

## Talking to Patients About Medial Branch Neurotomy (Part 2)

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As briefly discussed in part 1 [[April 15 issue](#)], even when lumbar facet denervation (medial branch neurotomy) is successful, relief is rarely complete or permanent. Smuck, et al., reviewed 16 articles and found the average duration of >50 percent pain relief for an initial procedure was nine months. Repeat medial branch neurotomy carried a success rate between 33-85 percent, with an average duration lasting 11.6 months.<sup>37</sup> These statistics were similar to an earlier study also showing a 10-month average duration of benefit for both initial and repeat procedures.<sup>38</sup>

### Denervation Complication Rates

Kormick, et al., performed two studies involving a total of 741 denervations. These revealed five cases of neuritic pain lasting longer than two weeks, five cases of muscle soreness lasting less than two weeks, one case of prolonged muscle spasm, and no instances of motor deficits, sensory deficits or infections.<sup>39-40</sup>

Some concern has been raised about the possibility of creating a "Charcot joint" due to the loss of afferent input secondary to medial branch ablation.<sup>41</sup> This would appear plausible, as the facet joint (and entire medial branch nerve) is not only capable of nociceptive signaling, but also serves a role in proprioception.<sup>42</sup> The loss of proprioception subsequent to denervation could conceivably lead to impaired motor control and loss of stability, as these receptors are similar to mechanoreceptors involved in the proprioception of other peripheral joints.<sup>43</sup>

Recognizing that isolated case reports do not constitute a clear cause-effect relationship, there have been reported cases of progressive kyphosis ([camptocormia](#)) developing pursuant to multi-level facet denervation.<sup>44-45</sup>

### Comparing Other Non-Conservative Interventions

Lakemeier's study, mentioned earlier, found that six months after *intra-articular steroids*, VAS scale reduced from 7 to 5.4 and Oswestry went from 38.7 to 33. This was no different than radiofrequency denervation.<sup>29</sup> Manchikanti, et al., studying 120 patients, found that *intra-articular injections of an anesthetic agent, either with or without steroids*, provided similar pain relief. More than 85 percent of the patients experienced >50 percent pain relief, and >40 percent improvement in disability measures, with an average effect duration of 19 weeks. Over two years, these patients required, on average, 5-6 treatments to maintain their benefit.<sup>46</sup>

At present, no clear consensus exists on the comparative effectiveness of direct facet injections versus

medial branch neurotomy, although a study is currently underway to assess this.<sup>47</sup>

Conventional radiofrequency treatment has been compared with *pulsed radiofrequency* in two randomized trials, both of which found superiority with conventional radiofrequency.<sup>48-49</sup>

Kryorhizotomy uses a cold probe, as compared to a heating element, to accomplish medial branch denervation. Three low-quality trials suggest properly selected patients experience an average of 40-60 percent pain relief over a one-year period.<sup>50-52</sup>

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