MOLLUSCUM CONTAGIOSUM (WATER WARTS)

Treatment guidance

HYDROZID®

Molluscum contagiosum (water warts)

Molluscum contagiosum, also called water warts, is a viral infection caused by a DNA poxvirus manifesting in the skin.[1,2] Molluscum contagiosum is one of the five most prevalent skin diseases worldwide.[2]

Transmitted by direct skin-to-skin contact,[2] molluscum contagiosum develops slowly over weeks. The incubation period is estimated to be 2-8 weeks.[2] As they grow, the mollusca develop a central dimple, also known as umbilication.[1]

Molluscum contagiosum presents as dome-shaped papules containing viscous material, the molluscum body. The mollusca have a smooth surface and vary in appearance from pale red to skin-coloured and in size from 3-10 mm.[1,2]

Molluscum contagiosum is most prevalent in children (about 9 out of 10 cases) of all ages, sexually active adults and in immunosuppressed individuals.[1,2] The prevalence is also higher among atopics[1,2] and in countries with a warm climate.[2]

In children, the mollusca are typically located on the extremities, trunk and face, often in body creases. Sexually transmitted molluscum contagiosum in young adults is located in the lower abdomen and the genital region. In immunosuppressed individuals, molluscum contagiosum more frequently presents as large, multiple mollusca.[1]

Over time, mollusca may disappear spontaneously, over 6-9 months, but may persist for longer.[1,2] In some persons, molluscum contagiosum may cause itching, eczema and secondary bacterial infections.[1,2] Some patients may also experience molluscum contagiosum as being cosmetically unsightly. The above complications are the most common reasons why people seek treatment.


HYDR ZID®

What is Hydrozid®

- Hydrozid® is an innovative CE-marked medical device that combines traditional cryosurgery with modern aerosol technology. Its patented, unique application system provides a safe and effective method for treatment of molluscum contagiosum.

- Hydrozid® contains the gas norflurane and exposes the molluscum to temperatures as low as -54°C to -58°C by means of a concentrated jet. The consistent treatment temperature of less than -50°C lasts for up to 4.5 minutes after treatment start and thus ensures a unique cold potential within cryosurgery.[3,4] The temperature required to destroy benign cells using cryosurgery is between -20°C and -30°C.[5,6]

- The varying reaction of skin cells to the low temperatures of cryosurgery enables the treatment of epidermal cells without damaging subcutaneous connective tissue, fibres or immune cells.[5]

- Hydrozid® treatment is based on the methods of *freeze-thaw cycles and temperature control*. Rather than continuous treatment exposure, studies have shown that repeated exposures to freezing followed by thawing (a freeze-thaw cycle) enhance the effect by up to 100%.[7]
  These cycles afford the therapist more control of the treatment temperature and its effect on the treated area, which helps prevent overtreatment and any consequential side-effects.[8]

- It is not necessary to anaesthetise the treated area prior to treatment. The cryosurgery functions as a local anaesthetic in itself.[9]

- Hydrozid® treatment is approved for children and adolescents.

All treatment with Hydrozid® should be adapted to the individual patient.

Inform the patient before treatment

Provide the patient with the Hydrozid® patient instructions.

The patient instructions give relevant advice and information in brief about the treatment process.

The patient instructions are available free of charge at https://shop.hydrozid.eu or by email: info@hydrozid.com.

Application template

When treating molluscum, use one of the accompanying application templates to protect the surrounding healthy tissue during treatment.

The application templates have holes in 6 different sizes (3-10 mm in diameter).

The treatment margins may become blurred during treatment as the formation of ice crystals covers the delimitation of the molluscum and the surrounding healthy tissue. The application template can thus help focus on the limits of the molluscum during treatment.

You can also use the application templates' size indications to compare the size of the molluscum after each procedure to assess the effect of treatment.

The application templates can be used to treat more mollusca on the same patient, after which they must be discarded to avoid cross-infection.

Application template

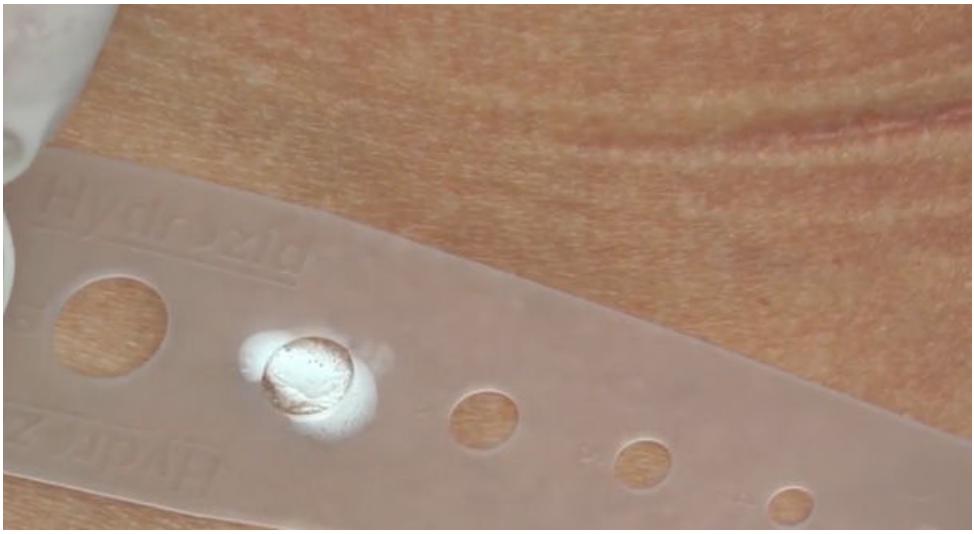
Treatment of one molluscum

Treatment steps using Hydrozid®.

