Kinder, Gentler Presurgical Skin Prep

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Introduction and Background

Decontamination of the skin with an antiseptic agent is standard/best practice [7] before any trans-cutaneous invasive procedure, but the antiseptic agent of choice to best reduce the risk of surgical site infections (SSI) remains open [5].

Although numerous studies have shown that using isopropyl alcohol, and benzalkonium chloride as the primary antiseptic agents is very effective in reducing risk of SSI [8,10,11], its use has significant negative side effects. One of the most common negative side effects of such skin preparation has been a significant incidence of patient skin rash/reactions, resulting discomfort and possible need for further medical intervention.

Evergreen Healthcare located in Kirkland, WA , experienced a significant decrease in SSI's after adopting CHG wipes preop in 2019. However, accompanied with this positive decrease in SSI was a significant incidence of serious skin reactions often requiring further medical intervention and resulting in patient discomfort and pain.

The incidence of adverse skin reactions became so numerous that surgeons were requesting that patients not be treated with CHG wipes preoperatively.

Description of Population

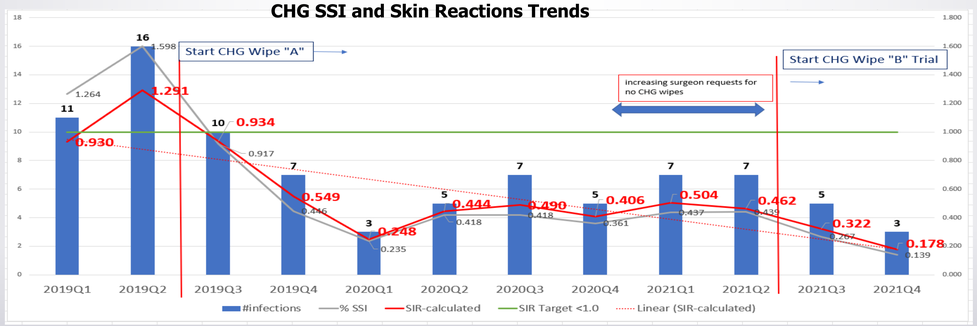
Study participants included all outpatient surgical patients for a continuous 2 months and all surgical patient (including inpatient) for the final 3rd month.

Interventional Group- use of a presurgical skin preparation using 2% Chlorohexidine Gluconate as the primary disinfectant agent along with skin humectants and emollients
Control Group- continued use of presurgical skin preparations containing the widely used disinfectants isopropyl alcohol, and benzalkonium chloride

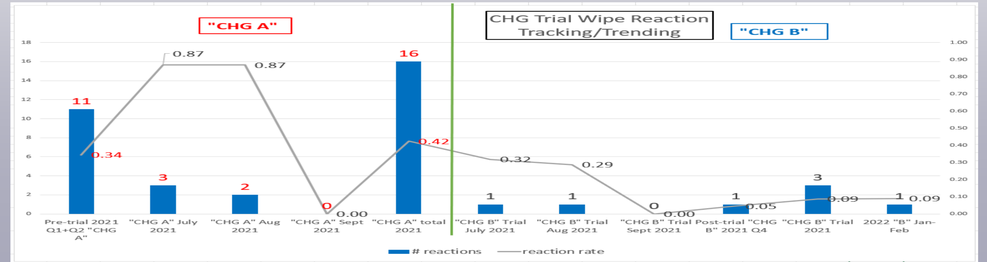
Improvements/Outcomes

Primary Disinfectant	isopropyl alcohol, and benzalkonium chloride	2% Chlorohexidine Gluconate
# Cases	989	829
Adverse Skin reactions	11	3
Required Inpatient Txt	3	0
Required ED Txt	2	0
Increase in Infection	Control Group	0

CHG SSI and Skin Reactions Trends



Before and After CHG Skin Reactions Trend



Scope of the Issue

Are there other CHG skin prep products that do not use isopropyl alcohol, and benzalkonium chloride as the primary disinfecting agent which will adequately cleanse and reduce bioload on skin areas while decreasing and/or eliminate adverse skin reactions in patients?

- **Population-** Surgical patients at Evergreen Medical Center, Kirkland, WA
- **Intervention/Interest-** Alternatives to Skin cleansers/antiseptics are routinely used as part of presurgical preparation
- **Comparison-** Alternatives to isopropyl alcohol being primary disinfectant agent in presurgical skin prep formulations without increase in SSI
- **Outcome**- statistically significant decrease in adverse skin reactions as a result of presurgical skin preparation
- **Time Period**-June 2021-present
- **Data Collection-** Literature review of studies and meta-analysis

Collaborative Team

The collaborative included myself, PACU educator- Jeanette Harris, MS,MSM,MT (ASCP),CIC,FAPIC, all staff RNs in all hospital PACU's, floor staff nurses and infection control personnel.

REFERENCES

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