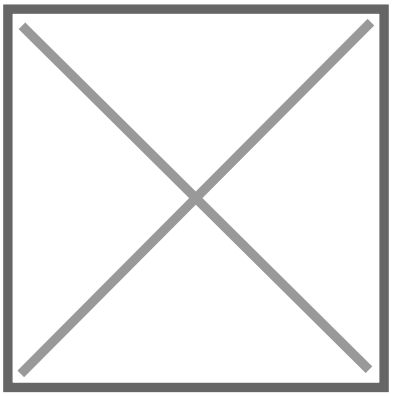

Can Electricity Treat Bacterial Biofilm on Wounds? Science Says Yes!

Description

Biofilm is described as densely packed communities of microbial cells that grow on living or inert surfaces and surround themselves with secreted polymers. Biofilm infections are some of the most common wound complications, but they can be quite difficult to treat. According to some reports, at least 60% up to 80% of microbial infections in the body are caused by bacteria growing as a biofilm. The reason why itâ€™s difficult to treat these infections is that bacteria quickly develop resistance to some antibiotics. The latest research shows electricity can help overcome this problem. Scroll down to learn more.

Why bacteria become resistant to antibiotics?

Before we start discussing the use of electricity to navigate around resistance to antibiotics and treat wound infections, itâ€™s important to elaborate why bacteria become resistant in the first place.

The use of antibiotics promotes the development of antibiotic-resistant bacteria. Every time you take antibiotics, sensitive bacteria are killed while resistant germs are left to multiply and grow. Repeated and inadequate use of antibiotics is considered the main causes of drug-resistant bacteria boost.

That being said, protective mechanisms at work in biofilms are distinct from those that are responsible for conventional antibiotic resistance. Various mechanisms of action play a role here, including poor antibiotic penetration, nutrient limitation, and slow growth, adaptive stress responses, and formation of persister cells.

Does electricity really help?

Formation of bacterial biofilms can make infections difficult to treat, as seen above. Scientists work on new ways to make treatment of burns and other wounds more effective in order to avoid potentially severe complications. For quite some time, these new ways revolved around developing different antibiotics. Although itâ€™s â€œpracticalâ€• to use some antibiotics to which bacteria didnâ€™t develop resistance, this doesnâ€™t really solve the problem because bacteria can become resistant to

it as well. Thatâ€™s why scientists at the *Indiana University School of Medicine* decided to do something different. They wanted to find a way to counter these biofilm infections through non-pharmacological route. A group of scientists, led by *Chandan Sen*, used electricity to solve this problem.

Electricity, how?!

Scientists wanted to examine how electroceutical principles act on the biofilm infection. To make it happen, they applied wireless electroceutical dressing (WED) within two hours of the wound infection in order to prevent biofilm formation. Also, they applied WED seven days of the infection in order to study the disruption of established biofilm. Scientists treated wounds with WED or placebo twice a week for 56 days.

Findings, published in the *Annals of Surgery*, showed that dressing was successful in fighting bacteria on its own. Interestingly, the results of the study also revealed that dressing could make medications even more effective. In other words, when electricity is applied in conjunction with antibiotics intake, the efficacy of these drugs is increased. The study showed that electricity could successfully alleviate wound biofilm infection and also amplify the efficacy of antibiotics, without the need to create new antibiotics.

Additionally, the study also showed that electricity could prevent future infections. Donâ€™t worry, and the treatment isnâ€™t dangerous. Scientists used the dressing that electrochemically self-generates 1 volt of electricity when in contact with body fluids like wound fluid or blood. One volt is harmless, wonâ€™t electrocute you or cause any other form of harm.

Believe it or not, this is the first study ever to analyze the impact of electrical field therapy on wound infection treatment. We can easily say this is just the beginning of further research on this subject.

One more reason to try PEMF therapy

As you can see, an important study confirmed the amazing effects of electricity in the treatment of biofilm infection, which would be difficult to treat otherwise. This is yet another reason for you to try (or continue with) PEMF therapy. The therapy focuses on various frequencies to restore balance in your body, promote healing, and improve your overall quality of life. Speaking of PEMF, itâ€™s important to mention that BICOM has a dynamic magnetic impulse generator which gives the Schumann frequencies during therapy, thus making the whole process a lot faster.

PEMF therapy is slowly but steadily emerging as one of the best ways to support your health and wellbeing. Many studies confirm the effectiveness of electricity in alleviating inflammation, relieving pain, improving a personâ€™s health and wellbeing.

Conclusion

Biofilm wound infections are common, yet so difficult to treat because bacteria develop resistance to antibiotics easily. Instead of creating new antibiotics all the time, one study went in a different direction

and aimed to find a way to alleviate these infections without drugs. They found that electricity can help treat and prevent infections, but it can also enhance the effectiveness of antibiotics. This is yet another proof why electricity, and thereby PEMF therapy, are a great choice for men and women who need help addressing some health problem.

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