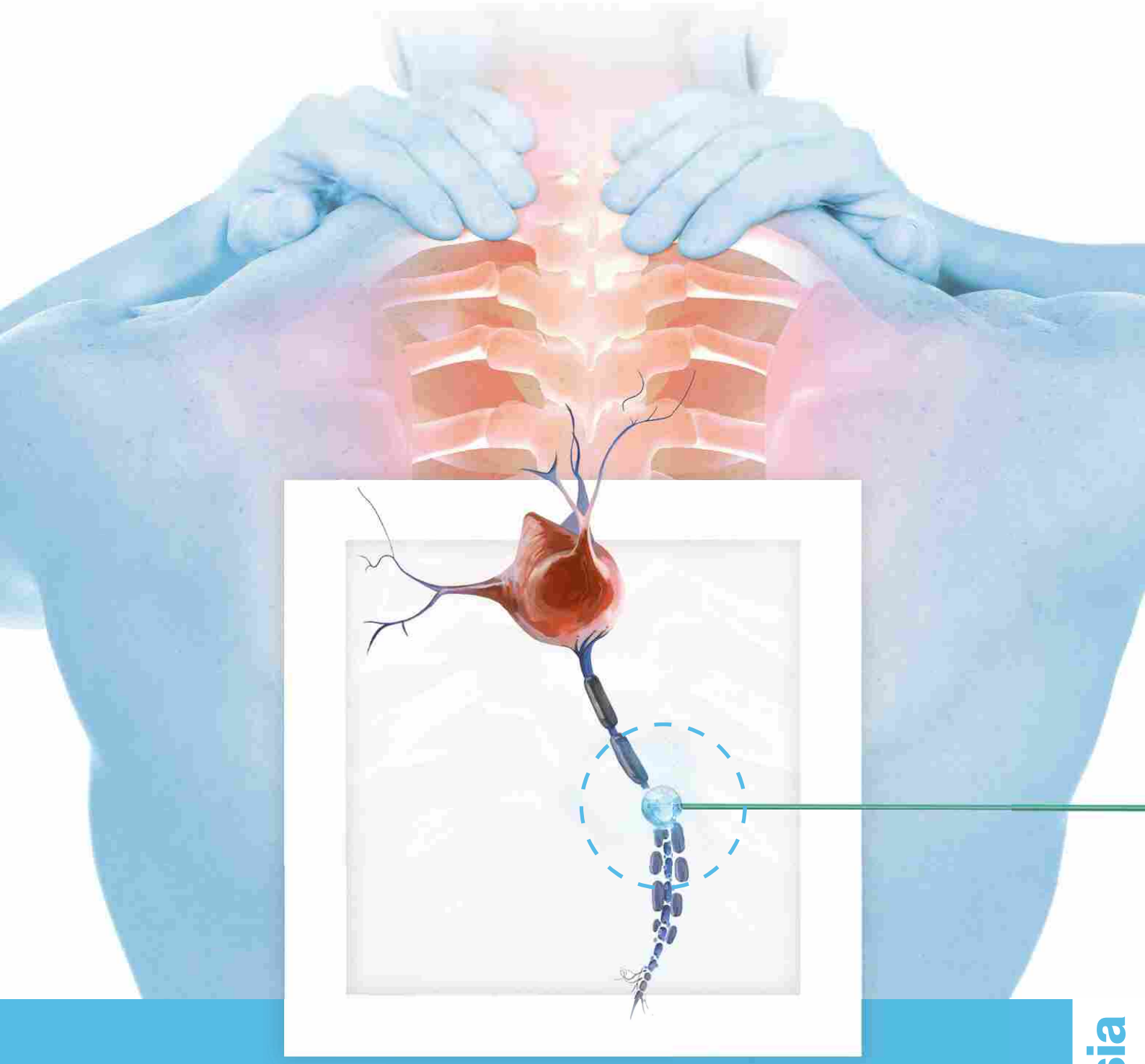
METRUM CRYOFLEX



Meet an efficient approach to

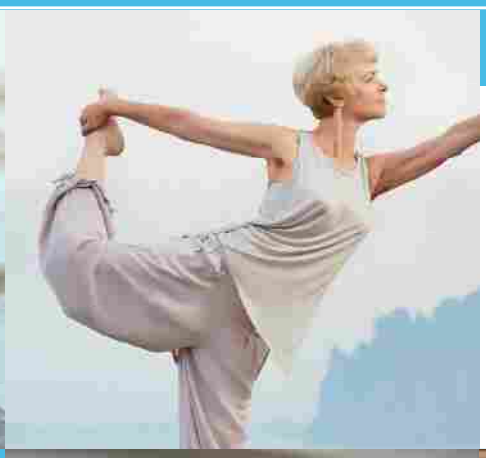
chronic pain treatment

Cryoanalgesia

This is a medical device. Use it in accordance with the instructions for use or the label.

