ISKUS HEALTH
IMPROVING PATIENT OUTCOMES

REDUCE INFECTION RISK

2% Chlorahexadine Gluconate Skin Antisepsis

SAGE PRODUCTS

ISKUS HEALTH
IMPROVING PATIENT OUTCOMES

ISK.30.01.2018.1.SAGECHG

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SAGE PRODUCTS

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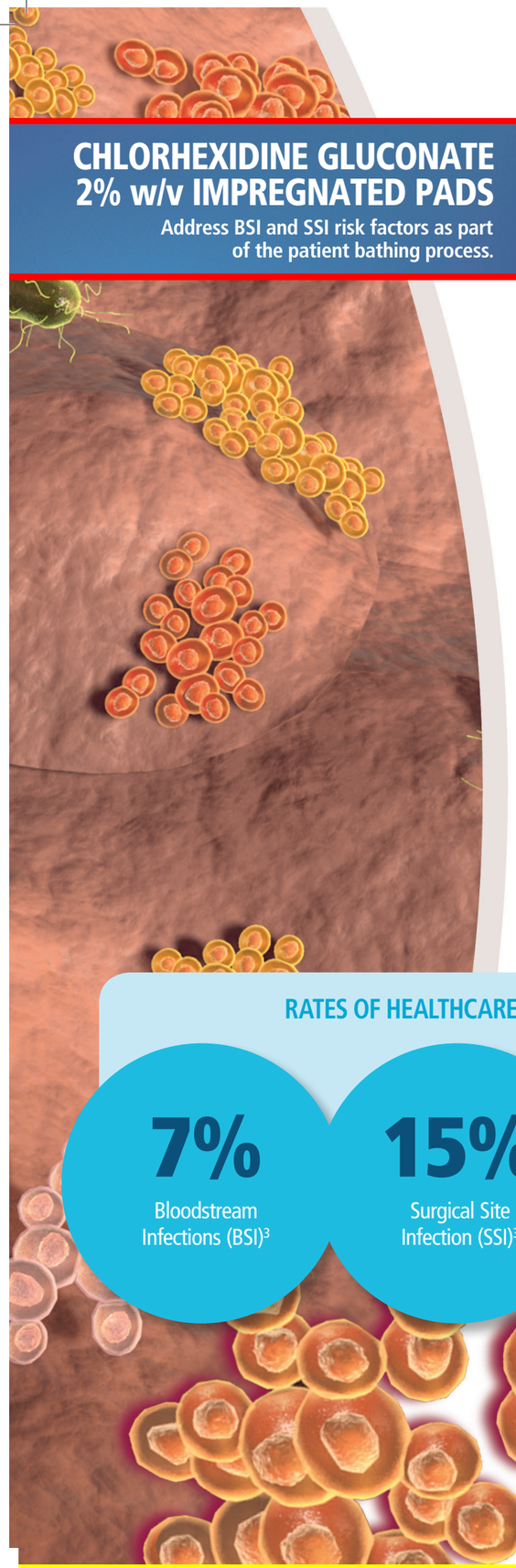


CHLORHEXIDINE GLUCONATE 2% w/v IMPREGNATED PADS

Address BSI and SSI risk factors as part of the patient bathing process.

THE THREAT OF HEALTHCARE-ACQUIRED INFECTIONS

Interventions designed to reduce Hospital-Acquired Infections (HAIs) including those from Multiple Drug Resistant Organisms (MDROs) are vital to reduce risk from morbidity and mortality.

The European Centre for Disease Prevention and Control (ECDC) estimates that on any given day, about 80,000 patients, i.e. one in 18 patients, in European hospitals have at least one healthcare-associated infection.[1] Of particular significance are bacteraemia, a leading cause of HAIs. Patients with bacteraemia have nearly twice the mortality rate, significantly longer hospital stays, and significantly higher median hospital costs.[2]

RISK FACTORS FOR MRSA HAI COLONIZATION[2]

- Severe underlying illness or comorbid conditions
- Prolonged hospital stay
- Exposure to broad-spectrum antimicrobials
- Presence of foreign bodies such as central venous catheters
- Frequent contact with the healthcare system or healthcare personnel

RATES OF HEALTHCARE-ACQUIRED INFECTIONS IN THE U.K.

