

**THE GOLD  
STANDARD**  
IN RADIAL SHOCKWAVE  
THERAPY

**SWISS DOLORCLAST®**

**EMS**   
ELECTRO MEDICAL SYSTEMS

**SWISS DOLORCLAST®**  
EXCELLENCE IN DESIGN



Swiss DolorClast® Master

**SWISS DOLORCLAST®**  
PATENTED

# THE SWISS DOLORCLAST® METHOD

**EXTRACORPOREAL SHOCKWAVE  
THERAPY FOR CHRONIC  
MUSCULOSKELETAL PAIN**

- NON-INVASIVE TREATMENT FOR INDICATIONS CAUSING CHRONIC PAIN
- NO ANESTHETIC, MEDICATION OR SURGICAL PROCEDURES
- TRANSPORTABLE, PRACTICAL AND EFFECTIVE

**FOR A SUCCESSFUL PRACTICE**

# THE BENEFICIAL EFFECTS OF EXTRACORPOREAL SHOCKWAVE THERAPY ARE WIDELY KNOWN. SCIENTISTS RECOGNIZE THAT SHOCKWAVES CAN TRIGGER A VARIETY OF EFFECTIVE ACTIONS →

## RELEASES MORE SUBSTANCE P

- > One of these messenger substances is substance P, a pain mediator and growth factor. On the one hand, the release of substance P by shockwaves has an analgesic effect. On the other, it dilates the blood vessels, stimulates blood circulation and contributes to the formation of new bone tissue. NO (nitric oxide) also has a vasodilatory effect and plays an important role in angiogenesis.
- > In short, when applied where pain occurs, we know why shockwaves produce an analgesic effect, increase blood circulation and facilitate the repair process.

## INHIBITS THE COX II ENZYME

- > By inhibiting inflammatory mediators such as COX II, shockwaves produce an anti-inflammatory effect. This weakens any inflammatory process.

## ACTIVATES CELLULAR DEFENSES

- > By contributing to the release of free radicals, shockwaves help strengthen the body's endogenous cellular defense mechanisms to protect it from disease.

## HYPERSTIMULATES NERVE FIBRES

- > Scientific studies also show that shockwaves act in another way. Overstimulating the nerve fibres blocks an increase in pain stimuli and therefore intensifies the analgesic effect (Gate Control Theory).

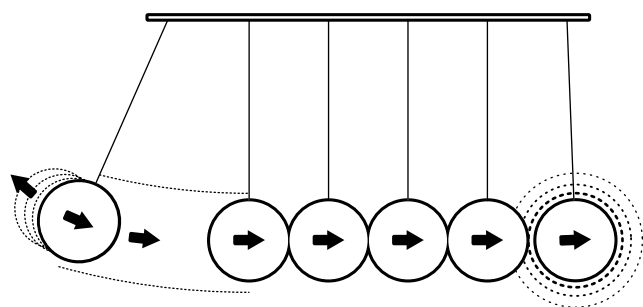


**SIMPLE, FLEXIBLE AND  
ERGONOMIC**

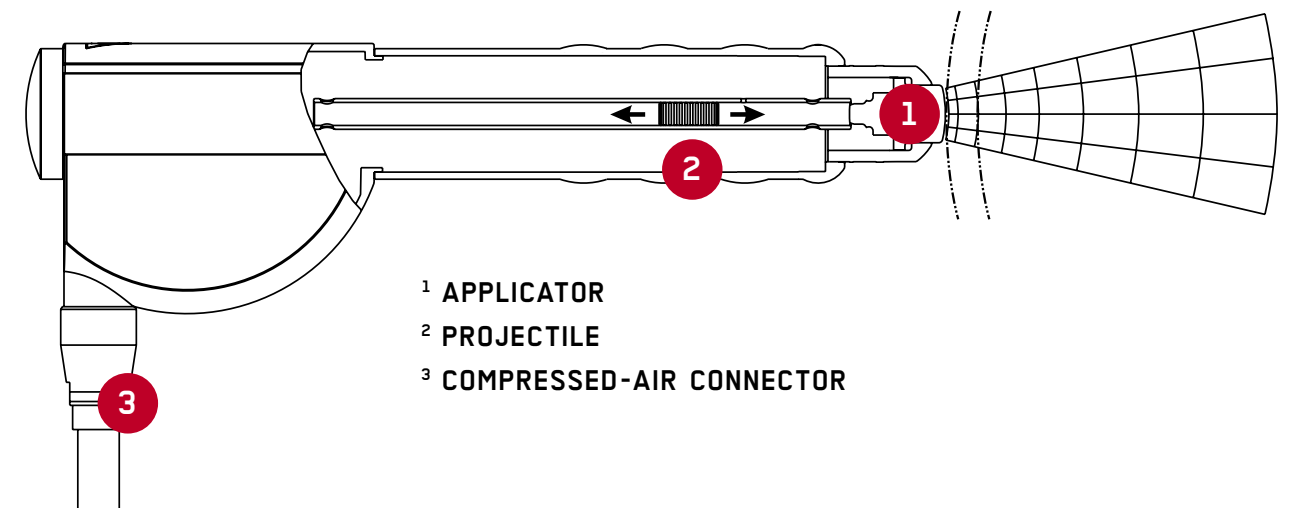
# RADIAL SHOCKWAVES GENERATE HIGH PNEUMATIC ENERGY – FOR RELIEF FROM PAIN→

## A TEXTBOOK LAW OF PHYSICS

> Kinetic energy is converted into impact energy,  
as illustrated by Newton's Cradle.



