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Scientists use electric field to heal wounds

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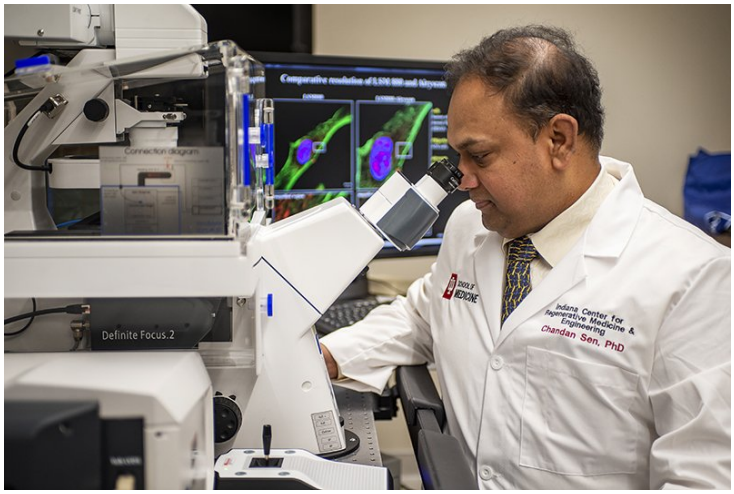

Researchers at Indiana University School of Medicine have found a way to charge up the fight against bacterial infections using electricity.

Work conducted in the laboratories of the Indiana Center for Regenerative Medicine and Engineering, Chandan Sen, PhD and Sashwati Roy, PhD, has led to the development of a dressing that uses an electric field to disrupt biofilm infection.

Researchers at IU School of Medicine are the first to study the practice of using an electric field-based dressing to treat biofilms rather than antibiotics. They discovered the dressing is not only successful in fighting the bacteria on its own, but when combined with other medications can make them even more effective. This discovery has the potential to create significant changes in the way physicians treat patients with bacterial infections which are resistant to antibiotics.

The dressing can also help prevent new biofilm infections from forming in the future. The dressing electrochemically self-generates 1 volt of electricity upon contact with body fluids such as wound fluid or blood, which is not enough to hurt or electrocute the patient.

Marketing of the dressing for burn care was recently approved by the Food and Drug Administration. The team is now studying the device's effectiveness in patients recovering from burns.