

FAQ for vets

What is cryotherapy?

Cryotherapy is a minimally-invasive treatment that ablates tissue masses by using extreme cold. It is used widely in human cancer treatments including liver, lung and prostate cancer and It is very well tolerated with the intrinsic anesthetic properties of cold providing local anesthesia.

How does it work?

The Kubanda cryotherapy device is designed to harness the cooling power of carbon dioxide through the Joule-Thomson Effect: cooling occurs when the gas is throttled from a high to low pressure chamber, intracellular and extracellular ice crystals will form rapidly around the device probe tip to cause cellular dehydration and ischemia. The iceball formed during this process will envelope the targeted tissue resulting in a “cold injury” that effectively necroses the tissue.

What is the procedure like?

The cryotherapy procedure consists of a timed freeze-thaw-freeze cycle for optimal freezing effect.

Why are the freeze-thaw cycles necessary?

During the thawing process, previously formed ice crystals fuse to form larger crystals, which are disruptive to cell membranes and cause additional cell damage. As the ice melts, the extracellular environment becomes hypotonic due to the fact that intracellular water is drawn out to compensate for extracellular dehydration. Free water that's outside the cells will then re-enter the damaged cells, causing an increase in cell volume that leads to cell membrane rupture.

How long does the procedure take?

Not considering anesthesia induction time and prep time, the cryotherapy procedure consists of a timed freeze-thaw-freeze cycle that ranges from 14 minutes and up. A common 7-5-7 cycle will involve a 7-minute freeze, 5-minute thaw and another 7-minute freeze for treating lumps and bumps of 2 cm diameter or under. Depending on the size, type and location of the tumor, different dosages can be administered and therefore changing the total length of procedure.

Will you provide a standard protocol for administering the dosages?

We will provide recommended dosages for tumor sizes during training but the exact treatment protocol is best given at the operating veterinarian's experience and discretion.



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Cryotherapy**

What is the history of cryotherapy?

The use of cold to remove unwanted tissue is very commonly used epidermally for ablating skin anomalies and can date back to the 1800s. Cryotherapy as a treatment for tumor has been used in human medicine for over 40 years, including liver, lung and prostate cancer.

Has this method been used in veterinary medicine?

Subcutaneous cryotherapy treatments like the Kubanda cryotherapy are relatively new to the veterinary world, but our device has gone through rigorous testing based off of standards in human medicine cryotherapy research. Our device has been used for treating lumps in lab animals and we have recently completed veterinary clinical trials where it was used to treat lumps and bumps in client-owned dogs.

What type of masses can be treated using cryotherapy?

Technically, all types of tissue can be treated with cryotherapy. However, to avoid complications using the cryoneedle poke, we recommend against treating liquidy tumors and cysts and mast cell tumors to avoid potential metastasis.

Extra risks with cryo — see Consent Form info



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