

BioPatch® Protective Disk with CHG – the evidence-based choice.



The **ONLY** protective disk **PROVEN** to reduce the incidence of CRBSIs, local infections and skin colonisation in patients with central venous and arterial catheters¹



BIOPATCH®
Protective Disk with CHG

1. Maki DG, Mermel L, Gentner D, Hua S, Chiacchierini RP. An evaluation of BioPatch® Antimicrobial Dressing compared to routine standard of care in the prevention of catheter-related bloodstream infection. Johnson & Johnson Wound Management, a division of ETHICON, INC. 2000. Data on file

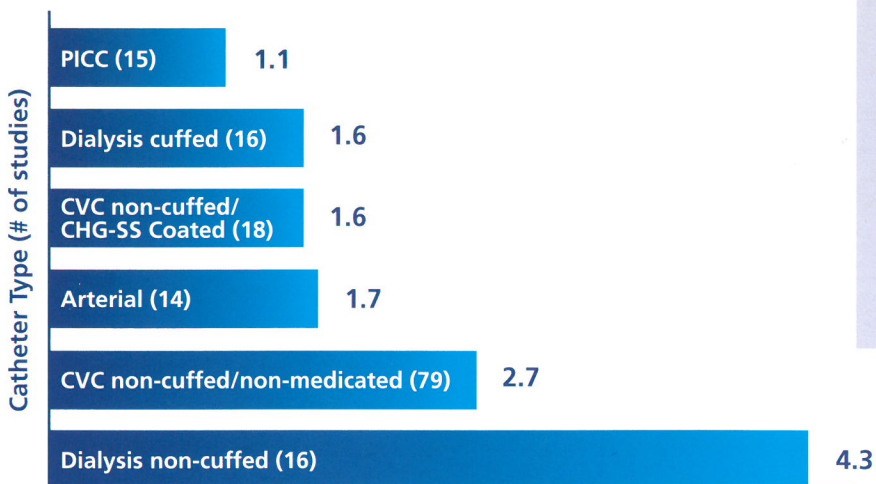
lives are on the line...

CRBSIs...The Scope

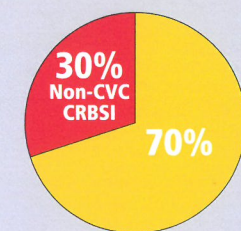
Catheter-related bloodstream infections (CRBSIs) are a hospital-wide challenge

Main catheters at risk

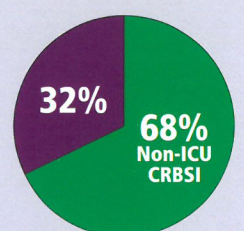
CRBSI Per 1,000 Catheter Days¹



CRBS are a hospital wide challenge



Annual Bloodstream Infections
(n=357,000)²



Annual Central Venous CRBSIs
(n=250,000)²

Recognising the problem

- It is estimated that at least 80% of nosocomial bloodstream infections occur as a consequence of intravascular catheterisation^{3,4,5}
- On average, 3.0% of patients spending more than two days in the ICU will develop a bloodstream infection (mean cumulative incidence 3.2%; median 2.4%). More than half (56%) were found to be catheter related⁶

Patient impact

- Patients who develop CRBSIs are at significant risk of developing complications such as septic thrombosis and infective endocarditis, and mortality is increased⁷
- The mortality rate of bloodstream infections is reported to be 19.0%⁸

Hospital impact

- Evidence suggests that patients with an infection will spend on average an additional 10 days in hospital⁹
- Infection can cost a trust an extra £4,000–£10,000 per patient⁹

CRBSI can be avoided

- It is estimated that at least 20% of all hospital-acquired infections could be preventable, and that the intervention associated with the single greatest potential gain is reduction of bloodstream infections with central venous catheters¹⁰

1 Maki DG, Kluger DM, Crnich CJ. The risk of bloodstream infection in adults with different intravascular devices: a systematic review of 200 published prospective studies. *Mayo Clin Proc* 2006; 81:1159-1171

2 O'Grady NP, Alexander M, Dellinger EP, et al. Guidelines for the prevention of intravascular catheter-related infections. *Centers for Disease Control and Prevention. MMWR Recomm Rep*. 2002 Aug 9;51(RR-10):1-29.

