

Safer Practice Notice

Date: November 2022

Topic: Chlorhexidine Gluconate (CHG) and Alcohol Skin Preparation

Situation:

- Chlorhexidine gluconate (CHG) and alcohol skin preparation was used on a contraindicated area of the body in preparation for a procedure. The preparation caused injury to the surgical area, resulting in an adverse outcome for the patient.

Background:

- Chlorhexidine is a commonly used antiseptic on skin before surgery or procedures to prevent infection. Skin is not sterile and can be a major source of bacteria that can lead to surgical-site infections.
- Chlorhexidine skin preparations contain Chlorhexidine (2% or 4%) and usually contain alcohol (70% or less). It is a common product for skin preparation before surgery. Its antimicrobial effects can last up to days after application so it should not be washed off the skin following surgery.

Assessment:

- **CHG use is contraindicated in the ears, eyes, mucous membranes, meninges, open wounds.**
- CHG can cause serious and permanent injury when placed in, or in contact with, the inner or middle ear, or eyes.
- If the procedural site includes a lumbar puncture or contact with the meninges: CHG prep should be left to dry for at least 3 minutes to minimize the risk of neurotoxicity with the solution.
- Due to the alcohol content in most CHG preparations, it is extremely flammable. The solution should be allowed to dry for 3 minutes prior to start of surgical procedure and before the use of cautery. Avoid pooling of solutions in skin creases, umbilicus, under the patient and positioning equipment.

Recommendations:

- **Povidone-iodine (Dovidine) should be used on areas where CHG is contraindicated.**
- **Dovidine can be used on mucous membranes, making it the preferred skin prep for ENT (Ears, Nose and Throat), ophthalmic, open wounds, and gynecologic procedures.** This agent is also best suited for patients with a known sensitivity to chlorhexidine.
- **Caution:** Povidone-iodine is available in single use sponges that contain alcohol. **This preparation should not be used in the ear or eye.**

Safer Practice Notices are issued by the Health PEI Quality, Risk and Patient Safety Division to communicate recommended changes as a result of events that have been reported and investigated through the Provincial Safety Management System (PSMS).

For more information on this Safer Practice Notice, please contact:
Karen Chaffey, Quality Risk Consultant: 902-894-2953 or kkchaffey@ihis.org