

CELLACTOR® SC1 »ultra«  
AWT® – ACOUSTIC WAVE THERAPY

STORZ MEDICAL









## Aesthetics with a fine medical tradition

STORZ MEDICAL AG is a Swiss member company of the KARL STORZ Group, established in 1945. Our products have proved their efficacy all over the world in the medical disciplines of urology, orthopaedics, sports medicine, rehabilitation, gastroenterology, cardiology and dermatology.

Close co-operation with leading medical institutes in the United States, Switzerland and Germany has enabled us to develop a pioneering treatment that sets new standards in aesthetic and cosmetic anti-ageing medicine. This new treatment method is referred to as Acoustic Wave Therapy or briefly AWT®.

The fields of application of AWT® include body shaping, anti-cellulite treatment, scar and wrinkle smoothing, skin elasticity improvement, connective tissue tightening, treatment of stretch marks and post-lipo-suction irregularities.

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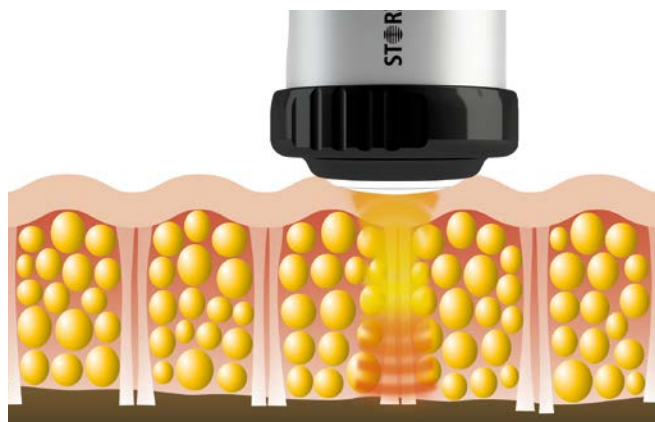
Body shaping  
Cellulite  
Skin tightening  
Tissue treatment

## Treatment of aesthetic indications with Acoustic Wave Therapy (AWT®)

Originally, acoustic waves were used for medical purposes exclusively because of their mechanical effects. While initially applied for the fragmentation of kidney stones, acoustic waves have also been employed in orthopaedic pain therapy for over 20 years. Recent studies have revealed that acoustic waves also produce biological effects that stimulate metabolic processes and improve connective tissue elasticity in aesthetic therapy. Treatment results can be significantly enhanced by combining focused with radial acoustic waves. Moreover, vibration therapy is an ideal complement to AWT® treatment.

### 1. C-ACTOR®: focused acoustic waves

These waves generated by the C-ACTOR® handpiece are used for fat breakdown in the tissue, for instance.

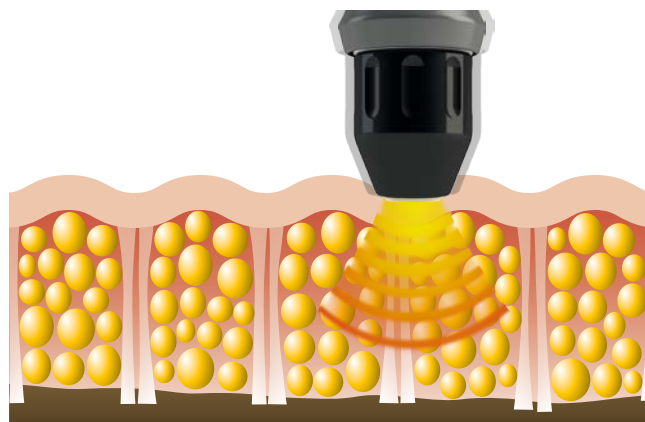


### Biological effects of AWT®

- Stimulation of microcirculation (blood/lymph)
- Improvement of tissue elasticity
- Stimulation of cellular metabolism (improved cell membrane permeability)
- Stimulation of stem cells
- Release of growth factors

### 2. D-ACTOR®: radial acoustic waves

These waves generated by the D-ACTOR® »ultra« handpiece act superficially. They are used for purposes such as anti-cellulite treatment or improving the elasticity of connective tissue.