7% Bloodstream Infections (BSI)[3]

15% Surgical Site Infection (SSI)[3]

17% Methicillin-sensitive *Staphylococcus aureus* (MSSA) bacteraemia[4]

66% *Escherichia coli* (E. coli) bacteraemia[4]

REFERENCES: 1. European Centre for Disease Prevention and Control, Press Release: Each day, one in 18 patients in European hospitals has a healthcare-associated infection: ECDC estimates, Stockholm, 4 July, 2013. **2.** Calfee DP, et al., Strategies to Prevent Methicillin-Resistant Staphylococcus aureus Transmission and Infection in Acute Care Hospitals: 2014 Update, Infection Control and Hospital Epidemiology, 2015;35(7):772-96. **3.** European Centre for Disease Prevention and Control. Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals. Stockholm: ECDC; 2013. **4.** Public Health England Quarterly Epidemiological Commentary: Mandatory MRSA, MSSA and E. coli bacteraemia, and C. difficile infection data (up to April-June 2014)

PROFESSIONAL RECOMMENDATIONS

EPIC 3: IVAD 21[1]

"Consider the use of daily cleansing with chlorhexidine in adult patients with a central venous catheter as a strategy to reduce catheter-related bloodstream infection." – CLASS B recommendation

THE IMPORTANCE OF A MEDICINE LICENSE[2]

Granted by the Medicines and Healthcare products Regulatory Agency (MHRA) only when:

- High standards of safety and quality are met during the whole development and manufacture of a medicine.
- Clinical outcomes, including multiphase studies about the medicine must be completed:

  Phase 3 – information gathered from a large number of people (often several thousand) to see how well it works and how safe the medicine (formula) is.

  Phase 4 – happens after a license has been granted and it involves studies to monitor the medicine on an ongoing basis to see if there are any unexpected side effects or if the medicine causes problems in certain categories of people.

TRUST THE LICENSED PRODUCT

Chlorhexidine Gluconate 2% w/v Impregnated Pads
is a licensed, medicinal product for general skin antisepsis and skin antisepsis as part of an advanced preoperative cleansing regimen.

- Granted marketing authorisation July 2010.
- Licence number PL 27821/0004.
- Proven to reduce resistant organisms including MRSA, VRE, *Acinetobacter baumannii*, *Pseudomonas aeruginosa* and more on your patients' skin.[3]

Be sure you're getting the most from your product with approved claims that deliver real infection prevention outcomes.

REFERENCES: 1. Loveday, H.P, et al., epic 3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. Journal of Hospital Infection. 2014; 86S1:S9. **2.** Medicines information – licensing. NHS Choices, Oct 2012. **3.** Time Kill and MIC Testing conducted by an independent laboratory; data on file. **4.** Mangram AJ, et al., Guideline for prevention of surgical site infection, 1999. Centers for Disease Control and Prevention, Hospital Infection Control Practices Advisory Committee, Atlanta GA.

2% CHLORHEXIDINE GLUCONATE SOLUTION
IN A SOFT, DISPOSABLE WASHCLOTH

Sage Chlorhexidine Gluconate 2% w/v Impregnated Pad addresses pathogens on the patients' skin—a known risk factor for both BSIs and SSIs.[4] Sage's innovative rinse-free, alcohol-free formula is designed for daily antiseptic bathing and early preoperative prep. It stays on the skin for up to 6 hours of maximum persistence after application. The cloth consistently delivers a uniform dose of CHG, unlike other soaps and solutions.

EFFECTIVE AGAINST PREVALENT GRAM-NEGATIVE PATHOGENS[3,*]

Acinetobacter baumannii	✔
Bacteroides fragilis	✔
Enterobacter aerogenes	✔
Escherichia coli	✔
Klebsiella pneumoniae	✔
Proteus mirabilis	✔
Pseudomonas aeruginosa	✔
Serratia marcescens	✔

* In vitro testing.

