

Cryocare[®]



Cryocare®



Cryotherapie with Cryocare®

Cryotherapy is an established and trusted method which has been known for about 100 years now. Until today this method has normally involved procedures in which an applicator has been reduced to a very low temperature by diverse cooling agents before being applied to the patient. Due to the high operational costs involved and the difficulty of achieving reproducible results, because the cooling input cannot be dosed, these procedures have so far only been used by specialists. Those methods use a temperature of up to -190°C. If the temperature chosen is too high, scars can be induced.

The new *Cryocare®* from gbo AG opens up a wide new field for safe and reliable treatment in CryoCosmetic applications. The skin indications are aging spots, pigmentary moles and hemangioma.

In *Cryocare®* the cold is generated electrically by a Peltier element and kept at a constant level of -32°C on the applicator tip.

The only operating costs are those for energy consumption. The technical side of the device is simple, clear and easily operated by the user.

The device guarantees a constant operating temperature of -32 °C and thus makes the application of cold quick with exact dosing and localisation, with reproducible therapeutical results. The device works without cooling agent, i. e. without FCH and without connection to water.

The device is ready for operation after 5 minutes. The simple and safe handling saves time and allows delegation of the treatment.

The main indications are haemangiomas and aging pigmentation.

Operating temperature	-32°C +/- 15%
Timer	0 – 99 sec
Mains voltage	100-240V, 50-60 Hz
Power consumption	max 140 VA
Class of protection	I (IEC 601)
Degree of protection	B (IEC 601)
Class of equipment	IIa acc. To MDD
Dimensions	360 x 270 x 350 mm (B x H x T)
Weight	10,4 kg
Warranty period	24 months

Subject to technical changes without prior notice.

Examples for Cryotherapy – prior and after treatment



Cryotherapy with *Cryocare*[®]

Cryotherapy, that is, the treatment of skin with cold, represents a method which has been known and has proven itself for more than a hundred years. Until now, methods were generally used which cooled the applicator to a very low temperature using various cryogens in order to then treat patients. Because of their high operating costs on the one side and the poorly reproducible results due to the non-dosable amount of cold, these methods have only been used by specialists. At excessive dosages of cold, these methods, which operate at temperatures as low as -190° , can cause scarring.

The new *Cryocare*[®] from gbo opens a broad scope of safe and reliable treatment in CryoCosmetics. The main indications are aging pigmentation and other pigmentation disturbances, warts, keloids, acne nodules, naevi and actinic keratoses.

Cryocare[®] electrically generates the cold with a Peltier element and regulates it to a constant temperature at the applicator tip of -32° C. There are no mentionable additional costs for auxiliary agents and the environment is not burdened. The technology of the instrument is simple, clear and allows easy and trouble-free operation by the user. A wall socket is sufficient in order to begin with the therapy.

Aside from the noticeably reduced operating costs, the main advantages of *Cryocare*[®] lie above all in the reproducibility of the treatment results and the patient safety. Contrary to conventional methods, *Cryocare*[®] operates with a temperature of -32° C, which is considerably more moderate. This results in a shift of the treatment times from a few seconds with the conventional methods to 8 to 15 seconds with *Cryocare*[®], making it considerably safer with regard to dosing. Also important for better dosing is the fact that basically a constant temperature is generated which is, in addition, permanently regulated at the tip of the applicator. This means that the temperature does not continuously decrease as was the case with conventional methods.

The fact that the desired pathological cold reaction on the skin is safely attained without, under any circumstances an overtreatment taking place is, crucial. In cryotherapy, one must distinguish between the following reactions:

- Congelatio I. degree (erythema, reddening of the skin)
- Congelatio II. degree (blistering)
- Congelatio III. degree (necrosis, tissue death)

As a rule, the congelatio II. degree is used for indications in CryoCosmetics. After about 4 seconds, congelatio I. degree is achieved on normal skin with *Cryocare*[®] after about 10 seconds congelatio II. degree and only after 40 seconds necrosis. The intervals between the various pathological reactions are therefore sufficiently large in order to achieve them safely.

This can even be achieved when considering the strong variation in reaction on the various skin types. One should however distinguish between the following skin types in order to take this influence into consideration during the treatment period:

Very thin skin	→	the periorcular region
Thin skin	→	back of the hand and the fingers, anal and genital regions
Normal skin	→	the rest of the cutaneous system
Thick skin	→	back, flexor digitorum and tip of the toe

For example, the influence of the skin type can be demonstrated by the fact that normal skin requires about 10 seconds before blistering while thicker skin requires about 16 seconds. This means that if 16 seconds were mistakenly applied to normal skin, there would still be a distinct safety margin to the next stage, that is, necrosis.