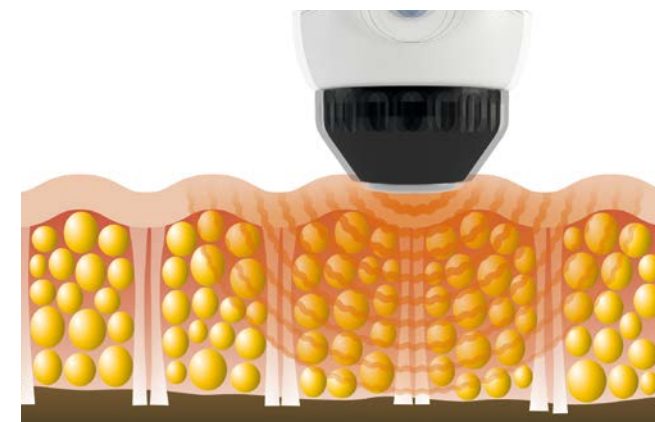


### Benefits of AWT®

- Non-invasive
- Short treatment time
- Suitable for all types of skin, including sun-tanned skin
- Initial improvements possible after only one treatment, depending on skin type and indication

### 3. V-ACTOR®: stimulating vibration pulses as complementary treatment.

Vibration pulses are produced with the V-ACTOR® handpiece. They are applied over large areas to stimulate tissue structures and the lymphatic system, and to enhance muscle relaxation.







## Improving cellulite with acoustic waves

The typical orange peel or mattress appearance of cellulite affects 90% of all women. Cellulite is caused by the parallel structure of the collagen fibre bundles, which makes it easy for the fat cells to bulge straight upwards towards the skin surface. In addition to this, reduced microcirculation causes fibrosclerosis in the connective tissue, which exacerbates the condition.

Acoustic waves reduce existing metabolic regulation disorders and stimulate fat breakdown in the cells. They enhance the elasticity of

connective tissue fibres and improve the skin tone, thus decreasing the visible signs of cellulite and the appearance of dimples and bumps. Several clinical studies<sup>1,2,3,4</sup> have been conducted using the D-ACTOR® handpiece to assess the effects of radial AWT® under controlled, standardized treatment conditions. During the studies, skin elasticity increased continually over a period of three months.

## Key facts

Applications of acoustic waves:

- fat breakdown in cells, enhancing the elasticity of connective tissue fibres and improving the skin tone
- treatment of cellulite and dimpled skin
- improvement of skin elasticity

<sup>1</sup> Christ, C. et al.: Improvement in skin elasticity in the treatment of cellulite and connective tissue weakness by means of extracorporeal pulse activation therapy. *Aesthetic Surgery Journal*, 2008, 28(5)

<sup>2</sup> Adatto, M. et al.: Controlled, randomized study evaluating the effects of treating cellulite with AWT/EPAT. *Journal of Cosmetic and Laser Therapy*, 2010, 12(4)

<sup>3</sup> Steinert, M. et al.: Efficacy and safety of AWT in anti-cellulite treatment. *PRIME Journal*, July/August 2013.

<sup>4</sup> Russe-Wilflingseder, K. et al.: Placebo controlled, prospectively randomized, double-blinded study for the investigation of the effectiveness and safety of the acoustic wave therapy (AWT®) for cellulite treatment, *Journal of Cosmetic and Laser Therapy*, 2013, 15(3)

