

Treatment of refractory Anterior Cutaneous Nerve Entrapment Syndrome by bilateral Peripheral Nerve Stimulators

👤 Daniel Courtney, MD, Bengt J Grua, MD,
Kim Youngren, MD

Dartmouth Health Center for Pain and Spine

INTRO

- Anterior Cutaneous Nerve Entrapment Syndrome (ACNES) is a common complication following abdominal surgeries, but often under diagnosed and under treated.
- ACNES often presents with localized pain to small area with possible radiation and exacerbation with activation of abdominal musculature.

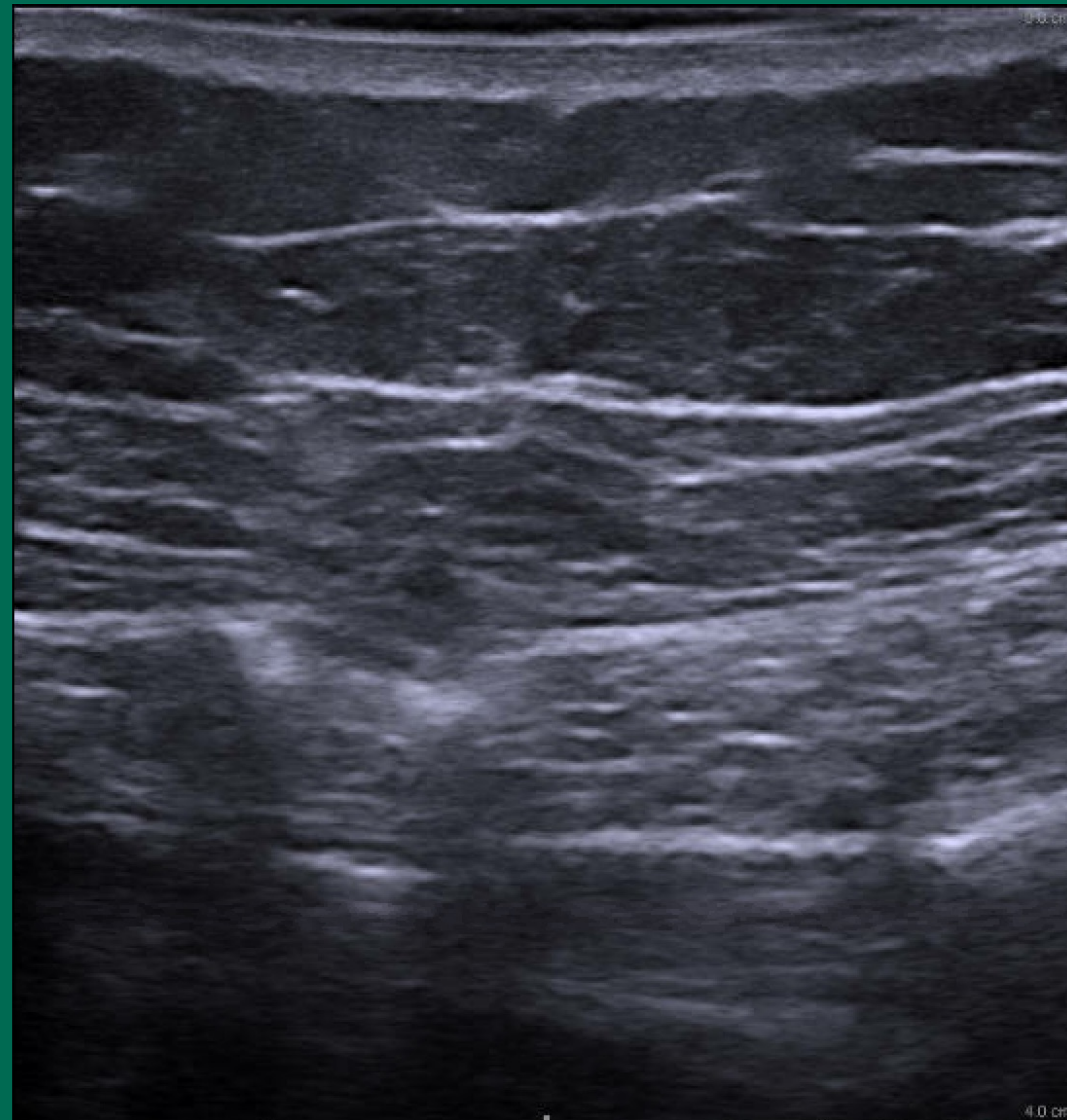
CASE

- 66-year-old female with two years of constant lower abdominal pain along **prior abdominal incision**, radiating to the back.
- Prior failed sacroiliac joint and lumbar epidural steroid injections, MRI grossly normal.
- Ilioinguinal block and ablation provided three months of relief, diagnostic bilateral anterior cutaneous nerve blocks provided 85% relief for 1-2 weeks.
- Following 60-day peripheral nerve stimulator, patient reported **90% relief** and, at last follow-up 10 weeks after lead extraction, patient reported sustained relief.

