Clinical Policy Title: Discography

Clinical Policy Number: CCP.1268

Effective Date: January 1, 2017
Initial Review Date: October 19, 2016
Most Recent Review Date: November 6, 2018
Next Review Date: October 2019

Related policies:

CCP.1098 Spinal cord stimulators for chronic pain
CCP.1010 Radiofrequency ablation treatment for spine pain
CCP.1063 Spinal surgeries
CCP.1030 Spine pain — facet joint injections

ABOUT THIS POLICY: AmeriHealth Caritas has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas’ clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by AmeriHealth Caritas when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas’ clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas’ clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas will update its clinical policies as necessary. AmeriHealth Caritas’ clinical policies are not guarantees of payment.

Coverage policy

AmeriHealth Caritas considers the use of discography to be investigational and, therefore, not medically necessary.

Limitations:

AmeriHealth Caritas considers all other uses of discography to be investigational and, therefore, not medically necessary.
Alternative covered services:

- Primary care and specialty physician (including surgical) evaluation and management.

**Background**

Discography, also known as provocation discography, is a diagnostic radiology test intended to discern whether a specific intervertebral disc is the source of a patient’s lower back (or other spinal) pain (McCormick et al. writing on behalf of the Standards Division of the Spine Intervention Society, 2018). The test involves the injection, using one or two fine needles, of contrast media under fluoroscopy into the nucleus of a disc thought to be a likely source of pain. This punctures and creates pressure within the disc. The disc is then examined using computed tomography scanning. A test is determined to be positive based on concordant pain, the replication of the patient’s pain.

The test is potentially an appealing technique for identifying a damaged disc or discs before surgery, because imaging techniques, such as magnetic resonance imaging, cannot by themselves determine the source of pain. However, the reliability of discography is controversial. The test results are not specific, and there are false positive results in patients who have no spinal back pain. While the measurement scale defines positive as ≥7/10, there is no clearly defined gold-standard reference test for pain. While the procedure has been in use for decades, there are few systematic reviews or meta-analyses, and little data on patient outcomes.

**Searches**

AmeriHealth Caritas searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality’s National Guideline Clearinghouse and other evidence-based practice centers.
- The Centers for Medicare & Medicaid Services.

We conducted searches on August 23, 2018. Search terms were: “discogram” (MeSH), “provocative discography” (MeSH), and “concordant pain.”

We included:

- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews**.
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.
Findings

López (2012) described a retrospective cohort study of 20 patients and 33 discographies. Magnetic resonance imaging findings were used to evaluate degenerative disc disease. All examinations were performed in the lumbar spine between L3 and S1. Fourteen discographies (42 percent) were positive and 19 (58 percent) were negative. Patients with lower back pain alone had reduced odds of a positive discography compared with those with lower back pain and sciatica (odds ratio [OR] = 0.5; 95 percent confidence interval [CI]: 0.1–2.7); however, this association was not statistically significant. Patients with more than four previous episodes of pain versus patients with one to four episodes had greater odds of a positive discography (OR = 3.8; 95 percent CI: 0.07–184); however, this association was not statistically significant. Patients with various pathologies on magnetic resonance imaging had greater odds of a positive discography; however, these associations were also not statistically significant. The authors concluded that patients with a chief complaint of lower back pain associated with sciatica, with more than four episodes of previous lower back pain exacerbations and the presence of a high intensity zone on magnetic resonance imaging, have a higher rate of positive discography. These findings are not statistically significant due to a small sample size.

Singh (2012) assessed two clinical studies evaluating the diagnostic accuracy of provocative thoracic discography with respect to chronic, function-limiting thoracic or extra-thoracic pain. The authors concluded that based on limited evidence, thoracic provocation discography is rarely indicated for the diagnosis of discogenic pain in the thoracic spine.

