

**DESIGNED
to BLOCK
PAIN**

Federal Supply
Schedule Contract #
V797D-70205



BIO WAVE

SMARTER PAIN BLOCKING TECHNOLOGY



Technical and Clinical Overview

*A proven non-pharmacological
tool for treating pain and
reducing opioid use*

SMARTER PAIN BLOCKING TECHNOLOGY

Who is BioWave?

BIO WAVE

SMARTER PAIN BLOCKING TECHNOLOGY

manufactures and sells two different FDA cleared neurostimulator medical devices.



1. BioWavePRO

Verify treatment success in the clinic

BioWave provides a continuum of care for the patient. Verify treatment success in the clinic with BioWavePRO, and then provide the veteran with BioWaveHOME so they can manage their pain on an as needed basis.

BioWave neurostimulators provide profound non-pharmacological pain relief by delivering therapeutic electrical signals through skin directly to nociceptive pain fibers to block pain signals.

All of BioWave's medical devices are manufactured in the USA.



2. BioWaveHOME

Continue to treat pain at home on an as needed basis



"BioWave numbs the pain. There are days when I can't walk and BioWave treatments help me get back on my feet."

A. Snead

"My therapist and I were blown away by how well BioWave worked for me. My range of motion improved exponentially."

W. Bethea

"BioWave reduced my pain significantly. I love the fact that I can manage my pain without medication."

D. Norman

BioWave Testimonials

BIOWAVE

provides



Immediate Pain Relief

Many patients report a 75% reduction in pain scores and their pain relief improves even further following treatment.¹

1. H. Hemmings MD, PhD, S. Diwan MD. Randomized, Double-Blind-ed, Comparative Crossover Trial Of The Safety And Efficacy Of A Non-Invasive Targeted Electronic Pain Control Device ("Biowave Sys-tem") Versus Transcutaneous Electrical Nerve Stimulation (TENS) For The Symptomatic Treatment Of Chronic Low Back Pain. Weill Medical College of Cornell University, March 2006.



Deep Smooth Sensation

BioWave treatments range in sensation from tingling to a deep, smooth muscle massage.



Speedy Recovery

Helps facilitate motion, accelerating rehabilitation and return to activities of daily living.²

2. S. Panchal MD, J. Pergolizzi MD. Use of a Neuromodulation Pain Therapy Device (BiowavePRO) to Treat Acute Sports Injuries, New York Football Giants, June 2003 – December 2005.



Long-Lasting Pain Relief

Patients who respond experience pain relief and improved function for up to 24 hours following the treatment. Multiple treatments may provide a cumulative benefit.³

3. Brian J. Cole, MD, MBA; Richard W. Kang, MD, MS; Paul B. Lewis MD, MS; Adam Kramer, ATC; Jennifer K. Hayden, RN, MSN, Random-ized Blinded Controlled Study Treating Chronic Pain from Osteoarthritis of the Knee, Rush University Medical Center – Published in ORTHOPEDICS 30: 439445, 2007.

CLINICALLY PROVEN

BioWaveHOME delivers therapeutic electrical signals through skin to block pain signals at the surface of nociceptive pain fibers blocking the transmission of the pain signal to the brain. BioWaveHOME is indicated to treat any type of chronic, acute or post-operative pain.

BIOWAVEHOME DELIVERS THE BEST OUTCOMES FOR PATIENTS ACCORDING TO A RECENT WHITEPAPER INCLUDING:

- **90.6% of patients said they prefer BioWave to TENS**
- **84.6% of patients said BioWave improved their quality of life**
- **57.4% of patients reduced their opioid or pain medication consumption since using BioWave**
- **95.4% of patients use BioWave regularly on a daily or weekly basis**

85%
of patients
respond positively
to BioWaveHOME
neurostimulation

- **High Rate of Success.** Physicians report that more than 75% of patients respond to BioWavePENS treatments ^{1,2}
- **Substantial Reduction in Pain Scores.** Patients that respond, report a 50-75% reduction in their VAS pain scores after one thirty minute treatment ^{1,2}
- **Instant & Long Lasting Pain Relief.** Pain relief is instant as the patient increases the intensity and lasts up to 72 hours post treatment ^{1,2}
- **Reduced Opioid Use.** BioWavePENS treatments have been proven to provide up to a 50% reduction in patient controlled Opioid use ^{1,2}

BioWave Clinical Studies

1. Randomized controlled PENS study on the treatment of post-operative pain from TKA surgery - Hospital for Special Surgery, New York City. Podium Presentation at Eastern Orthopedic Association Annual Meeting, Oct 2008. Poster Presentation at AAOS Annual Meeting, February 2009
2. Randomized blinded controlled PENS study treating pain in grade 3 and 4 osteoarthritis of the knee - Rush University Medical Center, Chicago, IL. Published in ORTHOPEDICS June 2007
3. Clinical study on the use of a neuromodulation pain therapy device ("BioWavePRO") to treat acute pain from sports injuries on New York Giants football players. 600 treatments on 80 players from June 2003 - December 2005. White paper, 2006.
4. Symptomatic treatment of chronic low back pain: determination of optimal signal frequency and preliminary efficacy of a targeted non-invasive electronic pain control device. Cornell/NY Hospital 2003. Anesth. Analg. Abstracts 96 S-1-S: 293, 2003.
5. A clinical study of the efficacy of the BioWave device for reducing pain and increasing range of motion over 24 hours following the treatment of acute or chronic shoulder, knee, hip, and extremity pain. Coren Clinic, White paper, 2003.