Chronic pain

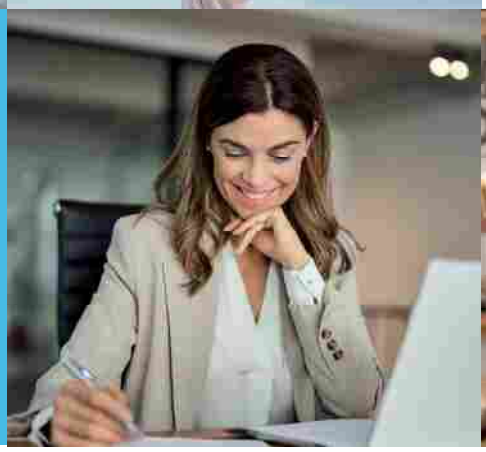
affects around **30%** of the European population...



There are many methods of pain treatment:

pharmacological, psychotherapy, neuromodulation and mini-invasive techniques, which include **Cryoanalgesia**.

Life without pain



Cryoanalgesia

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.

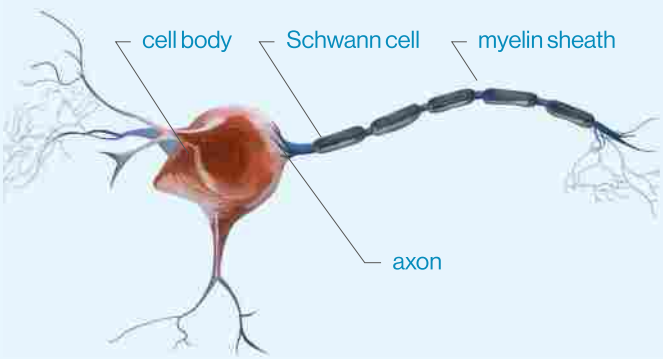
Cryoanalgesia does not damage nerve structures permanently, which is why nerve tissues can regenerate slowly with **no risk of postprocedural neuroma**.

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

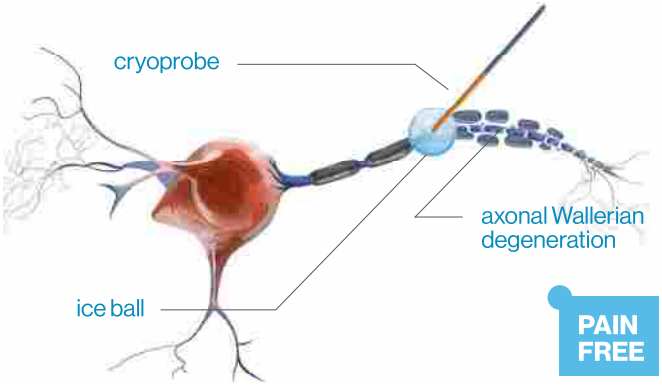
Cryoanalgesia is gaining more acceptance as **an innovative method in pain relief**. It uses the process of analgesia, during which the ice crystals created by the cryosurgical system destroy the elements of the nerve tissue carrying pain information.