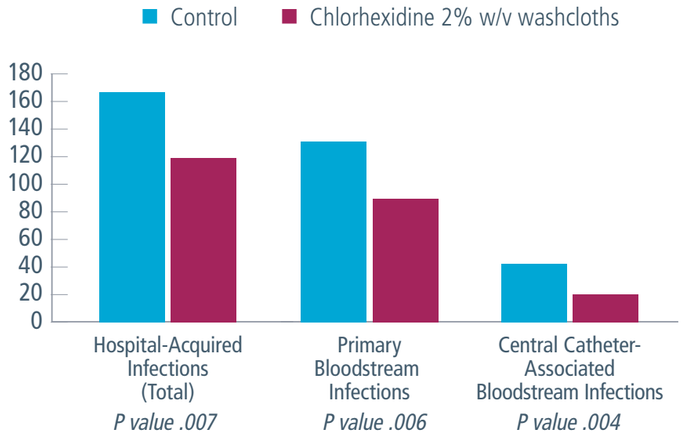
PROVEN RESULTS:

EFFECT OF DAILY CHLORHEXIDINE BATHING ON HOSPITAL-ACQUIRED INFECTION[1]

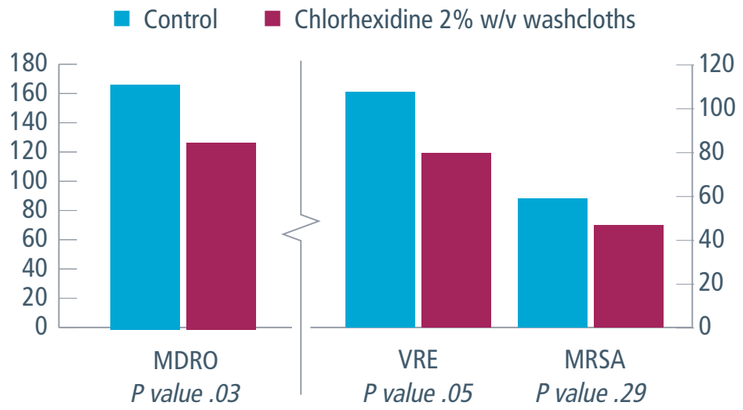
PUBLISHED IN THE NEW ENGLAND JOURNAL OF MEDICINE

STUDY METHODOLOGY:

- 7,727 patients
- 6 hospitals (9 intensive care and bone marrow transplantation units)
- Conducted for 18 months
- Random daily bathing assignment by unit for 6 months



53%
reduction in
Central Catheter-Associated Bloodstream Infection



23%
reduction of
MDRO

STUDY TAKE-AWAY:

The authors recommend the use of 2% CHG washcloths for all patients in an ICU as an effective means of source control to reduce MDRO transmission and BSI.

REFERENCES: 1. Climo MW, et al., Effect of Daily Chlorhexidine Bathing on Hospital-Acquired Infection, N Engl J Med 2013;368:533-42.

EVIDENCE-BASED SOLUTION:

TARGETED VERSUS UNIVERSAL DECOLONIZATION TO PREVENT ICU INFECTION[1]

PUBLISHED IN THE NEW ENGLAND JOURNAL OF MEDICINE

STUDY METHODOLOGY:

- Multi-center trial
- 74,256 patients
- 43 hospitals
- 74 Intensive Care Units

CLUSTER-RANDOMISED TRIAL

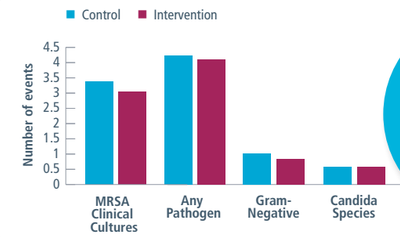
Hospitals were randomly assigned one of three strategies:

- Group 1 – MRSA screening and isolation
- Group 2 – targeted decolonization
- Group 3 – universal decolonization

STUDY TAKE-AWAY:

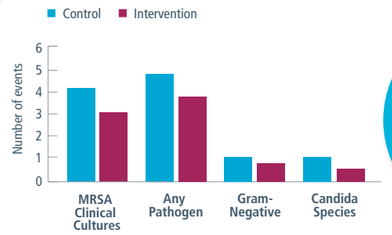
Universal decolonization was more effective than targeted decolonization or screening and isolation in reducing rates of MSRA clinical isolates and bloodstream infection from any pathogen.

