

PD Procedures: Exit Site Care

Silver Nitrate Application

1.0 Practice Standard

The Registered Nurse and the Licensed Practical Nurse who is trained and has demonstrated competency in Peritoneal Dialysis Procedures will use the outlined procedure to apply silver nitrate to the exit site.

Consult with the Nephrologist to obtain an order prior to application of silver nitrate.

2.0 Definitions and Abbreviations

Exuberant granulation tissue, hypergranulation tissue or proud flesh: granulation tissue that progresses above the base layer of the wound bed and may or may not be above the level of the skin. This mound of tissue inhibits the migration of epithelial cells resulting in delay or slowing of the healing process. The tissue is often red, rubbery and bleeds easily.

Silver nitrate: a crystalline compound caustic agent, that works by acting as a strong oxidizing agent. In aqueous solution, the silver cation of this salt is readily reduced to neutral silver metal resulting in the release of free radicals. The chemical stress that accompanies this reaction will oxidize organic matter, coagulate tissue and destroy bacteria.

3.0 Equipment/Supplies

- Chlorhexidine soap or non antibacterial pump soap for handwashing
- Sterile dressing tray
- Sterile gloves
- Normal saline solution
- Bacteriostatic sterile water
- Silver nitrate sticks
- Barrier ointment or cream (e.g. sterile petroleum jelly)
- Occlusive dressing
- Normal saline

4.0 Procedure and Rationale

	PROCEDURE	RATIONALE
1	Explain the procedure to the patient emphasizing: <ul style="list-style-type: none"> • Burning discomfort at the exit site may be experienced. • Silver nitrate will cause the tissue to turn grey/black and then white in colour. • After several days the dead tissue will fall off. 	
2	Wash hands using chlorhexidine soap or non antibacterial soap according to program policy.	
3	Open the dressing tray and add supplies.	
4	Remove dressing and assess site for suitability of application of silver nitrate.	
5	Clean the site thoroughly as per the appropriate program policy.	Normal saline will neutralize the action of silver nitrate. Ensure the area is well dried prior to silver nitrate application.
6	Apply barrier cream or ointment (e.g. sterile petroleum jelly) to the surrounding skin.	Protects healthy skin from chemical damage.
7	Moisten the tip of the silver nitrate stick with a minimal amount of bacteriostatic sterile water: ensure that the silver nitrate stick tip is not dripping.	Moistening the tip will activate the silver nitrate. Do not use normal saline to moisten the tip as this will diminish the effectiveness of the silver nitrate. Avoid over moistening the tip to prevent potential dripping of silver nitrate onto healthy tissue.
8	Gently roll the silver nitrate stick on the hypergranulation tissue beginning at the area proximal to the exit site and moving outward. Avoid touching the silver nitrate stick to the surrounding skin and the PD catheter. Repeat with new silver nitrate stick as required.	Areas coming in contact with silver nitrate will be chemically burned resulting in a reduction of hypergranulation tissue. If silver nitrate accidentally touches or drips onto healthy tissue, ensure that the area is flushed well with normal saline.
9	Cleanse the area with saline following the procedure and dry well.	Helps in neutralizing the silver nitrate and prevent excess damage.
10	Apply topical antibacterial cream/ointment if ordered.	
11	Apply the appropriate dressing to the exit site following.	

5.0 Patient Teaching Considerations

	PATIENT TEACHING	RATIONALE
1	Burning sensation may be experienced with silver nitrate application.	
2	Silver nitrate will cause the tissue to appear grey/black in colour.	Result of cauterization process of silver nitrate.
3	The dead tissue will slough off over time resulting in a gradual reduction of the hypergranulation tissue.	
4	Several applications of silver nitrate over time may be required to eradicate the hypergranulation tissue.	

6.0 Documentation Considerations

Document the procedure and any significant findings in the patients chart:

- Date and time of application
- Condition of exit site prior to silver nitrate application
- Condition of exit site following silver nitrate application
- Patient response to procedure
- Other significant findings

7.0 Special Considerations: Interventional Guidelines

(do not replace individualized care and clinical expertise)

- Do not use silver nitrate on infected areas
- Assess for contraindication, sensitivity or allergy to silver.
- Ensure that silver nitrate does not come in contact with healthy tissue or the PD catheter.
- Is silver nitrate touches or drips on to healthy tissue, flush the area well with normal saline to stop the cautery action.
- Following application of silver nitrate, granulation tissue will immediately turn grey in colour.
- Burning sensation may occur when applying silver nitrate.

- Arrange follow up visits with patient to inspect exit site appearance.
- Some exit sites may need several applications of silver nitrate to eliminate all the exuberant granulation tissue.

8.0 References

AMG Medical, Flexible Caustic Applicators Silver Nitrate 75% Potassium Nitrate 25%. Instructions for use.

British Columbia Provincial Nursing Skin and Wound Committee (2012). Skin and wound information sheet: Silver Nitrate sticks for wound care. Retrieved from: <https://www.clwk.ca/communities-ofpractice/skin-wound-community-of-practice>

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May 1, 2016