This information, including but not limited to, text, graphics, images and other material contained herein are for informational purposes only. Learn more at BioWave.com/terms-of-use

BioWave is Superior to TENS & Other E-stim

✓ INSTANT PAIN RELIEF

Many patients report a 75% reduction in pain and their pain relief improves even further following treatment.

✓ OPIOID REDUCTION

Clinical studies and doctors report that use of BioWave allows patients to reduce consumption of opioids and other pain medications by up to 50%.

✓ EASY TO USE

No Programming. Pain relief at the press of the PLUS button.

✓ LONG LASTING PAIN RELIEF

Patients who respond experience pain relief and improved function for up to 24 hours following the treatment.

✓ DEEP SMOOTH SENSATION

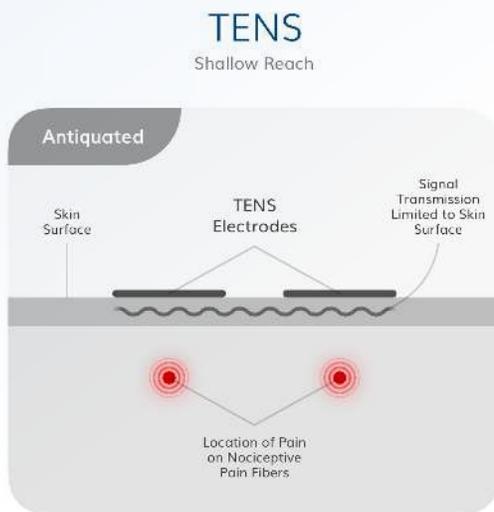
BioWave treatments range in sensation from tingling to a deep, smooth muscle massage.

X (TENS HAS NONE OF THE ABOVE)

TENS

Transcutaneous Electrical Nerve Stimulation

Transmits stimulation across the surface of skin which may act as a distraction to pain (**Gate Control Theory**)

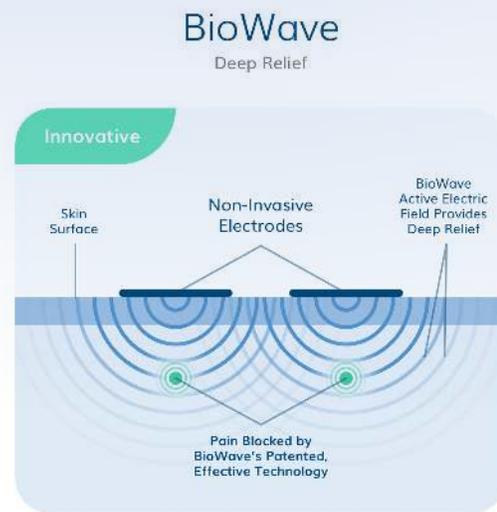


Why BioWave is superior to TENS

BIOWAVE

Subcutaneous Electrical Nerve Stimulation

Transmits stimulation beneath the surface of skin directly to nociceptive fibers blocking the transmission of pain signals to the brain (**Frequency Conduction Block Theory**)



SMARTER PAIN BLOCKING TECHNOLOGY

BIO WAVE provides a Continuum of Care in the clinic and as a follow on treatment at home. Patients that respond to BioWave in a clinic but have ongoing chronic pain management needs are issued BioWaveHOME so they can continue to manage their pain at home on an as needed basis.



BIO WAVE CAN BE USED IN TWO DIFFERENT WAYS:

1. to facilitate motion and manage pain simultaneously in a physical or occupational therapy setting
2. as a tool to treat and manage pain

Active Therapy Protocol

BioWave removes the guarding effect associated with pain so patients can move more resistance through a greater range of motion with much less pain. BioWave facilitates motion and manages pain simultaneously to facilitate and accelerate rehabilitation.

- Use in place of heat for 8 minutes to allow the effect of the electrical field to occur on the C-fibers, A-delta fibers, muscle tissue and to provide increased blood flow in the volume of tissue treated.
- Cohesive wrap, tape, Ace bandage or a Velcro strap is wrapped around the electrodes to help hold them in place.
- After the first 8 minutes, intensity is reduced by 10% to reduce the sensation the patient feels from the electrical field.
- After the intensity is reduced, the patient begins active or passive range of motion, exercise or stretching therapy during the remainder of the 30-minute BioWave treatment.



