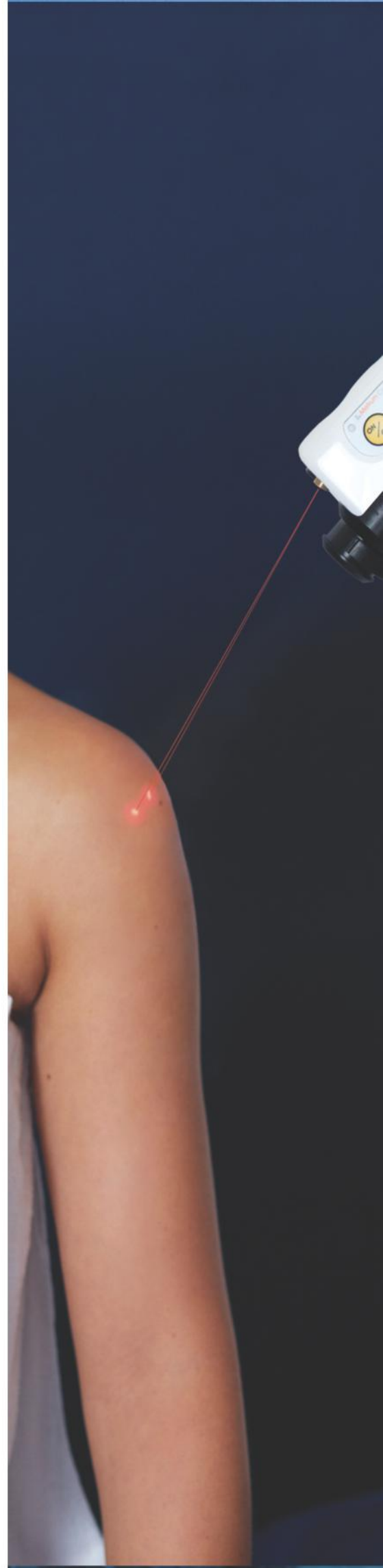


New device for cryotherapy
No gas needed!

Cryo-T Cooler

Medical rehabilitation
Physiotherapy
Sports medicine
Biological regeneration





CRYOSTIMULATION

Cryostimulation

Cryostimulation is a short-term exposure of particular parts of the body (muscles, tendons, ligaments, joints, trigger points) to extremely low temperatures. Optimal temperature for the treatment is approximately -35°C with exposure time from 2 to 12 minutes.

How cryostimulation works

This method takes advantage of stimulus, superficial action of extremely low temperatures applied in short time to provoke and exploit physiological reactions to cold. It evokes many beneficial physiological effects: analgesic, neuromuscular, anti-inflammatory, antioedematous and circulatory. The main objective of cryostimulation applied as a preparation for intensive kinesitherapy is maximum cooling of the area adjacent to the organ (e.g. whole joint along with neighbouring muscles) to the value of 4°C to 14°C in reference to skin surface. In such a cryostimulation tissues are cooled by air vapour.

Procedure

During the single procedure patient can stand, sit or lie. The operator is moving treatment handpiece 5 cm over the skin surface in scanning movements. Time of procedure on one body area ranges from 1 to 5 minutes, while in patients with fat deposition or robust musculature may be extended to 10 minutes. If few areas are cooled during one procedure, its total time should not exceed 12 minutes. Cryostimulation procedure can be performed at the same time on maximum five joints of palm, foot and spine are counted as one group of small joints. The cycle of local cryotherapy usually consists of 10-15 procedures performed once or twice a day. The minimal break between procedures should last 4-6 hours.