## GENERATING PNEUMATIC ENERGY WITH SWISS PRECISION – FOR CONTROL AND RELIABILITY



- THE PRECISION COMPRESSED-AIR IMPULSE ACCELERATES THE PROJECTILE IN THE HANDPIECE
- THE IMPACT OF THE PROJECTILE ON THE APPLICATOR GENERATES THE SHOCKWAVE
- THE SHOCKWAVE IS DELIVERED TO THE TISSUE

> The advantage of radial shockwaves is that they  
generally produce an extensive analgesic area.  
By radiating out, shockwaves extend to the entire area  
where pain occurs.

## EXTRACORPOREAL SHOCKWAVE THERAPY WITH THE SWISS DOLORCLAST® METHOD→

**PATENTED FOR SUCCESS**



# THE RADIAL SHOCKWAVE→

RADIAL SHOCKWAVE

DEMONSTRATED BY CAVITATION



CAVITATION BUBBLES→

SECONDARY SHOCKWAVES  
OF THE CAVITATION BUBBLES→

# SUCCESSFUL TREATMENTS, A SUCCESSFUL PRACTICE→

## BENEFITS FOR THE PATIENT

- OUTPATIENT TREATMENT
- NO ANESTHESIA
- NON-INVASIVE
- VIRTUALLY PAINLESS AFTER TREATMENT
- NO MEDICATION
- QUICK RESULTS
- HIGH SUCCESS RATES
- IMPROVED QUALITY OF LIFE

## BENEFITS FOR THE PRACTITIONER

- SHORT APPLICATION TIME
- HIGH PATIENT ACCEPTANCE
- BROAD RANGE OF INDICATIONS
- UPDATED APPLICATION INFORMATION
- OUTSTANDING PRODUCT QUALITY
- LOW MAINTENANCE
- FAST AMORTIZATION
- LOW OPERATING COSTS



<sup>1</sup> Locating pain by palpation



<sup>2</sup> Marking the treatment area



<sup>3</sup> Applying the contact gel



<sup>4</sup> Delivering the shockwaves

- PER SESSION: APPROX. 2000 IMPULSES AT APPROX. 2.5 BAR
- UP TO 4000 IMPULSES FOR TRIGGER POINT TREATMENTS
- AS A RULE WITHOUT ANESTHESIA DUE TO A FAST ADJUSTMENT TO THE PAIN AND THE ANALGESIC EFFECT OF THE TREATMENT ITSELF
- USUALLY NO MORE THAN THREE OR FOUR SESSIONS NEEDED
- NO OTHER THERAPY, NO X-RAYS, NO PAINKILLERS REQUIRED
- NO SURGERY

**FAST, GENTLE, EFFECTIVE**



## 1 EPICONDYLITIS HUMERI RADIALIS

Painful inflammation of the tendon attachment on the medial elbow

## 2 TENDINOSIS CALCAREA

Painful limitation of shoulder movement due to calcification

## 3 EPICONDYLITIS HUMERI ULNARIS

Painful inflammation of the tendon attachment on the lateral elbow (golfer's elbow)

## 4 BURSITIS TROCHANTERICA

Painful periostitis of the outer femur

## 5 PATELLA TIP SYNDROME

Inflammation of the point of attachment of the patellar ligament

## 6 TIBIALIS ANTERIOR SYNDROME

Inflammation of the tibial edge due to excessive strain

## 7 ACHILLODYNIA

Painful irritation of the Achilles tendon

## 8 FASCIITIS PLANTARIS

Painful, mostly chronic inflammation of the plantar fascia

## CHRONIC ENTHESOPATHIES

Painful irritation of tendon attachments due to overexertion or improper strain, or due to degenerative processes

## ACUPUNCTURE POINTS

Pain therapy via treatment of acupuncture points

## PAINFUL TRIGGER POINTS

Acute and chronic pain in the back, shoulder, neck, etc. due to permanently shortened and thickened muscles

**MANY INDICATIONS, ONE THERAPY**

# A MODERN METHOD FOR TREATING TRIGGER POINTS→

## WHAT ARE TRIGGER POINTS →

- > Trigger points are fibrous areas in the muscle that are permanently shortened or thickened. Also called myogeloses, they are often caused by poor body posture, overexertion or excessive strain.