3 Vincent JL. Nosocomial infections in adult intensive-care units. *Lancet* 2003; 361: 2068-2077

4 Eggimann P, Sax H, Pittet D. Catheter-related infections. *Microbes and Infection* 2004; 6: 1033-1042

5 Tacconelli E, Smith G, Hieke K, et al. Epidemiology, medical outcomes and costs of catheter-related bloodstream infections in intensive care units of four European countries: literature- and registry-based estimates. *Journal of Hospital Infection* 2009; 72: 97-103

6 European Centre for Disease Prevention and Control. Annual epidemiological report on communicable diseases in Europe 2009. Stockholm, European Centre for Disease Prevention and Control.

7 Mermel LA, Farr BM, Sherertz RJ, et al. Guidelines for the management of intravascular catheter-related infections. *Clin Infect Dis* 2001; 32 (9): 1249-1272

8 Bouza E et al. Report of ESGNI-001 and ESGNI-002 studies. Bloodstream infections in Europe. *Clin Microbial Infect* 1999; 5: p251-2512.

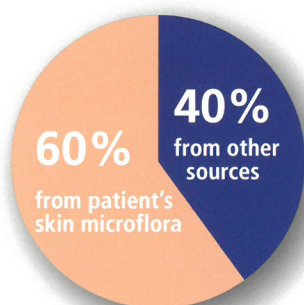
9 Clean, Safe Care: Reducing Infections and Saving Lives. Department of Health 09 Jan 2008

10 Harbarth S, Sax H, Gastmeier P. The preventable proportion of nosocomial infections: an overview of published reports. *Journal of Hospital Infection* 2003; 54: 258-266

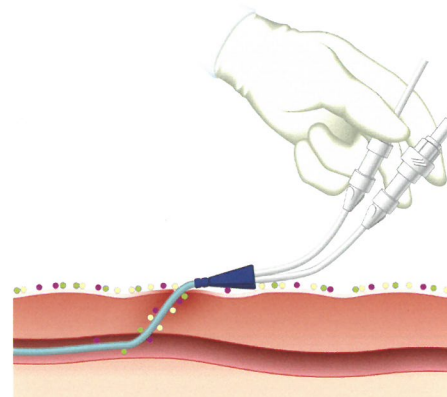
11 Shapiro JM, Bond EL, Garman JK. Use of a chlorhexidine dressing to reduce microbial colonization of epidural catheters. *Anesthesiology*. 1990 Oct;73(4):625-31

The Problem

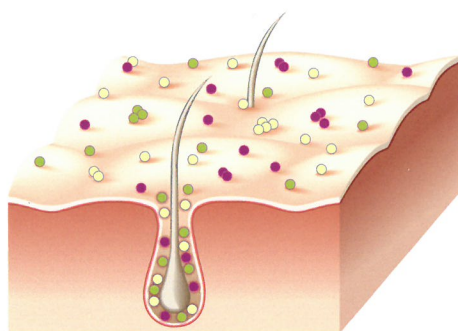
Prepping the skin is not enough¹ -
60% of CRBSI originate from the patient's own skin²



Without continual suppression, bacteria on the skin surface can **REPOPULATE** and migrate into the bloodstream, elevating the risk of CRBSI.

