Public Statement:

Neck or lower back pain commonly arises from the facet joints. Several interventions are used to diagnose and treat pain thought to arise from the facet joints. Both diagnostic and therapeutic use of certain facet joint procedures are covered in patients who meet medical policy criteria.

Medical Policy Statement:

1) Diagnostic:
   a. Facet blocks are covered when facet joint pain is suspected in patients with back pain without a strong radicular component or neurologic deficit; OR
   b. There is a discrepancy between known pathology and complaints or findings; AND
   c. The blocks are one component of a coordinated pain management program; AND
   d. The procedure is performed under radiological guidance; AND
   e. No more than four levels are blocked at one session.

2) Therapeutic:
   a. Steroid injection into the facet joints has not been shown to be effective and is not covered.
   b. Facet joint denervation by cryoneurolysis, laser denervation, or chemical denervation are considered experimental and are not covered.
   c. Radiofrequency denervation of facet joints requires all of the following:
      i. Is only covered for use in the cervical spine below C3-4 or the lumbar spine;
      ii. No prior spinal fusion surgery at the level being treated;
iii. The facet joint is suspected as the cause of the pain because of absence of nerve root compression and absence of radicular pain;

iv. The pain has failed to respond to three months of conservative management, including physical therapy and home exercise;

v. A trial of controlled diagnostic medial branch blocks (2 separate positive blocks or placebo controlled series of blocks) under fluoroscopic guidance has resulted in at least an 80% reduction in pain;

NOTE: If there has been a prior successful radiofrequency denervation, a repeat procedure at the same side, same level requires that a 6 month or longer time period has elapsed and that the above coverage criteria be met except that a repeat trial of diagnostic medial branch blocks is not required.

d. Total facet arthroplasty is considered investigational and is not covered; see ARB0336.

Background:

A Hayes assessment reviewed literature from 1998-2006. Randomized controlled trials with >=40 patients or uncontrolled trials with >=100 patients were analyzed. Many of the studies used a facet block as a test, followed by additional injections for a positive responsive to the initial injection. There was not a good correlation between result of the test block and the result of the confirmatory block. In 21 randomized trials there was no convincing evidence for the therapeutic efficacy of facet joint blocks in patients with lower back pain. The primary outcome measure was pain relief, and all of the studies that involved patients with low back pain persisting longer than 1 month were reviewed.

A 1994 review (Pfirrmann, 1994) emphasizes that assessment of low back pain should predominantly be based on history and exam. The problem of a high rate of asymptomatic imaging abnormalities was pointed out. It is recommended that imaging studies should lead to guided diagnostic injection studies (eg facet joint block) to determine whether the morphologic abnormality is symptomatic.

A French review (Gangi, 1998) includes the conclusion that facet joint block is useful in diagnosis and treatment of facet syndrome. This extensive article states “In the absence of precise diagnostic clinical features or criteria, diagnosis of facet syndrome relies exclusively on the results of diagnostic blocks. A block test must produce complete pain relief to support the presumptive diagnosis. Another test consists of injecting 0.5 ml of 5% hypertonic saline into the joint. If the usual back pain is provoked, the diagnosis of facet syndrome can be considered. Differentiation between disk disease and facet syndrome can be difficult. The latter diagnosis is often made by means of exclusion.” However, there is no reference to an original article with data to support this.

Although radiofrequency (RF) facet denervation has been in use for more than 20 years, evidence of its efficacy is limited to small randomized controlled trials (RCTs),
and to larger case series. Comparative studies are important for treatments for which the primary outcome is a measurement of pain in order to account for the potential placebo effect of an intervention. A 2003 systematic review of the literature cited methodological weaknesses of small sample sizes, short follow-up, deficiencies in patient selection, outcome assessment, and statistical analyses and concluded that “there is limited evidence that radiofrequency denervation offers short-term relief for chronic neck pain of zygapophysial joint origin and for chronic cervicobrachial pain, and conflicting evidence for its effectiveness for lumbar zygapophysial joint pain” (Niemistö, 2003). Carragee et al, in a 2008 report of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders, concluded that “Radiofrequency neurotomy, cervical facet injections, cervical fusion and cervical arthroplasty for neck pain without radiculopathy are not supported by current evidence” (Carragee, 2008). However, in a 2008 review that considered only randomized controlled trials in which at least one diagnostic block was used for patient selection, 2 of the trials published after the studies reviewed by Niemistö and colleagues concluded that “when done with proper technique, percutaneous radiofrequency lumbar and cervical medial branch neurotomy are both effective” (Levin, 2008). In 2001, the California Technology Assessment Forum published a review of the evidence for percutaneous RF neurotomy of cervical and lumbar zygapophysial joints for chronic neck and low back pain and concluded that the technology met their criteria for efficacy and safety for treatment of lower cervical (C3 and below) and for lumbar pain but not for treatment of upper (C2-C3) levels. In 2007, the California Technology Assessment Forum reviewed the evidence for treatment of C2-3 joints and did not reverse its position.

