



# Innovation for a Chronic problem

Convenient, non-opioid solution for patients to  
treat the low back and core muscle groups



### **Paraspinal Muscles**

The erector spinae muscles are located along the spinal column within the intrinsic musculature of the back. Their primary functions include supporting, extending, and flexing the spine.

The body's midsection, often referred to as the core, includes the paraspinals, abdominals, and oblique muscles. This group of muscles, when properly conditioned, provide the strength to keep the body upright and limit avoidable stress to the spinal column and back muscles.<sup>1</sup>



### **Abdominal Muscles**

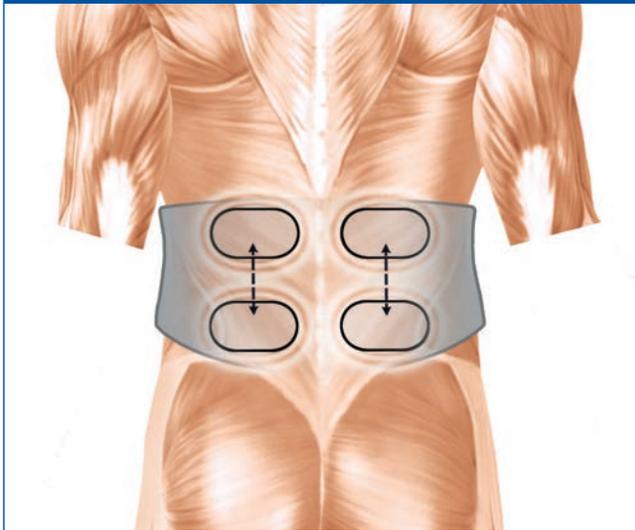
The rectus abdominis muscles, sometimes referred to as the "six-pack", are responsible for flexing the spine and providing postural support.



### **Oblique Muscles**

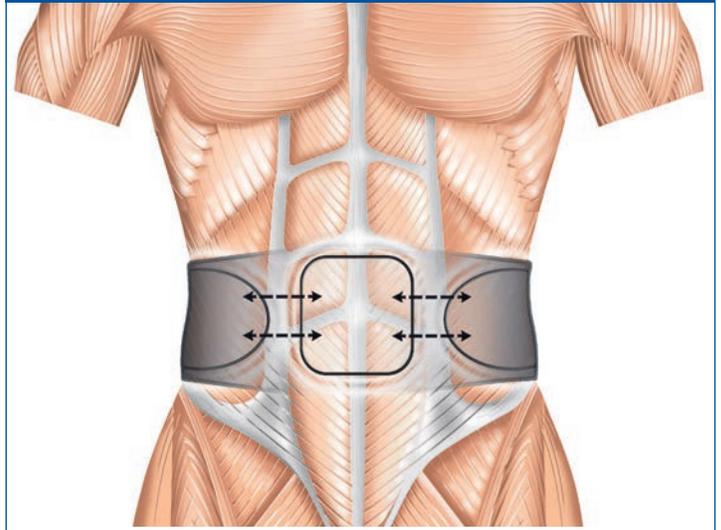
The internal and external oblique muscles are located on each side of the abdomen and support the motions of flexing, lateral flexing, and rotation of the spine.

### Low Back Garment



Paraspinal Muscles

### Abdominal Garment



Abdominal & Oblique Muscles

**Neurotech® Recovery-Back** is a dual-garment muscle stimulation system indicated to increase range of motion, prevent disuse atrophy, relax muscle spasms, re-educate muscles, and treat several pain conditions.<sup>2</sup>

**Non-opioid treatment** allows patients to avoid the side effects, risk of addiction, and activity limitations related to narcotics.

In a clinical study, chronic low back pain patients (mean age 51.7 years) were prescribed at-home therapies, including transcutaneous electrical nerve stimulation (TENS), neuromuscular electrical stimulation (NMES), and a placebo. NMES treatment resulted in significant pain reduction ( $p < .001$ ) and pain relief ( $p = .002$ ) over the treatment period. Combined NMES + TENS treatment produced greater pain reduction and pain relief than placebo, TENS, and NMES alone.<sup>3</sup>

In other research, NMES technology has been proven to significantly increase abdominal strength and endurance over an 8 week period with treatments 5 days per week. Most participants in the experimental group felt that their posture improved as a result of the muscle stimulation.<sup>4</sup>

#### **American Academy of Orthopedic Surgeons (AAOS)**

Recommends targeting the paraspinals, abdominal, and obliques muscles for spine conditioning programs.<sup>5</sup>

#### **American College of Physicians (ACP)**

Recommends that chronic low back pain patients receive non-drug therapies and physicians should only consider opioids as a last option for select patients.<sup>6</sup>



- **Easy-to-use** conductive garments eliminate the need for lead wires and the guesswork of proper electrode placement.
- **Re-chargeable** handheld controller includes multiple preset programs and allows for treatment to continue after leaving the clinic.
- **Large surface area** of the gel pads cover up to 110% more muscle than traditional electrodes and improve patient comfort during treatment.<sup>7,8</sup>



### Patient Care Services:

PatientCare@neurotech.us

Phone (888) 980-1197

Fax (888) 980-1195

### Also available from Theragen:

#### Kneehab® XP

Quadriceps Therapy System

#### Neurotech® Plus

Muscle Atrophy Stimulation System

<sup>1</sup> American Chiropractic Association. Tips to Maintain Good Posture. Accessed July 2017.

<sup>2</sup> Neurotech Plus 510(k) K112258

<sup>3</sup> Moore et al. Arch Phys Med Rehabil 1997;78:55-60.

<sup>4</sup> Porcari et al. Journal of Sports Science and Medicine (2005) 4,66-75.

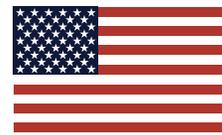
<sup>5</sup> American Academy of Orthopaedic Surgeons. Spine Conditioning Program. Accessed July 2017

<sup>6</sup> Qaseem et al. Ann Intern Med. 2017;166(7):514-530.

<sup>7</sup> Traditional electrodes 2" x 2"

<sup>8</sup> Mafuletti NA et al. Eur J Appl Physiol. 2014.

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