



Source: BTT Medical Institute

December 04, 2025 08:00 ET

BTT Medical Institute Announces Unprecedented Case of Total Reversal of ALS through Re-engineering of the Nobel Prize-Winning Fever Therapy into a Brain- Guided, Artificial Intelligence- Controlled ThermoFebrile Treatment

First video-documented ALS reversal marks a new era for brain health achieved through noninvasive computerized brain-temperature modulation, confirmed by electrophysiological, molecular, and anatomical evidence

MIAMI, Dec. 04, 2025 (GLOBE NEWSWIRE) -- BTT Medical Institute, in collaboration with btt Corp. (Brain Tunnelgenix Technologies Corp.), a medical technology company pioneering brain thermodynamics solutions, today announced the first documented case of total reversal of amyotrophic lateral sclerosis (ALS), a disease long considered irreversible and uniformly fatal, now successfully treated using groundbreaking, noninvasive brain-guided AI-controlled technology. The breakthrough, published in *Diseases*' special issue on Research Progress in Neurodegenerative

Diseases¹, was accomplished using Computerized Brain-Guided Intelligent Thermofebrile Therapy (CBIT²) in a case of documented, progressive ALS.

The case report details the remarkable recovery of a 56-year-old American woman from Illinois diagnosed with progressive ALS, whose condition rapidly deteriorated despite being treated with FDA-approved medications at two of the nation's top neurology centers. Following CBIT² treatment, the patient experienced complete reversal of the disease, with electromyography (EMG) confirming the disappearance of denervation—the hallmark of motor neuron death in ALS. The patient no longer meets diagnostic criteria for ALS and is free from the disease.

"This represents a paradigm shift in how we approach ALS, guided by the principles of physics rather than chemistry," says Dr. M. Marc Abreu, BTT's Founder and Chief Medical Officer. "We've taken a Nobel Prize-winning principle to treat dementia paralytica using malarial fever therapy, which restored lost brain function a century ago, and brought it into the 21st century with digital precision, artificial intelligence, and brain-guided control. My job is to save lives and this modernized approach has demonstrated that what was once considered impossible—the reversal of ALS with restoration of brain function—is now achievable. We look forward to starting clinical trials in the first quarter of 2026 to further demonstrate the therapeutic potential of this breakthrough technology for ALS and neurological diseases."

The innovative brain therapy works by inducing therapeutic fever through synchronized hypothalamic feedback, leading to the first documented induction of heat shock proteins (HSPs) in the human brain, that have been shown to restore neuronal function and extend longevity. Unlike conventional approaches that merely slow progression, CBIT² via HSP induction addresses the underlying molecular pathology by facilitating the clearance of misfolded proteins such as TDP-43, a primary driver of ALS.

"Before treatment, I couldn't walk without a walker, I was nonverbal, and I struggled to swallow," said the patient, Moira Papp. "My neurologist put in writing that I had only three to five years to live. Now, just months after CBIT² treatments, I'm swimming again, playing golf, pickleball and dancing at weddings. I do not have issues with eating or drinking and my speech is improving. This therapy gave me hope when there was none, and life when I was told mine was ending. I've surpassed physical therapy goals and seen results beyond what I ever imagined possible."

The treatment results included:

- **Complete electrophysiological reversal** with disappearance of fibrillation and fasciculation—marking the end of dead and dying lower motor neurons
- **Biomarker normalization**, including IL-10 (previously linked to mortality)
- **Robust induction** of the protective and restorative molecules of the brain—HSP70
- **Restoration of motor function**, including gait, swallowing, respiration, and speech
- **Cognitive normalization**
- **Structural reconstitution** of tongue muscle previously affected by ALS-related atrophy
- **Return to complex activities** including golf, pickleball, and swimming

The fully noninvasive treatment, utilizing an FDA-cleared computerized monitoring platform, showed no adverse effects during treatment or across eleven months of follow-up. The therapy harnesses the Brain–Eyelid Thermoregulatory Tunnel (BTT) discovered by Dr. Abreu at Yale University, which led to the first noninvasive brain temperature monitoring in history²—enabling precise, real-time modulation of brain temperature without the risks associated with conventional hyperthermia methods.

Dr. David G. Silverman, co-author of the publication and former Director of Clinical Research in the Department of Anesthesiology at Yale University, emphasizes the significance of the case results. "The resolution of clinical, biomolecular and anatomical signs and elimination of fibrillations and fasciculations on EMG in a patient with ALS is virtually unheard of. As opposed to treating individual signs and symptoms, CBIT² has effectively targeted underlying pathology. Improvement has continued beyond the last treatment. We are delighted that Ms. Papp reports that she is functioning normally and has discontinued all ALS-specific medications."

