3M Science. Applied to Life.™

Unleash the power of nasal decolonization.

Helping to reduce the risk of infection for every patient, every time.

Infection is a critical and costly issue for every health care facility.

Surgical site infections (SSIs) and bloodstream infections (BSIs) are common and costly. *Staphylococcus aureus* causes more health care associated infections (HAIs) than any other pathogen.[1]

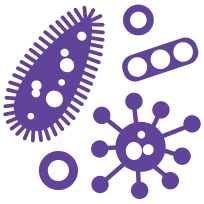
Nasal colonization can increase the risk of infection.

30%

of surgical patients are already colonized with *S. aureus*.[2]

80%

of SSIs and BSIs from *S. aureus* come from the patient's own nasal flora.[3,4,5,6]



Nasal carriers of *S. aureus* are up to

9x

more likely to develop an SSI.[4]

A single SSI can cost up to

$60K

per patient.[7]

CLABSI cases can cost

$45K

per incidence.[8]

Some SSIs and BSIs are preventable.

Treating every patient with the highest level of evidence-based practice has been shown to reduce the risk factors that can lead to infection.

1. Weiner LM, Webb AK, Limbago B, et al. Antimicrobial-Resistant Pathogens Associated with Healthcare-Associated Infections: Summary of Data Reported to the National Healthcare Safety Network at the Centers for Disease Control and Prevention, 2011-2014. *Infect Control Hosp Epidemiol.* 2016:37(11):1288-1301.
2. Kuehnert MJ, Kruszon-Moran D, Hill HA, et al. Prevalence of *Staphylococcus aureus* nasal colonization in the United States, 2001-2002. *J Infect Dis.* 2006;193(2):172-179.
3. Perl TM, Cullen JJ, Wenzel RP, et al. Intranasal mupirocin to prevent postoperative *Staphylococcus aureus* infections. *N Engl J Med.* 2002;346(24):1871-1877.
4. Kalmeijer MD, van Nieuwland-Bollen E, Bogaers-Hofman D, de Baere GA. Nasal carriage of *Staphylococcus aureus* is a major risk factor for surgical-site infections in orthopedic surgery. *Infect Control Hosp Epidemiol.* 2000;21(5):319-323.
5. Kluytmans JA, Mouton JW, Ijzerman EP, et al. Nasal carriage of *Staphylococcus aureus* as a major risk factor for wound infections after cardiac surgery. *J Infect Dis.* 1995;171(1):216-219.
6. Wertheim HF, Vos MC, Ott A, et al. Risk and outcome of nosocomial *Staphylococcus aureus* bacteraemia in nasal carriers versus non-carriers. *Lancet.* 2004;364(9435):703-705. doi:10.1016/S0140-6736(04)16897-9
7. Anderson DJ, Kaye KS, Chen LF, et al. Clinical and financial outcomes due to methicillin resistant *Staphylococcus aureus* surgical site infection: a multi-center matched outcomes study. *PLoS ONE.* 2009;4(12):e8305.
8. Zimlichman E, Henderson D, Tamir O, et al. Health care-associated infections: A meta-analysis of costs and financial impact on the US health care system. *JAMA Intern Med.* 2013;173(22):2039-2046.

Nasal decolonization: A key component of an infection prevention protocol.

A crucial part of reducing the risk of complications is following best practice guidelines of worldwide health organizations.

The Centers for Disease Control and Prevention (CDC)

CDC core strategies align with the use of an intranasal treatment to help reduce the risk of CLABSIs and SSIs.[9]

CDC recommendations for preventative care:

+

Mupirocin
Twice daily to each nare

OR

Iodophor
Two applications of nasal Iodophor (at least 5%) to each nare

CHG
Topical chlorhexidine gluconate (at least 2%)

Intranasal
Intranasal antistaphylococcal antibiotic/antiseptic

CDC strategies do not support the use of alcohol-based nasal sanitizers.

9. Centers for Disease Control. Strategies to Prevent Hospital-onset *Staphylococcus aureus* Bloodstream Infections in Acute Care Facilities. https://www.cdc.gov/hai/prevent/staph-prevention-strategies.html Accessed October 7, 2019.

