



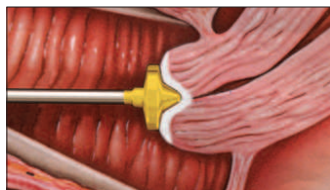
**CRYOSURGERY**

# CRYOSURGERY

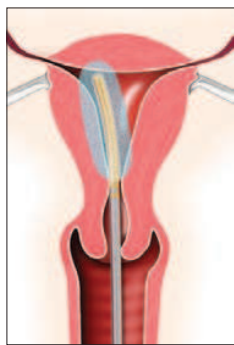
## CRYOSURGERY IN GYNAECOLOGY

Cryosurgery is a recognized treatment procedure using low temperatures to destroy lesions. Thanks to the special shapes of the cryoprobes, full scope of freezing within the area of vagina, cervix, canal and cavum uteri is possible, as well as within the area of labia, anus and any part of the skin. In gynecology, cryosurgery is commonly used in treatment of: ectopia, polypoid and papillomatous hyperplasia of the mucous membrane, metaplasia foci with negative onco-histological result. Properly carried out freezing is painless, and leaves no scars after healing. A procedure including two time freezing lasts about 15 minutes. After a few weeks of healing there are no signs of lesions. Cryosurgical procedures are smokeless, in contrast to photocoagulation, electrocoagulation and laser vaporization. Extremely high temperatures produce smoke containing biological material, and unpleasant odour. It leads to contamination of the treatment field area. The smoke often contains virus genomes, e.g. HPV, which create danger of iatrogenous infection of air passages of people staying nearby (doctor, nurses). Cryosurgery procedures do not cause contamination of the room with vaporised tissue and smoke, so there is no risk of HPV infection.

Recommended device: **Cryo-S Electric II, Cryo-S Classic and gynaecological reusable cryoprobes**



## UTERINE ENDOMETRIAL ABLATION



Endometrial cryoablation is considered an innovative technique. Endometrial cryoablation compares with transcervical resection of the endometrium in terms of efficacy, the level of satisfaction and the reoperation rate. Endometrial cryoablation is a very efficient method in women affected by uterine bleeding due to nonmalignant endometrial hyperplasia.

Recommended device: **Cryo-S Electric II and gynaecological reusable cryoprobes**

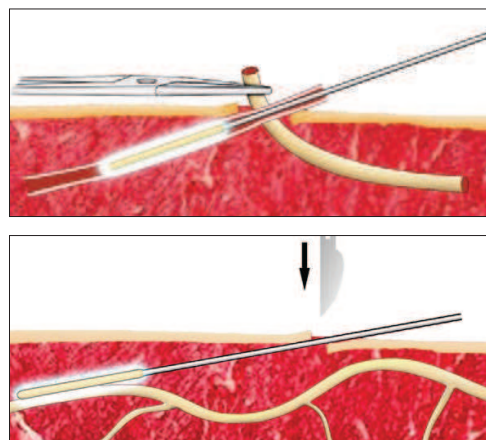
## CRYOSURGERY IN OPHTHALMOLOGY

Cryosurgery in ophthalmology has a rich history and continues to be an important supplement in the treatment of ophthalmic pathology. The use of cryotherapy in ophthalmology has helped advance maturing fields such as cataract extraction, while in other instances revolutionized patient care including, trichiasis, retinopathy of prematurity, ingrown eyelash and ocular surface malignancies.

Recommended device: **Cryo-S Electric II and ophthalmological single use or reusable cryoprobes**

## CRYOSURGERY IN PHLEBOLOGY

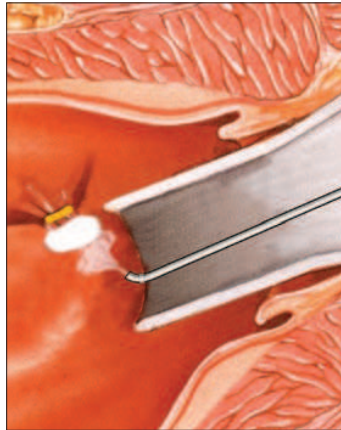
Cryosurgery is the best method of elimination of varicose veins, which meets patients' and doctors' expectations. It allows to get rid of the disease with minimal damage and results in removal of perforators without leaving scars (miniflebectomy technique). It is also unnecessary to stay at hospital and undergo anesthesia. Cryostripping bases on Babcock's method, which is extirpation of varicose veins by freezing. In order to remove a varicose vein, cryoprobe is introduced into the lumen of a vessel, or applied externally on the vessel wall. A design of the probe allows the surgeon to obtain an approach to all varicose veins without the necessity of additional incisions of the skin.



Recommended device: **Cryo-S Electric II and phlebological reusable cryoprobes**

## CRYOSURGERY IN PROCTOLOGY: haemorrhoids, anal fistula

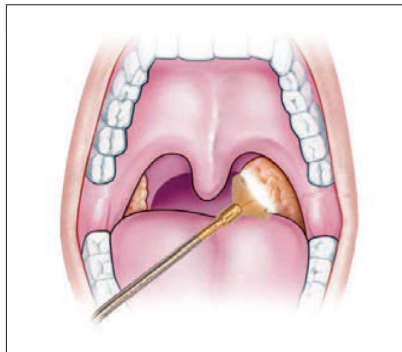
Rubber Banding: This technique is widely used for hemorrhoids protruding into the anal canal. Rubber band ligation can be performed in a doctor's office and requires little preparation. Often, however, there is the need for more than one procedure to resolve patient's condition. Rubber band ligation is most effective when combined with cryosurgery which significantly accelerates hemorrhoids destruction.



