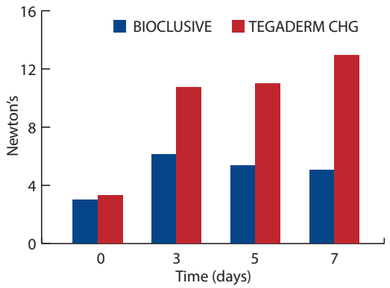
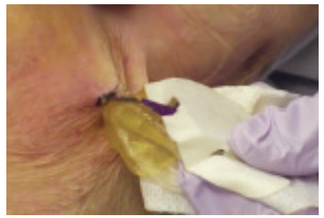
Difficulty of Removal



A comparison of the force to remove Tegaderm™ CHG vs Bioclusive transparent dressing.[14]

It is important to be able to remove a dressing without dislodging the catheter. In a comparative test measuring the pull force between a catheter and dressing, removing a Tegaderm™ CHG dressing from a catheter after 3 or more days requires about twice as much force as removing a transparent dressing alone.



This additional force may be due to the inherent adhesive properties of the gel pad and increase the risk of dislodging the catheter. If skin is macerated underneath the dressing, additional force may impair skin integrity.

Your Outcomes Affect Reimbursement

Medicare has begun offering incentive payments for improved patient outcomes, so choosing evidence based products with proven clinical outcomes has never been more important.[17]

Minimizing adverse events like contact dermatitis and dressing disruption are vital to enhancing the patient experience. BIOPATCH Disk was deliberately constructed to deliver CHG in a clinically relevant fashion, while effectively managing fluid to minimize dressing disruption.

References: 1. ADAPTIV Document number LAB-0010999 10558-731-03 BioPatch Non-CE Marked IFU, Retrieved June 6th, 2013 **2.** Dapper, G., Yamamoto, R. Method for forming controlled Release Polymeric Substrate. U.S.Patent # 5,487,895. Filed 8/13/93. Granted 1/30/96 **3.** Boothman, M., Yamamoto, R. Polyurethane-Biopolymer Composite. U.S. Patent # 5,833,665. Filed 6/7/95. Granted 11/10/98 **4.** Asmus, R., et al. Adhesive Compositions, Articles incorporating Same and Methods of Manufacture. U.S. Patent Application 2004/0247655 A1. Filed 6/5/03. Published 12/9/04 **5.** Timsit JF, Schwebel C, Bouadma L, et al. Chlorhexidine-impregnated sponges and less frequent dressing changes for prevention of catheter-related infections in critically ill adults: a randomized controlled trial. JAMA 2009; 301:1231–41. **6.** Garland JS, Alex CP, Mueller CD, et al. A randomized trial comparing povidone-iodine to a chlorhexidine gluconate-impregnated dressing for prevention of central venous catheter infections in neonates. Pediatrics 2001; 107:1431–6. **7.** Ho KM, Litton E. Use of chlorhexidine-impregnated dressing to prevent vascular and epidural catheter colonization and infection: a meta-analysis. J Antimicrob Chemother 2006; 58:281–7. **8.** Levy I, Katz J, Solter E, et al. Chlorhexidine-impregnated dressing for prevention of colonization of central venous catheters in infants and children: a randomized controlled study. Pediatr Infect Dis J 2005; 24:676–9. **9.** Ruschulte H, Franke M, Gastmeier P, Zenz S, Mahr KH, Buchholz S, et al. Prevetion of central venous catheter related infections with chlorhexidine gluconate impregnated wound dressings: a randomized controlled trial. Ann Hematol. 2009;88(3):267-272. **10.** Westergom, C., et al Comparative In Vitro / Ex Vivo Analysis of Two Catheter-Site Insertion Dressings. Present at Association for Vascular Access: September 11-14, 2008. **11.** O'Grady, et al. 2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections. Retrieved June 6th, 2013, from http://www.cdc.gov/hicpac/pdf/guidelines/bsi-guidelines-2011.pdf , p 13. **12.** O'Grady, et al. 2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections. Retrieved June 6th, 2013, from http://www.cdc.gov/hicpac/pdf/guidelines/bsi-guidelines-2011.pdf , p 14. **13.** Weitz NA, Lauren CT, Weiser JA, LeBoeuf NR, Grossman ME, Biagas K, Garzon MC, Morel KD. Chlorhexidine gluconate–impregnated central access catheter dressings as a cause of erosive contact dermatitis: a report of 7 cases. JAMA Dermatol. 2013 Feb;149(2):195-9. **14.** Document BP-470-10-12/12. In Vitro Comparative Analysis of a Chlorhexidine Gluconate (CHG) Impregnated Sponge Dressing and a CHG-containing Hydrogel Dressing. ETHICON© 2010. **15.** Timsit J. et al., Randomized Controlled Trial of Chlorhexidine Dressing and Highly Adhesive Dressings for Preventing Catheter- Related Infections in critically ill adults. AJRCC. 2012;Published Oct 4th:1-41. **16.** Timsit JF, Bouadma L, Ruckly S, Schwebel C, Garrouste-Orgeas M, Bronchard R, Calvino-Gunther S, Laupland K, Adrie C, Thuong M, Herault MC, Pease S, Arrault X, Lucet JC. Dressing disruption is a major risk factor for catheter-related infections. Crit Care Med. 2012 Jun;40(6):1707-14. **17.** Patient Protection and Affordable Care Act, Retrieved 17-Sept-2013, from http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/pdf/PLAW-111publ148.pdf. **18.** Cutting, KF., The causes and prevention of maceration of the skin, J Wound Care, 1999;8(4) p200-201

