

# A Basic Approach to Lumbar Zygapophyseal Joint Disease: New Technology for Treatment, but does it Improve Outcomes?

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Low back pain (LBP) affects 80% of people at some point during their lifetime. LBP may be classified by the duration of symptoms [1], as acute (less than 4 weeks), sub acute (4-12 weeks), or chronic (more than 12 weeks). Chronic low back pain is the most common cause of job-related disability, a leading contributor to absenteeism in the workplace (2<sup>nd</sup> only to headaches) in the United States [2].

Many anatomic structures have been described as possible sources of chronic LBP, including the posterior longitudinal ligament, dorsal root ganglia, dura, annular fibers, muscles of the lumbar spine, and lumbar zygapophyseal (ZP) joint (facet joints). Of particular interest is the ZP joint. A ZP joint is a synovial joint between the superior articular process of one vertebra and the inferior articular process of

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confirming position and enhancing visualization. The temperature sensor at the end of the probe tip ensures an appropriate thermal gradient in the target tissue.

The LumbarCool™ probe creates large volume, spherical lesions that effectively encompass the known running course of the medial branch nerve, and can increase the likelihood of causing destruction of these nerves. In our university hospital-based practice, this probe has been utilized, with good success and no complications thus far. The technical skills were not particularly challenging to learn, and the time to perform the procedure is less than that with the standard RF.

Our overall experience has been favorable with the LumbarCool technology for lumbar medial branch nerve neurotomy, but this device is not without concerns. One of these is the expense of the probes [10]. A disposable probe costs around \$750 per probe. Another concern is the size of the lesion and the possibility of damage to the lumbar spinal nerves. This is particularly concerning because there have been no studies to determine the efficacy or safety. With all new technology there are potential benefits, but clinicians must be cautious of embracing new technology without strong scientific research and evidence based medicine.

#### References

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