## WHAT CAUSES TRIGGER POINTS →

- > Poor body posture, improper strain or excessive stress may adversely affect muscles, cartilage, bones and tendons. The result? Painful trigger points within the muscle and peripheral trigger points where tendons attach to the bones (tendonitis).

## WHERE ARE TRIGGER POINTS FOUND →

- > Trigger points may form anywhere in the body's muscular tissue and often cause pain in places far away from the root of the problem. This explains why many conventional treatments address the symptoms, not the cause.

## HOW ARE TRIGGER POINTS TREATED →

- > Locating trigger points is done via palpation. The Swiss DolorClast® method using TST – Trigger Shockwave Therapy® delivers a particularly gentle and effective treatment. Repeat sessions allow improved posture and help modify improper body movement patterns by treating the trigger points. Important: With the Swiss DolorClast® method, there is no risk of nerve injury due to injection or dry needling.

## POSSIBLE INDICATIONS→

- |                        |                                     |
|------------------------|-------------------------------------|
| → RECALCITRANT LUMBAGO | → IMPROPER POSITIONING OF VERTEBRAE |
| → LUMBOISCHIALGIA      | → EXCESSIVE STRAIN ON VERTEBRAE     |
| → SHOULDER PAIN        | → HEADACHES/MIGRAINES               |
| → NECK PAIN            | → WHIPLASH                          |
| → KNEE PROBLEMS        | → DIZZINESS                         |

- > The Swiss DolorClast® method has been proven effective when treating acute and chronic pain caused by trigger points. Just three or four sessions at short intervals are enough to treat even particularly problematic cases. Swiss DolorClast® treats causes, not symptoms.

# THE RIGHT METHOD FOR MODERN SPORTS MEDICINE→

## THE IMPORTANCE OF SWISS DOLORCLAST® IN SPORTS MEDICINE →

- > A number of leading sports physicians use the Swiss DolorClast® method to successfully treat professional and amateur athletes.

## THE SWISS DOLORCLAST® METHOD DURING COMPETITIONS →

- > In between competitions, the Swiss DolorClast® method is successfully used, for example, to treat acute pain due to overexertion. An effective, gentle and modern type of treatment. No needles, no risk of violating doping regulations, no medication, a significant improvement in health and fitness.

## THIS IS WHERE THE SWISS DOLORCLAST® METHOD IS USED →

- TEAM DOCTORS OF INTERNATIONAL FOOTBALL LEAGUES
- SKI AND OTHER NATIONAL WINTER SPORTS TEAMS
- SPORTS CENTERS AND OLYMPIC TRAINING CENTERS
- OLYMPIC GAMES
- MEDICAL SUPPORT AT ATP TENNIS TOURNAMENTS

- > The Swiss DolorClast® method is used effectively by sports organizers, at major sports events, by many international sports organizations and top athletes.

BY PROS, FOR PROS



# VISIBLY SUCCESSFUL→



- > 40-year-old patient with chronic tendinosis calcarea of the shoulder
- > 12 months of physiotherapy, injections and medication without success
- > Clearly painful and limited movement

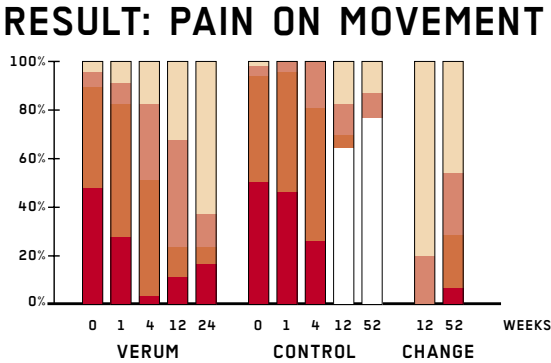
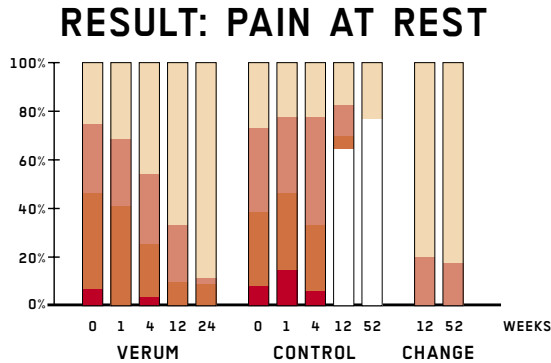
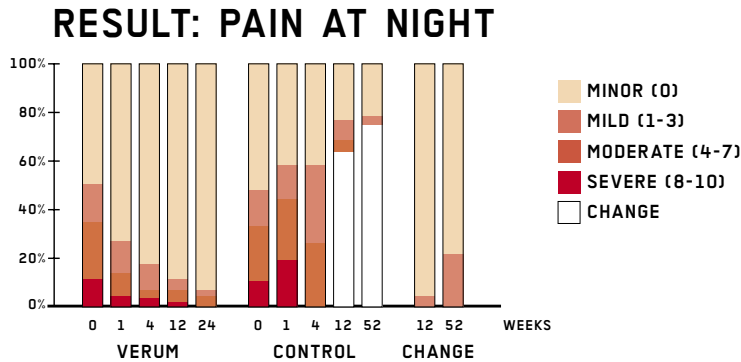