After unpacking – do not remove the tip of the application tube. It must remain in place during treatment.

1. Release the locking mechanism under the activation arm, from left to right. The canister is now ready to use.

2. Hold the application template in place above the molluscum with your non-dominant hand.
Hold the Hydrozid® canister in your dominant hand as vertically as possible. Push lightly on the canister until you hear a hissing noise and the gas is released. If you push the canister too hard, the sound will be more like when dispensing a deodorant spray, which releases unnecessary amounts of gas with a risk of damaging surrounding healthy tissue. Also, this is not an economical use of the gas.



3. Spray at a distance of 2-3 centimetres from the molluscum, for 3-6 seconds. A film of white ice crystals will now form in the treated area. Start counting when ice crystals start forming on the molluscum.[10]

After (up to) 30 seconds, the ice crystals are no longer white, indicating that the thawing period has ended. The first freeze-thaw cycle is now completed.

A distance of 2-3 centimetres corresponds to about 2 finger widths.

4. Then repeat another freeze-thaw cycle. The recommended number of freeze-thaw cycles is up to 2 cycles. The total treatment time is between 6-12 seconds.

The therapist assesses the patient and the treated area between each freeze-thaw cycle and must regard the treatment times as recommendations. Treatment for a longer period than recommended is associated with more frequent and more intense side effects.[11]

Treatment of 2-4 mollusca

Though mollusca may occur individually, they are often multifocal.[1,2] In such cases, the treatment can be streamlined, as it is possible to treat 2-4 mollusca within the same period of time as it takes to treat one (2 x 3 seconds - 2 x 6 seconds).

Treatment steps using Hydrozid®.

Prepare the canister and place the application template as described in treatment steps 1 and 2 in the treatment section *Treatment of one molluscum.*

Next treatment steps:

1. Spray at a distance of 2-3 centimetres from the first molluscum, for 3-6 seconds. While the ice crystals thaw and the thawing period passes, continue treating the second molluscum.
2. Treat the second molluscum using the same procedure. While the ice crystals thaw and the thawing period passes for mollusca 1 and 2, continue treating the third molluscum.
3. Treat the third molluscum using the same procedure. While the ice crystals thaw and the thawing period passes for mollusca 1, 2 and 3, continue treating the fourth molluscum.
4. Finish by treating the fourth molluscum for up to 6 seconds using the same procedure.

When the thawing period for the fourth molluscum has passed, the first freeze-thaw cycle is complete. Now you can start a new freeze-thaw cycle on the first molluscum, followed by the three others. Treat each molluscum with a total of up to 2 freeze-thaw cycles, equating to 6-12 seconds of treatment of each molluscum.

Side effects, healing process and treatment outcome

Cryosurgery may cause a stinging or burning sensation during treatment.

The treated area may appear red, tender and swollen immediately after treatment. Within 24 hours after the completion of treatment, inflammation develops in response to cell death.[12]

This process contributes further to destroying the molluscum and is a natural reaction in the wound healing process.

Wounds and possibly blisters may subsequently occur in the treated area.[13] In such cases, the treated area must be protected with a plaster.

After treatment, the patient must keep the treated area clean by washing it daily with water and non-perfumed soap.

To avoid scarring and pigment changes, the patient should avoid exposing the treated area to sunlight for 10-14 days until the treated area is fully healed.

If repeated treatment is deemed necessary, a treatment interval of 1-2 weeks is advisable. The intensity and number of treatments depend on the patient's individual clinical response and is assessed by the therapist.

Precautions and contraindications

Hydrozid® must only be used by trained healthcare professionals.

Even though the effect of short freezing times as recommended in this material does not result in scarring,[13] Hydrozid® must be used with care to avoid damaging the dermis.

Exercise special caution when applying Hydrozid®:

- Near cutaneous nerves, tendons and nail beds.[13]
- On persons with impaired arterial or venous circulation[12] (e.g. diabetes patients).
- In immunosuppressed patients.[13]
- In persons with thin and/or sensitive skin (e.g. elderly with ageing skin, systemic scleroderma, persons treated with inhaled steroids for a prolonged period of time, etc.)[13]
- In persons with dark skin types. Even though the effect of short freezing times as recommended in this material rarely results in pigmentation changes in the treated area, hypopigmentation/hyperpigmentation may occur. This change is seen in persons with dark skin types in particular.[13]

Do not use Hydrozid®:

- On open skin lesions or eczematous skin to avoid subcutaneous emphysema[14].
- In patients with cryoglobulinemia, Raynaud's disease, cold urticaria, blood dyscrasias and Pyoderma gangrenosum.[13]
- In case of uncertain diagnosis of the type of lesion (biopsy for skin carcinoma).[13]
- On healthy skin.

IF YOU HAVE ANY QUESTIONS OR, CONTRARY TO EXPECTATIONS, EXPERIENCE CHALLENGES WHEN USING HYDROZID®

Please contact Hydrozid® by email: info@hydrozid.eu

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Hydrozid® was developed by the Danish-owned family enterprise BIBAWO Medical A/S, Denmark, and is currently used in more than 20 countries around the world.

In Denmark, Hydrozid® is approved for the following therapeutic indications: acrochordon, actinic keratosis, cervical contact bleeding, condyloma acuminatum, gingival melanin hyperpigmentation, seborrheic keratosis, lentigo, molluscum contagiosum, verruca plana (flat warts), verruca plantaris (plantar warts), and verruca vulgaris (common warts).

Learn more about Hydrozid® on www.hydrozid.eu

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