Dr. Silverman further noted, "Dr. Abreu has provided the medical community and beyond with the means to safely and effectively activate the heat shock response in the human brain, a medical

breakthrough that has never before been achieved.”

Reflecting on the leap from laboratory science to human brain restoration, Mohammad Hosseini-Farid, PhD, co-author and Professor of Engineering and Computing at Nova Southeastern University, noted, “For generations, scientists sought to restore neuronal function in ALS, but success existed only in nerve cells in test tubes and animal experiments. Today, through computer technology and artificial intelligence, we have crossed that frontier and safely reversed ALS in a human being by inducing HSPs in the brain, with the patient now free from ALS and once again living life fully.”

Implications Beyond ALS

The shared protein-misfolding pathology across neurological disorders suggests BTT’s intelligent programmed fever therapy can be utilized for the treatment of other neurological and neurodevelopmental disorders. Preliminary results show restoration of neurological function as described in the *Diseases* report, including for:

- Alzheimer's disease
- Parkinson's disease
- Huntington's disease
- Lewy body dementia
- Frontotemporal dementia
- Multiple system atrophy
- Progressive supranuclear palsy
- Prion diseases
- Autism Spectrum Disorder
- Diabetic neuropathy

Addressing the Global Brain Health Crisis

At the 2025 G7 Summit of the world’s leading economies, G7 President, Mark Carney, highlighted the urgent global brain health crisis by addressing that no country has a handle on this escalating challenge.³ With neurological disorders now affecting more than 1 in 3 people worldwide, and more than 1 in 2 people in the United States (over 180 million Americans), it represents the leading cause of disability globally.^{4,5} Alzheimer’s disease alone cost the U.S. \$360 billion in 2024.⁶ BTT’s technology directly addresses this critical unmet global need.

"If we can reverse ALS—considered the most treatment-resistant neurodegenerative disease—then applying this approach to conditions with lower activation thresholds becomes not just plausible, but immediately within reach.¹ We stand poised to confront this public health emergency affecting more than half the nation and more than one-third of humanity," Dr. Abreu explains. "We are thankful to the U.S. Government, which recognized our vision and pioneering brain technology and, through the IRS, selected our innovation for early funding as a Qualifying Therapeutic Discovery Project. Today, we have the privilege and joy of giving back—first to America, and from America, to the world."

About the Intelligent Brain-Guided Technology

CBIT² represents the first clinical application of therapeutic fever to ALS, modernizing a century-old Nobel Prize-recognized principle with digital precision and artificial intelligence. The treatment induces controlled fever cycles that activate the body's natural heat shock response, promoting the clearance of toxic protein aggregates while preserving healthy neurons. BTT's innovative technology is customized to each individual's brain thermoregulatory controls to deliver results not found with conventional approaches. The technology was selected and received initial development funding from the U.S. Government through the Qualifying Therapeutic Discovery Project of the Internal Revenue Service, as part of the Patient Protection and Affordable Care Act—a recognition of the transformative potential of the BTT technology to meet critical unmet therapeutic needs for the American people.

About BTT Medical Institute

BTT Medical Institute is the clinical facility where Dr. M. Marc Abreu, as part of his private practice, performs operations and treatments using a technology he created and detailed in the *Diseases* report, which has been cleared by the U.S. Food and Drug Administration (FDA), uniting innovation and clinical care under one roof. This computerized platform—known as Computerized Brain-Guided Intelligent Thermofebrile Therapy (CBIT²)—integrates a personal-computer-based control

system, specialized sensor assemblies, and advanced adaptive and intelligent software—to respond dynamically to thermal signals detected in real time. For more information, visit bttmedicalinstitute.com.

About btt Corp. (Brain Tunnelgenix Technologies, Corp.)

Headquartered in Miami, FL, btt Corp. is a medical technology company that develops solutions based on the brain thermal tunnel with a broad range of applications in therapeutics, diagnostics, disease prevention, and sports applications for improving performance and increasing longevity. The company is the sole owner of proprietary products and algorithms that use high-resolution sensors and inductors to track and modulate brain temperature and thermodynamics in a non-invasive way. The company harnesses the power of brain thermodynamics, thermoregulatory frequencies, and artificial intelligence to develop molecular treatments via brain-guided heat shock protein induction in the brain.

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Sources:

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- [5] American Academy of Neurology. (2025, November 24). One in two people in the U.S. is affected by a neurological disease or disorder. American Academy of Neurology. <https://www.aan.com/PressRoom/Home/PressRelease/5296>
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A photo accompanying this announcement is available at

<https://www.globenewswire.com/NewsRoom/AttachmentNg/c50c8571-4b97-4e5c-bd3c-28d6f4a4c1cc>

Attachments:



- Dr. Abreu founded the BTT Medical Institute and heads the Clinical Sciences Division and Department of Biomedical Engineering and Medical Physics in Miami, FL