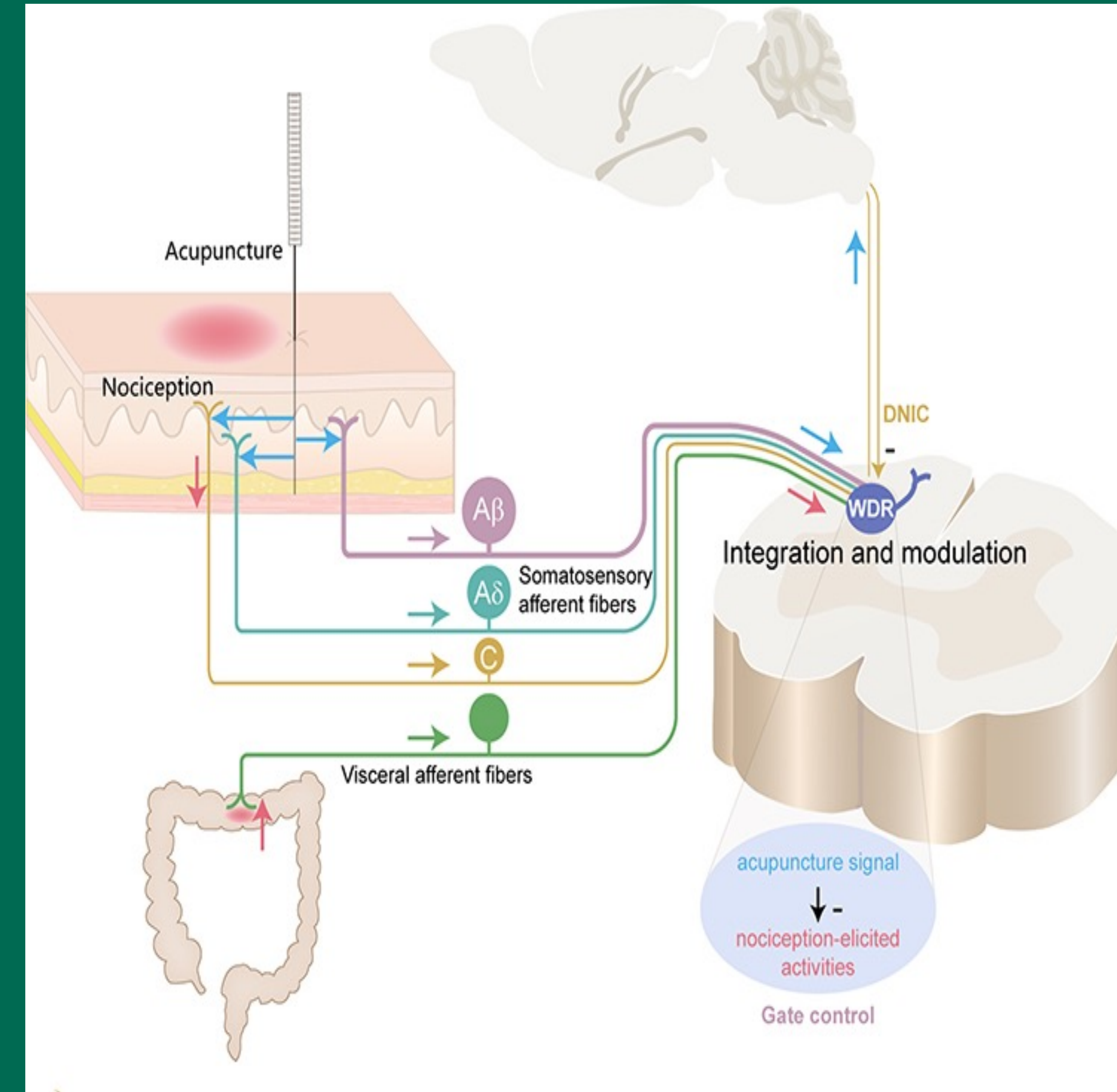
DISCUSSION

- Common methods of management include medication, trigger point injections, nerve blocks, and neurolysis.
- Referred visceral pain from somatic sites due to convergence of nociceptive C-fibers at lamina I neurons.
- Peripheral nerve stimulators inhibit pain/modulate neurons at dorsal horn, disrupt nociceptive afferent fibers, and downregulate inflammatory mediators.
- **Peripheral nerve stimulators** can be a safe and effective treatment for ACNES.