- > Three radial shockwave sessions
  - > Treatment interval: 14 days
- Source: Gerdsmeyer, M.D., Klinikum Rechts der Isar, Munich

## DUAL ACTION OF EXTRACORPOREAL SHOCKWAVE THERAPY→

**PAIN RELIEF AND FREEDOM OF MOVEMENT**

# MEASURABLE EFFICACY→



- > After 52 weeks, 81% of patients (66% in just 12 weeks) suffering from heel spur were free of daily discomfort. 94% were free of night pain after 12 weeks.
- > After 52 weeks of treatment, 94% of patients in the verum group rated the treatment as good (83%) or satisfactory (11%). 91% of patients responded positively to the question whether they would choose to repeat the treatment.

[ Summary from "Der niedergelassene Chirurg, 4/2002", Prof. Dr. Haupt, with contributions by Dr. Diesch (orthopaedic practice, Friedrichshafen), Dr. Frölich (orthopaedic practice, Böblingen), Dres. Lohrer and Schöll (Institute for Sports Medicine, Frankfurt am Main), Dres. Straub and Penninger (orthopaedic practice, Dingolfingen) ]

# RAVING PATIENT REVIEWS→



FELIX EGLOFF, FORMER PRESIDENT OF SWITZERLAND'S LARGEST HEALTH INSURANCE COMPANY,  
NOW GENERAL SECRETARY OF ATRAD → SHOULDER PAIN SUFFERER

“I had given up all hope. After years of suffering, Swiss DolorClast® brought me the kind of relief I no longer thought possible.”

JOSEF DIEBELS → RADIAL SHOCKWAVE THERAPY FOLLOWING MODERATELY  
SUCCESSFUL ELBOW SURGERY

“I felt a significant improvement in just three sessions.”

DR. GEORGI, TÖNNING, GERMANY → PHYSICIAN AND HEEL SPUR PATIENT

“For the past four or five years I have used Radial Shockwave Therapy in my daily work. I myself suffered a great deal from pain and underwent heel spur surgery. After three shockwave treatments, I feel no more pain and can play football again. In fact, I'm training my sons, who want to become professional players.”



WOLFGANG HÄRLE, FORMER CROSS-COUNTRY SKIING WORLD CHAMPION  
→ HEEL SPUR PATIENT

“Without shockwave therapy, speedy healing would not have been possible.”

DR. FRIEDER KATZ, DARMSTADT, GERMANY → HEEL SPUR PATIENT

“I have no more pain and successfully finished the Jungfrau marathon and the Frankfurt marathon.”

# PRACTITIONER SATISFACTION→

J. P. SCHAMAN, M.D., ONTARIO, CANADA



“Ever since I began to use radial shockwaves with Swiss DolorClast® I've been impressed by the results. In the seven months I've used this therapy, this method has not failed once. Patients who suffered for months or even years are now free of pain in just one to five sessions.”

HARTLEY MILTCHIN, DPM (DOCTOR OF PODIATRIC MEDICINE), TORONTO, CANADA

“I've been treating heel spur since 1982. The Swiss DolorClast® method is a great addition to my treatment concept. My success with this unique unit is without equal. Patient comfort and acceptance are excellent. Fortunately, the treatment is so fast and simple that I have never had to use anesthesia.”



DR. JAN SCHNEIDER, UNIVERSITÄTSKLINIKUM, ULM, GERMANY  
ATTENDING PHYSICIAN OF THE ATP TENNIS TOUR

“Swiss DolorClast® is our permanent companion on ATP's tennis tournaments and has become increasingly popular with players.”

DR. MED. R. P. MAHNKE,  
CHIROTHERAPY, MÖNCHENGLADBACH, GERMANY

“Out of 100 cases of calcified shoulder – many patients had been suffering more than two years – the success rate was 90 percent.”

DR. MED. UTA STIEGLER,  
ORTHOPAEDICS, ACUPUNCTURE, RHEUMATOLOGY IN BERLIN, GERMANY

“There are patients who sought relief from a multitude of practitioners. In just three sessions of Radial Shockwave Therapy they finally obtained relief. This may surprise even the more experienced orthopedists.”