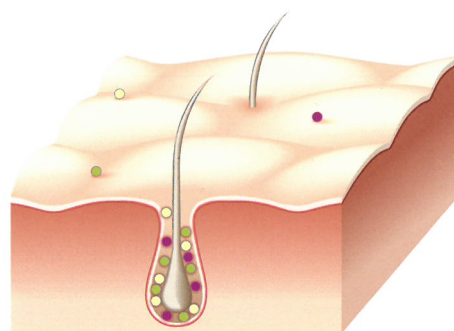


Within hours of thorough antiseptic application, resident bacteria quickly re-colonise the skin surface¹



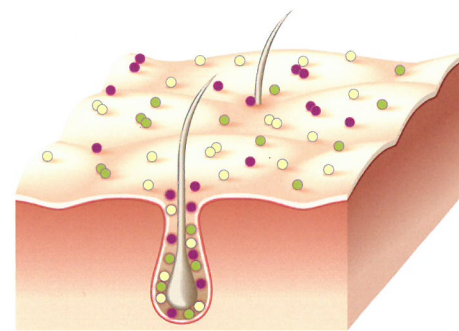
Pre-Prep

Bacteria colonies exist not only on the surface, but below the surface as well, particularly within the hair follicles and sebaceous glands.



Post-Prep (immediately following antiseptic application)

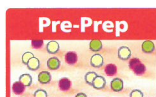
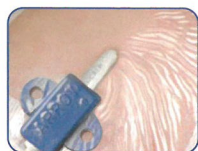
Prepping the skin reduces colony counts of bacteria from the surface only - it never completely disinfects the skin.



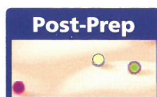
Post-Prep (within 1-2 days following antiseptic application)

Resident bacteria begin to re-colonise the skin surface.

Patients need to be protected from their own skin's microflora



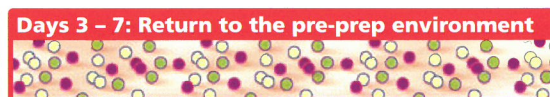
Pre-Prep



Post-Prep



Day 1 - Day 2

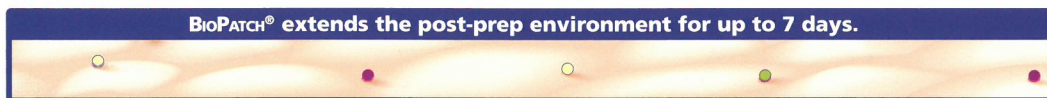


Days 3 - 7: Return to the pre-prep environment

Without BioPATCH® Protective Disk with CHG, the skin surface quickly returns to the pre-prep environment³



Pre-Prep



BioPATCH® extends the post-prep environment for up to 7 days.

With BioPATCH® Disk, post-prep environment extends for up to 7 days³

Patient Risk of Infection: ■ Low ■ Medium ■ High

1. Hendley JO, Ashe KM. Effect of topical antimicrobial treatment on aerobic bacteria in the stratum corneum of human skin. *Antimicrobial Agents and Chemotherapy*. April 1991;35(4):627-631

2. Safdar N, Maki DG. The pathogenesis of catheter-related bloodstream infection with noncuffed short-term central venous catheters. *Intensive Care Med*. 2004;30:62-67

3. Bhende MS, Rothenburger S. In vitro antimicrobial effectiveness of 5 catheter insertion-site dressings. *The Journal of the Association for Vascular Access*. 2007; 12(4):227-231