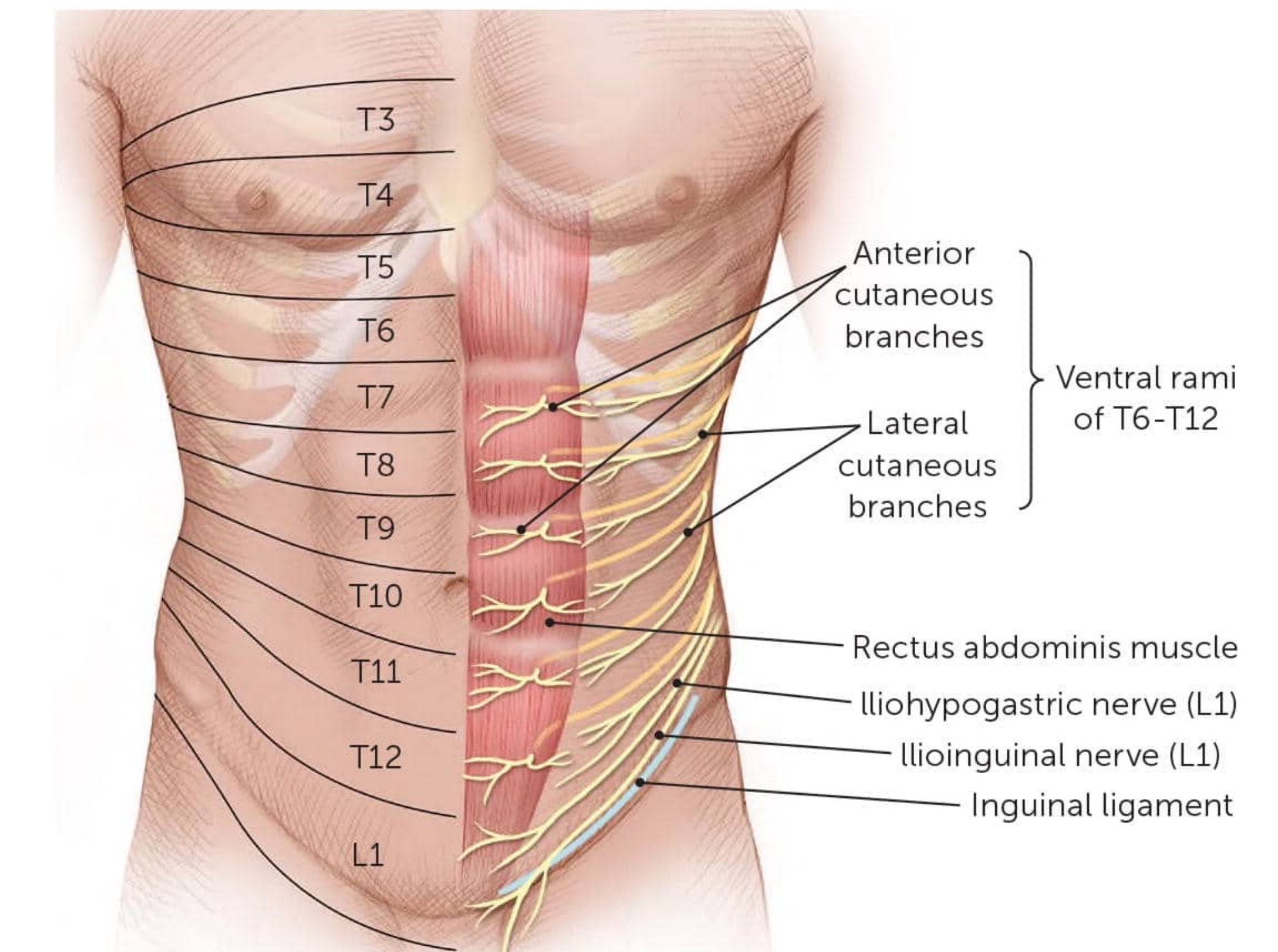
Use of 60-Day Peripheral Nerve Stimulators in Chronic Post-Surgical Abdominal Pain



Ultrasound guidance for bilateral anterior cutaneous nerve block



Convergence of nerve fibers in spinal cord¹



Derivation of anterior cutaneous branches²



Scan for **full abstract**

1 - Zhang, Zhiyun, et al. "Understanding of Spinal Wide Dynamic Range Neurons: JPR." *Journal of Pain Research*, Dove Press, 1 Feb. 2024, <https://www.dovepress.com/understanding-of-spinal-wide-dynamic-range-neurons-and-their-modulation-peer-reviewed-fulltext-article-JPR>

2 - O., - Regina, and - Jeannie D. "Anterior Cutaneous Nerve Entrapment New York, NY." *NYC Hernia*, 3 July 2024, www.nychernia.com/chronic-groin-pain-after-hernia-surgery/acnes-anterior-cutaneous-nerve-entrapment-syndrome/.