Regence

Medical Policy Manual

**Topic:** Sacroiliac Joint Fusion

**Date of Origin:** December 2014

**Section:** Surgery

**Last Reviewed Date:** December 2016

**Policy No:** 193

**Effective Date:** February 1, 2017

**IMPORTANT REMINDER**

Medical Policies are developed to provide guidance for members and providers regarding coverage in accordance with contract terms. Benefit determinations are based in all cases on the applicable contract language. To the extent there may be any conflict between the Medical Policy and contract language, the contract language takes precedence.

PLEASE NOTE: Contracts exclude from coverage, among other things, services or procedures that are considered investigational or cosmetic. Providers may bill members for services or procedures that are considered investigational or cosmetic. Providers are encouraged to inform members before rendering such services that the members are likely to be financially responsible for the cost of these services.

**DESCRIPTION**

The sacroiliac (SI) joint is a strong weight bearing joint with a self-locking mechanism that provides stability with movement on the left and right side of the sacrum. Similar to other structures in the spine, it is assumed that the SI joint may be a source of low back pain but there are currently no reference standards for diagnosis. If conservative therapies fail to adequately treat symptoms, SI joint fusion may be used to stabilize the SI joint including open, percutaneous, and minimally invasive techniques.

**BACKGROUND**

The sacroiliac (SI) joint is a joint between the sacrum and ilium of the pelvis. The SI joint is a strong weight bearing joint with a self-locking mechanism that provides stability with movement on the left and right side of the sacrum. Similar to other structures in the spine, it is assumed that the SI joint may be a source of low back pain.

Currently, there are no reference standards for the diagnosis of SI joint pain. SI joint pain is typically without any consistent, demonstrable radiographic or laboratory features and most commonly exists in the setting of morphologically normal joints. Clinical tests for SI joint pain may include various movement tests, palpation to detect tenderness, and pain descriptions by the patient. Research into sacroiliac joint pain has been inhibited by the lack of any criterion standard to measure its prevalence and against which various clinical examinations can be validated. Further confounding study of the SI...
joint is that multiple structures, such as posterior facet joints and lumbar discs, may refer pain to the area surrounding the SI joint.

There are many methods for the treatment of chronic SI joint pain including nonsurgical and surgical approaches. Conservative management may include nonsteroidal anti-inflammatory medications, prescription analgesics, spinal manipulation, physical therapy, a home exercise program, and evaluation and management of cognitive, psychological, or behavioral issues.

If conservative therapies fail to adequately treat symptoms, SI joint fusion may be used to stabilize the SI joint. Surgical approaches include open, percutaneous, and minimally invasive techniques. The open surgery technique involves the iliac crest bone and the sacrum being held together with plates and/or screws until fusion occurs between the two bones. The use of minimally invasive techniques to fuse the SI joint has increased over the last several years. Minimally invasive procedures use specially designed implants for the stabilization of the SI joint. Recently, there have been several publications and reports of a technique that places a series of triangular titanium implants across the SI joint.

**Regulatory Status**

Several percutaneous or minimally invasive fixation/fusion devices have received marketing clearance by the Food and Drug Administration. These include the SI-FIX Sacroiliac Joint Fusion System (Medtronic), the IFUSE® Implant System (SI Bone), the SImetry® Sacroiliac Joint Fusion System (Zyga Technologies), Silex™ Sacroiliac Joint Fusion System (X-Spine Systems) and the SI-LOK® Sacroiliac Joint Fixation System (Globus Medical). FDA Product Code: OUR.

Note: This policy does not address percutaneous sacroplasty which is addressed in the *Percutaneous Vertebroplasty and Kyphoplasty* policy (SUR107).

**MEDICAL POLICY CRITERIA**

I. Injection for the purpose of diagnosing sacroiliac joint pain may be considered medically necessary when all of the following criteria (I.A-C) have been met:

   A. Pain has failed to respond to 3 months of conservative management, which must include all of the following (I.A.1-3):

      1. Use of prescription strength analgesics (including anti-inflammatory medications if not contraindicated); and

      2. Documented participation in at least 6 weeks of physical therapy that must include active exercise or documentation of why the member could not tolerate PT; and

      3. Evaluation and appropriate management of associated rheumatologic issues when present

   B. Dual (controlled) diagnostic blocks with 2 anesthetic agents with differing duration of action are used; and

   C. The injections are performed under imaging guidance.
II. Sacroiliac joint fusion performed by an open procedure may be considered medically necessary when one of the following criteria is met:

A. As an adjunct to sacrectomy or partial sacrectomy related to tumors involving the sacrum; OR

B. As an adjunct to the medical treatment of sacroiliac joint infection (e.g., osteomyelitis, pyogenic sacroiliitis)/sepsis; OR

C. As a treatment for severe traumatic injuries associated with pelvic ring fracture.

III. Sacroiliac joint fusion performed by an open procedure, for any other indication not listed above (IIA-C) is considered not medically necessary.