CDC guidelines recommend the following prevention practices[9]:

Patient Type	Intensive Care Unit (core strategy) Use CHG + Intranasal Prep	Non-Intensive Care Unit (supplemental strategy) Use CHG + Intranasal Prep
CLABSI		
CVC or Midline Catheter Present	Topical chlorhexidine gluconate (at least 2%) + Intranasal antistaphylococcal antibiotic/ antiseptic (e.g. mupirocin or iodophor) (core strategy)	Topical chlorhexidine gluconate (at least 2%) + Intranasal antistaphylococcal antibiotic/ antiseptic (e.g. mupirocin or iodophor) (supplemental strategy)
No CVC or Midline Catheter Present	Topical chlorhexidine gluconate (at least 2%) + Intranasal antistaphylococcal antibiotic/ antiseptic (e.g. mupirocin or iodophor) (core strategy)	None (note that source control strategies may apply to pre-operative surgical patients outside the intensive care unit – see section 1 on SSI prevention)
SSI		
Surgical site infection (SSI) prevention practices	Specifically, for all patients undergoing high risk surgeries (e.g. cardiothoracic, orthopedic, and neurosurgery), unless known to be *S. aureus* negative, use an intranasal antistaphylococcal antibiotic/antiseptic (e.g. mupirocin or iodophor) and chlorhexidine wash or wipes prior to surgery (core strategy)*	

***Facilities can choose to apply the selected pre-operative source control regimen universally to all patients or can screen patients undergoing a high-risk surgery with a test that detects both MSSA and MRSA and provide the decolonization regimen only to those from whom *S. aureus* is identified.**

In alignment with the CDC, AORN updated their guidelines to include consideration of nasal decolonization to decrease SSI risk for high-risk procedures and patients.[10]

The shift to universal decolonization.

Published evidence recommends adopting a comprehensive nasal decolonization protocol outside the OR. Before COVID-19, pre-op nasal decolonization was reserved for high risk patients. Today the protocol is recommended for every patient.[11,12]

Following the evidence-based strategies of health organizations can have a positive impact on patient outcomes.

Protocol Before COVID-19

Recommended Protocol Today[11,12]

10. AORN 2021 Guidelines for Perioperative Practice. Denver, Colorado: AORN, Inc. eGuidelines update May 13, 2021.
11. Loftus RW, Dexter F, Goodheart MJ, et al. The Effect of Improving Basic Preventive Measures in the Perioperative Arena on *Staphylococcus aureus* Transmission and Surgical Site Infections: A Randomized Clinical Trial. *JAMA Netw Open.* 2020;3(3):e201934. doi:10.1001/jamanetworkopen.2020.1934
12. Dexter F, Parra MC, Brown JR, Loftus RW. Perioperative COVID-19 Defense: An Evidence-Based Approach for Optimization of Infection Control and Operating Room Management. *Anesth Analg.* 2020;131(1):37-42. doi:10.1213/ANE.0000000000004829

THE SOLUTION

A trusted solution for patient safety.

3M™ Skin and Nasal Antiseptic has been shown to help reduce the risk of surgical site infection when part of a comprehensive preoperative protocol.[13]

99.5%

Reduces nasal bacteria, including *S. aureus* by 99.5%, in one hour[14]

1x 12hr

One-time application provides persistent antiseptic activity for at least 12 hours[14]

Clinician application helps control compliance rather than a patient 5-day 2X/day dose[15]

Supports antibiotic stewardship

SAFE

Safe for repetitive use*

*Repetitive use: 2x a day, 5 days on, 5 days off, for up to 3 months.[16]

Film-forming Polymer for Persistence

Unique film-forming technology created with 3M science.

The normal pH of the nose (5.5–6.5) can reduce iodine to inactive iodide. The buffer in 3M™ Skin and Nasal Antiseptic is formulated to maintain a pH less than 4.5 to preserve the active iodine.[17]

2 mo.

Safe for use on infants.

3M™ Skin and Nasal Antiseptic is safe for use on patients as young as 2 months of age.[18]

Cost effective.

