

BIOPATCH® Protective Disk with CHG

vs.

GuardIVa® and AEGIS™



Microbiologic Testing Results

BIOPATCH Disk, GuardIVa® and AEGIS™ are considered antimicrobial dressings because they contain Chlorhexidine Gluconate. Antimicrobials can fall into two categories: those that kill microorganisms (microbicidal) and those that prohibit the growth of such microorganisms (microbiostatics). In-vitro testing involving seven challenge organisms over seven days was used to determine the microbicidal or microbiostatic activity of these dressings.

Microbicidal¹

A microbicidal agent kills microorganisms such as bacteria. Microbicidals are irreversible and lethal.

IRREVERSIBLE

Microbiostatic¹

A microbiostatic agent only prohibits the growth of microorganisms. Microbiostatics are reversible.

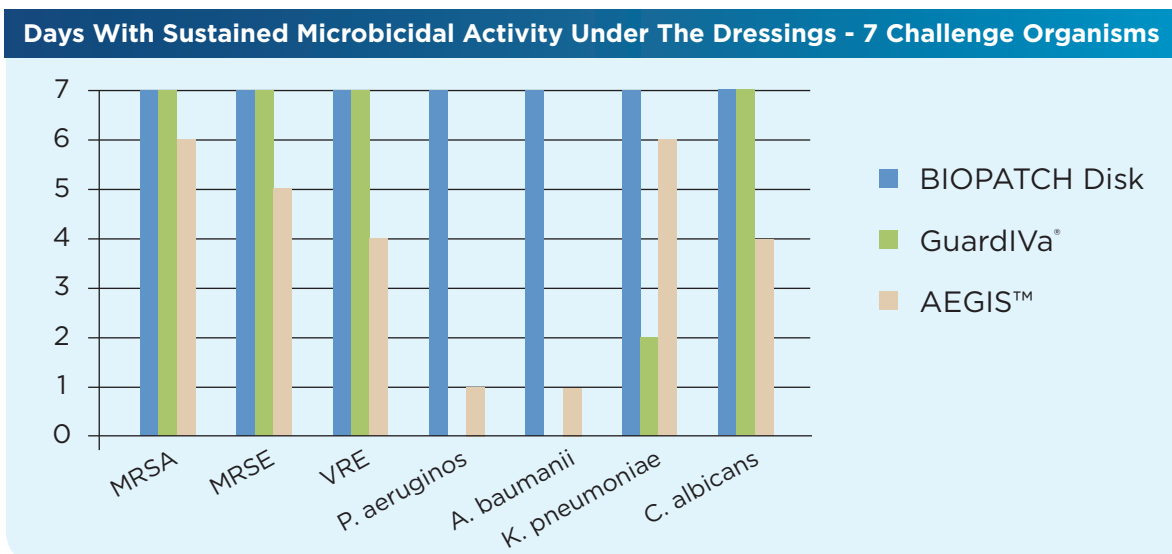
REVERSIBLE

Zone of Inhibition and Swab Test Results²

Background: Catheter-related bloodstream infections (CRBSI) are a common cause of morbidity in critically ill patients, with 60% of CRBSI originating from the patient's own skin. Thus, continual suppression of bacteria using an antimicrobial dressing at the catheter site has been shown to be an effective and important method for CRBSI reduction. The purpose of this study was to evaluate the antimicrobial properties of ETHICON, Inc.'s BIOPATCH Disk in comparison to other commercially available antimicrobial barrier dressings containing CHG [AEGIS™ (Medline Industries Inc.), GuardIVa® (Bard Access Systems, Inc.)]

Methods: Using zone of inhibition (ZOI) assay, each test article and its corresponding negative control were evaluated for their antimicrobial efficacy against the following challenge microbes on Mueller Hinton agar: *MRSA*, *MRSE*, *VRE*, *P. aeruginosa*, *A. baumannii*, *K. pneumoniae*, and *C. albicans*. After 24 hours of incubation at 37°C, the ZOI was measured and the test article was transferred to a freshly inoculated plate for additional 24 hour incubation. The agar surface underneath the transferred dressing was swabbed and plated onto D/E neutralizing agar to check for viability of organisms. This was carried out daily for seven days or until the article no longer produced a visible ZOI.

Swab Test Results²



BIOPATCH Disk vs. GuardIVa® and AEGIS™

Conclusion²

Based on the results of this *in vitro* study the following can be concluded:

- AEGIS™ showed activity against gram positive bacteria and yeast. However, activity against gram negative bacteria was variable. The dressing exhibited limited activity against *Paeruginosa* and *A.baumannii*. **It is important to note that the activity against these two challenge organisms was static and the organisms present in the zone area were dormant (not killed) and able to grow back when cultured from under the dressing.** The dressing failed the swab test for all other challenge organisms as well from day six.
- GuardIVa® showed efficacy against five out of seven challenge organisms. It failed to produce visible zone around the device on day two when challenged with *Paeruginosa* and *A.baumannii*. **It is important to note that the activity against these two challenge organisms was static and the organisms present in the zone area were dormant & not killed and were able to grow back when cultured from under the dressing.**
- BIOPATCH Disk showed excellent antimicrobial activity against all seven challenge organisms tested and was the only dressing amongst the three tested that exhibited microbicidal activity against all seven challenge organisms. The dressing showed sustained activity for up to seven days against all seven challenge organisms tested.



Order Code	4150	4151	4152
Size	1" disc (2.5cm) w/4.0mm center hole	3/4" disc (1.9cm) w/1.5mm center hole	1" disc (2.5cm) w/7.0mm center hole
French Size Range	6-12Fr	<6Fr	13-20Fr
Common Uses	Central Lines PICC	Peripheral IVs Huber Needles (ports) Arterial Lines Extended Dwell PIVs Midlines/PICCs Pins	Dialysis Catheters Drains Sheaths Cordis Catheters VAD drive lines
Quantity per Case	10/box 4 boxes/case, 40	10/box 4 boxes/case, 40	10/box 4 boxes/case, 40

References

1. <https://www.reference.com/science/difference-between-microbicidal-microbiostatic-3da4b6e89d64be60> Accessed 4/09/18.
2. Bhende S. Study report for *in vitro* microbiological evaluation of Antimicrobial Barrier Dressings using zone of inhibition assay, Ethicon notebook. 2016; 4487:70-77.

Protect All Lines. Protect All Lives.™