

### What is Shockwave therapy?

Shockwave therapy is a modern and highly effective treatment method. The term shockwave refers to **mechanical pressure pulses** that expand **as a wave** in a medium (water, air or solid body). They are audible high energy sound waves. They appear in the atmosphere when **explosive events** occur, like earthquakes, or when airplanes break the sound barrier. At the wave front the pressure increases extremely fast in a very short time and reaches high pressure values. In modern pain therapy, shockwave energy is conducted from the point of origin – the shockwave generator – to the painful body regions, where it applies its healing capacities.

### Patient Benefits

- Wide range of applications
- No anaesthetics required
- Gentle treatment, excellent healing rate
- Restored mobility and quality of life
- After just 2 or 3 sessions, over 80% of patients report to be free or to feel a significant pain reduction (this depends of cause on condition being treated as some treatments require additional treatment sessions).

A quick, safe, and successful treatment!

Extracorporeal shock wave therapy (ESWT) has gained a firm foothold in almost every country in the world.

After having proven its effectiveness in the disintegration of kidney stones for many decades, ESWT has also made its way into **Physiotherapy, Chiroprody/Podiatry**, orthopaedics, rehabilitation, neurology and dermatology during the last few years.



"ShockMaster®, the proven solution": This slogan means that we do not provide a device on itself but an efficient and proven therapy. A proven solution for all problems in soft tissue.

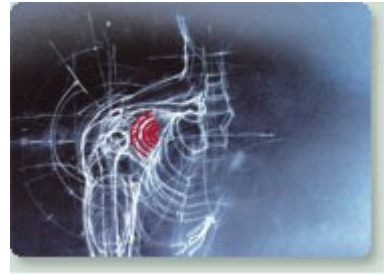
ShockMaster® offers a complete range of shockwave therapy units for the medical market.

#### **Our mission statement is:**

***ShockMaster® wants to be an effective, leading, global partner in innovative, high quality shock wave therapy solutions for the medical market and wants to contribute substantially to the success of its customers.***

ShockMaster® is a division of GymnaUniphy NV

**(Calcified) shoulder tendonitis:** the therapeutic objective is to reduce or relieve pain and to eliminate pain-induced mobility restrictions in the affected shoulder. Calcifications causing pain can be disintegrated as well.



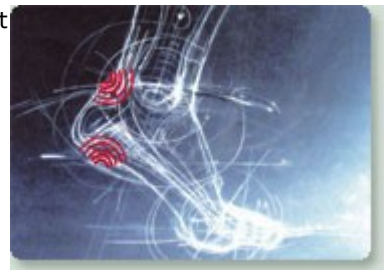
**Tennis and golfers elbow:** Chronic inflammations are eliminated to ensure successful elbow pain relief. This provides improved elbow mobility and forearm force.



**Patellar tendinopathy/achillodynia:** both syndromes are chronic, mostly sport induced disorders. The pathologically altered painful tendon section exhibits a relatively large volume. The ShockMaster® devices allow this target volume to be covered in its entirety, thus providing the desired regenerative therapeutic effects.



**Plantar fasciitis:** shockwave therapy provides a decisive improvement in the clinical development of chronic plantar fasciitis and heelspur. As pain symptoms are eliminated, the load-bearing capacity of the affected foot is rapidly increased.



#### **Further indications:**

- Chronic tendinopathies and enthesopathies in general
- Trigger points
- Iliotibial band syndrome
- Shin splints
- Dupuytren's contracture
- Shoulder pain with/without restricted mobility
- Trochanteric tendonitis
- Patellar chondropathy
- Dorsal calcaneal spur
- Cervicalgia
- Tension headache
- Lombalgia
- Recurrent muscle pain in the upper or lower leg
- Pseudarthrosis

## **PSWT**

- Cellulite
- Scar treatment
- Stretch marks
- Weak connective tissue

## **Self-testing questionnaire**

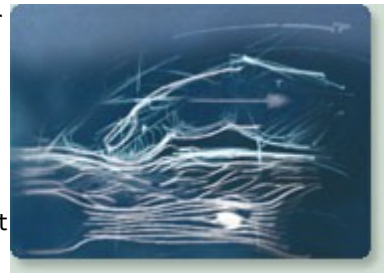
- Chronic pain seriously affects my private and working life and my physical condition.
- Do you experience limited mobility in your shoulder or arms?
- Do you have problems lifting objects from a shelf?
- Does your back ache when sitting down, walking or lying down?
- Do your elbows hurt when you grasp or hold objects?
- Do you suffer from severe muscle tension in your shoulders or neck?
- Do you experience pain in the Achilles tendon, heel or knee when having a walk or mounting stairs?

