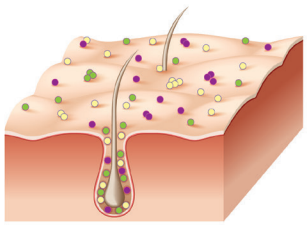
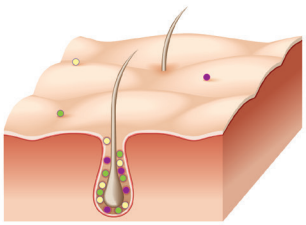
When the Skin is the Source, Every Line Matters



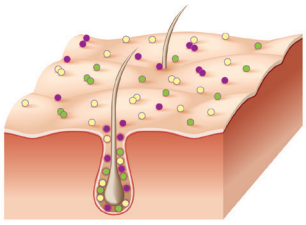
Pre-Prep

Bacteria colonies exist not only on the surface, but below the surface as well, particularly within the hair follicles and sebaceous glands.[1]



Post-Prep (immediately following antiseptic application)

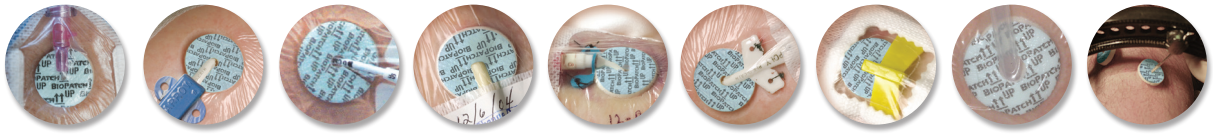
Prepping the skin reduces colony counts of bacteria from the surface only — it never completely disinfects the skin.[1]



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

Resident bacteria begin to re-colonize the skin surface.[1]

The skin is the main source of bacteria that cause infection.[2]



Peripheral IVs | Central Venous Catheters | PICC Lines | Dialysis Catheters | Arterial Catheters | Mid Lines | Implanted Venous Ports | Drains | External Fixator Pins

Sample 400 Bed Hospital

	Number of Patients Annually with Device	Infection Rate	Number of Patients Impacted by BSI	$ Impact with Infections
CVC	3,078	1.6	49	$1,678,740
PIV	19,771	0.5	36	$1,100,160

* Data based on an average 400 bed hospital factoring in dwell times, infection rate and line days based on current literature. Cost per CVC infection is $34,360. Cost per PIV infection is $30,560. For example, CVCs was calculated as 3078 patients admitted with an average 10 day catheter dwell time and infection rate of 1.6/1000 line days = 49 infections. 49 infections multiplied by cost per infection of $34,260 = $1,678,740[3,4]

CMS now requires reporting of facility wide MRSA events for all central and non-central vascular access devices[5]

2016 INS Standards of Practice[6]

Vascular Access Device Management

- Remove short peripheral and midline catheters in pediatric and adult patients when clinically indicated

Dressing Changes

- Perform dressing changes on PIVs if the dressing is damp, loose, visibly soiled and at least every 5 to 7 days

Use of Chlorhexidine-Impregnated Dressings

- Consider use of chlorhexidine-impregnated dressings with peripheral arterial catheters as an infection reduction intervention

Quality Improvement

- Evaluate PIVs regularly for infiltration, phlebitis, and/or bloodstream infection through incidence, point prevalence, reports from electronic records
- Consider monitoring bloodstream infection rates for PIVs regularly

"There is no risk-free line and vigilance is required with any vascular device placement." *Kovacs[7]*

Clinical Evidence

PIV Studies	Takeaways	PIV BSI/ PLABSI	Clinically Indicated	PIV Bundle with BIOPATCH Disk	Cost Impact of Clinically Indicated PIV Replacement	Improved Patient Experience
Pujol 2007[8]	- BSI rates associated with PIVs were at least as frequent as CVC-BSIs underscoring the need to introduce prospective surveillance programs to detect these problems - 52% of the CRBSIs (77/150 cases) were PIV-BSIs - *Staphylococcus aureus* more prevalent as pathogen in PIV vs CVC (53% vs 33%)	X				
Sato 2015[9]	- PLABSI is a major health care-associated infection - Causative pathogen was *S. aureus* in 15.8% of cases, coagulase-negative *Staphylococcus* in 31.6% of cases - Results indicate the possible underdiagnosis of PLABSI and demonstrate the potential for severe complications	X	X			
Kovacs 2016[9]	- Clear evidence exists that PIVs and midline catheters are linked to nosocomial bacteremia - Next steps include a critical look at routine PIV care and attention to best practices to prevent these types of non-device-related infections, a logical extension of CVC insertion and maintenance bundles	X				
Rickard 2012, 2013[10,11]	- Clinically indicated replacement may substantially reduce the number of catheter insertions, staff workloads, costs and patient discomfort - Chlorhexidine-impregnated dressings and bundles of care are suggested strategies to help prevent PIV-related infections	X	X	X	X	X
DeVries 2015, 2016[12,13]	- BIOPATCH® Protective Disk with CHG was also added for protection of the lines as an evidence based product with a 7-day CHG release profile and 360 degree coverage around the insertion site as part of their bundle - Hospitals realized a 37% reduction in house-wide laboratory confirmed bloodstream infections, a 19% reduction in peripheral IV related BSIs, a 48% reduction in PIV kit usage and have also recognized 68% fewer CLABSIs than predicted via NHSN - Change has also improved nursing efficiency, patient experience overall and enhanced performance in alignment with the Affordable Care Act	X	X	X	X	X
Bamel 2016[14]	- Extending PIV dwell time can lead to cost savings relating to PIVs for organizations, demonstrates a commitment to evidence-based practice, in line with ACA's VBP Program: improving quality of care, patient experience and efficiency of care	X	X	X	X	X
Valentine 2016[15]	- Any BSI, from a central line or PIV, endangers the patient's life, is costly to treat and can expose the hospital to financial penalties - PIVs resemble CVCs—invasive devices through which life-threatening bacteria can penetrate the bloodstream; infected patients have a 12% to 25% chance of dying from the infection - A hospital is likely to have nearly as many BSIs associated with PIV lines as with central lines - An infection reported as a CLABSI per the CDC definition may have originated from a PIV—21% of the HA-lab confirmed BSIs occurred in patients with PIVs only, 47% of BSIs that met federal definition of CL-associated were in patients with multiple lines, most having at least 1 PIV - The solution to minimize BSI risk for patients with PIVs was to implement a better bundle of preventive practices and devices that approximate those used for central lines, including using BIOPATCH Disk on the PIVs - The hospitals' insertion kits include a BIOPATCH Disk to safeguard insertion sites.	X	X	X	X	X

For complete indications, contraindications, warnings, precautions, and adverse reactions, please reference full package insert.

BIOPATCH® is intended for use as a hydrophilic wound dressing that is used to absorb exudate and to cover a wound caused by both vascular and non-vascular percutaneous devices.

References

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