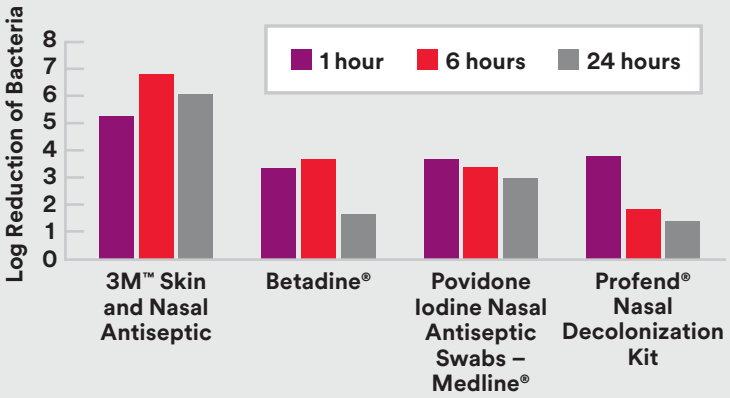
A randomized study compared deep SSIs within 90 days of surgery in patients who received 3M™ Skin and Nasal Antiseptic and those who received mupirocin.

Patients who received 3M™ Skin and Nasal Antiseptic had a lower overall rate of infection. 3M™ Skin and Nasal Antiseptic is considered a better value as defined by the quality of outcomes divided by cost.[13]

Shown to be more effective.

An ex vivo study compared different antiseptic treatments.

3M™ Skin and Nasal Antiseptic showed significantly more persistent antiseptic activity against MRSA at every interval compared to 10% Betadine®, Povidone Iodine Nasal Antiseptic Swabs – Medline®, or Profend® Nasal Decolonization Kit.[19]



13. Phillips M, Rosenberg A, Shopsin B, et al. Preventing surgical site infections: A randomized, open-label trial of nasal mupirocin ointment and nasal povidone-iodine solution. *Infect Control Hosp Epidemiol.* 2014;35(7):826-832.
14. 3M Study-05-011100.
15. Urias DS, Varghese M, Simunich T, Morrissey S, Dumire R. Preoperative decolonization to reduce infections in urgent lower extremity repairs. *Eur J of Trauma Emerg Surg.* 2018:44(5):787-793. doi:10.1007/s00068-017-0896-1
16. Miller LG, McKinnell JA, Singh R, et al. Reduction of MDRO colonization in nursing home residents with routine use of chlorhexidine bathing and nasal iodophor (Project PROTECT). Presented at IDWeek 2016, New Orleans, LA, October 2016.
17. 3M data on file: EM-05-011017.
18. 3M data on file: EM-05-159073.
19. 3M data on file.

Clinical evidence supporting the practice of decolonization.

Your decision to help protect patients with a nasal decolonization protocol is backed by a full portfolio of clinical evidence. Studies show both the clinical and economic success associated with using 3M™ Skin and Nasal Antiseptic as part of a comprehensive perioperative bundle.

Inside the evidence:

The performance of 3M™ Skin and Nasal Antiseptic is backed by

20+ Studies

(As of July 2021)

Featured Study

Preventing surgical site infections: A randomized, open-label trial of nasal mupirocin ointment and nasal povidone-iodine solution.

Phillips M, Rosenberg A, Shopsin B, et al. *Infect Control Hosp Epidemiol.* 2014;35(7):826-832.

Design:

Investigator initiated, prospective, randomized, controlled, open-label trial comparing deep surgical site infection (SSI) within 90 days after arthroplasty or spine fusion surgery.

Methods:

All patients were provided 2% CHG cloths for use the evening prior to and the morning of surgery.

Randomized to either:

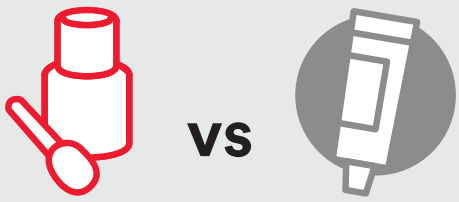
- 3M™ Skin and Nasal Antiseptic (PI group), 1 dose given in the pre-operative hold area within 2 hours of incision.
- Bactroban® nasal ointment (antibiotic group), twice daily for the 5 days prior to surgery.

