

# CryoIQ<sup>®</sup>

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## What are advantages of veterinary cryosurgery?

- Inexpensive procedure because anaesthesia and sterile preparation not necessary (out-patient procedure).
- Fast and efficient treatment, less time needed for the veterinarian in a busy clinic.
- Minimal to none pre- or post- operative care.
- No general anaesthesia needed in the majority of the treatments.
- The tissue and surrounding blood vessels freeze which causes its own numbing, making it practically painless and bloodless.
- Lower risks of complication, less pain and quicker healing.

## How long does a treatment take?

A treatment with a CryoIQ<sup>®</sup> device can easily be incorporated in a busy practice as no pre- or post- treatment care is needed. In general, a treatment with cryotherapy shouldn't last more than a minute, even sometimes it is a matter of seconds, all depending on the kind of lesion.

## How many treatments does it take to remove a lesion?

The morphology of a lesion determines the freezing time. Often a skin disorder can be removed in 1 treatment, whereas a freeze-thaw-freeze cycle in such treatment is a standard within cryotherapy. A follow-up visit should be scheduled in a time frame of 2–3 weeks after the treatment in order to see the results.

## Is there any risk of scarring?

With the use of nitrous oxide as a nitrogen the risk of scarring is very limited to non-existing as the penetration depth is max 5 mm. The freezing temperature of nitrous oxide is -89 °C / -128 °F and as such considerably less as the boiling point of liquid nitrogen -196 °C / -346 °F. The latter is well known for the risk of scars and blisters. Cryotherapy has to be performed by educated licensed professionals and the treatment time shouldn't be overdone. Cryotherapy is known for its excellent aesthetic results.

## Why was the treatment not successful?

If followed the parameters, it is very rare that a treatment isn't successful. The user of a cryotherapy device such as the CryoIQ<sup>®</sup> unit should be familiar with the parameters for liquid spray and contact freezing.

- The liquid nitrous oxide spray works only within a range of 1–4 mm from the skin (white cold stream visible) as outside this range only air will be blown onto the lesion.
- A white ring (the "halo") of frozen tissue should remain visible for 2–3 seconds after the treatment.
- The thickness of a lesion determines the freezing time to be used, 4 mm seconds of freeze per 1 mm thickness.
- A cycle of freeze-thaw-freeze has to be used in the same treatment. After the first freeze let the lesion thaw till it becomes moist and returns to skin colour. Perform the second freeze. There is no use to a freeze longer as 25 seconds as it will not penetrate the skin more as it already did, it will just cause blisters.

## Will a treatment cause blisters?

A treatment which has been done too long in time and too deep may cause a blister. The latter can be covered with a band aid.

## What are the specifications of a CryoIQ<sup>®</sup> device?

- Nitrous oxide as the nitrogen with a constant freezing temperature of -89 °C / -128 °F.
- A constant freezing power of 50 bar / 725 psi until the cartridge is empty.
- A variety of spray applicators which can cover lesion surfaces in the range of 1–22 mm with liquid spray freezing.
- Contact applicators with predetermined surface treatment areas of 1.3 and 5 mm.
- A refrigerating capacity around 18–22 watt.
- A freezing speed around 100 k/min.

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## CryoIQ®

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### How long does one cartridge last?

CryoIQ® offers 3 cartridges with 16 g, 25 g and 40 g contents of nitrous oxide. The diameter of the applicator determines the amount of gas sprayed per second to cover the surface of the lesion as the thickness of the lesion determines the seconds of freezing time. For instance, a superficial lesion of 1 mm thickness may take 5 seconds of freeze whereas a large wart may need 20–25 seconds of freeze. In general, with a standard applicator attached to the device a 16 g cartridge will have an average of 240 seconds of freeze, a 25 g cartridge 360 seconds and a 40 g cartridge around 600 seconds.

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### What is the shelf life of the cartridges?

In average the shelf life of the cartridges is two years. After one year of storage, the cartridges will have had a gas loss of < 1 % due to technical reasons. The cartridges are considered consumer commodities and as such storage is simple. They have to be stored at room temperature (Not above 50 °C / 122 °F).

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### Which grade has the N<sub>2</sub>O gas used in the CryoIQ® devices?

Our cartridges with a built-in filter contain sterile gas (medicinal gas sterile-filtered to 5 µ, free of detritus).

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### What are suggested freezing times?

The medical literature offers a variety in recommended freezing times for particular skin lesion treatments. Not only depend they on the kind of cryogen used but also on the thickness, size, location and hydration of the target tissue as these parameters all can affect the duration and outcome. Licensed medical professionals should be familiar with cryosurgical techniques when using a CryoIQ® device.

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### In which procedures can be used cryosurgery?

Cryosurgery has been used by veterinarians are to in treatment procedures for, but not limited to:

- Warts
- Eyelid tumors and masses
- Tail and tail- base tumors
- Tongue tumors
- Distichiasis
- Paw or pad mast cell tumors
- Skin tags
- Tumors in the mouth, ear
- Papillomas
- Angiomas
- Cysts
- Peri-anal carcinomas and anal gland tumors
- Epuli

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### I have used the device and stored it as described in the manual. But it is not working the next time I want to use it.

#### What could be the reason?

This could be caused of 3 things.

1. The gas cartridge is empty.  
Put the gas cartridge on the balance to check the weight, empty is 16 gram, full is around 48 gram.
  2. By mistake the lever (Valve arm) has been bending when loading the gas cartridge to the device.  
Bend the lever away from the device a little bit. This is a common problem, takes 3 seconds to fix if they are careful.
  3. The device is blocked for some reason.  
Send everything to EICKEMEYER® and we will check the device and cartridge.
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