Peripherial nerve structure

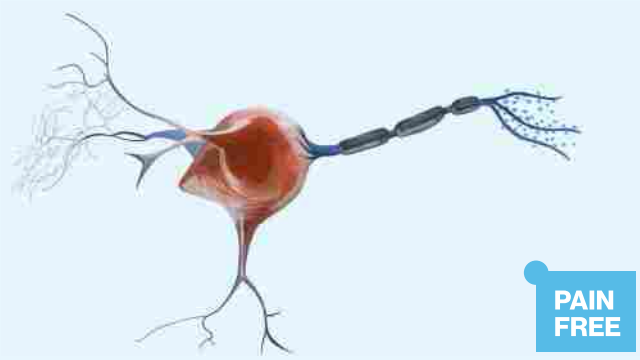
1. Peripherial neuropaty



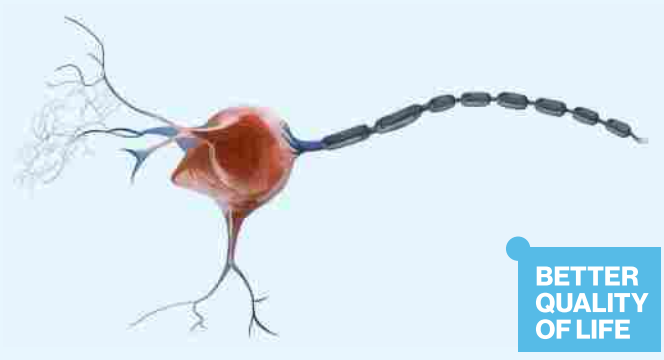
2. Interventional Cryoanalgesia



3. Axonal nerve recovery process



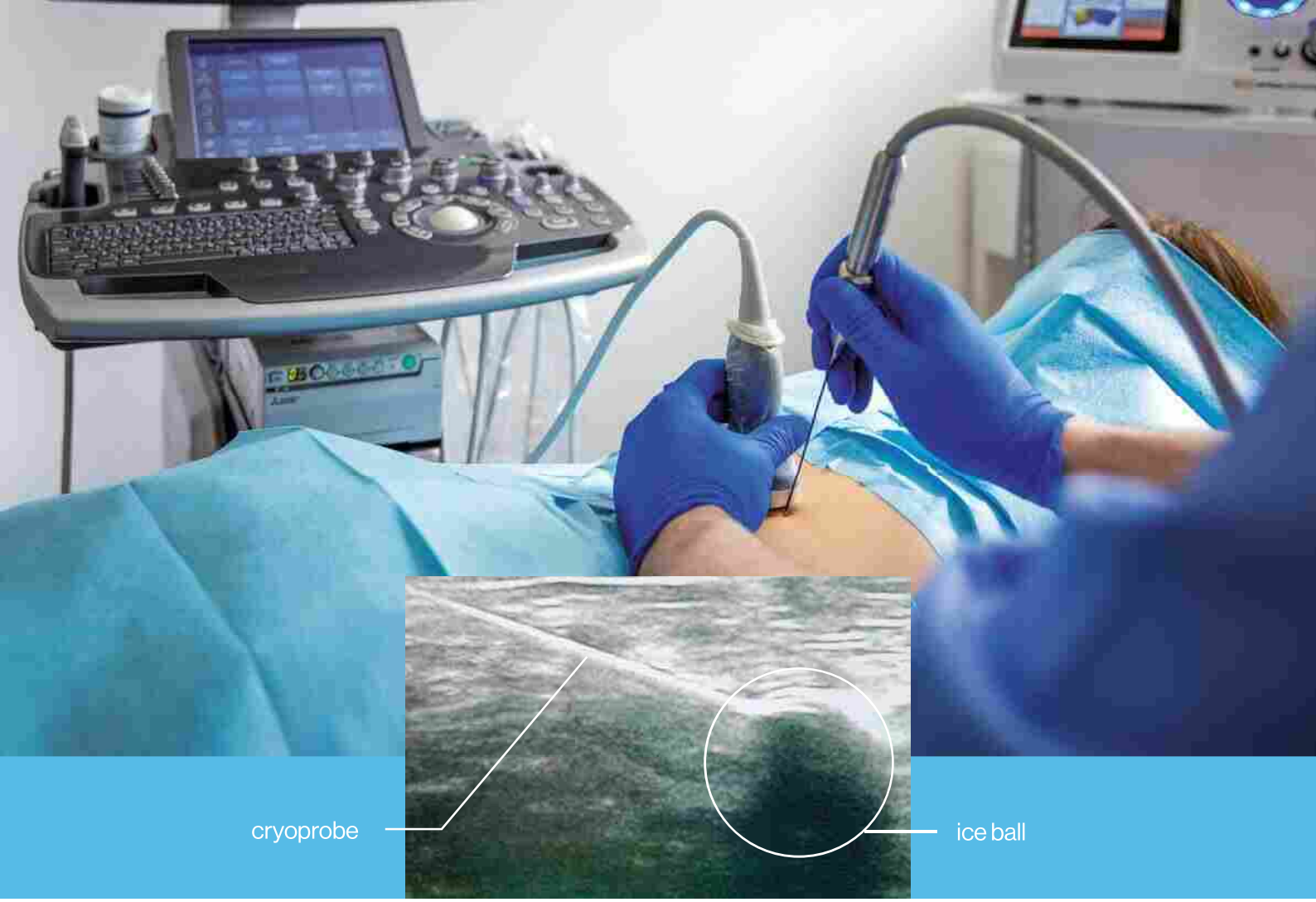
4. Complete nerve recovery



Axonotmesis

Mechanism of Cryoanalgesia

- Dedicated for chronic pain VAS over 5
- Dedicated for peripherial sensory and mixed nerves
- Axon degeneration, nerve remain intact
- No risk of neuroma formation
- Complete nerve regenaration from 6 -12 months
- Destroys the function not the structure



The Advantages of Cryoanalgesia

- No neuroma formation - no risk of secondary pain
- Cryoprobe and iceball visible in USG during procedure
- No scar tissue formation
- No risk of vessel proliferation and obliteration
- Destroys the function, not the structure
- Percutaneous procedure, microinvasive under local anesthesia
- Fast return to normal activity – no hospitalization
- Immediate treatment effect
