



# Meet an efficient approach to chronic pain treatment

**CRYO - S<sup>®</sup> Painless**  
Device for cryoanalgesia



# Chronic pain

Chronic pain affects around 20% of the European population, considerably impairing the quality of their social and professional life.

**There are many methods of pain treatment:**

pharmacological, psychotherapy, neuromodulation, mini-invasive techniques, which include cryoanalgesia.



## Life Without Pain

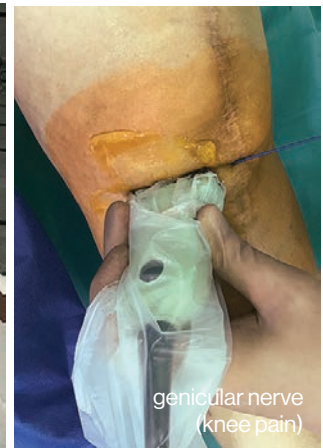
Cryoanalgesia is a therapeutic method based on the temporary interruption of the sensory functions in selected structures of the nervous system by application of low temperature. Cryoanalgesia is gaining more acceptance as an innovative method in pain relief. It uses the process of analgesia, during which the ice crystals created by the cryosurgical system destroy the elements of the nerve tissue carrying pain information.

Cryoanalgesia does not damage nerve structures permanently, which is why nerve tissues can regenerate slowly with no risk of postprocedural neuroma.

Cryoanalgesia is a minimally invasive and safe procedure recommended especially when traditional methods prove to be unsatisfactory.

# Clinical Application

- Facial pain such as trigeminal neuralgia or other non-herpetic neuralgia
- Localized neoplastic pain
- Occipital, suprascapular, ilio-inguinal neuralgia and other types of neuralgia
- Degeneration of the intervertebral joints (facet syndrome)
- Pain in the upper limb
- Lower limb pain
- Phantom pain
- Painful neuromas
- Chest wall pain, chest pain after thoracotomy

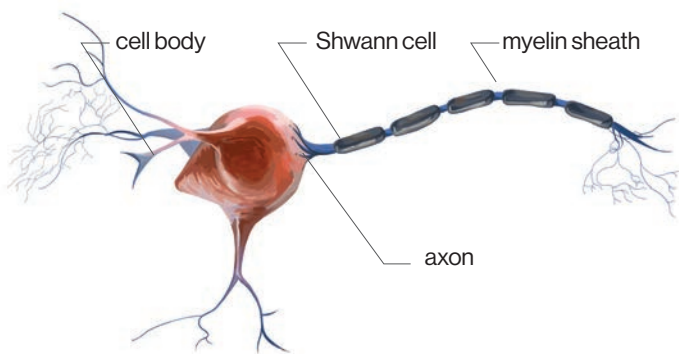


## The Advantages of Cryoanalgesia

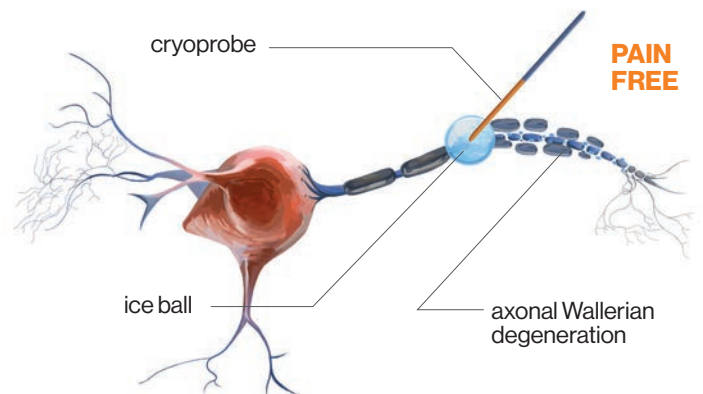
- No neuroma formation - no risk of secondary pain
- High efficiency: pain reduction from 6 months to 2 years
- No scar tissue formation
- Suitable for patients with pacemakers and stimulators
- No risk of vessel proliferation and obliteration
- Can be repeated - nerve grows back
- Simple diagnostics: fluoroscopy or echography
- Percutaneous procedure, microinvasive under local anesthesia
- Fast return to normal activity – no hospitalization
- Can be performed under USG or X-ray
- No more analgesics