# ACTUAL SIZE→

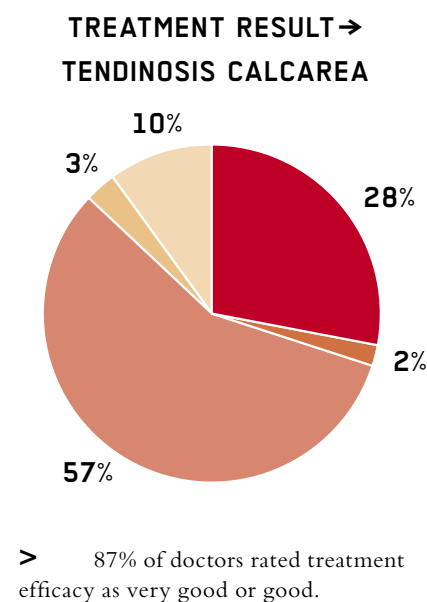
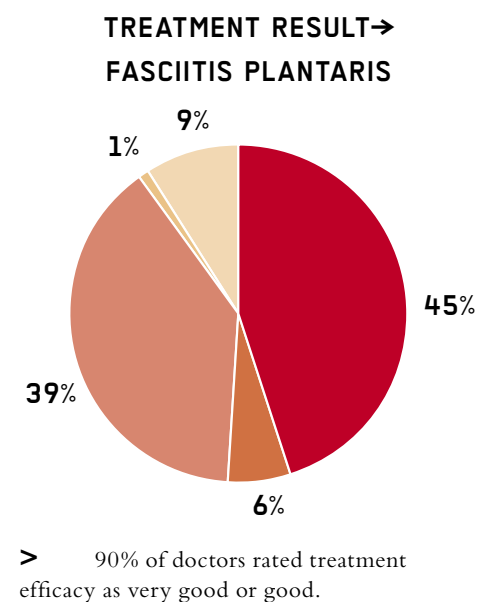
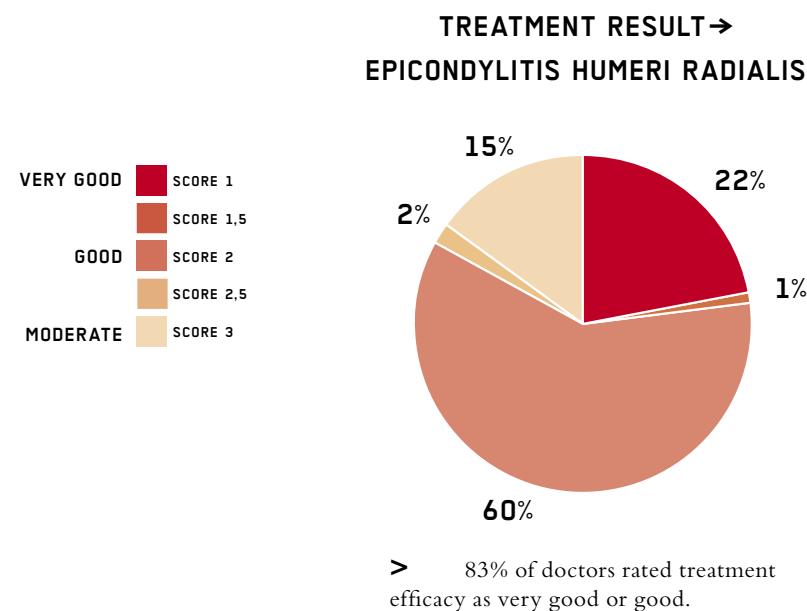
SWISS DOLORCLAST® CLASSIC DISPLAY



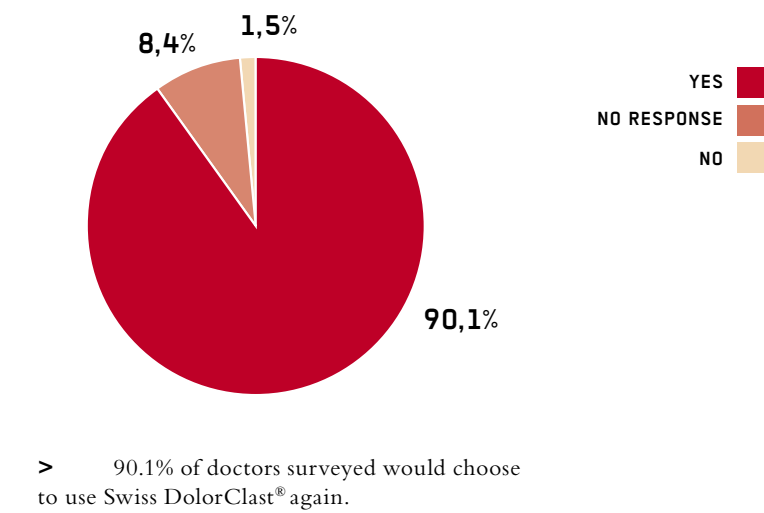


# REVIEWED BY DOCTORS→

## GENERAL EVALUATION OF THE SWISS DOLORCLAST® METHOD BY 202 DOCTORS



## DOCTOR EVALUATION→WOULD YOU CHOOSE TO USE SWISS DOLORCLAST® AGAIN?



## WHEN ASKED “WOULD YOU CHOOSE TO USE SWISS DOLORCLAST® AGAIN?”

- 182 OF 202 PRACTITIONERS SURVEYED ANSWERED “YES”
- 17 OF THE PRACTITIONERS SURVEYED EXPRESSED NO OPINION.
- ONLY 3 OF THE 202 PRACTITIONERS SURVEYED ANSWERED “NO”

> On request, EMS will provide the opinions of physicians who have taken part in this survey and of others who use the Swiss DolorClast® method. Their views are solid references that help build confidence in one of today's most effective methods to treat the causes of orthopaedic pain.





