

PREVENTING FOOT AMPUTATION

MAGNETIC HYPERTHERMIA Can Stop Diabetic Infections and Prevent Foot Amputation

Magnetic Hyperthermia Discovery: 2025-2026: Dr. Deepa Ghosh of the *Institute of NanoScience and Technology* has proven that Magnetic Hyperthermia is a much needed and successful medical treatment for bacterial infections.

Bacteria are commonly known to accumulate iron as part of its natural metabolism. Magnetic Hyperthermia exploits that phenomena and uses the magnetic field to cause the bacteria to self-heat and die. Surrounding healthy tissue has no iron and is not heated.

Magnetic Heating passes through the bacterial biofilm to reach deep tissue and bone. Blood flow problems, failed antibiotics, and bacterial mutations that frustrate conventional medical treatment are ignored by magnetic hyperthermia. Amputation can be avoided.

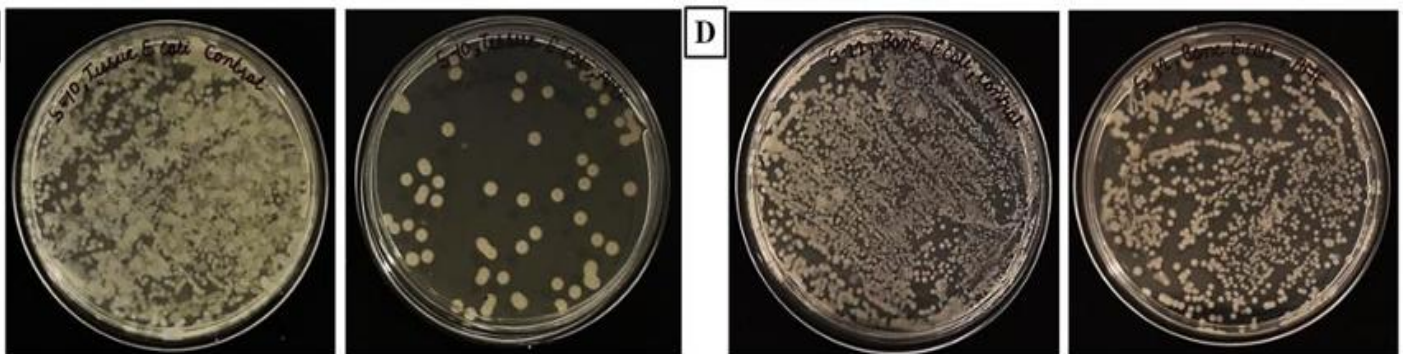


LIVE
HUMAN
TISSUE

LIVE HUMAN BONE

E-Coli Infection

E-Coli Infection



BEFORE

AMF

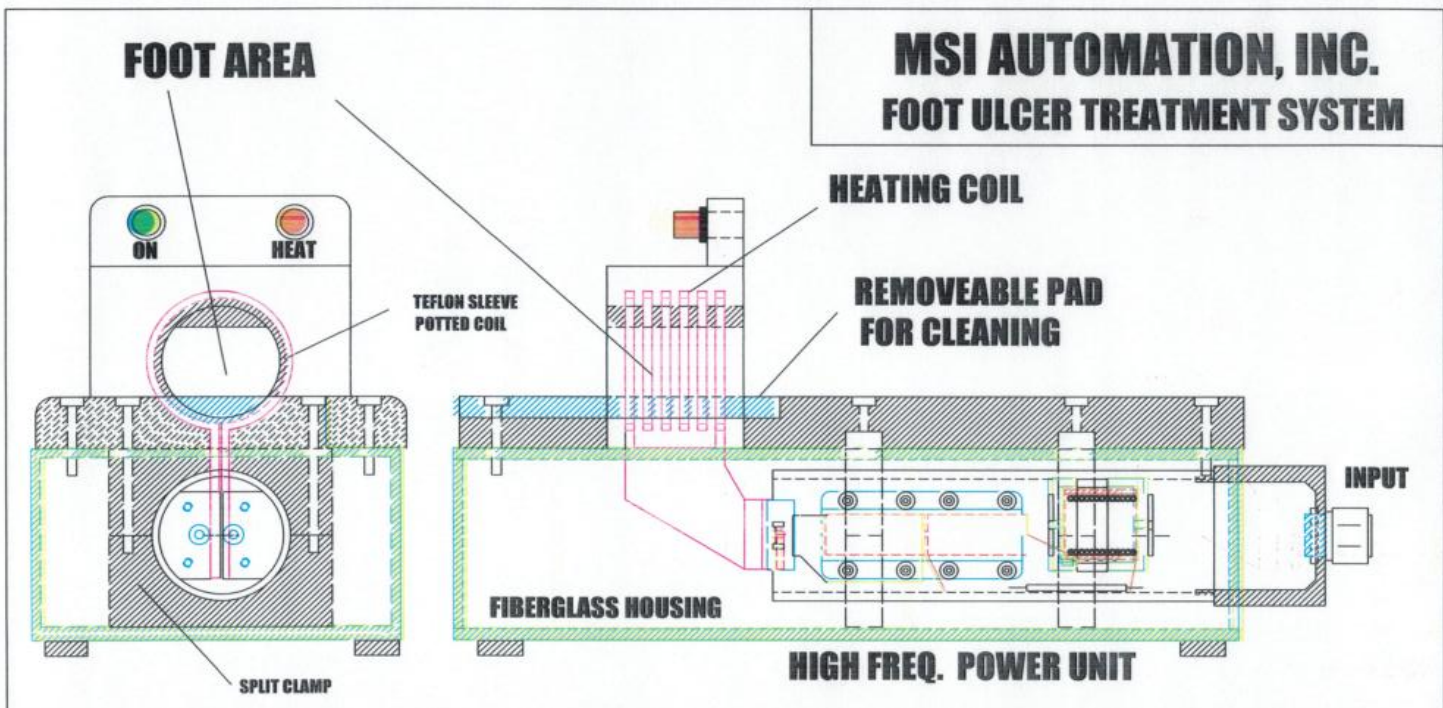
BEFORE

AMF

Magnetic Hyperthermia (AMF) was used here to demonstrate how live and infected tissue and bone samples can have their bacterial populations dramatically reduced with just one 5-15 minute treatment session. Healthy tissue, that lacks the iron nanoparticles inherent in bacterial cells, will not heat even when subjected to the same magnetic field. This treatment is remarkable because all these samples were taken from patients that had extensive antibiotic treatment. But the antibiotics failed to stop the spread of the infection and amputation was necessary.

Magnetic Hyperthermia Treatment System for Bacterial Infections.

Magnetic Hyperthermia System including the Control System and Foot Tunnel.



To Avoid Amputation

Without rapid and effective treatment and a means to penetrate past the bacterial biofilm and into the infection of the foot and bone, the condition will worsen. Magnetic Hyperthermia (AMF) treatment is immediate, not taking days or weeks. AMF passes directly through the drug-resistant bacterial biofilm to kill the bacteria and stop the infection.

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