

Intracapt Procedure—Vertebrogenic Pain

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At Hudson Medical, we treat a wide range of causes of low back pain using cutting-edge technology to minimize downtime and maximize pain relief. Vertebrogenic pain is a significant source of chronic low back pain and is thought to be caused by the degeneration and inflammation of vertebral endplates (regions where a vertebral body and intervertebral disc interface). End plates are both responsible for providing structural support to vertebrae to prevent fracture and for acting as regions for nutrient transport between disc cells and blood vessels. As such, end plates are especially susceptible to damage due to mechanical failure (1). Endplates can become damaged from a variety of conditions such as intervertebral disc degeneration, intraosseous edema, and degenerative spine conditions (2).

Changes in the vertebral endplates are called “modic changes” and have been strongly associated with chronic low back pain. Two modic change subtypes, Type 1 and Type 2, have been shown to be significant sources of vertebrogenic pain. Type 1 represents inflammation of the vertebral endplate and Type 2 represents the replacement of bone marrow with fat (4). Type 1 and Type 2 modic changes have similar associated risk factors, including disc herniation, systemic factors (aging, smoking), and hyperloading (obesity, spinal deformities) (3).

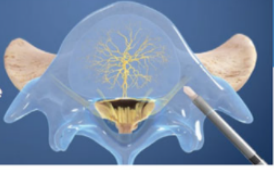
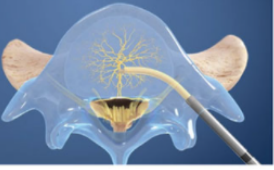
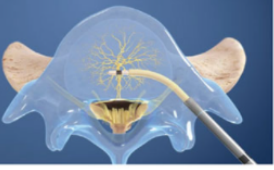

Vertebrogenic pain is detected through the Basivertebral Nerve (BVN), which innervates the vertebral body (spinal bones) and sends branches to the vertebral endplate regions. The BVN branches associated with vertebral endplates are responsible for transmitting pain signals when vertebral endplates become damaged (2). Degenerative spine conditions can lead to increased proliferation of BVN nerves, leading to increased pain signal transmission (2).

Prior to the development of the Intracapt procedure, the treatment options for vertebrogenic pain were fairly limited to non-invasive symptom management (non-steroidal anti-inflammatory drugs) or open surgery to place implants. At Hudson Medical, we are excited to offer the Intracapt procedure as an alternative, minimally-invasive treatment option for vertebrogenic pain. During the Intracapt procedure, we use radiofrequency energy (heat) to essentially “turn off” the BVN nerve, rendering it unable to transmit pain signals. The outpatient procedure takes approximately 60- to 90- minutes and we can perform Intracapt under monitored anesthesia care (light sedation). Patients who have had little to no response to conservative treatments for vertebrogenic pain for at least 6 months are good candidates for the Intracapt procedure. In a recent clinical trial, the Intercept procedure was shown to produce lasting pain relief and improvement of function over 5 years for patients with vertebrogenic pain (5). Further, another clinical study reported that patients who received the Intracapt procedure reported a 53% decrease in pain at their two-year follow up appointments when compared to patients who received conservative care (6).

At Hudson Medical, we offer the Intracapt procedure because it provides patients with a minimally invasive treatment option for vertebrogenic pain resulting in significant, long-lasting pain relief.

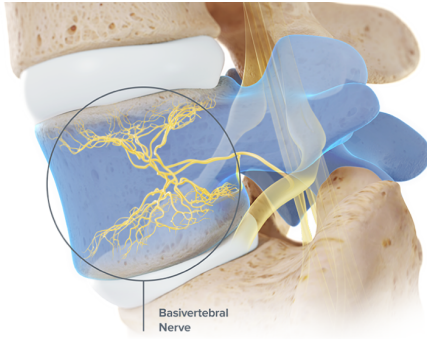
Intrasept Procedure Overview

Intrasept Procedure Steps

- 1**
Enter the vertebrae

Following a 3-5mm incision, an Introducer is advanced into the vertebrae
- 2**
Create the channel

A curved instrument is utilized to create a channel to the trunk of the basivertebral nerve
- 3**
Place the RF Probe

The Radiofrequency Probe is inserted into the curved path and placed at the trunk of the basivertebral nerve
- 4**
Ablate the BVN

Radiofrequency energy (heat) is used to ablate the basivertebral nerve, rendering it unable to transmit pain signals

Ascension. "Intrasept Procedure." Texas Spine and Scoliosis, <https://texasspineandscoliosis.com/treatment/intrasept.html>. Date Accessed: October 25, 2021.

BVN and Vertebral Endplates



Relievent. "The Role of Vertebral Endplates in Chronic Low Back Pain." Vertebrogenic Pain - Relievent, <https://www.relievent.com/intracsept-procedure/vertebrogenic-pain/>. Date Accessed: October 25, 2021.

WHY INTRACSEPT?

- lasting pain relief
- minimally invasive
- improved functioning
- option for patients who have not responded to other treatments



1. Moore, R J. "The vertebral end-plate: what do we know?." European spine journal : official publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society vol. 9,2 (2000): 92-6. doi:10.1007/s005860050217
2. Lotz, J C et al. "The role of the vertebral end plate in low back pain." Global spine journal vol. 3,3 (2013): 153-64. doi:10.1055/s-0033-1347298
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5. Fischgrund, Jeffrey S et al. "Long-term outcomes following intraosseous basivertebral nerve ablation for the treatment of chronic low back pain: 5-year treatment arm results from a prospective randomized double-blind sham-controlled multi-center study." European spine journal : official publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society vol. 29,8 (2020): 1925-1934. doi:10.1007/s00586-020-06448-x

6. Fischgrund, Jeffrey S et al. "Intraosseous Basivertebral Nerve Ablation for the Treatment of Chronic Low Back Pain: 2-Year Results From a Prospective Randomized Double-Blind Sham-Controlled Multicenter Study." *International journal of spine surgery* vol. 13,2 110-119. 30 Apr. 2019, doi:10.14444/6015