

What is Biofilm?

Biofilm is an aggregate of bacteria which are encased in extracellular polymeric substance, or EPS. Biofilm is tolerant to attack by most immune cells and antibiotics.¹

How Does it Form?

Bacteria communicate through electrochemical signaling called quorum sensing. When messaging between bacteria grows strong enough, they begin to behave as a coordinated aggregate. They signal each other to secrete EPS, which creates a biofilm shield around the bacteria.¹

Biofilm Disrupts Normal Wound Healing

- Resists attack by immune system and antimicrobial agents, including silver¹⁻⁷
- Confers antibiotic resistance¹⁻⁷
- Locks the wound bed in a chronic inflammatory state^{1,5}
- Cannot be visually detected, making debridement difficult¹
- Even after aggressive debridement, biofilm can reform in as little as 24 hours⁵

~78%
of wounds are infected
with bacterial biofilm²

1.7 million
US hospital-acquired
infections per year
involve biofilm,
contributing to
>500,000
deaths per year³

\$94 billion
per year
estimated cost in US
for biofilm infections³

Bacteria in biofilms
can become up to
1000 times
more resistant
to antibiotics
than their planktonic
counterparts⁴

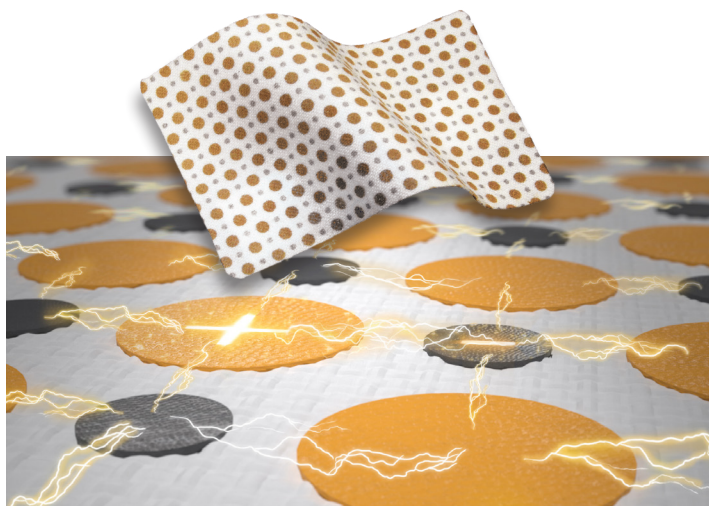
Electricity Works Against Biofilm

V.Dox[™] Technology is proven to kill biofilm both in vitro⁶ and in vivo⁷

- Disrupts quorum sensing
- Prevents biofilm formation
- Disrupts existing biofilm infection
- Restores functional wound closure

References

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