Frozen
shoulder

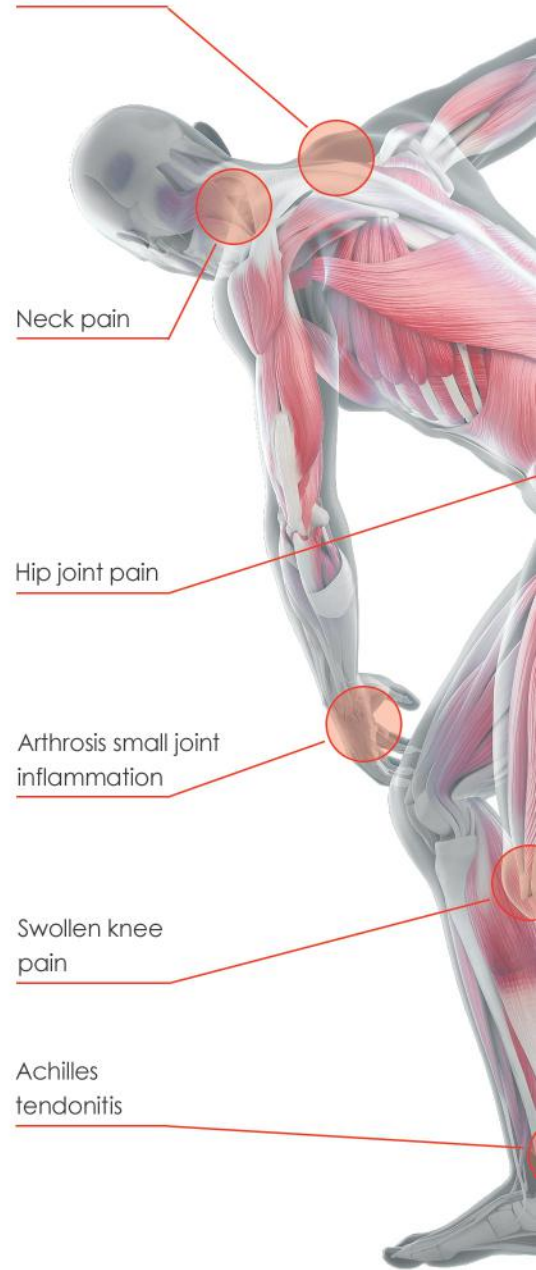
Neck pain

Hip joint pain

Arthrosis small joint
inflammation

Swollen knee
pain

Achilles
tendonitis



INDICATIONS OF CRYOSTIMULATION

Based on contemporary literature reports the following indications for cryostimulation should be considered, both as an independent method and as a component of the complex rehabilitation:

Diseases of locomotor system:

- Inflammatory diseases of locomotor system: rheumatoid arthritis, ankylosing spondylitis
- arthrosis and secondary degeneration of spine and peripheral joints

Diseases of metabolic origin:

- periarticular inflammation in ligaments and joint capsule
- some skin diseases with affected joints: psoriatic arthritis
- inflammatory diseases of soft tissues: myositis, fibromyositis and collagenosis
- post-traumatic or overloading changes in joints and soft tissues
- diskopathies
- fibryomalgia
- osteoporosis
- gout

Diseases of nervous system:

