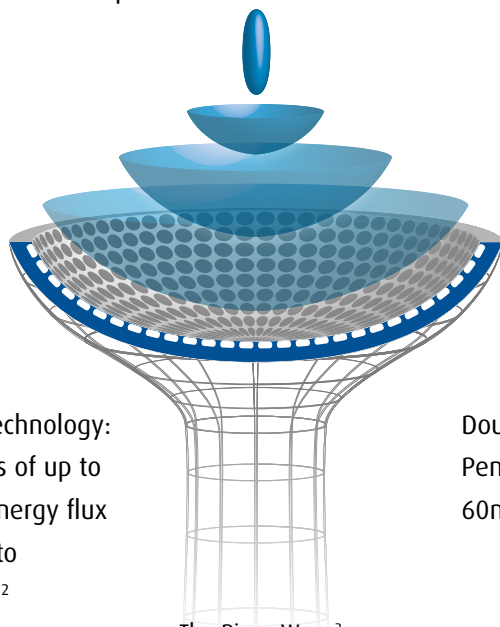
## The piezo-electric principle / focused

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 pulse 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 applied quietly and energy levels can be freely adjusted with almost no adverse effect on the size of the focal zone.

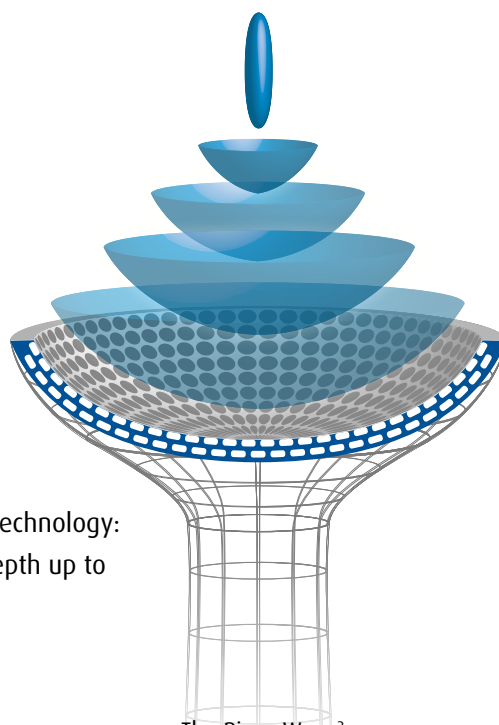
The piezo shockwave technology is extremely durable.

Piezo shockwave therapy sources are available with single-layer or double-layer technology, depending on the required energy levels, with peak pressures of up to 82 MPa.



Single-layer technology:  
Peak pressures of up to  
82 MPa and energy flux  
density of up to  
0.822 mJ/mm<sup>2</sup>

The Piezo Wave<sup>2</sup>  
F10G4 therapy source



Double-layer technology:  
Penetration depth up to  
60mm

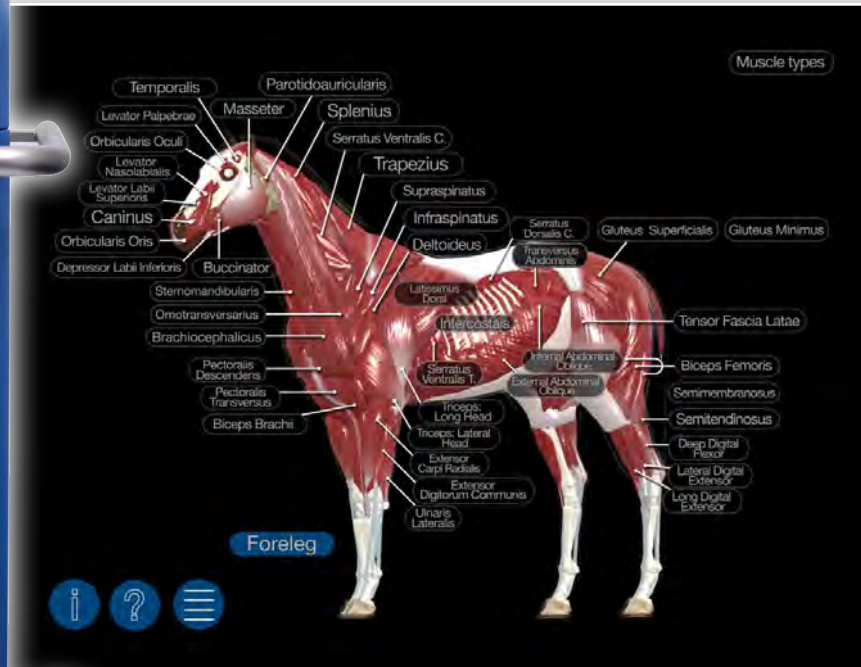
The Piezo Wave<sup>2</sup>  
FB10G6 therapy source

## 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 necrosis. New studies have shown that ESWT is able to stimulate the endogenous production of lubricin in tendons and septa.