Considered systematically, the following parameters are included in the considerations for determining the treatment time:

1. Temperature

This is, as already discussed, regulated and at -32° C constantly moderate and therefore provides reproducible results.

2. Skin type

Here, the already discussed skin types are to be distinguished and the treatment times adjusted accordingly.

3. Application pressure

The treatment time can be shortened through increased application pressure. However, it is recommended to normally apply in this case the specially designed applicator with its own weight in order to achieve reproducible results here also.

4. Heat transmission at the skin surface

The skin surface should be clean and free from fat.

Briefly dipping the applicator tip before treatment into alcohol or isopropanol not only disinfects but also removes a developing ice layer and in this manner allows an optimal contact of the cryohead with the skin.

5. Indication

Depending on the indication, slightly varying treatment times are required.

Study results are available for the basic indications in CryoCosmetics, but also for dermatology. The table at the end of these explanations may be used as a guideline.

As a rule, one cryo-treatment is sufficient to achieve the desired therapeutic success. However, very thick skin lesions may require several sessions.

As a rule, the course of healing is as follows: During the treatment, the patient does not experience any appreciable amount of pain. During the following period, a cream should be applied to the treated area taking care not to remove the developing scales. In the face these fall off after up to 12 days and on other appendages after up to 3 weeks leaving young pink-colored skin. Initially, these areas should be protected from prolonged sun exposure. During the following period, about 2 to 4 weeks, the treated skin will assume the color of the rest of the body.

Typical indications	Results				
	Very good	Good	Slight	None	Time in secs.
Aging pigmentation (In older persons the appearance of lentiform to coin sized brown spots especially on back of hands, flexor side of the underarms, face.)	●				8-10
Keratosi actinica (Hornification caused by sun light)	●	●			10-15
Keloid (Bulging scar, hard, fibrous, sometimes itching star-shaped skin projections develop on scars after burns, acid burns, vaccinations or spontaneously.)	●				15-25
Acne nodules (acne scars, appear during the course of acne.)	●				15-30
Juvenile warts (Flat epidermal papulae 3-4 mm in diameter, frequently in the face or on the back of the hand of juveniles.)	●				10-12
Molluscum contagiosum (molluscum contagiosum, hard tumescence the size of a hemp seed to the size of a pea appearing especially in the face and genitals having a dent on top.)	●				8-12
Basalioma (Common carcinoma typically located in the facial area having a good prognosis of curability)	●				-35
Prurigo nodularis (Hemispherical to penny-sized hard, itching lumps with a rough surface, particularly on the extremities of older women.)	●				-35
Lichen ruber (Small itching papulae which sometimes appear on the entire body on reddened skin.)	●				15-30
Lentiginis (Naevi, lentiform, round or oval brown spots, which as opposed to freckles are permanent.)	●				8-10
Keratoma senile (Calluses due to old age, brown-black wart-like protuberances appearing especially in the face and back of the hand of older people.)		●			10-20
Naevus pigmentosus (Naevuscellnaevus with a nodulated, raspberry-like, furrowed surface.)		●			-20
Cavernous angioma (Tumorous neoplasm of vascular tissue which is generated through vessel proliferation.)	●	●			10-15
Haemangiolympangioma (Benign vascular tumor which is sometimes capable of spreading.)			●	●	-25
Verrucae vulgares (Common warts or spinous warts, maximally pea-sized, hemispherical hard nodules with a spiny surface, especially on the hands.)		●	●		-35
Planterwart (Warts on the sole of the foot, spinous warts; their surface rarely protrudes, their spiny projections grow into the depth, on the sole of the foot.)		●			-35
Verrucae seborrhoicae (Warts appearing in old age, usually appear after the 50 th birthday, light-brown to brown-black round to oval neoplasms.)		●			-15
Erythematodes chronicus	●				10-12

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Accessories

	Part-No.	Specification	Use	Application	Remarks
	015-0-1002	Cryo applicator set Consists of 8 x 8 mm square 10 x 10 mm square 7,5 x 1 mm slit 9,5 mm mm round 2,6 mm mm round	As adaptor for larger or smaller skin areas		Included in the scope of delivery of the unit
	015-2-0007	Applicator 4 mm round	As adaptor for larger or smaller skin areas		
	015-2-0008	Applicator 5,5 mm round	As adaptor for larger or smaller skin areas		
	015-2-0012	Applicator 11,3 mm round	As adaptor for larger or smaller skin areas		
	015-2-0016	Applicator 8 x 2,5 mm slit	As adaptor for larger or smaller skin areas		
	026-0-3000	Device cart			