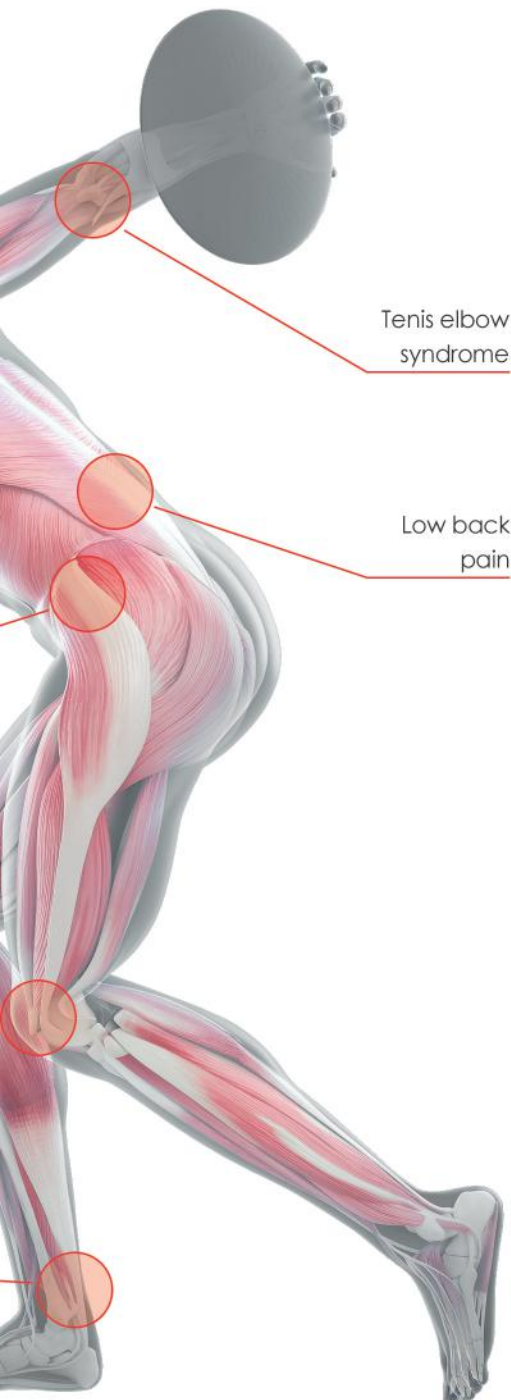
- radicular syndromes
- multiple sclerosis
- spastic paresis

Biological regeneration of overloaded muscles:

- decreases injury recovery time (up to 50%)
- helps reduce significantly DOMS (Delayed Onset Muscle Soreness)
- increase in muscle strength
- inhibits inflammation and improves joint and tendons functioning
- reduces recovery time

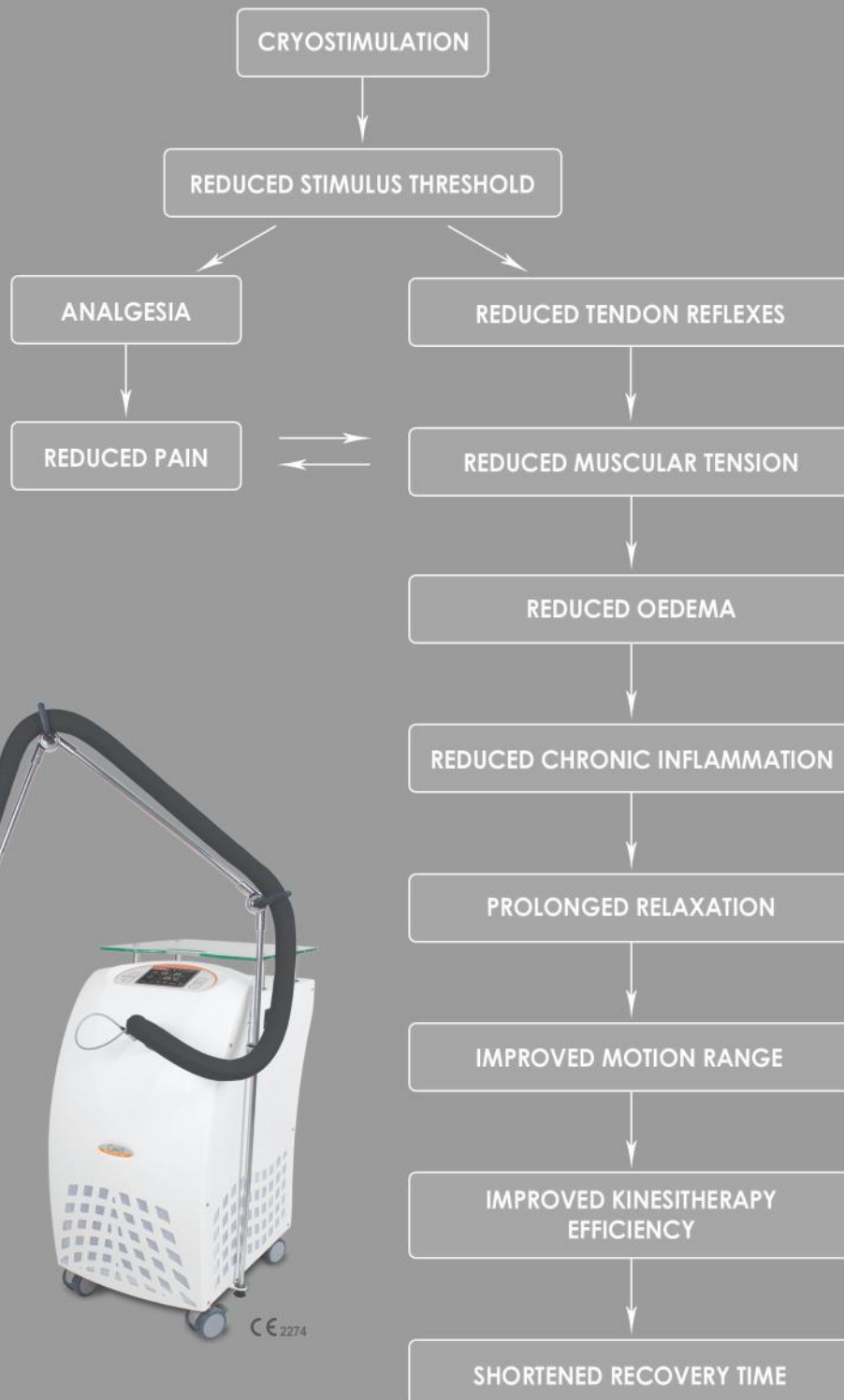
Professional sport:

- adjunctive biological regeneration (biostimulating effect)
- adjunctive endurance and strength training
- acceleration of post-endurance restitution
- prophylaxis of locomotor system overloading, adjunctive post-traumatic treatment of soft tissues and joints (contusion, hematomas, distortion)
- adjunctive treatment of overloading syndromes in muscles, muscle attachments, joints and spine





BENEFITS OF CRYOSTIMULATION



PHYSIOLOGICAL RESPONSE

1. Thermoregulation is activated

The process is completely tolerable, yet the body interprets the extreme cold as a threat to its wellbeing. The temperature cold-receptors in the skin send this information to the brain (hypothalamus area), which responds with an attempt to restore balance.

2. Vasoconstriction occurs

The first step the body takes to protect its core temperature, is to redirect blood from superficial vessels and capillaries in the skin towards deeper structures. This causes blood to flow from the periphery towards the central core.

3. Vasodilatation rebound occurs

The vessels and capillaries expand up to four times their normal diameter. This causes a significant increase in blood flow to the skin and extremities, enriching cells with oxygen and enzymes to a much greater degree than under normal balanced conditions.

4. Hormones are released

B-endorphins are released, which act as the body's natural morphine. This has a pain relieving effect throughout the whole body and also creates a sense of euphoria.

5. Reduced nerve conduction velocity

The cold exposure drastically reduces the body's ability to communicate pain signals. After multiple sessions, the body adapts its perception to pain stimuli.

6. Muscle relaxation take place

Muscle relaxation leads to relief of muscle spasm.

7. Anti-inflammatory response

The body's white blood cells secrete small proteins (cytokines), which are used in cell signaling and ultimately affect the behaviour of other cells. These proteins can be either pro-inflammatory or anti-inflammatory. During cryostimulation, pro-inflammatory cytokines are decreased and anti-inflammatory cytokines are increased. This causes a powerful anti-inflammatory response throughout the whole body.