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Does Product Design Matter?

Key elements for designing an antimicrobial dressing to reduce CRBSIs must include:

- A ***predictable*** delivery system that releases a ***clinically relevant*** amount of CHG around the catheter insertion site[2]
- Effective Fluid Management to avoid excessive exudates buildup and not impact dressing disruption

BIOPATCH Disk is the only IV dressing with CHG proven in multiple, randomized controlled trials to reduce the incidence of catheter-related bloodstream infections (CRBSIs) in patients with central venous or arterial catheters[1]

Both BIOPATCH Disk and Tegaderm™ CHG were developed with the intent to address catheter related infections.[2,3,4] However, only BIOPATCH Disk releases CHG completely around the catheter insertion site while absorbing wound exudate quickly and completely.

Due to the inherent design of Tegaderm™ CHG, it is not possible for the product to provide complete CHG coverage nor can it replicate the fluid management capabilities of BIOPATCH®.

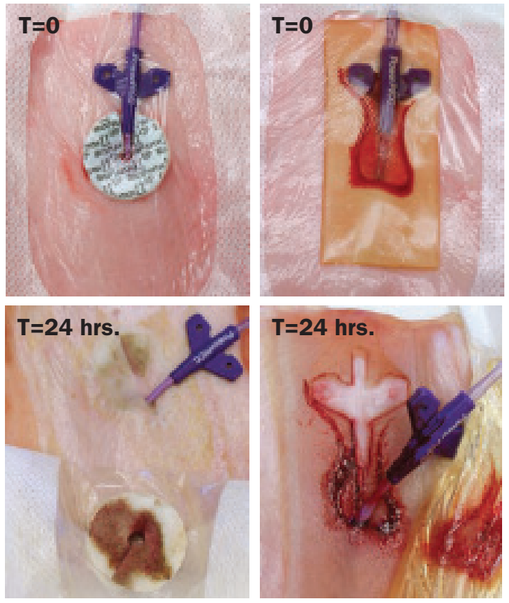
The studies that served as the basis of CDC Practice Recommendations for reducing CRBSIs were all BIOPATCH Disk specific studies.[5,6,7,8,9]

Where Does The CHG Go?

- BIOPATCH Disk design allows 360° delivery of CHG around the catheter insertion site[10]
- Tegaderm™ CHG product design does not allow 360° coverage

CDC Guidelines recommend the use of a CHG skin prep to clean the entire catheter area.[11]

Does Fluid Management Matter?



CDC Guidelines recommend catheter insertion site inspection during a dressing change[12]

Poor Fluid Management can result in adverse events such as skin maceration[18]

Even 0.5 cc of blood does not fully absorb into the hydrogel pad after one day. BIOPATCH Disk completely aborbs the blood within seconds. Inspection after revealed a clean insertion site free of debris.[14]

Randomized Controlled Trial of Chlorhexidine Dressing and Highly Adhesive Dressings for Preventing Catheter- Related Infections in critically ill adults.

	Timsit Tegaderm CHG® [15]
Disrupted dressings for the duration of the study	**70% Disrupted** 29.9% Detached, 27% Soiled 12.5% Soiled and Detached
Rate of severe contact dermatitis (normalized to x events per 100 catheter days)	Rate of occurrence = **1.1/100**

- The device design led to fewer than 1/3 of all dressings remaining intact due to poor fluid management
- Of the 70% disrupted dressings, nearly half were soiled due to the inability of the hydrogel to absorb all the components of blood
- The high rate of contact dermatitis is likely due to the hydrogel component, which has been noted in a separate observational report on pediatric and elderly patients[13]

- ***Skin maceration can lead to increased routes for Infection[13]***
- ***Elderly and immunocompromised patients are susceptible to dermatitis[13]***
- ***Higher Rates of dressing disruption increase the risk of CRBSIs[16]***