

## **Kinder, Gentler Presurgical Skin Prep**

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**Introduction:** Patients routinely are prepped with a skin cleanser and antiseptic during preoperative preparation for surgery. This type of prep is best practice for all surgeries.

**Identification of the problem:** Current pre-op skin preparation product, Medline CHG (Medline) was causing unacceptable skin reactions in patients. Multiple surgeons requested that Medline use be discontinued. Lack of skin bioload reduction adds risk for infection.

**Question/Purpose of the study:** Are there other CHG skin prep products which will adequately cleanse and reduce bioload on skin areas and would decrease and/or eliminate adverse skin reactions in patients?

**Methods:** After extensive research, Sage CHG (Sage) was trialed on randomly selected patients during preoperative preparation while Medline use was continued on all others (i.e., control group). The trial period was three-months (6/1/21-8/31/21) with the first two months in outpatient surgery patients while the third month consisted of all surgical patients.

**Outcomes/Results:** During the trial period there were a total of 989 cases where Medline was used and 829 cases where Sage was used, resulting in 11 and 3 cases of adverse skin reactions, respectively. Of the 11 adverse reactions with the use of Medline, 3 required additional inpatient care while 2 required emergency department treatment. There were no adverse outcomes with Sage. There was no increase of postoperative infection during the trial using Sage.

**Discussion:** Published product data indicates that Medline contains agents that are known skin irritants, namely isopropyl alcohol, and benzalkonium chloride while Sage contains neither and in addition contains skin humectants and emollients which protects and hydrates the skin. During the trial period, relative adverse skin reactions were 3.07 times higher with use of Medline as opposed to Sage. P value =.0092

**Conclusion:** The use of Sage during preoperative patient preparation is preferred over Medline as adverse skin reactions were minimized with no infection increase. Full conversion to the Sage product started 9/1/21.

**Implications for perianesthesia nurses and future research:** As the integumentary system is critical for physical protection and infection control, effective preoperative skin preparation is crucial for postoperative infection control, minimization of adverse skin reactions and patient comfort. Use of the most nonirritant skin preparation during the preoperative phase contributes to all three.