



# MICROBLOCK

ANTIMICROBIAL ELECTRODES

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Clinical devices are intended to be cleaned between patients, but **electrodes** like those used in electrotherapy treatments are known to accumulate dead skin cells<sup>1</sup> and **transfer bacteria**.<sup>2</sup> This startling fact has led to the development of MicroBlock, the first and only antimicrobial electrode, which is designed to eliminate infectious pathogens at the source — the site of application.

## MICROBLOCK

Acting as a germ-killing barrier against the transmission of bacteria, MicroBlock is effective against many common risk pathogens, including:

- ▶ S. aureus (MRSA)
- ▶ E. cloacae (CRE)
- ▶ E. coli (ESBL)
- ▶ E. faecalis (VRE)
- ▶ P. aeruginosa, multi-drug resistant
- ▶ Baumannii, multi-drug resistant

Annually, about

**90,000 PATIENTS DIE**

from healthcare-associated infections.<sup>3</sup>



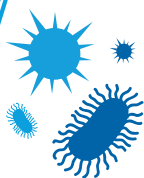
MicroBlock's gel is suffused with a bactericidal and bacteriostatic agent, benzethonium chloride (BEC), which demonstrates a greater than 4 log<sub>10</sub> reduction against each of these infectious microorganisms.

A log reduction, or log kill rate, is the standard measurement in infection prevention. The volume of microbes decreases by 90% with each log<sub>10</sub> of reduction.\* To put it plainly: **MicroBlock is more than 99.99% effective at eliminating bacteria, and maintains that effectiveness throughout the life of the electrode.**<sup>4</sup>

In a single year, more than

**80,000 INVASIVE**

MRSA infections were reported, attributing to 11,285 deaths.<sup>5</sup>



\* As seen in the chart to the right: 1,000,000 microbes with 1 Log<sub>10</sub> Reduction (90% or 900,000) equals 100,000. With a 2 Log<sub>10</sub> Reduction, the total is reduced by an additional 90% (90,000), equaling 10,000; and so on.<sup>6</sup>

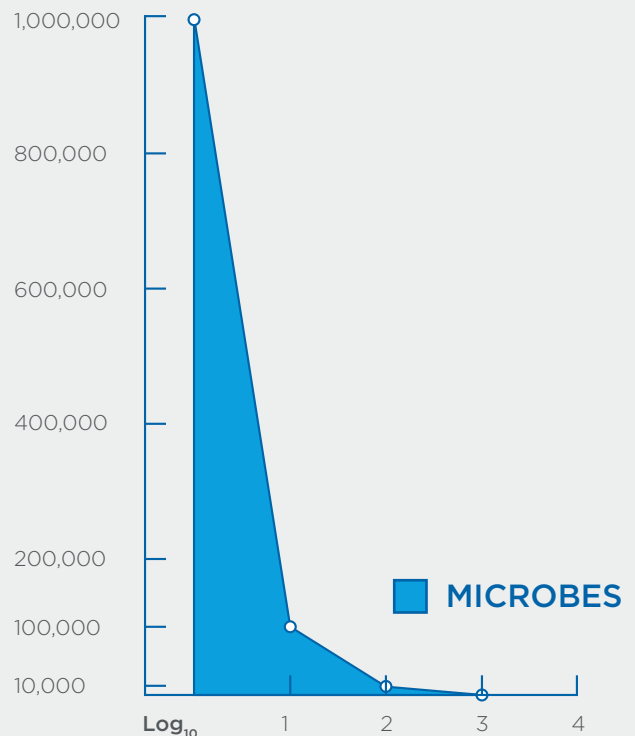
## Zone of Inhibition

MicroBlock electrodes do more than kill the dangerous microorganisms that come into contact with its surface, they also kill and inhibit the growth of these microorganisms around the surface of the electrode, further helping to prevent contamination and colonization.



## VISUALIZING LOG<sub>10</sub> REDUCTIONS

Microbe Volume



■ MICROBES

## YOUR CLINIC

### IS AT RISK WITHOUT MICROBLOCK

One third of patients are colonized with at least one infectious pathogen,<sup>7</sup> with some facilities showing as much as 10% of patients colonized with MRSA.<sup>8</sup> Despite following proper procedures, it is still possible to transfer these dangerous microbes to patients and staff. An easy avenue to spread bacteria is also one of the most common therapeutic treatments: electrotherapy.

- ▶ After treating a colonized patient, the electrode is removed and returned to its packaging; and stored in the patient's file.
- ▶ Bacteria from the electrode can transfer to each of these surfaces, and survive for months.<sup>9</sup>
- ▶ Staff handling the file during this appointment and subsequent appointments are at risk for exposure and infection.

- ▶ During the patient's following visit, the same electrodes are used to treat a different part of the body.
- ▶ Bacteria from the patient, now colonized on the electrode, may be transferred back to the patient.
- ▶ Recontaminating the patient exposes them to risk of infection, due to vulnerability of the new treatment area, or other issues such as non-intact skin.

- ▶ After handling the electrode, during application or removal, the clinician interacts with the electrotherapy device.
- ▶ Bacteria can transfer from the electrode, via the clinician's hands, to the electrotherapy device.
- ▶ The bacteria will in many cases survive the equipment cleaning, remaining intact to later contaminate the clinician and future patients, exposing them to risk of infection.

**Using MicroBlock to prevent the initial transfer of bacteria reduces these risks of infection.**

A study of manually cleaned electrode lead wires found  
**51.4% WERE CONTAMINATED**  
with bacteria or risk pathogens.<sup>10</sup>



Richmar

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Compass Health Brands Corp.  
Toll Free 1.888.549.4945  
6753 Engle Road  
Middleburg Heights, OH 44130  
[richmarweb.com](http://richmarweb.com)