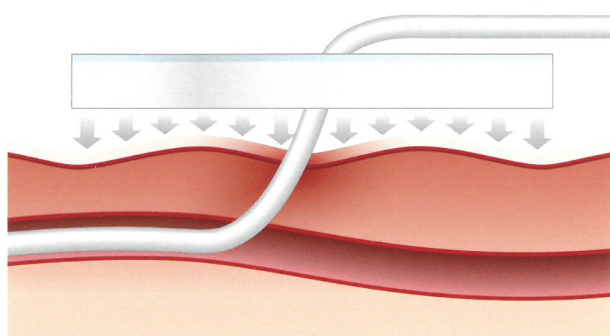
lives are on the line, trust the EVID

The Solution

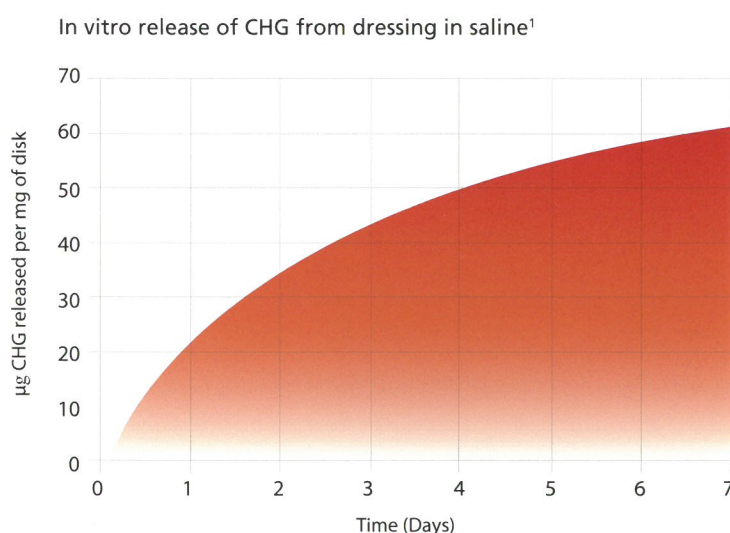
BioPATCH® delivers the right dose of CHG -
Through its proprietary delivery technology, BioPATCH®
provides proven sustained antimicrobial action over 7 days

Extended release technology ensures CHG is delivered continuously for up to 7 days¹

- Standard CHG skin preparations have not shown more than 48 hours of antimicrobial activity²
- BioPATCH® maintains skin antisepsis^{1,3}
- Suppresses regrowth of skin flora^{1,3}



The graph to the right is an 'invitro loss of CHG foam dressing Saline. Sample transferred daily to fresh solvent. Samples run in triplicate.



BioPATCH® continuously delivers CHG over 7 days to maintain skin antisepsis¹

- Specifically engineered urethane composite material is designed to continuously release CHG – not duplicated by other dressings
- Biopolymer (cellulose based) proprietary delivery matrix for Chlorhexidine Gluconate (CHG)
- Ability to bind to certain skin proteins provides cumulative and residual antimicrobial action

Unique sponge matrix is not duplicated by any other dressing

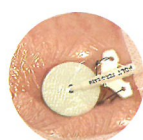
- Hydrophilic polyurethane foam absorbs 8 times its own weight in fluids
- The presence of moisture in the patient's skin initiates the quick release of CHG to maintain the post-prep environment and ongoing skin antisepsis
- Easy to apply
- Nylon reinforced urethane film stays intact

360° of CHG protection around the catheter site

- Conforms well to skin, providing 360° protection between dressing changes
- Ability to see site has been shown to be an unreliable predictor of CRBSIs



Use with both vascular and nonvascular percutaneous devices



PICC Lines



Central Venous Catheters



Dialysis Catheters



Arterial Catheters



Epidural Catheters



Implanted Venous Ports



External Fixator Pins



Mid Lines

¹ Shapiro JM, Bond EL, Garman JK. Use of a chlorhexidine dressing to reduce microbial colonization of epidural catheters. *Anesthesiology*. 1990 Oct;73(4):625-31

² Block S. et al. *Disinfection, Sterilization, and Preservation*. Ed. Lippincott Williams & Williams; 2001; 5th edition.