Before AWT®

After AWT®



Source: Professor Knobloch, Hanover, Germany

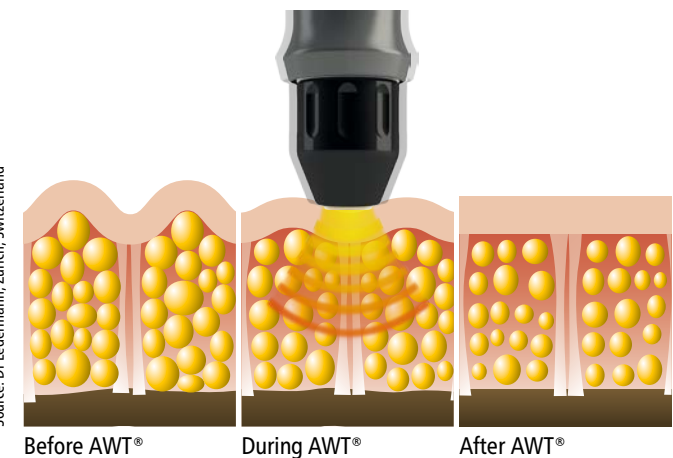
Before AWT®

After AWT®



Source: Dr. Ledermann, Zurich, Switzerland

Schematic of anti-cellulite treatment using the radial D-ACTOR® »ultra« handpiece







## Ideal body shaping

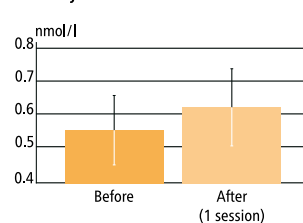
The human body contains a high percentage of fat which, by nature, is stored as energy reserve for periods of food scarcity. This function is primarily performed by the subcutaneous adipose tissue. Depending on gender and nutritional status, fat deposits of 10% to 50% of the body weight are primarily located on the abdomen, buttocks and thighs. These small to medium-size fat deposits can be treated successfully with acoustic waves.

AWT® stimulates fat cells. As a result, fatty acids and glycerol are released from the cells and accumulate in the intercellular space. Acous-

tic waves improve the removal of these metabolic waste products via the lymphatic and blood systems. The studies<sup>5,6</sup> conducted with the CELLACTOR® SC1 clearly demonstrate the effectiveness of the body shaping therapy.

This effect can be further enhanced by an appropriate diet, physical exercise and sufficient fluid intake during and after AWT® treatment.

Free fatty acids: acute effect of AWT®



## Key facts

- AWT® treatment of fat deposits
- Release of fatty acids and glycerol from fat cells
- Appropriate diet, physical exercise and sufficient fluid intake for enhanced effectiveness

<sup>5</sup> Adatto, M. et al.: Body shaping with acoustic wave therapy AWT/EPAT: Randomized, controlled study on 14 subjects. *Journal of Cosmetic and Laser Therapy*, 2011, 13/6

<sup>6</sup> Siems, W. et al.: Anti-fibrosclerotic effects of shock wave therapy in lipedema and cellulite. *BioFactors* 2005; 24(1-4)

Before AWT®

After AWT®



Source: Health n Vitality, NP Heiden, Netherlands

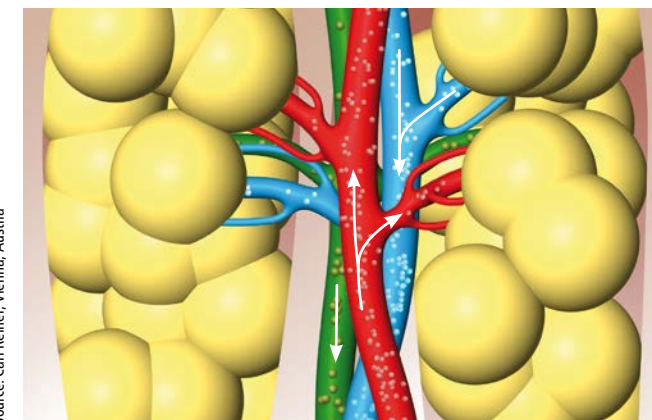
Before AWT®

After AWT®



Source: Carl Reiner, Vienna, Austria

Removal of metabolic waste products from the fat cell via the lymphatic and blood systems







## Treatment of facial wrinkles with acoustic waves

The skin begins to age in our mid-20s. The connective tissue stores less moisture and cell production slows down. Wrinkles are the result of the reduced elasticity of the dermal fibres. The tissue tone decreases for which collagen fibres are responsible. The effects of this process are most obvious in our face. The notorious deep nose/cheek wrinkles, drooping jowls, sagging skin below the chin, forehead wrinkles and fine lines around the mouth, cheeks and eyes appear.