If you answered "yes" to only one of these questions, you should talk to your ShockMaster® therapist, he can help you.

## **D-ACTOR® technology**

The trigger point therapy of *Travell* and *Simons* is the starting point for the diagnosis and treatment of myofascial pain syndromes. As trigger points are difficult to localize and trigger point therapy has only limited efficiency, this therapeutic option is rarely used in practice.

The application of the D-ACTOR® technology to trigger points represents a new therapy approach. The combined use of radial shockwaves and vibrations allows effective local trigger point treatment as well as activation of muscle and surrounding connective tissue.



## **Indications:**

- Muscle spasms
- Cervicalgia
- Tension headache
- Lombalgia
- Pubalgia
- Dupuytren's contracture
- Iliotibial band syndrome
- Shin splints
- Plantar fasciitis

## **results:**

- "counter-irritation" due to the mechanical effect
- Improvement of blood circulation (hyperaemia) and a better muscle irrigation due to the decreased ischemia
- Weakening of permanent contracture of actin/myosin filaments(muscle relaxation)
- Decrease of vasoneuroactive substances
  
- Pain modulating effect through GABAergic interneurons

## Physics

### What is shockwave therapy?

Shockwave therapy is a modern and highly effective treatment method.

The term shockwave refers to high energy sound waves. In modern pain therapy, these shock waves are conducted from the place of their generation - the shockwave therapy device and hand piece - to the painful body regions, where they apply their healing effects. Shockwaves accelerate the healing process by activating the body's self-healing capacities. They stimulate the metabolism and improve the blood circulation. Damaged tissue gradually regenerates and eventually heals.

### **Different types of Shockwaves: ESWT, RSWT and PSWT**

#### **ESWT (Extracorporeal Shockwave Therapy)**

Devices with a focused shockwave. Maximum energy is reached at a specific focal point in the body. These devices produce a medium to high energy level.

We use an electromagnetic source to generate such focused shockwaves. A divergent cylindrical wave is generated, which is transformed into a convergent spherical wave using a special rotation paraboloid inside the hand piece.



#### **RSWT (Radial Shockwave Therapy)**

Devices with radial shockwaves. The energy is spread over a large surface area. These devices produce a low to medium energy level.

Pneumatically generated shockwaves are introduced into the body over a large (radial) surface area by means of a freely movable hand piece. The projectile located in the hand piece is accelerated to high speed by a pneumatic pulse. The therapeutic shockwave, which is generated as the projectile strikes the shockwave transmitter integrated in the hand piece, is introduced by the transmitter surface into the pain region to exert its curative effect.



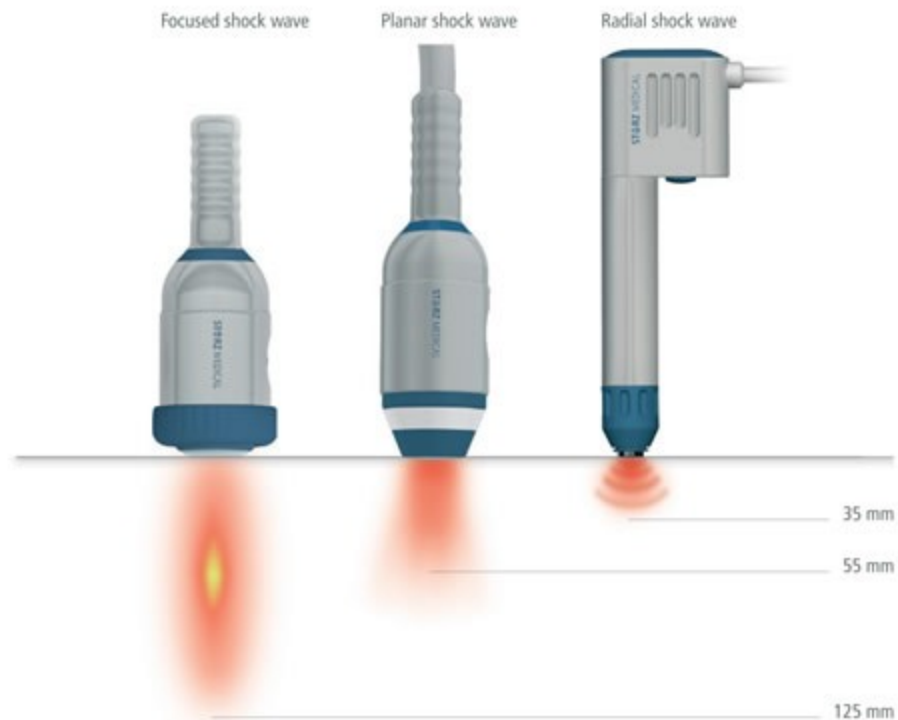
#### **PSWT (Planar Shockwave Therapy)**

In considering the application of ESWT to wound care, the technology must be adapted into a wide focus treatment area. To generate planar shockwaves, the reflector utilized in the PSWT hand piece is made of a generalized parabolic reflector.