SWISS DOLORCLAST®  
MARKETING

# A NEW METHOD TO WIN NEW PATIENTS→

## A METHOD FOR SUCCESS

- PATIENT BROCHURES WITH DISPLAY RACK
- ATTRACTIVE POSTERS FOR YOUR PRACTICE
- NEWSLETTER ON PRODUCTS AND TREATMENT
- INTENSIVE PRESS AND MEDIA COVERAGE
- INFORMATION AND IN-SERVICE TRAINING
- VIDEOS AND ANIMATIONS (CD-ROM/DVD)
- CUSTOMER SERVICE AND SUPPORT FROM  
EMS REPRESENTATIVES AND PARTNERS

SWISS DOLORCLAST® RELIEVES PAIN AND WINS NEW PATIENTS→

**ACQUIRE NEW PATIENTS**

IT PAYS →



\*RETURN ON INVESTMENT

→ A STRAIGHTFORWARD CALCULATION

WITH 2000 IMPULSES PER APPLICATION MANY PRACTITIONERS REACH OVER ONE MILLION IMPULSES A YEAR. USING THE SWISS DOLORCLAST® METHOD, EXTRACORPOREAL SHOCKWAVE THERAPY PAYS OFF FOR YOUR PRACTICE FROM YEAR ONE

- > The number of potential patients – anyone who suffers from indications that may be treated with the Swiss DolorClast® method – is very high.
- > Potential patients also include those who no longer seek therapy or who have become resigned to their condition.
- > Today, many more patients are able to afford Extracorporeal Shockwave Therapy because the Swiss DolorClast® method is significantly more economical than shockwave therapy with other methods.

IT PAYS FOR THE PATIENT AND FOR THE ENTREPRENEURIAL PRACTITIONER

- > EMS will help you calculate your return on investment for your practice.
- > Find out from your EMS representative about market potential, suggested charge per session, tailored financing or leasing plan, and the number of new patients you could acquire by offering Swiss DolorClast® treatments.
- > As a Swiss DolorClast® customer, you will receive quality customer service and assistance, hotline access, complete documentation, quick response to requests for repair, and personalized customer support.
- > You'll be astounded to see how soon the unit pays for itself. And how successful the treatment is.

YOUR POTENTIAL REVENUE →

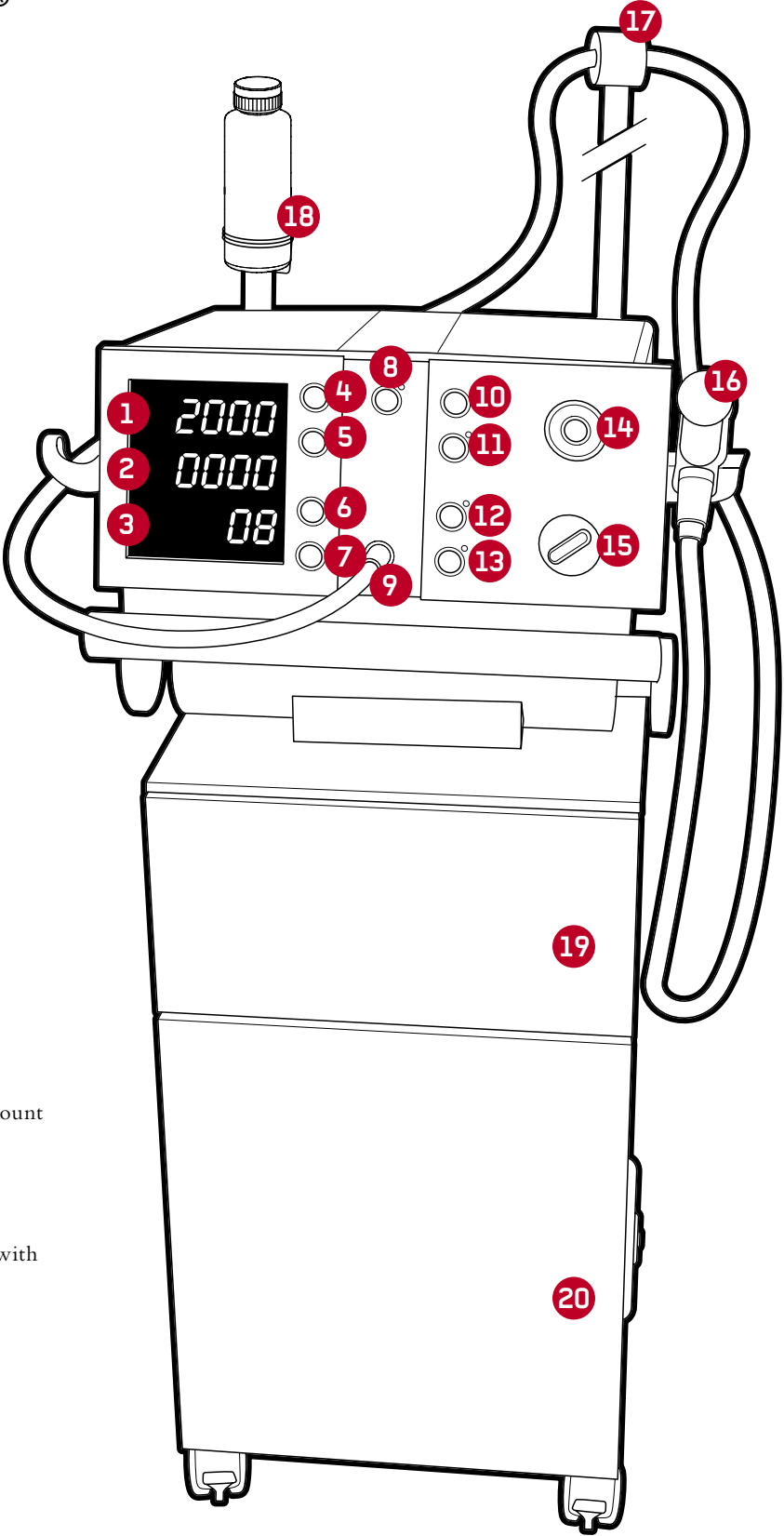
<hr/>	X	<hr/>
Patients per month		Applications per patient
	=	
		<hr/>
		Total applications
X		<hr/>
		Charge per application
=		<hr/>
		Monthly revenue