Scientific studies and publications, using the highly accurate piezo-shockwave technology, have confirmed the effectiveness of focused shockwaves for various common musculoskeletal conditions as well as trigger point diagnosis and treatment. ESWT is one of the few medical technologies which can treat chronic pain syndromes of the musculoskeletal system effectively by jump-starting self-healing processes.



Tablet PC  
not included

## Shockwave therapy breaks new ground

- Pin-pointed focused and linear focused – the best shockwave for every indication
- Extracorporeal shockwave therapy (ESWT) up to 60mm penetration depth
- Deep tissue massage of myofascial hardenings
- Excellent performance with single-layer and double-layer technology
- Piezo-electric “direct focusing” technology – minimal pain during applications
- Gentle and quite to reduce the flight instinct while treatment
- Uniquely durable therapy source
- Finely adjustable penetration depth using interchangeable gel pads
- Simple operation with external App support and Ipad holder
- Plug&Play – therapy source recognition

# The PiezoWave<sup>2</sup>

## Focused, linear, and planar shockwave therapy

The piezo-electric shockwave principle offers an extensive range of shockwave configurations. The only one of its kind in the world, the PiezoWave<sup>2</sup> allows users to choose between a classic focused shockwave, a linear focused shockwave, and a planar pressure wave. The right shockwave mode is available for every indication.

### Focused shockwave

The focused therapy source of the PiezoWave<sup>2</sup> is characterized by its well defined and precise focal zone and a penetration depth up to 60mm (PiezoWave2 FB10G6 therapy source)



### Linear shockwave

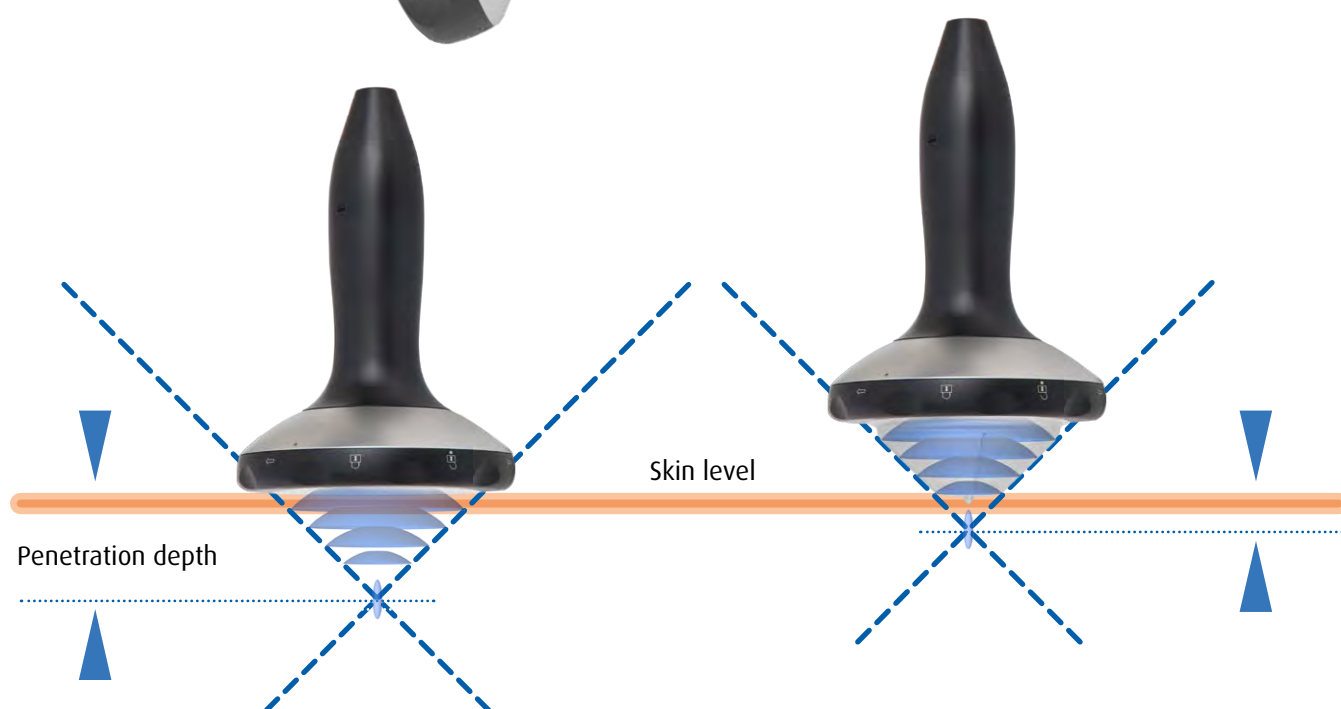
Breaking new ground in shockwave therapy. The unique linear alignment of piezo crystals along the width of the therapy head creates multiple focal zones and provides a larger overall area of shockwave treatment. Perfect for myofascial treatments.