The focal point of these plane waves is, by definition, "unfocused" or "defocused", meaning a focal point no longer exists. Therefore, the shockwave characteristics for the parabolic reflector could be defined as plane waves or, in other words, parallel ray. By this, the acoustic field stimulates a large area.



## Comparison of penetration depths ESWT – PSWT – RSWT

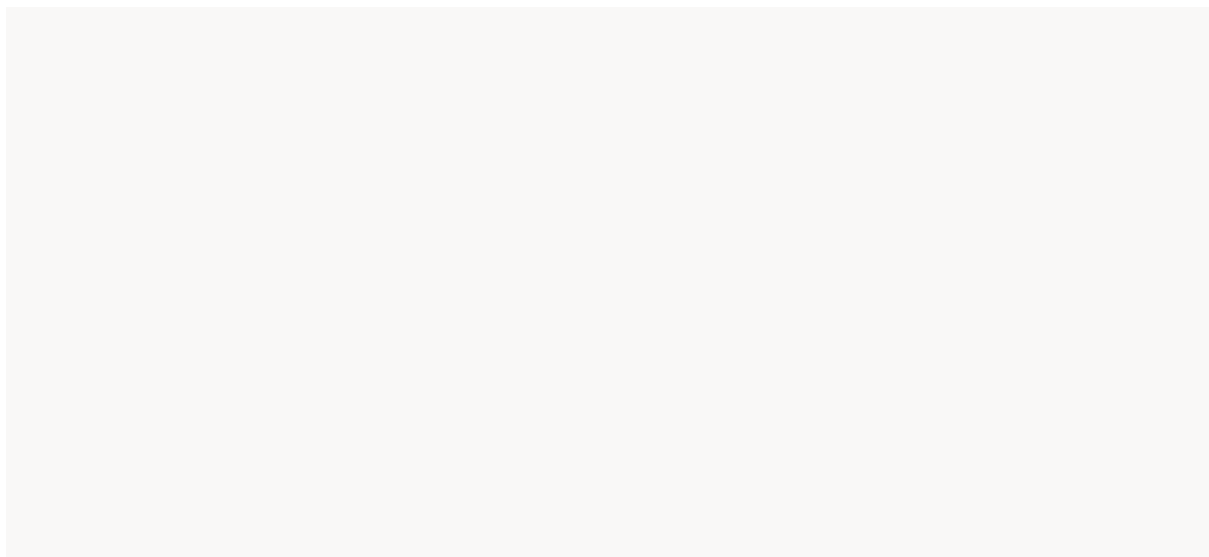


### Vibration therapy

The use of stimulating vibrations as a non-pharmalogical method to reduce muscular strain and eliminate trigger points is a scientifically recognized therapy approach. Vibration therapy increases the blood and lymph circulation in the extracellular matrix of the connective tissue and stimulates metabolic activity.

Based on these findings, ShockMaster® has now extended its range of products for soft tissue treatment with high-frequency pulses. The new unique and patented "vibration therapy" hand piece, recently launched after a one year testing period, operates at frequencies of up to 35 Hz and ensures optimal regulation of physiological muscle tremor.

The so-called V-ACTOR® applicator is designed for the localization and treatment of trigger and acupuncture points and is perfect complementary to radial shockwave therapy. It is perfectly suited for muscle spasms and proprioception.



## V-ACTOR® technology

The use of stimulating vibrations as a non-pharmalogical method to reduce muscular strain and eliminate trigger points is a scientifically recognized therapy approach. Vibration therapy increases the blood and lymph circulation in the extracellular matrix of the connective tissue and stimulates metabolic activity.

Based on these findings, ShockMaster® has now extended its range of products for soft tissue treatment with high-frequency pulses. The new unique and patented "vibration therapy" handpiece, recently launched after a one year testing period, operates at frequencies of up to 35 Hz and ensures optimal regulation of physiological muscle tremor.

The so-called V-ACTOR® applicator is designed for the localization and treatment of trigger and acupuncture points and is perfect complementary to radial shockwave therapy. It is perfectly suited for muscle spasms and proprioception.

V-ACTOR® is optionally available for Masterpuls® 200 and Duolith® series.

### Features:

- High frequency vibration therapy 1-35 Hz
- Oscillating movement
- Exchangeable transmitter
- Transmitter size : 25mm + 40mm
- Weight : 750g