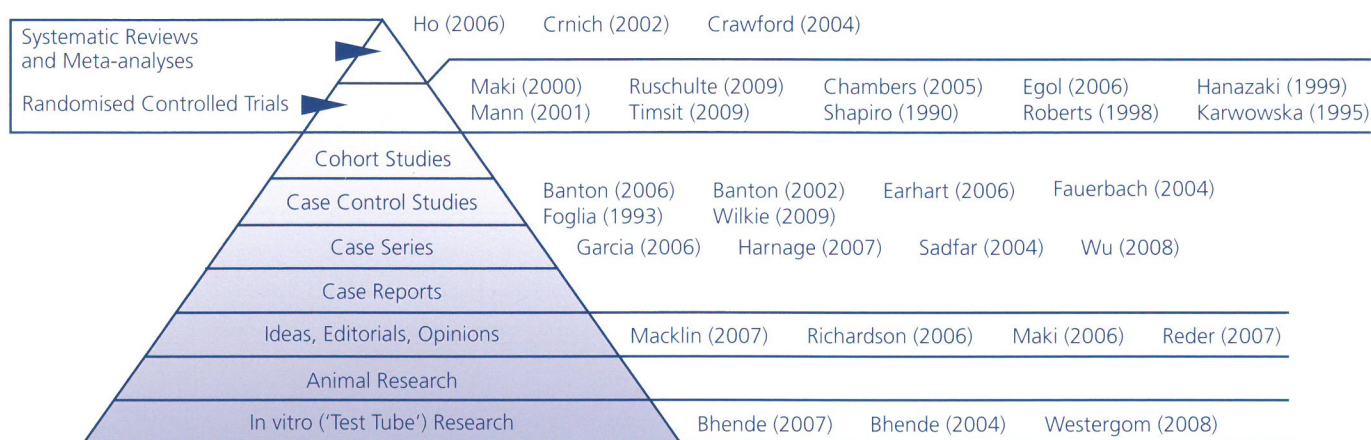
³ Safdar N, Maki DG. Inflammation at the insertion site is not predictive of catheter-related bloodstream infection with short-term noncuffed central venous catheters. *Crit Care Med*. 2002; 30:2632-2635

The Evidence

BioPATCH® is clinically proven to reduce the incidence of CRBSIs in patients with central catheters - The only antimicrobial dressing with rigorous clinical trial evidence¹⁻⁹

The efficiency of BioPATCH® has been demonstrated in randomised clinical trials consisting of over 4,500 adult patients¹⁻⁹

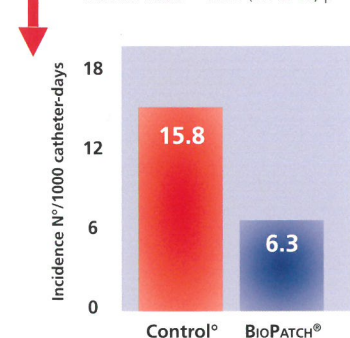
Figure 4. Evidence base supporting BioPATCH®



Relative reduction in the risk of catheter-related infections and catheter colonisation with BioPATCH® vs. standard dressing¹

Catheter colonisation >10 CFUs/plate¹

64% decrease in the risk of catheter colonisation
Hazard Ratio = 0.36 (95% CI, p = <0.001)

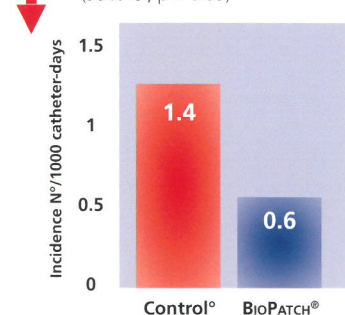


- The use of BioPATCH® resulted in a statistically significant lower rate of catheter colonisation versus control.

^otransparent film dressing alone

Major CRIs¹

61% decrease in the risk of major catheter related infections¹¹ Hazard Ratio = 0.39 (95% CI, p = 0.03)



- BioPATCH® decreased the risk of major CRI by 61% in ICU patients, despite starting at a low baseline rate.

^otransparent film dressing alone

The **CDC Guidelines for the Prevention of Intravascular Catheter - Associated Infections** indicate that the use of a sponge dressing that contains an antimicrobial agent known as chlorhexidine gluconate (CHG) is strongly recommended to reduce the risk of central line associated bloodstream infections (CLABSI).