GROUP 1: Screening and Isolation



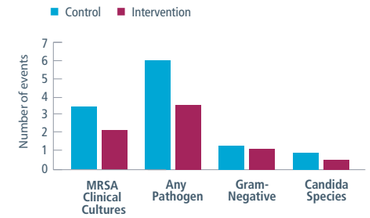
No significant reduction of BSI

GROUP 2: Targeted Decolonization



21%
BSI reduction
for any pathogen

GROUP 3: Universal Decolonization



44%
BSI reduction
for any pathogen

COST SAVINGS OF UNIVERSAL DECOLONIZATION TO PREVENT INTENSIVE CARE UNIT INFECTION: IMPLICATIONS OF THE REDUCE MRSA TRIAL[2]

PUBLISHED IN THE JOURNAL OF INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY

For a hospital with 1,000 annual admissions per year, we estimate that universal decolonization would prevent 9 additional BSIs and potentially save approximately $171,000 USD annually compared with screening and isolation. The majority of the estimated savings ($155,000 USD) are associated with expected reductions in BSIs.

$171,000
Saved in treatment costs

REFERENCES: 1. Huang SS, et al., Targeted versus Universal Decolonization to Prevent ICU Infection, N Engl J Med 2013; 368:2255-65.
2. Huang SS, et al., Cost savings of universal decolonization to prevent intensive care unit infection: implications of the REDUCE MRSA trial. Infect Control Hosp Epidemiol. 2014 Oct;35 Suppl 3:S23-31.

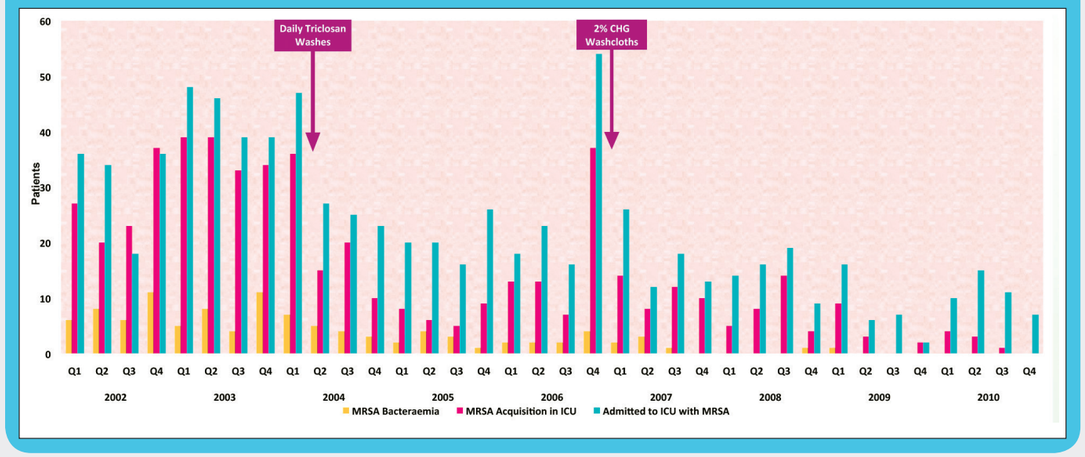
PROVEN RESULTS:

AGAINST MRSA, VRE & *ACINETOBACTER*

PRESENTED AT SCCM CRITICAL CARE CONFERENCE

- In a 9-year UK study, introduction of Antiseptic Body Cleansing Washcloths in 2007 has been associated with sustained reduction and near elimination of MRSA bacteraemia and additional reduction in MRSA acquisitions.[1]

PATIENTS WITH MRSA - 2002 THROUGH 2010



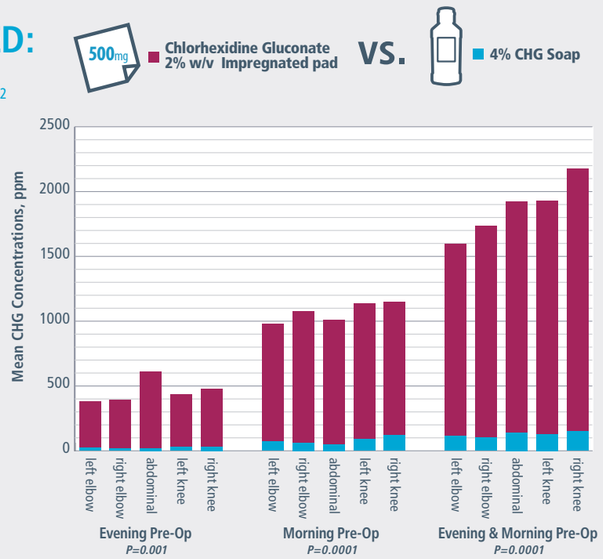
PREOPERATIVE SHOWER REVISITED:

CAN HIGH TOPICAL ANTISEPTIC LEVELS BE ACHIEVED ON THE SKIN SURFACE BEFORE SURGICAL ADMISSION?[2]

PUBLISHED IN THE JOURNAL OF AMERICAN COLLEGE OF SURGERY

Provides statistically significant, higher CHG concentrations on skin surfaces vs CHG soap

2% CHG Washcloths delivered significantly higher CHG skin concentrations, ranging from 90 to 364 times above MIC_{90} for skin staphylococcal isolates.[2]



REFERENCES: **1.** Wyncoll D, Shankar-Hari M, Beale R, Daily Bathing with 2% CHG Washcloths Leads to Almost Total Elimination of MRSA Bacteraemia. Poster presented at SCCM Critical Care Conference, 2011. **2.** Edmiston CE, et al., Preoperative Shower Revisited: Can High Topical Antiseptic Levels Be Achieved on the Skin Surface Before Surgical Admission?, J Am Coll Surg 2008;207:233-39.

PAEDIATRIC PATIENTS BENEFIT FROM BATHING WITH CHLORHEXIDINE GLUCONATE 2% w/v IMPREGNATED PADS

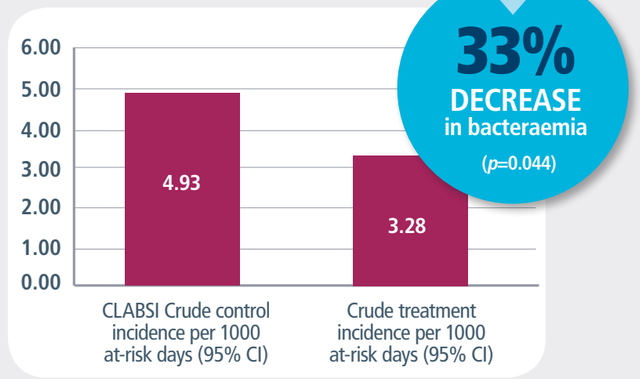
DAILY CHLORHEXIDINE BATHING TO REDUCE BACTERAEMIA IN CRITICALLY ILL CHILDREN: A MULTICENTER, CLUSTER-RANDOMISED, CROSSOVER TRIAL[1]

THE LANCET

METHODS:

- Unmasked, cluster-randomised, two-period crossover trial.
- Ten paediatric ICUs at 5 hospitals in the USA.
- Admitted patients older than 2 months were randomly assigned either standard bathing practices or a daily bathing routine using a cloth impregnated with 2% CHG for a 6-month period.
- Units switched to the alternative bathing method for a second 6-month period.

Primary outcome (bacteraemia)



CHLORHEXIDINE BATHING IN A TERTIARY CARE NEONATAL INTENSIVE CARE UNIT: IMPACT ON CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS[2]

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY

METHODS:

- A secondary data analysis of the HAI surveillance database at Montreal Children's Hospital was performed.
- Use a retrospective cohort design that included all infants with a central venous catheter admitted to MCH NICU between April 1, 2009, and March 31, 2013.
- Infants with a CVC were bathed with mild soap until March 31, 2012 and with a 2% CHG-impregnated cloth starting April 1, 2012.

RESULTS:

- CLABSI rates decreased during the intervention period for CHG-bathed neonates.
- There were no reported adverse events.

65%
DECREASE
in CLABSI

REFERENCES: **1.** Millstone AM, et al., Daily chlorhexidine bathing to reduce bacteraemia in critically ill children: a multicentre, cluster-randomised, crossover trial, The Lancet;381(9872):1099–1106. **2.** Quach C, et al., Chlorhexidine Bathing in a Tertiary Care Neonatal Intensive Care Unit: Impact on Central Line–Associated Bloodstream Infections, Infect Control Hosp Epidemiol 2014;35(2):158-63.

BATHING WITH CHLORHEXIDINE GLUCONATE 2% w/v IMPREGNATED PADS REDUCE SSI RISK

CHLORHEXIDINE REDUCES INFECTIONS IN KNEE ARTHOPLASTY[1]

JOURNAL OF KNEE SURGERY

METHODS:

- Records were reviewed over a 3-year period (2007-2010) to identify deep incisional and periprosthetic infections.
- 478 patients used CHG cloths.
- 1,735 patients did not use CHG cloths.