Recommended device: **Cryo-S Electric II** with vacuum, **Cryo-S Classic** with vacuum, **Ligator LC**, reusable cryoprobe P10

## CRYOSURGERY IN LARYNGOLOGY (ENT)

Cryosurgery has an advantage over electrocoagulation, laser, RF in that it is painless and less aggressive. It is possible to destroy tissue situated externally without damaging deeper structures, which is particularly important when it comes to treating epithelium and epidermis disease. The important feature of cryodestruction is the healing process. External damage to the epithelium makes easy regeneration and multiplication of adjacent tissues possible. The resultant scars are thin and delicate and they do not deform the surface. The virtue of cryosurgery is the possibility of combining it with other surgical techniques. Main indications: nasal bleeding (epistaxis), trigeminal neuralgia (tgn), tonsillitis chronica, nasal polyps, snoring, nasal congestion, other diseases of the mucous membranes of the upper respiratory tract and skin, cryoablation of detritus stasis.



Recommended device: **Cryo-S Electric II** laryngological reusable cryoprobes

## CRYOSURGERY IN DERMATOLOGY

Cryosurgery is a way of treatment that is used for various benign, premalignant and malignant skin lesions, either as a primary or as an alternative form of treatment. From clinical point of view the method is simple and safe. The broad spectrum of indications and relatively low cost of freezing makes this technique very popular in dermatological practice.



### SPRAY TYPE CRYOPROBE:

Developed by Metrum CryoFlex spray probe system dedicated for dermatosurgery can be used with unique cryoapplicator SD 10. This is only one in the world, patented, open type cryosurgical cryoprobe with fluent, adjustable freezing power.

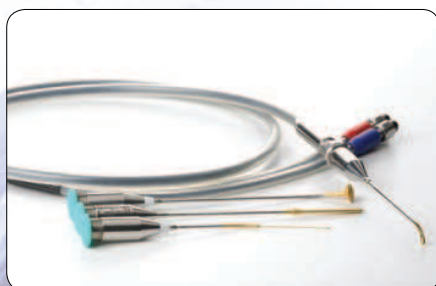
Recommended device: **Cryo-S mini**, **Cryo-S Classic** and **dermatological reusable cryoprobes**





Cryo-S Electric II

CE 2274



Laryngological cryoprobes for tonsillectomy, adenotomy, debris stasis, tonsillectomy



Gynaecological contact cryoprobes for cervical, canal, cysts, endometrium freezing



Ophthalmological cryoprobes for retina, glaucoma, cataract, eyelash



# Cryo-S Electric II – cryosurgical device

GYNAECOLOGY • OPHTHALMOLOGY • LARYNGOLOGY • PHLEBOLOGY  
DERMATOLOGY • AESTHETIC MEDICINE • PROCTOLOGY • SURGERY

**Cryo-S Electric II.** State-of-the-art cryosurgical device manufactured by Metrum CryoFlex is the next generation of apparatus used by many experts in the field since 1992. Cryo-S Electric II is controlled by microprocessor, and all parameters are displayed on LCD screen.

**Cryo-S Electric II device** - smart technology - new standard in cryosurgery. What is new?

- Mode selection, cleaning the probe and freezing can be performed automatically using foot switch or touch screen keeping the site of a procedure under sterile conditions.
- Electronic communication (chip system) between the main device and the connected cryoprobe. Unit recognizes optimal operating parameters and auto-configures to probe characteristics.
- Pressure and gas flow are set automatically, any manual adjustment is not necessary.
- Contains automatic probe cleaning system and two freezing modes (continuous and discontinuous).
- Temperature of the probe, pressure, gas flow, time of the procedure are displayed during freezing.

## COOLING MEDIUM

The working medium for Cryo-S series devices is nitrous suboxide ( $N_2O$ ) or carbon dioxide ( $CO_2$ ), very efficient and easy to use gases. A 10 liter cylinder serves for approximately 60 - 75 patients. In contrast to liquid nitrogen, both gases can be stored safely in steel cylinders and without losses.



Phlebological cryoprobes for cryostripping, varicose veins



Dermatological contact cryoprobes

## Cleaning may be performed in two modes:

- **standard** – cryoprobe is cleaned before each procedure for several seconds and than few seconds of testing freezing is performed. In this mode cryoprobe is tested and prepared according to parameters programmed on attached microchip. When such preparation is finished cryoprobe is ready for freezing.
- **service** – it starts automatically when decreased flow rate in cryoprobe or cryoprobe blockage is noticed. It can be performed also during the procedure. Service mode is diagnosing and solving problems caused by previous improper use of the cryoprobe, improperly performed sterilization or low quality of gas.

Both modes are fully automatic and do not require user intervention. Device using texts on the screen and voice communicates informs about preparation to the procedure or beginning and end of the cleaning. Innovative solution for cryoprobe cleaning guarantees safety and high effectiveness of the procedure.



Cryo-S Electric II with trolley