The Piezo Wave<sup>2</sup>  
F10G4 therapy source  
40mm penetration  
depth



## Penetration depth up to 60mm

The piezo shockwave technology uses interchangeable gel pads which contact the patient to ensure that the shockwave penetrates precisely to the desired depth with as little scattering as possible. These gel pads are used as spacers and change the penetration depth in increments of 5 mm. They accomplish this by drawing the therapy source's static focal area incrementally superficial or deep respectively. Maximum penetration depths of between 20mm and 60mm are possible, depending on the therapy source.

# The PiezoWave<sup>2</sup>

An operational concept ensuring you will always be up-to-date

The PiezoWave<sup>2</sup> has an improved user interface that simplifies its daily use. Therapy source recognition through Plug&Play ensures that your PiezoWave<sup>2</sup> will provide the appropriate energy spectrum when you plug in the therapy source. Individual settings can be adjusted with just a few keystrokes. You are supported by our optional ESWT App for your Ipad. With this new form of user support we want to ensure that even in future you will continue to receive the latest information on settings and the newest recommendations for PiezoWave<sup>2</sup> clinical applications. Quickly and online.



- Therapy source recognition with Plug&Play
- Easy to use – uncomplicated operation

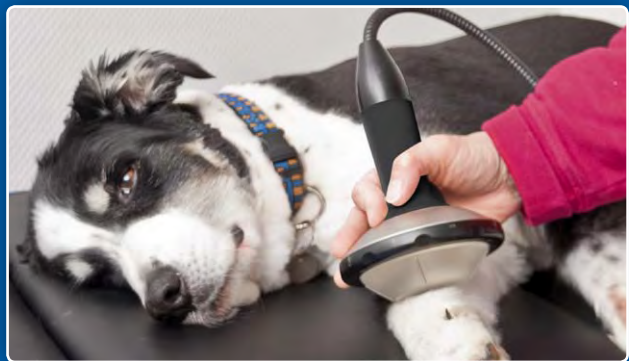
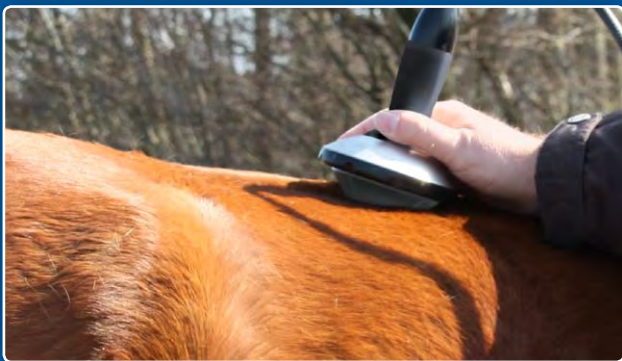
- Quick therapy start
- Use of external, supporting Apps

# The PiezoWave<sup>2</sup>

## Range of indications for ESWT

Chronic pain of the musculoskeletal system is one of the most common debilitating conditions. The majority of these painful conditions are the result of enthesiopathies such as tennis elbow, calcaneal heel spurs, or calcifications of the shoulder joint. Myofascial trigger points have also increasingly been diagnosed as major causes of chronic pain. Focused ESWT has now become established as a useful method for the diagnosis and treatment of many acute and chronic pain syndromes of the musculoskeletal system. Extracorporeal shockwave therapy for the treatment of chronic lesions in the soft tissue areas near bones of the posture and locomotor system:

- myofascial pain syndrom
- Insertion desmopathy
- Tendopathy
- Sesamoidosis
- Calcification
- Degenerative Gelenkerkrankungen
- Frakturen, Fissuren
- Periostale Reaktionen
- etc.



## ESWT Indications for small animals - especially for dogs

- Myofascial hardenings
- Diseases of the tendons and synovial sheaths
- Chronic joint disease (wear, functional restrictions)
- Changes to the vertebrae (spondylosis)
- Deformities of the hip (HD hip dysplasia)
- Acceleration of bone growth following fractures

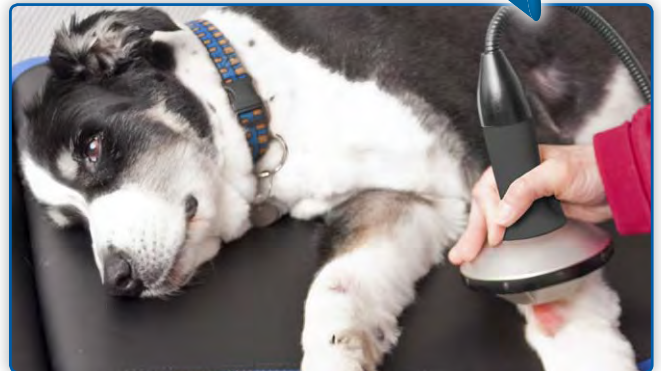


# Unique wound healing therapy

## The shockwave with a linear therapy focus

Richard Wolf GmbH and ELvation have developed a new and unique technology: a linear, focused shockwave. The aim was to create a shockwave that could be applied more uniformly and more effectively compared to the point-shaped focus of conventional shockwave therapy sources.

Gel pads are used to adjust the penetration depth to between 0 and 20 mm and to ensure that the acoustic field is optimally adapted to dermatological applications.



ESWT/ESWL Team  
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