Results:

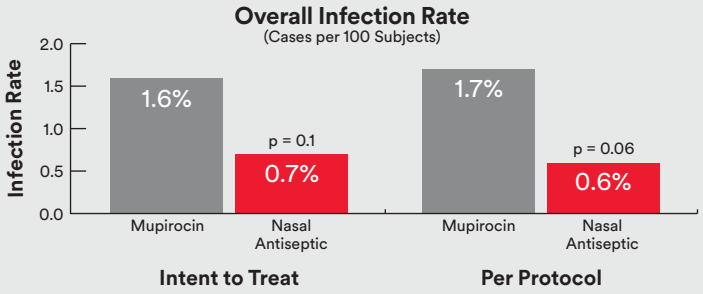
1,697 patients were included in the intent-to-treat analysis and 1,539 in the per-protocol. Patients in the 3M™ Skin and Nasal Antiseptic group reported significantly fewer treatment-related adverse events (1.8% vs 8.9%, $p < 0.05$) than the mupirocin with CHG cloths group. Efficacy results are provided in the graphs.

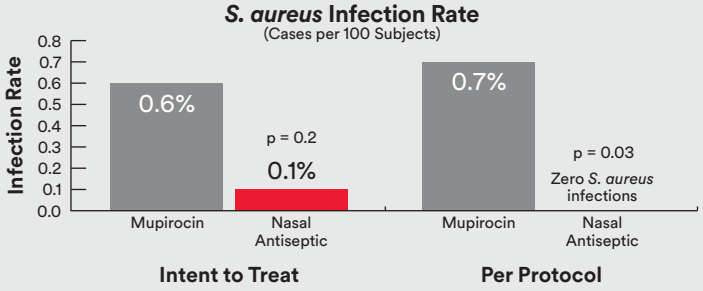
Compared to Mupirocin, 3M™ Skin and Nasal Antiseptic provides more value.*

*Defined as quality of outcomes divided by cost.



3M™ Skin and Nasal Antiseptic **Mupirocin**





Featured Study

The Effect of Improving Basic Preventive Measures in the Perioperative Arena on *Staphylococcus aureus* Transmission and Surgical Site Infections: A Randomized Clinical Trial.

Loftus RW, Dexter F, Goodheart MJ, et al. *JAMA Netw Open.* 2020;3(3):e201934. doi:10.1001/jamanetworkopen.2020.1934

Design:

Investigator-initiated randomized, prospective clinical trial in plastic, orthopedics, and general abdominal surgeries.

Methods:

Surgeons and their associated patients were randomized 1:1 via a random number generator to treatment group (Infection Prevention (IP) Bundle) or to usual care group.

Usual Care Group consisted of:

- Hand hygiene
- Isopropyl alcohol (IPA) pads used to disinfect IV ports, top-down cleaning of anesthesia machine and equipment
- Patient decolonization which included 1 of 3 procedures, as follows:
  - Nasal mupirocin ointment and chlorhexidine wipes for 5 days, including the morning of surgery.
  - No decolonization protocol.
  - Chlorhexidine wipes the day before and morning of surgery.

Infection Prevention (IP) Bundle Group consisted of:

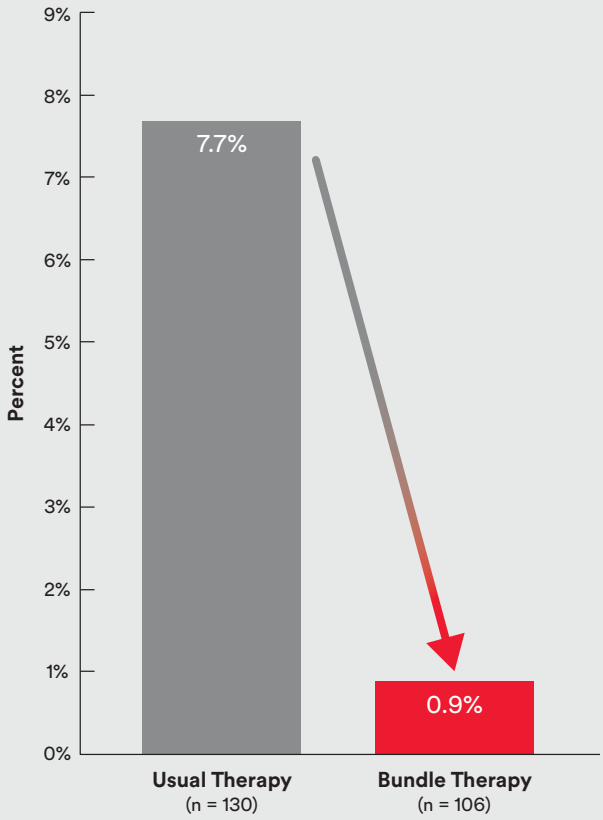
- Sustained improvements in perioperative hand hygiene, vascular care, environmental cleaning, and patient decolonization efforts with the addition of:
  - Organization of the anesthesia work area — separated clean items from contaminated items.
  - Frequency and quality of environmental cleaning improvements.
  - Intravascular catheter and syringe tip disinfection.
  - Patient decolonization with nasal povidone iodine — 5% nasal povidone iodine used as directed on the morning of surgery in same-day holding before OR entry. It was also used after induction of anesthesia and patient stabilization in the OR.
  - Targeted UV-C light therapy to OR environments exposed to *S. aureus* transmission within the prior 2 weeks. Surveillance was used for the detection process.

Results:

Basic preventative measures, which included patient decolonization with 5% nasal povidone iodine, were associated with reduced perioperative *Staphylococcus aureus* transmission and surgical site infection.

A practice that follows CDC recommendations and includes a comprehensive preoperative bundle focused on patient decolonization, which includes 3M™ Skin and Nasal Antiseptic, demonstrated reductions in the risk of SSI.

Percent of Patients with SSI Following Usual or Bundle Therapy Protocols



Significantly less SSIs occurred in the infection prevention bundle group (P = 0.04). The results from 236 patients (106 treatment – IP bundle, and 130 control – usual care) concluded that: IP bundle group had a statistically significant reduced mean number of transmitted perioperative *S. aureus* isolates compared to the usual care group. Overall, 10 patients experienced a surgical site infection in the usual care group whereas 1 patient had a surgical site infection in the IP bundle group.

Every patient. Every time.

Practice universal decolonization inside and outside the OR. Make 3M™ Skin and Nasal antiseptic part of the entire perioperative journey to help reduce bacteria on the patient's skin, a potential risk factor of SSIs and BSIs. A simple, one-time application in the nares helps support antibiotic stewardship while adding another layer of protection for patients.[13]

3M Peak™ Clinical Outcomes Program

Identify.
Learn.
Improve.
Maintain.

Your partner in the fight against infection.

The 3M™ Peak™ Clinical Outcomes Program can help you maximize the benefits of a new nasal decolonization protocol at your facility. Request an assessment program with 3M's Clinical Specialists to analyze current practices and provide recommendations tailored for your facility.

The Peak Program difference:

Education and training combined with effective and proven technology.

Implement improved protocols and keep them up with support each step of the way.

Visit **3M.com/Peak/Decolonization** or contact your 3M Account Manager today.

Ordering Information

Catalog No.	Description	Pouch Contents	Pouches/ Box	Boxes/ Case
192401	3M™ Skin and Nasal Antiseptic (Povidone-Iodine Solution 5% w/w [0.5% available iodine] USP) Patient Preoperative Skin Preparation	1 Bottle 0.14 fl oz (4mL), 4 Sterile Swabs	12	4

REQUEST A SAMPLE!

Visit go.3M.com/SkinandNasal or call 1-800-228-3957

3M Company
2510 Conway Avenue
St. Paul, MN 55144 USA

Phone 1-800-228-3957
Web 3M.com/Medical

US_70-2013-1194-4