# Peripheral nerve structure

## 1. Peripheral neuropathy



## 2. Interventional cryoanalgesia



## 3. Axonal nerve recovery process



## 4. Complete nerve recovery



## Axonotmesis - Mechanism of Cryoanalgesia

Large myelinated sensory or mixed nerves are responsible for peripheral pain. The best patients for cryoanalgesia are those with chronic pain at the level of over 5 in visual analogue scale (VAS).

Axonotmesis - disruption of the nerve cell axon with Wallerian degeneration occurring below and slightly proximal to the site of the injury. Axons and their myelin sheath are damaged but Schwann cells, endoneurium, perineurium and epineurium remain intact.

The rate of outgrowth of regenerating nerve fibres is about 1 mm per day, so the final recovery of conduction in the target target structure depends on the quality of freezing. Even if the peripheral nerve structures recover after some weeks, the functionality of the sensory nerve still remains blocked. In mixed nerves, the mobility functions recover much faster than the sensory ones. Cryoanalgesia is also a recommended and safe method for pain of mixed nerves' origin (e.g. 'frozen shoulder').

The complete sensory nerve recovery, including its functionality, takes place within 6-12 months after cryoanalgesia, improving patient's quality of life - life without pain.

# The largest selection of cryoprobes

Meet the thinnest cryoprobes for cryoanalgesia available on the global pain management market.

The special construction enables precise freezing and fast defrosting. The tip of a probe inserted percutaneously is sharp or blunt. Cryoprobes that aim to stick to the nerve more closely are rounded and inserted through disposable cannulas (e.g. angiocatheters).

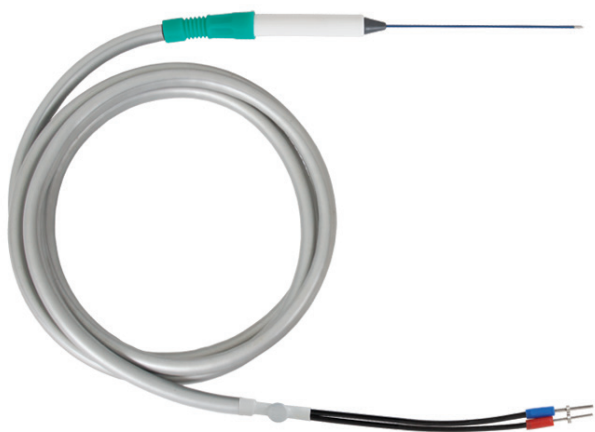
Apart from the tip, cryoprobes are covered with medical teflon which allows for stimulation at the probe tip only.

- Gauge from 21 up to 14
- High echogenicity of cryoprobes enables ultrasound-guided treatments



## Single-use cryoprobe

recommended for USG, CT, X-ray scan



CE 2274

GAS TYPE	READY TO USE	SINGLE USE	DOUBLE PACKAGING	STIM	MICRO CHIP	STORAGE TIME

REF. SN06080920	Needle tip <sup>***</sup>	ø 0.8 mm (21 G), length 90 mm
REF. SN06131200	Triangular tip <sup>*</sup>	ø 1.3 mm (18 G), length 120 mm
REF. SN06131210	Round tip <sup>**</sup>	ø 1.3 mm (18 G), length 120 mm
REF. SN06300200	Triangular tip <sup>*</sup>	ø 2.0 mm (14 G), length 120 mm
REF. SJA	Multi-use adapter for singleuse cryoprobe	

<sup>*</sup> triangular tip	<sup>**</sup> round tip	<sup>***</sup> needle tip



# Life

## Without Pain

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