PiezoWave

... focused extracorporeal shock wave therapy (ESWT) and trigger point shock wave therapy (TPST) in orthopaedics
The PiezoWave from Richard Wolf combines orthopaedic ESWT applications with the applications of TPST. Extracorporeal shock waves have been used successfully in the treatment of chronic pain since the early '90s. Extracorporeal shock wave therapy (ESWT) and trigger point shock wave therapy (TPST) are highly efficient, non-surgical treatments for chronic pain in the musculoskeletal system. The PiezoWave offers a significant expansion of the range of applications for myofascial pain syndrome. The extracorporeal, focused shock wave allows precise diagnosis and therapy of active and latent trigger points. Trigger points are thickened, pain-sensitive points within a usually tense muscle. They can cause a variety of pains – even well away from their own location.

How it works
The heart of the Richard Wolf PiezoWave is the compact piezo shock wave source with its excellent features.

Operation is simple with the multifunction operator control and display unit on the top of the device. All the device parameters can be set and monitored.

The penetration depth can be varied at the therapy source by exchanging gel pads of different thickness.

A further advantage is the large area energy coupling with an aperture angle of 94°. This lowers the energy density at the surface of the skin and reduces pain. The finely dosed energy with 20 intensity levels allows treatment without sedation.

The F 10 04 therapy source can be used for all standard indications in orthopaedic ESWT.
Eliminating pain with shock wave trigger therapy

ESWT

Shock waves have been used successfully by orthopaedic specialists for many years in the treatment of disease of the musculoskeletal system. The classical orthopaedic indications for shock wave therapy (ESWT) are diseases of the tendon attachments such as changes in the soft tissue area of the rotator cuff of the shoulder, tennis or golf elbow, patellar tip syndrome of the knee or plantar fascia in heel pain.

TPST

In trigger point shock wave therapy (TPST), the depth of penetration, the intensity, power and pulse frequency of the shock-wave pulses can be adapted easily to the various indications. Prior to treatment, the trigger points can be found and precisely located with the finely delineated focus point. The variable depth of penetration allows triggers to be located accurately and treated even in deep muscle. This feature of the treatment means maximum efficiency.
Focused extracorporeal shock wave therapy – ESWT

Therapy
The PiezoWave is a compact and extremely mobile ESWT unit for individual therapy options:
- Epicondylitis humeri radii and ulnaris
- Jumper's knee
- Plantar fasciitis with heel spurs
- Tendinosis calcarea
- Impingement syndrome
- Pseudarthrosis

Shoulder
Soft tissue treatment at the rotator cuff of the shoulder with and without calcification (tendinosis calcarea)

Elbow
Tennis and golf elbow (epicondylitis humeri radii and ulnaris)

Knee
Treatment of the patellar tendon attachment "jumper's knee"

Foot
Treatment of the plantar fascia in cases of heel pain

Advantages in ESWT
- Deep, clearly defined penetration
- Practically maintenance-free
- Highly accurate treatment
- Low risk of haematoma
- Maximum energy directly in the treatment area
- Practically no skin irritation
- Small design, portable, compact
Trigger point shock wave therapy – TPST

Therapy
The extracorporeal, focused shock wave allows both the therapy and the precise localisation of active and latent trigger points. The trigger is detected by the small focus point of the PiezoWave. This allows precise localisation without palpation that is often painful for the patient.

• Neck
• Shoulder
• Back
• Buttock
• Knee

Advantages in TPST
- Mobile and focused ESWT system
- Deep penetration up to 40 mm
- Treatment with a pulse frequency up to 8 HZ
- Precise localisation of trigger points
- Low risk of haematoma
- Broad range of applications
- Individual therapy options
- Long working life – extremely economical

Further indications:
Neck muscles
Shoulder muscles
Back muscles
Buttock muscles
Knee muscles
PiezoWave
The alternative to surgery

The PiezoWave from Richard Wolf is a small, powerful desktop device for extracorporeal shock wave therapy of all orthopaedic ESWT and TPST indications. This represents a significant expansion of the range of applications.
PiezoWave
radial, piezoelectric shock wave
– Further additional indications, further therapeutic success

The planar therapy source FP4 for the Richard Wolf PiezoWave greatly expands the treatment spectrum in ESWT / TPST. It allows successful treatment of large areas, myofascial syndrome close to the surface. The successful treatment of many orthopaedic indications with the Richard Wolf PiezoWave is possible thanks to the unique treatment combination, in other words, combined application of the planar therapy source FP4 and the focused therapy source F10 G4.

The magnitude of the pressure pulses can be finely adjusted with 20 intensity levels. The pulse frequency can be increased from 1 to 8 Hz allowing extremely short treatment times to be achieved.

The treatment is gentle on the surface of the skin, no mechanical vibration, no skin irritation, no bruising.

The piezo technology allows an optimum therapy area (1200 mm²) with excellent ergonomics.

Technical data of the FP4 therapy source

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Transducer diameter</td>
<td>40 mm</td>
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<tr>
<td>Sonic propagation</td>
<td>planar</td>
</tr>
<tr>
<td>Energy density</td>
<td>0.001-0.06 mJ/mm²</td>
</tr>
<tr>
<td>Pressure range</td>
<td>0.1 - 3.2 MPa</td>
</tr>
<tr>
<td>Pulse frequency</td>
<td>1 - 8 Hz</td>
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</table>
Technical Data

PiezoWave Basic Set

<table>
<thead>
<tr>
<th>Name</th>
<th>Article no.</th>
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<tbody>
<tr>
<td>Control unit</td>
<td>80 214</td>
</tr>
<tr>
<td>Therapy source F 10 G4 complete</td>
<td>80 621</td>
</tr>
<tr>
<td>Trolley</td>
<td>80 902</td>
</tr>
</tbody>
</table>

Technical Data

- **Frequency**: 50 / 60 Hz
- **Power supply**: 100 - 127 V / 220 - 240 V
- **Weight (control unit)**: approx. 12 kg
- **Dimensions L x W x H**: 450 x 325 x 180
- **Pressure range**: 11 - 82 MPa
- **Aperture angle**: 94 °
- **Penetration depth**: 5 - 40 mm
- **Pulse frequency**: 0 - 8 Hz
- **Energy density**: 0.03 - 0.4 mJ / mm²
- **Energy 12 mm**: 3 - 26 mJ

New impetus for your practice

The Richard Wolf PiezoWave allows universal application for a large number of indications. With this unit, you can expand the range of indications you can treat and offer relief of chronic pain to a wider circle of patients. As a non-invasive procedure, extracorporeal shock wave therapy is a genuine and successful alternative to surgical intervention. Patients are treated on an outpatient basis and one treatment takes approximately 15 minutes.

Please tell your “pain” patients about the real advantages and the chances of healing with the PiezoWave and shock wave therapy.

The versatility of the ESWT / TPST unit means that you can plan individual therapies, opening the door to new patients and providing economic impetus.

An opportunity to increase the efficiency of your practice. We will be happy to support you in your efforts to gain new patients with posters, patient information sheets, professional instruction on the use of the system, further product information, studies and references.

Make your practice more attractive. Offer your patients more. You can increase the economic efficiency of your practice. Ask us about further information on the PiezoWave, our references and, if you wish, a consultation with your medical product advisor.