



Solenic Medical Announces Publication in *Scientific Reports* Demonstrating Enhanced Anti-Biofilm Activity Using Alternating Magnetic Fields

Findings support Solenic's SOLA-2 non-invasive platform for advanced infection care by enhancing antibiotic effectiveness against implant-associated biofilms

DALLAS, TX, Feb. 27, 2026 (GLOBE NEWSWIRE)– Solenic Medical today announced the publication of new peer-reviewed research in *Scientific Reports*, a journal from *Nature Portfolio*, demonstrating that alternating magnetic fields (AMF) significantly enhance antibiotic activity against bacterial biofilms across a broad range of pathogens and antibiotics, addressing a central challenge in the treatment of metallic implant-associated infections.

The peer-reviewed research, titled “*Alternating magnetic fields enhance anti-biofilm activity across pathogen and antibiotic space*,” evaluated the impact of AMF in combination with antibiotics on biofilm-associated bacteria relevant to prosthetic joint infections (PJIs). The findings show that AMF exposure combined with antibiotics markedly reduced biofilm compared with antibiotics alone, including against both Gram-positive and Gram-negative organisms.

Biofilm formation on implanted medical devices is a major contributor to chronic and recurrent infections, often requiring complex surgical revision and prolonged antibiotic therapy. Because antibiotics alone are frequently insufficient to eradicate biofilm, these infections highlight the need for non-invasive approaches that can enhance standard-of-care therapies without additional surgery. The results published in *Scientific Reports* suggest that AMF may serve as a promising adjunctive approach to disrupt biofilms and improve antibiotic effectiveness across multiple pathogen and material types.

“This publication provides strong peer-reviewed validation of our AMF platform and its ability to enhance antibiotic activity against biofilms,” said Bart Bandy, Solenic Medical CEO. “Biofilm-associated infections remain one of the most difficult challenges in orthopedic care, and these results support the potential of AMF to address a critical unmet need by improving the efficacy of existing antimicrobial therapies rather than replacing

them. This data reinforces our vision of delivering a non-invasive platform for advanced infection care that works alongside existing treatments to improve patient outcomes.”

Importantly, the findings demonstrated that the enhanced anti-biofilm effect was observed across different antibiotics and bacterial species and was not dependent on the specific metal composition of the implant surface, suggesting broad applicability across pathogen type, antibiotic class, and implant material in implant-associated infections.

“Seeing this consistent enhancement across multiple pathogens, antibiotics, and implant materials reinforces the potential of alternating magnetic fields as a broadly applicable adjunct to antimicrobial therapy,” said Dr. David Greenberg, Chief Medical Officer and co-founder of Solenic Medical. “These findings support the underlying scientific rationale for the AMF platform and its potential to improve outcomes in implant-associated infections without additional surgery.”

The publication represents a key scientific milestone for Solenic Medical as the company advances its AMF technology toward clinical translation for the treatment of prosthetic joint infections and other implant-related infections. The full peer-reviewed publication can be accessed at: <https://www.nature.com/articles/s41598-025-31574-1>.

Dr. David Greenberg, Chief Medical Officer and co-founder of Solenic Medical, is a co-author of the Scientific Reports findings and co-inventor of the AMF technology. To provide additional scientific context on the platform and its clinical implications, he delivered a TEDx presentation outlining Solenic’s approach to treating implant-associated infections and the role of alternating magnetic fields in enhancing antimicrobial therapy. The presentation can be viewed here:

https://www.ted.com/talks/david_greenberg_a_new_approach_to_post_surgical_treatment_that_can_reduce_infections

About Solenic Medical, Inc.

Solenic Medical, Inc. is a medical device company founded to develop and commercialize a method for treating implant infections, with their initial focus on prosthetic joint infections (PJI). Solenic will leverage the unique properties of alternating magnetic fields (AMF) generated from non-invasive technology to neutralize biofilm on the surface of medical implants. This non-invasive treatment addresses a major complication of various surgeries, such as knee and hip replacements, as well as in trauma related implants such as plates and rods. This is particularly important given an aging population and the rapid increase in the number of these procedures being performed every year. For more information, please visit <https://www.solenic.com>.

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