8. Reduces oxidative stress

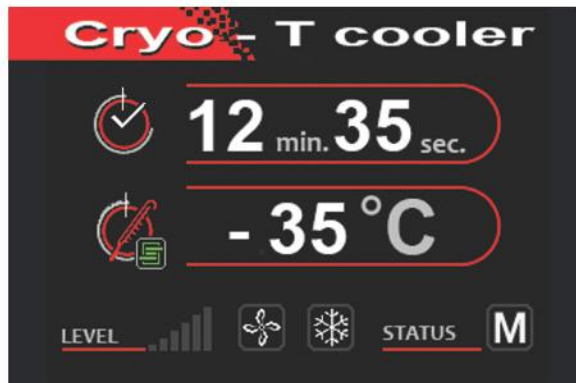
The body's total anti-oxidative status is increased. The body achieves an improved ability to eliminate free radicals, naturalize toxins and repair cellular damage. This process can lead to a powerful anti-aging effect.

9. Increased metabolism

As part of the body's metabolic reheating mechanism, additional calories are burnt, often to a degree comparable to an intense workout. Reports suggest that an additional 400 to 800 calories are burned as result of a single cryostimulation session and that multiple sessions lead to a longerterm increase in metabolism, which can lead to weight loss.



CRYOSTIMULATION DEVICE



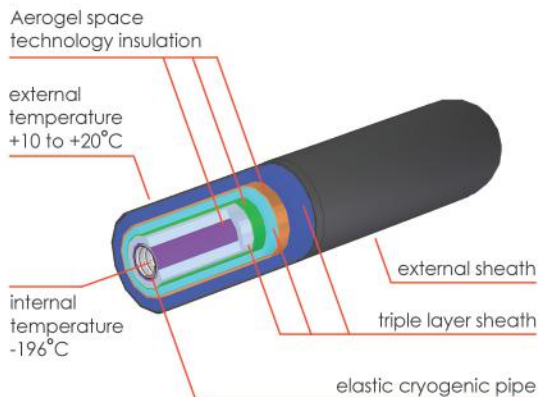
State-of-the-art cryostimulation device

The Cryo-T Elephant is the latest device for local cryostimulation and which uses cold air as a cooling medium. An innovative technical solutions applied in Cryo-T Cooler ensures safer and more effective procedures.

The regulation of the working temperature measured on the handpiece outlet and skin surface allows to adjust intensity of a cold stream.

Handpiece with skin temperature sensor

The innovative handpiece is equipped with two laser pointers which enables to define optimal distance from skin during the procedure. This solution helps to achieve expected results faster, what is beneficial both for patient and the operator. In consequence it also optimizes the cost and time of treatment.



Space technology insulation cryogenic pipe

Metrum Cryoflex has developed an innovative cryogenic pipe (patented) that ensures full freedom of movement. It gives an operator unprecedented comfort and ease whilst while working with the device. The high quality insulation material used inside the cryogenic pipe prevents it from freezing. It stiffens up during the procedure and as a result, the operator's hands do not become tired. It is the lightest cryogenic pipe in the world.



Cryo-T COOLER works in two modes:

automatic:

Air flow regulation is automatically adjusted according to patient's skin temperature, which is measured by IR sensor built in the nozzle. This way, an operator does not have to change the position of the nozzle and power of air stream. Additional use of pantograph enables hands free procedure.

manual:

In this mode an operator can regulate airflow manually choosing from 9 levels of power (capacity from 0 to 1350 l/min). User friendly graphical interface enables easy operation.

CRYO-T COOLER



TECHNICAL DATA:

Power supply	110 and 230V ~60Hz
Source of cold	air cooled in closed circuit
Heat exchanger temperature	-35°C
Air flow regulation	9 levels; 0-1350 l/min
User interface	colour 5.6" TFT display
Working modes	automatic or manual
Treatment hose length	1800 mm
Dimensions	400x650x820 mm
Weight	45 kg
Accessories	nozzle with skin temperature measurement option (IR sensor), pantograph

CE 2274



we are inspired by your expectations



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