Acoustic waves stimulate fibroblasts deep within the skin to resume collagen and elastin production. They promote cell renewal to improve skin density and elasticity, making the skin look firmer and smoother. This is a very good skin treatment for the face and chin area.

## Key facts

- Wrinkles – the visible signs of ageing skin
- Stimulation of cell renewal
- Improvement of skin elasticity

Before AWT®

After AWT®



Source: SHOCKWAVE FRANCE/TEPOC, Paris, France

Before AWT®

After AWT®



Source: SHOCKWAVE FRANCE/TEPOC, Paris, France

Treatment of facial wrinkles







## C-ACTOR® module – focused waves for aesthetic applications

The focused handpiece of the C-ACTOR® module has been particularly designed for specific cell rejuvenation and smoothing effects. These acoustic waves are used for applications requiring precisely controlled energy input and concentration in adipose and skin tissue: body shaping, scar and wrinkle smoothing, post-liposuction treatment and connective tissue tightening. Scientific studies<sup>7,8</sup> have confirmed the effectiveness of focused waves in aesthetic medicine.

With the C-ACTOR® handpiece target areas can be treated safely with a constantly high energy level. The handpiece is operated from the central control module. All treatment parameters such as frequency, energy and total number of pulses can be selected and viewed on the control module.

## Key facts

- Focused waves
- Ideal for body shaping, scar and wrinkle smoothing, post-liposuction treatment, connective tissue tightening

<sup>7</sup> Rümmelein, B.: Body composition analysis accompanying the acoustic wave therapy to improve predictability of cellulite therapy results. Presentation given at the 2011 EADV Congress in Lisbon, Portugal

<sup>8</sup> Sattler, G. et al: Pilotstudie Akustische Wellentherapie (AWT) bei Cellulite. [Pilot study: Acoustic Wave Therapy (AWT) for Cellulite.] Ästhetische Dermatologie 2/2008

Treatment of cellulite with C-ACTOR® handpiece



Body shaping with C-ACTOR® handpiece



Wave propagation from C-ACTOR® handpiece







## D-ACTOR® module – innovative radial technology

The new radial handpiece of the D-ACTOR® module can be ideally combined with the focused handpiece of the C-ACTOR® module for enhanced effectiveness. Its attractive design and built-in high-quality »silent« compressor technology are the hallmarks of this innovative module. The ergonomic shape of the radial handpiece ensures efficient treatment and reduces hand fatigue.

The D-ACTOR® can be controlled entirely from the control module or by using the buttons and display provided on the handpiece. The radial handpiece enables convenient selection of the frequency and energy level and displays the pulse number. The D-ACTOR® »ultra« handpiece is equipped with the unique power sensor to display the application pressure intensity.

## Key facts

- D-ACTOR® module with built-in »silent« compressor technology
- All parameter settings on the handpiece
- Handpiece integrated control of application pressure intensity

Handpiece buttons and display



Treatment of cellulite with D-ACTOR® »ultra« handpiece



Wave propagation from D-ACTOR® »ultra« handpiece







## Sonographic monitoring of treatment results

The CELLACTOR® SC1 »ultra« can be equipped with an optional diagnostic ultrasound module (B&W or colour Doppler). On-board ultrasound imaging enables monitoring and measurement of the adipose tissue before and after the treatment. The ultrasound images are stored in the specific patient record in the patient management system.

## Complementary vibration therapy

Vibration therapy with the V-ACTOR® handpiece is the ideal complement to Acoustic Wave Therapy. Vibration pulses stretch fascia and tissue fibres, restoring normal tone. Compression and decompression improve microcirculation and metabolic activity. When used in combination with AWT®, the V-ACTOR® handpiece also helps to stimulate the lymphatic system.