Onyewu (2012) in a systematic review of 41 randomized controlled trials evaluated the diagnostic accuracy of cervical discography for chronic neck pain. The authors concluded that there is limited evidence for the diagnostic accuracy of cervical discography. However, in the absence of any other means to establish a relationship between pathology and symptoms, cervical provocation discography may be an important evaluation tool in certain contexts (e.g., as an affirmative test where a radiologic or clinical assessment suggests discogenic pain) to identify a subset of patients with chronic neck pain secondary to intervertebral disc disorders. The authors also suggested that cervical discography may help prevent unnecessary surgical intervention.

Manchikanti (2013) conducted a systematic review to assess the diagnostic accuracy of lumbar provocative discography. Of the 160 randomized controlled trials included in the review, 33 compared discography with other diagnostic tests, 30 assessed diagnostic accuracy, 22 assessed surgical outcomes for discogenic pain, and three assessed the prevalence of lumbar discogenic pain. The quality of the overall evidence supporting the use of provocation discography was adjudged to be fair. The authors concluded that discography may be a useful tool for evaluating chronic lumbar discogenic pain. While the meta-analysis found limited to fair accuracy of provocative discography as compared with magnetic resonance imaging or computed tomography, the authors seem to view it as undeservedly positive. Therefore, Manchikanti’s findings should be carefully weighed.
Kim (2015) studied 72 patients with chronic (more than six months) low back pain refractory to medical therapy and a total of 183 intervertebral discs with discography performed using a pressure-controlled manometric technique. The pain reaction during discography at each level was recorded as follows: no pain, dissimilar pain, similar pain, or concordant pain. Discs with similar or concordant pain were classified as positive. The study found that general degeneration was neither correlated with positive findings on discography nor with prognosis, but it was correlated with age. Higher general degeneration and annular disruption grades also had higher positive rates of discography; however, annular disruption alone was independently associated with positive discography. In addition, a high grade of annular disruption correlated with positive discography.

Xi (2016) studied the efficacy of discography combined with computerized tomography in identifying surgical candidates for lumbar fusion. Forty-three consecutive patients between 2006 and 2013 who presented with refractory low back pain and underwent discography and computed tomography were enrolled in the study. Concordant pain with discography was reported by nine (20.9 percent) patients at L3-L4, 21 (50.0 percent) at L4-L5, and 34 (82.9 percent) at L5-S1. Pain occurred significantly more often in discs where computed tomography identified annular tears than those without ($P < 0.001$). The authors concluded that lumbar discography and computed tomography can be an effective method to evaluate patients with discogenic back pain refractory to non-operative treatments. Those patients with one- or two-level high concordant pain scores with associated annular tears and a negative control disc study represent good surgical candidates for lumbar interbody spinal fusion.

**Policy updates:**

In 2018, we added three peer-reviewed publications to the reference list and one guideline/other website. The North American Spine Society (2018) is currently developing a clinical guideline on Diagnosis and Treatment of Low Back Pain. The policy ID changed from 03.01.01 to CCP.1268.