FOR THE SUCCESS  
OF YOUR PRACTICE

# SWISS DOLORCLAST® CLASSIC

- INDICATIONS: ALL; ADVANTAGES FOR TRIGGER POINT TREATMENT
- FREQUENCY: UP TO 15 HZ
- PRESSURE: ADJUSTABLE UP TO 4 BAR
- DISPLAY: 3 LINES
- APPLICATORS: 6, 10, 15, TRIGGER
- CART: WITH CABLE HOLDER, ADJUSTABLE TILT ANGLE
- HANDPIECE: WITH IMPULSE COUNTER, 4 EXCHANGEABLE APPLICATORS FOR OPTIMIZED ADJUSTMENT OF TREATMENT CONFIGURATION
- OPTIONAL: HANDPIECE GRIP WITH SOFT HANDLE
- WARRANTY: 2 YEARS

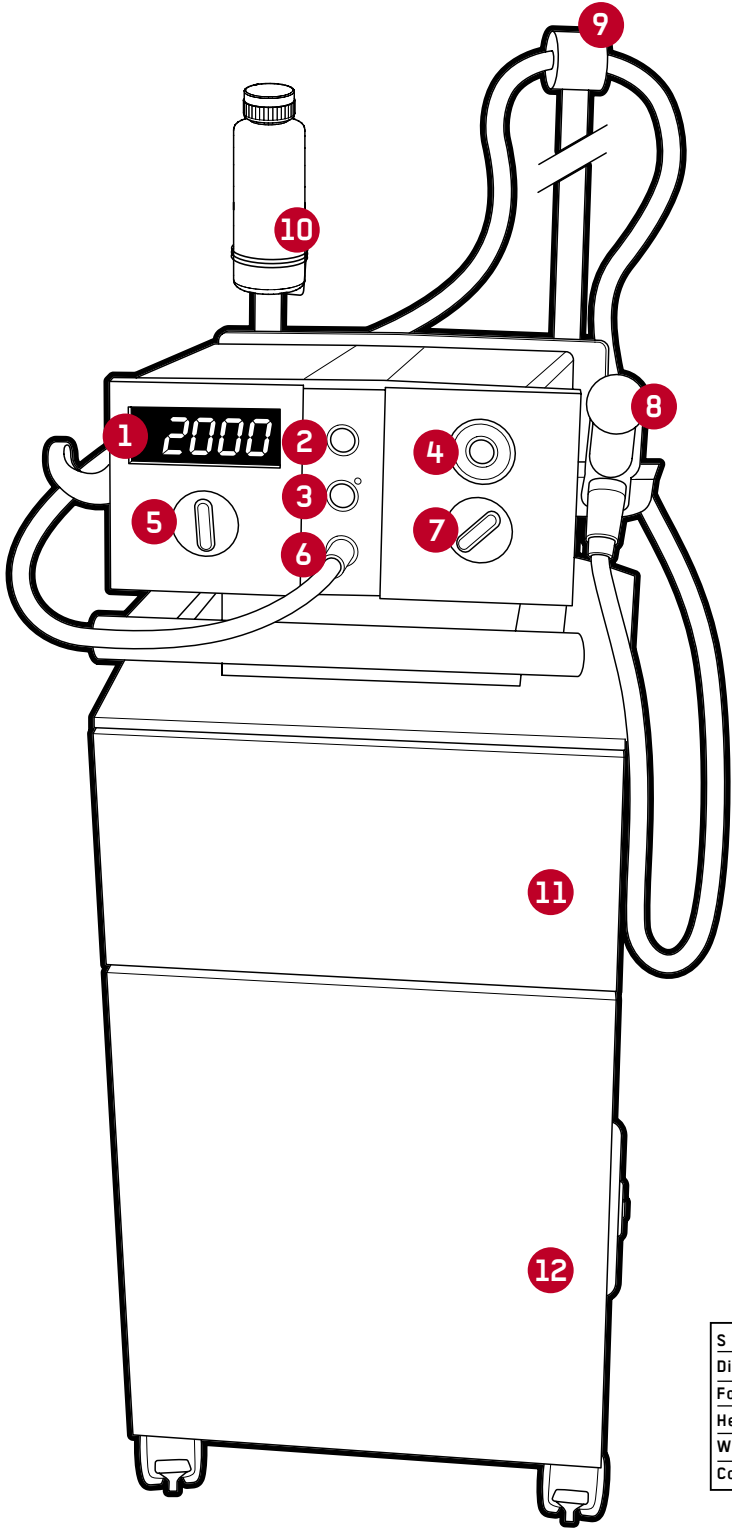
- 1 Display desired impulse count per treatment
- 2 Display current impulse count
- 3 Display operating frequency
- 4 Increase impulse count per treatment
- 5 Reduce impulse count per treatment
- 6 Increase operating frequency
- 7 Reduce operating frequency
- 8 On/Off with indicator light
- 9 Handpiece connection
- 10 "Select" to activate change in preset impulse count
- 11 "Validate" to confirm setting
- 12 Pushbutton for single-impulse operation with indicator light
- 13 Pushbutton for continuous impulse operation with indicator light
- 14 Manometer for operating pressure
- 15 Operating pressure regulator
- 16 Handpiece
- 17 Cable holder
- 18 Bottle holder (gel)
- 19 Drawer
- 20 Compressor compartment



# SWISS DOLORCLAST® MASTER

- INDICATIONS: ALL
- FREQUENCY: UP TO 10 HZ
- PRESSURE: ADJUSTABLE UP TO 4 BAR
- DISPLAY: LED
- APPLICATORS: 6, 10, 15, TRIGGER
- CART: WITH CABLE HOLDER
- HANDPIECE: WITH TRIGGER, IMPULSE COUNTER, 4 EXCHANGEABLE APPLICATORS FOR OPTIMIZED ADJUSTMENT OF TREATMENT CONFIGURATION
- WARRANTY: 2 YEARS

- 1 Display preset and delivered impulse count
- 2 "Reset" to change impulse count
- 3 "Start" to activate impulse count setting
- 4 Operating pressure manometer
- 5 Operating frequency regulator