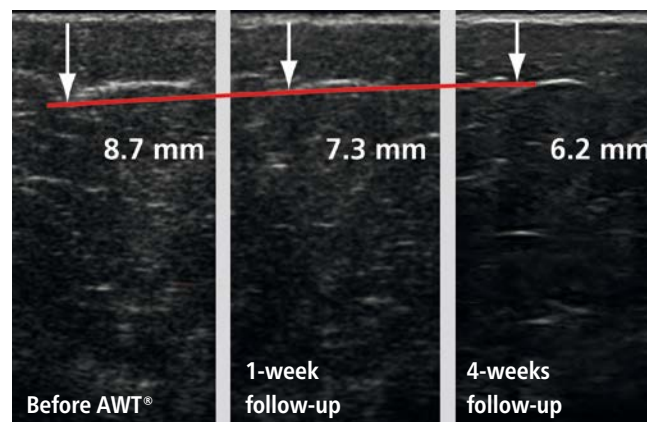
## Options at a glance

- Optional ultrasound module for results monitoring
- Before/after comparisons of adipose tissue by ultrasound imaging
- Measurement, storage and export of ultrasound images
- Vibration therapy to complement AWT®
- Stimulation of the lymphatic system with the V-ACTOR®

Ultrasound measurement of adipose tissue



Ultrasound images of adipose tissue before and after AWT® treatment (8 treatment sessions in 4 weeks)



Tissue smoothing with the V-ACTOR® handpiece



Source: Dr Adatto, Geneva, Switzerland



C-ACTOR

D-ACTOR 1

D-ACTOR 2

V-ACTOR

Energy (bar) 4.0

Pulses 400

Frequency (Hz) 15

Total Pulses 0



Skin Touch: ON

Aesthetics

Patients



- Body shaping ▶
- Cellulite ▶
- Skin tightening ▶
- Tissue treatment ▶



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Aesthetic Clinic

Settings

Info

Videos



STORZ MEDICAL

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ELEVATOR-SET



## Intuitive touch screen operation

Thanks to modern touch screen technology and an intuitive menu-driven user interface, the CELLACTOR® SC1 »ultra« is designed for maximum ease of use. The self-explanatory icons on the clearly structured screen ensure a short learning curve.

The ample touch screen enables separate control of each module by simply touching the icons on the screen. The system provides diverse applications such as patient documentation, treatment parameters and videos.

Treatment instructions via touch screen



## Modularity

Because of the modular design of the CELLACTOR® SC1 »ultra«, both new and experienced users will be able to use the system according to their specific requirements. The system is designed to grow with the changing needs of the medical practice. Its modular set-up allows components to be replaced or new modules to be added to the therapy column any time.

The CELLACTOR® SC1 »ultra« is made of high-quality materials and the result of STORZ MEDICAL's many years of experience in medical engineering.

Treatment photos and videos



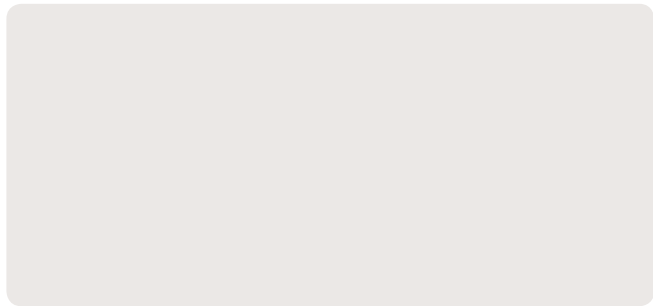
## Key facts

- Intuitive menu-driven user interface
- Treatment parameters included
- Therapy supported by treatment photos and videos
- Modular, extendable system set-up to suit individual requirements

Modular set-up



HUMANE TECHNOLOGY – TECHNOLOGY FOR PEOPLE



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STORZ MEDICAL AG · Lohstampfstrasse 8 · 8274 Tägerwilten · Switzerland  
Tel. +41 (0)71 677 45 45 · Fax +41 (0)71 677 45 05 · [info@storzmedical.com](mailto:info@storzmedical.com) · [www.storzmedical.com](http://www.storzmedical.com)

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