- No more painkillers
- Can be repeated - nerve grows back
- High efficiency: pain reduction from 6 months to 2 years
- Can be performed under USG or X-ray

Clinical Application

- Facial pain such as trigeminal neuralgia or other non-herpetic neuralgia
- Localized neoplastic pain
- Occipital, suprascapular, ilioinguinal 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

Cryoprobe

recommended for USG, CT, X-ray scan

CE 2274

CO_2 NO_2
GAS TYPE

STERILE EO
READY TO USE

2
SINGLE USE

DOUBLE PACKAGING

STIM

MICRO CHIP

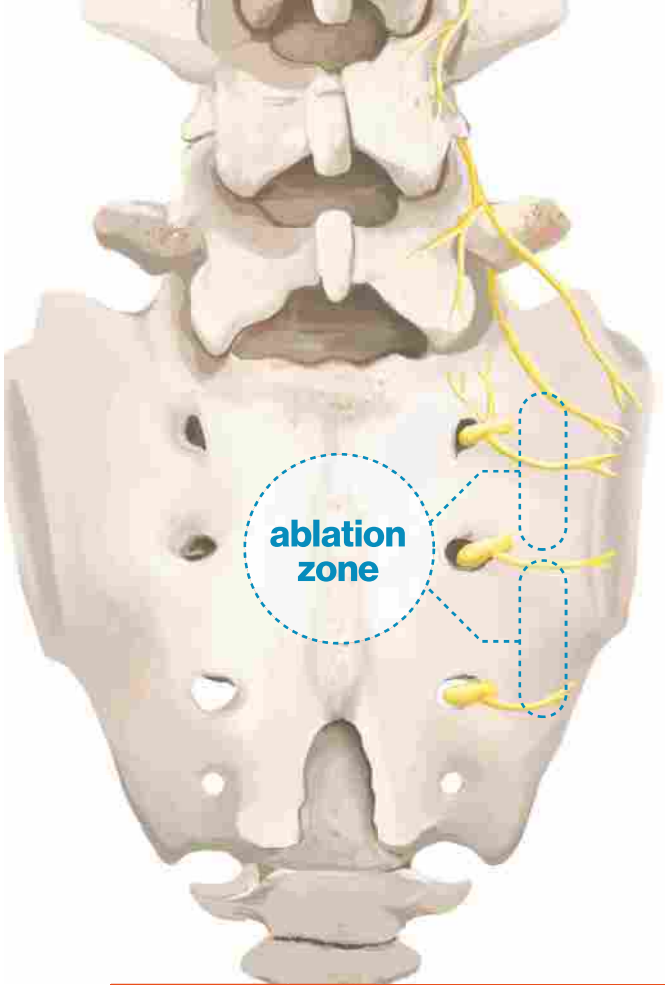
3 YEARS
STORAGE TIME

SIJ Cryoprobe

Frequency of occurrence of sacroiliac joint pain – epidemiology

Sacroiliac joint (SIJ) pain is one of the most frequent sources of pain in the lower back (LBP). It accounts for about 15-23% of all chronic back pains. The most common and diverse causes of pain in the sacroiliac joint include injuries, inflammations, and degenerative conditions that may follow operations involving stabilization.