Two recent RCTs evaluating RF for low back pain reached different conclusions. In 2005, van Wijk et al published a multicenter RCT. Inclusion criteria were continuous low back pain with or without radiating pain into the upper leg for more than 6 months and with focal tenderness over the facet joints, without sensory or motor deficits or positive straight leg raising test, no indication for low back surgery, and 50% or greater pain reduction 30 minutes after lidocaine block. Of 226 patients screened, 81 were randomized to RF or sham lesion treatment. The primary outcome was determined using a predefined multidimensional combined outcome measure comprising changes in VAS-back score, daily physical activities, and use of analgesics. Success was defined as at least 50% reduction of median VAS-back score without reduction in daily activities and/or rise in analgesic intake or reduction of at least 25% and drop in analgesic use of at least 25%. Information was collected in weekly diaries mailed in by patients. Failures at 3 months were unblinded and, if the patient had received sham treatment, RF was offered. Follow-up after successful treatment was at 6, 9, and 12 months. At 3 months, there was no difference between groups. VAS-back score was significantly reduced in both groups. There were no between-group differences on VAS-back score, VAS-leg, physical activities, or intake of analgesics. These results persisted until 12 months, however, because blinding was ended at the 3-month follow-up in more than 70% of patients; a mix of additional treatments was performed between the 3- and 12-month follow-ups; some patients in both groups were lost to follow-up; and outcome data collected after 3 months was difficult to interpret. Significantly more RF patients (62%) than sham patients (39%) achieved >50% pain relief on the Global Perceived
Effect measured on a 4-point Likert scale. Subgroup analysis showed RF to be superior to sham in female patients, older patients, patients with longer pain history, patients with employment, and patients without history of low back surgery.

Nath and colleagues performed an RCT with 40 patients to evaluate short- and intermediate-term effects of RF for lumbar facet pain (Nath, 2008). To be included in the study, patients had to be able to identify at least one component of their pain that was attributable to one or more lumbar zygapophysial joints, have paravertebral tenderness, and obtain at least 80% relief of pain following controlled (3 positive separate) medial branch blocks. Screening medial branch blocks were performed in 376 patients; 115 were negative, 261 patients had >80% relief of at least a component of their pain and proceeded to controlled blocks; 45 had a negative response to controlled blocks, 105 had prolonged responses, and 71 of the remaining lived too far away to participate or declined. The 40 remaining were randomized half to RF and half to sham treatment; all participated throughout the 6-month study. Multiple lesions were performed in each RF patient. Pretreatment, the RF group had significantly more generalized pain, low back pain, and referred pain to the leg. On patient’s own global assessment, the RF group improved by 1.1U and the placebo group by 0.3U (P=0.004). Generalized pain on VAS was reduced by 1.9 U (from 6.3 to 4.1) in the RF group versus 0.4U (from 4.4 to 4.8) for placebo (P=0.02). Back pain was reduced in the RF group by 2.1U (from 5.98 to 3.88) and referred pain by 1.6U (from 4.33 to 2.73), while back pain was reduced in the placebo group by 0.7U (from 4.38 to 3.68) and referred pain by 0.13 (from 2.68 to 2.55); between group differences were significant on both measures. RF patients were significantly more improved on secondary measures of back and hip movement, quality of life variables, the sacroiliac joint test, paravertebral tenderness, and tactile sensory deficit. Analgesic use was reported to be reduced more in the RF group, however details about this measure were not provided.

The only RCT evaluating RF for chronic cervical pain at the facet joints was published in 1995 by Lord et al. Patients with C2-C3 zygapophysial joint pain were excluded because treatment at this level is technically difficult. Twenty-four patients (of 54 screened) were randomized to RF or sham treatment. Patient perception of pain was confirmed by placebo-controlled blocks (3 blocks, the first with 2% or 5% lidocaine, the second with saline, and the third with lidocaine). In the RF group, 2 or 3 lesions were made at each location. In telephone interviews at 3–5 days and 2–3 weeks and at formal interviews at 3 months, patients completed visual analogue scales and the McGill Pain questionnaire, indicated whether activities of daily living had been restored and were asked if their usual pain was present and if they required further treatment for pain. After 3 months and after outcome measures were recorded, patients who did not have any relief of pain or who had early return of pain were offered RF. Those who obtained relief at 3 months were asked to report when pain returned to 50% or more of pretreatment level. They were interviewed again at 1 year. Six patients in the control group and 3 in the RF group had return of pain immediately after the procedure. By 27 weeks, 1 patient in the control group and 7 in the RF group remained free of pain. Median time to return of >50% of pretreatment pain was 263 days in the RF group.
versus 8 days in the placebo group. Two patients in the active group who had no relief of pain were found to have pain from adjacent spinal segments.