The **ONLY** device of its kind with the FDA-cleared indication to reduce local infections, catheter-related bloodstream infections, and skin colonization of microorganisms commonly related to CRBSI, in patients with central venous or arterial catheters.⁵

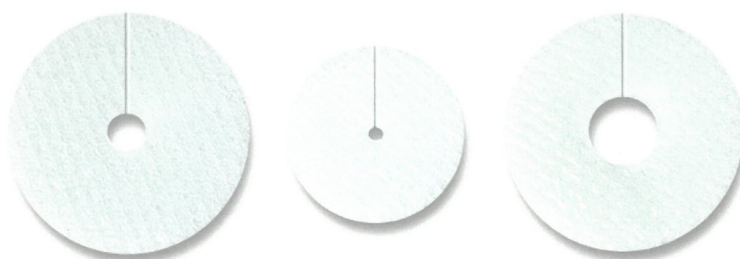
1. Timsit JF et al. Chlorhexidine-impregnated sponges and less frequent dressing changes for prevention of catheter-related infections in critically ill adults: a randomised controlled trial. JAMA 2009; 301 (12): p1231-1241.
2. Ruschulte H et al. Prevention of central venous catheter related infections with chlorhexidine gluconate impregnated wound dressing: a randomised controlled trial. Ann Hematol 2009; 88 (3): p267-272.
3. Chambers ST et al. Reduction of exit-site infections of tunneled intravascular catheters among neutropenic patients by sustained-release chlorhexidine dressings: results from a prospective randomised controlled trial. J Hosp Infect 2005; 61 (1): p53-61.
4. Mann TJ et al. The effect of the BioPATCH®, a chlorhexidine impregnated dressing, on bacterial colonisation of epidural catheter exit sites. Anaesth Intensive Care 2001; 29 (6): p600-603.
5. Maki DG et al. The efficacy of a chlorhexidine impregnated sponge (BioPATCH®) for the prevention of intravascular catheter-related infection- a prospective randomised controlled multicenter study. Abstract presented at the Interscience Conference on Antimicrobial Agents and Chemotherapy, 2000; September 17-20; Toronto, Ontario, Canada.
6. BioPATCH® Instructions for Use (USA), August 2009.
7. Hanazaki K et al. Chlorhexidine dressing for reduction in microbial colonisation of the skin with central venous catheters: a prospective randomised controlled trial. J Hosp Infect 1999; 42 (2): p165-168.
8. Roberts B, Cheung D. BioPATCH®-a new concept in antimicrobial dressings for invasive devices. Aust Crit Care.
9. Shapiro JM et al. Use of a chlorhexidine dressing to reduce microbial colonisation of epidural catheters. Anesthesiology 1990; 73 (4): p625-631.
10. Maki DG, Mermel L, Gentner D, Hua S, Chiachierini RP. An evaluation of BioPATCH® Antimicrobial Dressing compared to routine standard of care in the prevention of catheter-related bloodstream infection. Johnson & Johnson Wound Management, a division of ETHICON, INC. 2000. Data on file.
11. Major catheter-related infections were defined as catheter-related sepsis with or without bloodstream infections.

Ordering BioPATCH®

Ordering BioPATCH®

The **ONLY** one of its kind **PROVEN** to reduce CRBSIs 60%¹

- Engineered for continuous Protection – up to 7 days
- Powerful protection that could reduce deaths attributable to CRBSIs
- 15 years of clinical experience



ORDER CODE	3150	3151	3152
SIZE	4mm hole.	1.5mm hole.	7mm hole.
FRENCH SIZE RANGE	6-12 Fr	<6 Fr	13-20 Fr
AVERAGE AMOUNT OF CHG PER DRESSING	92 mg	52.5 mg	86.8 mg
DIFFERENT LINES/ CATHETERS	PICC Lines CVC Lines Hickman Lines Haemodialysis Lines Tessio Lines Orthopaedic External Fixator Pins	PICC Lines Orthopaedic External Fixator Pins Epidural Catheters Arterial Lines Implanted Venous Ports Venous ports	Haemodialysis Lines Vas Catheters Small Bore Chest Drains

To place an order

TEL: 0800 864060

FAX: 01344 864122

EMAIL: contact@medgb.jnj.com

For further product information

TEL: 0800 783 9189

EMAIL: biopatch@medgb.jnj.com

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