- 6 Handpiece connection
- 7 Operating pressure regulator
- 8 Handpiece
- 9 Cable holder
- 10 Bottle holder (gel)
- 11 Drawer
- 12 Compressor compartment



SWISS DOLORCLAST®	→CLASSIC	→MASTER
Dimensions (w/d/h)	495x425x980mm	470x385x852mm
Footprint, cart	390x350mm	390x350mm
Height, operating components	950mm	845mm
Weight, total	65kg	62kg
Controls	Piezocontrolled	Pushbutton

PLUG AND TREAT



# THE GOLD STANDARD FROM EMS →

- > Electro Medical Systems (EMS) has been setting standards in the development and production of medical devices since 1981. Each product is individually produced and tested in Switzerland – with Swiss precision.
- > EMS is one of the world's leading manufacturers of prophylactic dental devices.
- > With over 8,000 Swiss LithoClast® devices in daily use, EMS is the world's largest supplier of intracorporeal shockwave lithotriptors for the treatment of kidney, ureteric and bladder stones.
- > With its patented Swiss DolorClast®, EMS offers products that benefit from the expertise and experience with pneumatically generated shockwaves. Since its market introduction in 1999, Swiss DolorClast® has been the reference for successful pain therapy and has made EMS the number one in Radial Shockwave Therapy.
- > Product certification received by EMS: ISO 9001, EN 46001 (Medical Devices), GMP (Good Manufacturing Practice) and CE guidelines.
- > Like all EMS products, Swiss DolorClast® meets the highest European and international quality standards.
- > EMS is an official member of DIGEST (German and International Society for Extracorporeal Shockwave Therapy) and supports ATRAD (Association for Radial Pain Therapy).



**EMS**   
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