No controlled trials evaluating RF denervation in thoracic facet joints were identified. There is limited evidence for the management of sacroiliac joint pain with radiofrequency denervation (Hansen, 2007). One randomized, controlled trial for radiofrequency denervation for sacroiliac joint pain was identified (Cohen, 2008). In this study 28 patients received either L4-L5 and S1-S3 radiofrequency denervation or placebo denervation. At one month, 79% of the patients in the treatment group experience at least a 50% reduction in pain. At 6 months, 57% experienced relief of pain and at one year, only 14% of the patients in the treatment group continued to experience pain relief. Larger and longer term studies are needed to assess the effectiveness of radiofrequency denervation in this area.

To identify demographic, clinical, and treatment factors associated with outcomes of RF denervation, Cohen et al gathered data from 3 academic medical centers on 92 patients with chronic neck pain who received RF treatment. They determined that the only clinical variable associated with success was paraspinal tenderness. Factors associated with treatment failure included radiation to the head, opioid use, and pain exacerbated by neck extension or rotation (Cohen, 2007). In another report, Cohen and colleagues, in a retrospective multicenter study with 262 patients, compared lumbar zygapophysial joint RF denervation success rates between the conventional at least 50% pain relief threshold and the more stringently proposed at least 80% cutoff. A total of 145 patients had >50% but <80% relief after medial branch block, and 117 obtained at least 80% relief. In the >50% group, success rates were 52% and 67% on pain relief and global perceived effect (GPE), respectively, after RF. Among those who had at least 80% relief from diagnostic blocks, 56% achieved at least 50% relief from RF and 66% had a positive GPE. The authors concluded that the more stringent pain relief criteria is unlikely to improve success rates, may lead to misdiagnosis, and withholding of potentially helpful treatment (Cohen, 2008).

Two reports of small (20 and 24 patients) retrospective studies of repeat procedures after successful RF were identified. In both series, more than 80% of patients had >50% relief from repeat RF treatment and mean duration of relief from subsequent RF treatments was comparable to the initial treatment (Husted, 2008) (Schoffferman, 2004).

While evidence is limited to a few comparative studies with small sample sizes, RF facet denervation appears to provide at least 50% pain relief in carefully selected patients. Diagnosis of facet joint pain is difficult, however response to controlled medial branch blocks and the presence of tenderness over the facet joint appear to be reliable predictors of success. When RF facet denervation is successful, repeat treatments appear to have similar success rates and duration of pain relief. Thus, the data indicate that in carefully selected individuals with lumbar or cervical facet joint pain, RF treatments can result in improved outcomes.
One RCT evaluating RF for treatment of cervicogenic headache was identified in the literature search. In a pilot study, 15 patients received a sequence of RF treatments (cervical facet joint denervation, followed by cervical dorsal root ganglion lesions when necessary) and 15 received local injections with steroid and anesthetic at the greater occipital nerve followed by transcutaneous electrical stimulation (TENS). Visual analogue scale, global perceived effect, and quality of life scores were assessed at 8, 16, 24, and 48 weeks. There were no statistically significant differences between groups at any time point in the trial (Haspeslagh, 2006).

References:


Codes Used in this Policy:

64490  Injection(s), diagnostic or therapeutic agent, paravertebral facet (zygapophyseal) joint (or nerves innervating that joint) with image guidance (fluoroscopy or CT), cervical or thoracic; single level

64491  Injection(s), diagnostic or therapeutic agent, paravertebral facet (zygapophyseal) joint (or nerves innervating that joint) with image guidance (fluoroscopy or CT), cervical or thoracic; second level (List separately in addition to code for primary procedure)

64492  Injection(s), diagnostic or therapeutic agent, paravertebral facet (zygapophyseal) joint (or nerves innervating that joint) with image guidance (fluoroscopy or CT), cervical or thoracic; third and any additional level(s) (List separately in addition to code for primary procedure)

64493  Injection(s), diagnostic or therapeutic agent, paravertebral facet (zygapophyseal) joint (or nerves innervating that joint) with image guidance (fluoroscopy or CT), lumbar or sacral; single level

64494  Injection(s), diagnostic or therapeutic agent, paravertebral facet (zygapophyseal) joint (or nerves innervating that joint) with image guidance (fluoroscopy or CT), lumbar or sacral; second level (List separately in addition to code for primary procedure)

64495  Injection(s), diagnostic or therapeutic agent, paravertebral facet (zygapophyseal) joint (or nerves innervating that joint) with image guidance (fluoroscopy or CT), lumbar or sacral; third and any additional level(s) (List separately in addition to code for primary procedure)

64633  Destruction by neurolytic agent, paravertebral facet joint nerve, with imaging guidance; cervical or thoracic, single level

64634  Destruction by neurolytic agent, paravertebral facet joint nerve, with imaging guidance; cervical or thoracic, each additional level (List separately in addition to code for primary procedure)

64635  Destruction by neurolytic agent, paravertebral facet joint nerve; lumbar or sacral, with imaging guidance, single level

64636  Destruction by neurolytic agent, paravertebral facet joint nerve; lumbar or sacral, each additional level (List separately in addition to code for primary procedure)

Application to Products

This policy applies to ARBenefits. Consult ARBenefits Summary Plan Description (SPD) for additional information.

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