Static Pain Treatment Protocol

- Treatment duration is 30-minutes.
- Easy to use – no programming - set up takes 2 minutes.
- Patients control their own comfort level by pressing the PLUS button.
- Software prevents the possibility of receiving a burn.
- Treatment is very comfortable so patient compliance is excellent.
- 100% of patients that respond in the clinic to treatment with BioWavePRO will respond to continued treatment at home with BioWaveHOME.

MAY 2018



An Alternative to Opioids?

BioWave Non-opioid Pain Relief For Veterans



Reprinted from *The VVA Veteran Magazine* | May 2018

To combat widespread abuse of opioids, the VA has been seeking alternatives that address the problem of chronic debilitating pain.

An alternative that is legal, FDA-approved, and listed on the VA national formulary is a device from BioWave. This health technology company manufactures and sells a variety of FDA-cleared medical devices based on a patented, high-frequency neurostimulation technology that delivers therapeutic signals through the skin into deep tissue, blocking pain signals at the source.

Veterans with chronic, severe pain should speak with their clinicians about non-opioid, non-addictive means of eliminating chronic, debilitating pain.

More info about BioWave is at www.BioWave.com/veterans

The information, including but not limited to, text, graphics, images and other material contained herein are for informational purposes only. It is not intended to be a substitute for medical billing advice, professional medical advice, diagnosis, or treatment. Any information contained herein are subject to a full examination of the medical studies, FDA filings and medical literature that underline the claims. [Learn more at BioWave.com](http://www.BioWave.com)

April 25, 2018



Device Helps Vietnam Vet with Chronic Pain



Vietnam Veteran Gregg Gaston

Reprinted from *Pain News Network* | By Pat Anson, Editor

A few months ago, Vietnam veteran Gregg Gaston was depressed and suicidal. Gaston shared his story with PNN readers in a guest column, telling how he suffered from years of chronic pain caused by a failed back surgery, peripheral neuropathy and post-traumatic stress syndrome (PTSD). Despite his pain, Gaston's doctor told him he was being cut back to a single dose of tramadol, a mild opioid analgesic. That was the last straw for Gaston, who at the age of 62 was fed up with debilitating pain and doctors who no longer wanted to treat it with opioids. In protest, Gaston fired his doctor and refused to fill his last prescription for tramadol.

"I've given up and am waiting now to die. I've lived a great life and have no expectations of my quality of life improving," Gaston wrote. "Common sense is fast disappearing. I'm done fighting."

Fast forward three months and there's been a remarkable change in Gaston's mood and quality of life. The folks at BioWave, a Connecticut medical device company, saw Gaston's column and sent him one of their neurostimulation units, which use high frequency electrical impulses to block pain signals.

"I was skeptical at first. I really was," Gaston says. "Being at the breaking point and feeling desperate, I was only too eager to try it. And for me, it really works. I'm not 100 percent pain free, but I can get out of bed in the morning."



"If you have chronic pain you know what a difference that is," he says. "I used to often sleep no more than 2 hours at a time, now I often sleep through the entire night."

Think of BioWave as a more advanced version of a TENS unit. Electrodes wired to a battery and control unit send two high frequency signals through the skin into deep tissue, where they stimulate blood flow and block pain signals. Each treatment takes 30 minutes, and the pain relief can last anywhere from a few hours to a few days, depending on the patient and their condition.

"I started using it several times a day. But as I got feeling better in my back, I dropped it down to once a day. Now it's once every two or three days," says Gaston, who takes no pain medication outside of an aspirin. "They saved my life. My quality of life is still not great, but it's better than what it was."

BioWave has been around for a few years but is not widely known. It was first used by professional sports teams to treat athletes with sprains, tendonitis, muscle pain and other injuries. When it proved effective in treating chronic pain, dozens of pain clinics and VA hospitals started using BioWave devices.

"Most of the treatments deal with chronic pain and I would say the majority deal with lumbar and cervical pain. That's probably the bread and butter for our device, but certainly any extremity pain in the shoulder, elbow, knee, wrist or ankle. We can really treat almost any location on the body," says Brad Siff, BioWave's founder and president.

The company says over 75% of patients respond to BioWave treatment, with a significant improvement in their pain scores, mobility and stiffness. The device can even help patients with complex conditions such as arachnoiditis, a chronic and incurable spinal disease. "There's a handful of anecdotal data that we have where arachnoiditis patients have responded. Similarly, patients with failed back surgery have been treated with BioWave and it helped them," Siff told PNN.

"I'm not saying it reduces their pain 100 percent, but some may get a 30, 40, 50 percent reduction in their pain and it lasts for a long period of time following the treatment." BioWave is currently available only by prescription, but later this summer the company hopes to get FDA approval



For more information, you can visit BioWave at their website BioWave.com or by emailing them at info@biowave.com.