RESULTS:

- Patients using Chlorhexidine Gluconate 2% w/v Impregnated Pads the evening before and morning of surgery had fewer SSIs compared to patients undergoing in-hospital perioperative skin preparation only.

73% DECREASE in SSI (p=0.021)

PRE-ADMISSION CUTANEOUS CHLORHEXIDINE PREPARATION REDUCES SURGICAL SITE INFECTIONS IN TOTAL HIP ARTHOPLASTY[2]

JOURNAL OF ARTHOPLASTY

METHODS:

- Records of total hip arthoplasty patients were reviewed over a 3-year period (2007-2010) to determine the incidence of deep incisional and periprosthetic infections.
- 557 patients used CHG cloths.
- 1,901 patients did not use CHG cloths.

RESULTS:

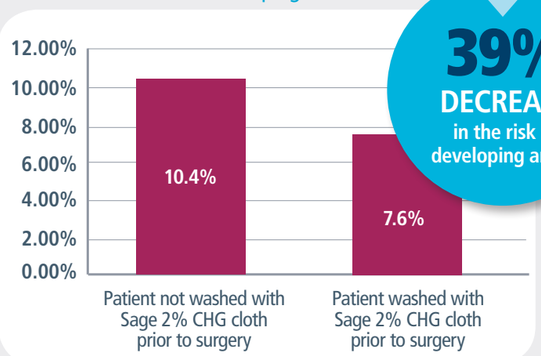
- The incidence of SSIs was significantly lower for patients using Chlorhexidine Gluconate 2% w/v Impregnated Pads protocol compared to the patients who received only in-hospital perioperative skin preparation.

71% DECREASE in SSI (p=0.0428)

HCAI TECHNOLOGY INNOVATION PROGRAMME SHOWCASE HOSPITALS REPORT NUMBER 9 SAGE 2% CHLORHEXIDINE GLUCONATE CLOTH[3]

- Sage 2% CHG cloths were used prior to caesarean section delivery (CSD) in seven NHS Showcase Hospitals for four months. The overall rate of Surgical Site Infections (SSIs) following CSD fell from 10.4% to 7.6% with use of the Sage 2% CHG cloths, a reduction in incidence of 27%.

Rates of infection with and without Chlorhexidine Gluconate 2% w/v Impregnated Pads



39% DECREASE in the risk of developing an SSI

REFERENCES: **1.** Johnson AJ, et al., Chlorhexidine Reduces Infections in Knee Arthroplasty, J Arthroplasty. 2013 Jun;26(3):213-8. **2.** Kapadia BH, et al., Pre-admission cutaneous chlorhexidine preparation reduces surgical site infections in total hip arthroplasty, J Arthroplasty. 2013 Mar;28(3):490-3. **3.** The Results: Using technology to help fight infection, Showcase Hospitals Technology Review report number 9 Sage 2% Chlorhexidine Gluconate (CHG) Cloth, NHS Department of Health, June 2012.

CHLORHEXIDINE GLUCONATE

2% w/v Impregnated Pad

Our skin-friendly CHG Impregnated Pads are easy to use and deliver a uniform dose of CHG to the skin. Fast-acting, broad-spectrum and alcohol-free, our 2% CHG stays on the skin to help prevent infection.

- Premoistened and ready to use right from the package. No additional supplies needed.
- 2% CHG solution requires no rinsing and stays on the skin for maximum antimicrobial persistence.
- Proven to rapidly reduce bacteria that can cause infection, including *E. Coli, P. aeruginosa, K. pneumoniae, K. oxytoca,* etc.[1] Provides a cumulative antiseptic effect with multiple applications.
- Easily enhances skin decolonization efforts for a wide range of immunocompromised patients.
- Helps reduce risk of transmitting pathogens from colonized patients to staff, other patients, visitors, and surrounding environment.
- Large, thick washcloths hold the maximum amount of CHG solution for consistent CHG coverage. Makes it easier to cleanse difficult-to-reach areas.

REFERENCE: **1.** Time Kill and MIC Testing conducted by an independent laboratory; data on file. 2. Filed under Antiseptic Body Cleansing Washcloths, Dept. of Health, 14 April 08, Updated July 10.