How to use the silver nitrate applicators? (general use guidance)

**Step 1:** Silver nitrate must be dissolved in fluid. The fluid can be distilled water, demineralised water, deionised water, clean tap water (but not high in salt), blood or mucous.

- **Tip:** Do not use saline. Saline stops the action of silver nitrate and prevents silver nitrate having any effect.
- **Tip:** A single drop of water is enough to treat 2 to 3 square inches. Do not use more water than necessary.

**Step 2:** Dissolve the applicator tip or pencil point in the single drop of water (or available body fluid) for 20 to 30 seconds by gently stirring. This is enough time to dissolve enough silver nitrate in the water drop. Enough silver nitrate to treat the wart, verruca or granulation is now in the water. Transfer water from the single drop to the area to be treated. The applicator tip can be used to transfer the water but this can also be done with any other clean plastic or steel object.

- **Tip:** It is not necessary to transfer the water with the applicator tip.
- **Tip:** If the applicator tip is used to transfer water, do not press or rub the applicator tip on the area being treated. It is fragile and may break. Use zero pressure.

**Step 3:** Spread the transferred water over the area to be treated.

- **Tip:** Do not allow the water to touch any other surface. Water containing silver nitrate will stain most surfaces except glass and stainless steel. Stains on clothes and furniture may be permanent. To control the water, place the single drop on the bottom of an upturned drinking glass. After treatment, wipe away any water left using a paper tissue and place in normal waste. Allow the treated area to dry. The area treated will be stained. The stain takes at least a few minutes to become visible.
- **Tip:** Cells in the treated surface will be dead and either will fall away (granulation) or can be filed away (warts, verrucas) with a course buffer or fine emery board.

As long as saline, or tap water high in salt, is not used, silver nitrate works. Staining is a consequence of using silver nitrate and is evidence of the presence of silver nitrate.

Silver Nitrate Applicators FAQ

**Does silver nitrate damage PD catheters?** Our PD catheters are translucent silicone rubber containing a radiopaque stripe. Do you have any information related to this?

As far as we know, silver nitrate will not damage a catheter nor radiopaque strips but it can stain them. It is not absorbed by, and does not affect, non-absorbent surfaces such as stainless steel and glass. Slightly absorbent materials like plastic will therefore be stained after contact with silver nitrate but not harmed by it. Such a stain on a radiopaque strip should not affect the opacity of the strip to x-rays.
After treatment, I noticed blood on the area treated. What should I do?

Silver nitrate contact with a small open wound in skin may cause stinging for a few seconds or minutes but nothing else. It is important to make sure a solid piece of silver nitrate has not broken away from the pencil or applicator and become lodged in a wound or anywhere else. Pencil and applicator points are brittle and easily broken if force is used. Stinging suggests silver nitrate is still active which can be neutralized by flushing with saline. Contact with saline solution will prevent silver nitrate having any effect.

If bleeding continues after treatment, the blood flow could move active silver nitrate to other areas of skin or clothing which could then be stained.

Silver nitrate should not come into contact with eyes.

Silver nitrate stains on normal skin will disappear through the normal process of exfoliation.

How much of the silver nitrate is released by the 75% applicator with each application?

There is about 30mg of silver nitrate in each applicator. Silver nitrate is released from the applicator by dissolving some of the tip in either water or body fluid. The longer the tip is held in fluid, more of the available 30mg is released. In practice, only a proportion of the 30mg makes contact with tissue. When dissolved in water, some water holding silver nitrate is usually thrown away.

Are silver nitrate applicators considered safe?

Applicators are regarded as very safe and controllable. The action of silver nitrate can be stopped by the application of saline solution. Silver nitrate will stain skin but the stain disappears by normal exfoliation. However, silver nitrate should never come into contact with eyes which can be permanently damaged.

What effect does temperature and humidity have on the product?

Stability studies show that the product does not degrade at 30°C and 65% Relative Humidity but at 40°C and 75% RH it becomes unusable 3 months.

What additional guidance do you provide if silver nitrate is swallowed?

Immediately call poison control or physician. Poisoning by oral ingestion is unlikely with the quantities involved, but treatment for poisoning is the immediate ingestion of large amounts of salt water followed by an emetic. Then administer a dose of Epsom Salts followed with milk.

Can you apply too much?

It would be difficult to apply too much to a wart or intact skin in one application. It is absorbed by living tissue to a very shallow depth and applying more won’t increase the penetration or depth. You can apply it too often to healthy skin (but not to a wart or corn/callous) – too-frequent applications will remove surface layers of healthy skin so that the exposed surface is sore and red or blistered (burns). This can happen if a piece of the pencil breaks off and remains unseen next to moist skin. Care should be taken not to press or rub and to ensure that no pieces are left behind.

For both circumstances, saline solution stops the reaction and neutralizes remaining silver nitrate.

Continued and excessive application to mucous membranes and open wounds can lead to argyria, a bluish-black discoloration of the skin due to depositions of granules of silver compounds in connective tissue. This condition persists indefinitely or disappears very slowly. Otherwise, argyria causes no known harm.

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