**Summary of clinical evidence:**

<table>
<thead>
<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
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</thead>
<tbody>
<tr>
<td>Xi (2016)</td>
<td><strong>Key points:</strong></td>
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<tr>
<td></td>
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<td>Study</td>
<td>Key Points</td>
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<td>--------------------------------------------</td>
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| correlation among age, disc morphology, positive discography and prognosis | - Total of 183 intervertebral discs evaluated with discography performed using a pressure-controlled manometric technique and computed tomography of the involved spine.  
- Discs with similar or concordant pain were classified as positive.  
- Higher general degeneration and annular disruption grades had higher positive rates of discography; however, annular disruption alone was independently associated with positive discography.  
- The grade of general degeneration was associated with age, but it was not correlated with positive discography and prognosis.  
- A high grade of annular disruption correlated with positive discography. |
| Manchikanti (2013)                        | An update of the systematic appraisal of the accuracy and utility of lumbar discography  
Key points:                                                                                                                                  |
|                                            | - Systematic review of 160 randomized controlled trials to assess the diagnostic accuracy of lumbar provocation and analgesic discography.  
- Of these, 33 studies compared discography with other diagnostic tests, 30 studies assessed the diagnostic accuracy of discography, 22 studies assessed surgical outcomes for discogenic pain, and three studies assessed the prevalence of lumbar discogenic pain.  
- The authors concluded that discography may be a useful tool for evaluating chronic lumbar discogenic pain.  
- The quality of the overall evidence supporting the use of provocation discography was adjudged to be fair. |
| Onyewu (2012)                             | An update of the appraisal of the accuracy and utility of cervical discography in chronic neck pain  
Key points:                                                                                                                                  |
|                                            | - Systematic review of 41 randomized controlled trials evaluated the diagnostic accuracy of cervical discography for chronic neck pain.  
- The authors concluded that there is limited evidence for the diagnostic accuracy of cervical discography.  
- Cervical provocation discography may be an important evaluation tool in certain contexts (e.g., as an affirmative test where a radiologic or clinical assessment suggests discogenic pain).  
- The authors suggested that cervical discography may help prevent unnecessary surgical intervention. |
| Singh (2012)                              | An update of the appraisal of the accuracy of thoracic discography as a diagnostic test  
Key points:                                                                                                                                  |
|                                            | - Review of two clinical studies evaluating the diagnostic accuracy of provocative thoracic discography.  
- The authors concluded that based on limited evidence, thoracic provocation discography is rarely indicated for the diagnosis of discogonic pain in the thoracic spine. |
| López (2012)                              | Clinical and radiological association with positive lumbar discography  
Key points:                                                                                                                                  |
|                                            | - Retrospective cohort study of 20 patients and 33 discographies used magnetic resonance imaging findings.  
- Fourteen discographies (42%) were positive and 19 (58%) were negative.  
- Patients with lower back pain alone had reduced odds of a positive discography compared with those with lower back pain and sciatica (OR = 0.5; 95% CI: 0.1–2.7).  
- Patients with more than four previous episodes of pain versus patients with one to four episodes had greater odds of a positive discography (OR = 3.8; 95% CI: 0.07–184).  
- Patients with various pathologies on magnetic resonance imaging had greater odds of a positive discography.  
- The authors concluded that patients with a chief complaint of lower back pain associated with sciatica, with more than four episodes of previous lower back pain exacerbations and the presence of a high intensity zone on magnetic resonance imaging, have a higher rate of positive discography. |
References

Professional society guidelines/other:


Personal correspondence: William Burnham M.D., FAAFP, CPE. Regional UM Medical Director, Region 1; AmeriHealth Caritas Family of Companies. Charleston, South Carolina.

Peer-reviewed references:


**CMS National Coverage Determinations:**

No National Coverage Determinations identified as of the writing of this policy.

**Local Coverage Determinations:**

No Local Coverage Determinations identified as of the writing of this policy.

**InterQual®:**

CP: Procedures Adult. Discography, Lumbar. InterQual 2012.2

**Commonly submitted codes**

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

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<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
<th>Comments</th>
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<tbody>
<tr>
<td>62290</td>
<td>Injection procedure for discography, each level; lumbar</td>
<td></td>
</tr>
<tr>
<td>62291</td>
<td>Injection procedure for discography, each level; cervical or thoracic</td>
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<tr>
<td>72285</td>
<td>Discography, cervical or thoracic, radiological supervision and interpretation</td>
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<tr>
<td>72295</td>
<td>Discography, lumbar, radiological supervision and interpretation</td>
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<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>M54.2</td>
<td>Cervicalgia</td>
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<tr>
<td>Code</td>
<td>Description</td>
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<td>M54.40-M54.42</td>
<td>Lumbago with sciatica</td>
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<td>M54.5</td>
<td>Low back pain</td>
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<td>M54.6</td>
<td>Pain in thoracic spine</td>
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<td>M54.9</td>
<td>Dorsalgia</td>
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<th>HCPCS Level II</th>
<th>Description</th>
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