The treatment of SIJ pain is often conservative, involving physiotherapy procedures or interventional, using injections of analgesics, including opioids, and steroids. If these methods fail or need to be repeated a number of times to be effective, there is an alternative mini-invasive technique of cryodenervation using low temperature (cryoanalgesia) by means of a new version of the SIJ cryoprobe specially designed for this indication.



Cryoanalgesia

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. It is gaining global acceptance as an innovative method in pain relief. The method 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. It is a minimally invasive and safe procedure recommended especially when traditional methods prove to be unsatisfactory.

The application of cryoanalgesia in chronic pain in the sacroiliac joint

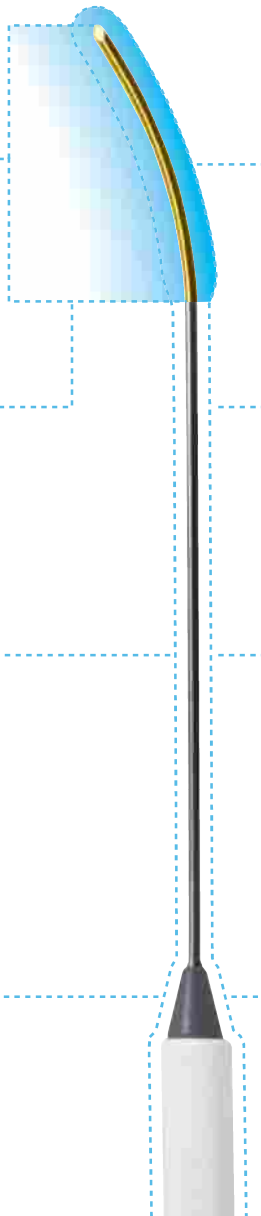
The innervation of the sacroiliac joint (SIJ) is complex and rather variable in the same patient on different sides of the joint. The innervation stems from the S1-S4 lateral rami as well as the L4 and L5 dorsal rami, together producing a complex posterior sacral network. The specially designed SIJ probe ensures the ideal fit with the anatomy of the joint and the posterior sacral network. It covers with ice the region from S1 to S3/S4 from a single insertion in order to denervate the joint and thus alleviate the pain.

Effectiveness of cryoanalgesia:

- A high therapeutic effectiveness, lasting more than twelve months
- An instantaneous pain relief effect
- No risk of a neuroma formation
- Immediate pain relief
- Low risk of damage to the skin
- No risk of carbonisation of the tissue or the skin

Advantages of the SIJ cryoprobe:

- Ablation area of 4.5 cm (length of freezing)
- A homogeneous ablation area, without cryo-gaps
- A quick and relatively less complex positioning of the cryoprobe compared with the palisade technique under fluoroscopic guidance.
- The selected cryoprobe diameter and the rigidity of the material ensure the optimum conditions of ablation, without a risk of traumatisation of the adjacent tissue.



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- The cryoprobe is echogenic – it is clearly visible in an ultrasound image.
- Ice covers the nerve branches regardless of the variability of their course.
- The anatomic shape of the cryoprobe ensures an ideal placement and contact in the joint area
- The freezing tip of the cryoprobe is plated with 24K gold, which ensures better thermodynamic properties.

CRYO - S ® Painless
Device for Cryoanalgesia

Chip system communication (RFID)

Electronic communication between the probe and the device enables the probe to identify the optimal operating parameters and automatically configure them for the best cryoanalgesia performance.
No manual adjustment of the freezing process is required during the preparation of the probe for treatment or through the procedure. When freezing is complete, the probe defrosts within a few seconds.

Voice communication

Built-in voice communication for easier device control. A system reporting essential data (procedure time, device status) during the procedure allows full control without taking your eyes off the treatment area.

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Two sources of freezing

The working medium for CRYO-S Painless is carbon dioxide: CO2 (-78°C) or nitrous oxide: N2O (-89°C). Very efficient and easy to use gases are generally available in hospitals for laparoscopy or general anesthesia.

Built-in neurostimulation

Diagnostic neurostimulation is recommended for percutaneous procedures. It helps to distinguish between sensory and motor nerves and to position the tip of the probe correctly on the nerve. It is recommended when performing percutaneous cryoanalgesia under ultrasound, X-ray or CT guidance.

Touch screen

The selection of the probe mode, the initiation and termination of the freezing process can be activated by a footswitch or a touch screen, which allows to keep the site of a procedure under sterile conditions.

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