IV. Sacroiliac joint fusion performed by percutaneous or minimally invasive techniques is considered investigational.

POLICY GUIDELINES

A successful trial of controlled diagnostic SI joint or lateral branch blocks consists of two separate positive blocks on different days with local anesthetic only (no steroids or other drugs), or a placebo controlled series of blocks, under fluoroscopic guidance, that has resulted in a reduction in pain for the duration of the local anesthetic used (e.g., three hours longer with bupivacaine than lidocaine). There is not a consensus on whether a minimum of 50% or 75% reduction in pain would be required to be considered a successful diagnostic block, although evidence supports a criterion standard of 75% to 100% reduction in pain with dual blocks. No therapeutic intra-articular injections (i.e., steroids, saline, other substances) should be administered for a period of at least four weeks before the diagnostic block. The diagnostic blocks should not be conducted under intravenous sedation unless specifically indicated (e.g., the patient is unable to cooperate with the procedure).

SCIENTIFIC EVIDENCE

SI joint fusion performed by open procedure is considered standard of care to stabilize the sacroiliac joint due to trauma, infection, and tumors involving the sacrum. Therefore, the focus of the literature review is on the use of diagnostic blocks for the diagnosis of SI joint pain and the use of percutaneous or minimally invasive fusion techniques.

Due to the volume of published literature regarding minimally invasive sacroiliac joint fusion with varying study design and quality, the following is a summary of key references published to date. It is important to note that many of the systematic reviews include similar studies in addition to those studies being summarized below.

Diagnostic Blocks

The use of diagnostic blocks to evaluate SI joint pain builds on the experience of diagnostic block use in other joints to evaluate pain. Blinded studies with placebo controls (although difficult to conduct when dealing with invasive procedures) are ideally required for scientific validation of sacroiliac joint blocks,
particularly when dealing with pain relief well-known to respond to placebo controls. In the typical evaluation of a diagnostic test, the results of SI diagnostic block would then be compared with a criterion standard. However, there is no current criterion standard for SI joint injection. A search for systematic reviews, randomized controlled trials, and comparative studies on diagnostic blocks was conducted. Two systematic reviews \cite{1,2} are summarized below. A systematic review by Rupert\cite{3} was excluded due to the inclusion of the same studies as the more recent 2012 systematic review\cite{1}.

### Systematic Reviews

A 2012 systematic review\cite{1} evaluated the accuracy of diagnostic sacroiliac joint interventions. The methodological quality of the studies was evaluated and only the studies meeting at least 50% of the applicable appraisal inclusion criteria were included. A total of 17 studies met inclusion criteria with a range of diagnostic interventions and relief cutoff thresholds. Only one placebo-controlled study was identified with methodological limitations. The review concluded that there is good evidence for the use of controlled diagnostic local anesthetic blocks. Uncontrolled blocks had a false positive rate of approximately 20%. Overall, the systematic review concluded, based on what the authors determined to be good evidence, “there was no significant difference when 70% or greater relief is utilized as the criterion standard with dual blocks.” In addition, the systematic review concluded that “there is no evidence to support the use of ultrasound or landmark-guided injections for sacroiliac joint pain. These injections must be performed under fluoroscopic or radiologic guidance.” Limitations of this systematic review include the lack of high quality evidence, significant variation in interventions, and discrepancies in a gold standard to measure against.

A systematic review was commissioned by the American Pain Society and conducted by the Oregon Evidence-based Practice Center in 2009.\cite{2} The systematic review concluded that no studies were identified that evaluated validity or utility of diagnostic sacroiliac joint block as a diagnostic procedure for low back pain with or without radiculopathy.

### Randomized Controlled Trials

No randomized controlled trials have been published.

### Conclusion

There is no current criterion standard for SI joint injections to diagnose sacroiliac joint pain limiting the conclusions that can be drawn. The available evidence supports the use of controlled diagnostic local anesthetic blocks. Uncontrolled blocks had a false positive rate of 20%. The prevalence rate of SI joint pain is lower when the cutoff thresholds are higher (> 50%) with the use of dual blocks.

### Sacroiliac Joint Fusion

#### Systematic Reviews

Zaidi (2015) conducted a systematic review of the evidence evaluating SI joint fusion interventions for treating SI joint pain or dysfunction.\cite{4} A comprehensive literature search was conducted and the authors included five case series, eight retrospective studies, and three prospective studies with at least two patients (N=430). The mean duration of follow-up was 60 months with the most common pathology being SI joint degeneration/arthrosis followed by SI joint dysfunction, postpartum instability among other less common pathologies. Study participants reported satisfaction after the procedures which
varied widely. The rates of reoperation for open surgery were 5% to 65% (mean 15%) and for minimally invasive 0% to 17% (mean 6%). Major complications ranged from 5% to 20% with one study reporting a 56% adverse event rate. The authors concluded that surgical intervention is beneficial for a subset of patients and that serious consideration of alternatives should be considered prior to surgery.

Lingutla (2016) published a systematic review with meta-analysis evaluating SI joint fusion for low back pain where it has been determined that the cause of the pain is originating from the sacroiliac joint and not the lumbar spine. Six nonrandomized studies were included with a mean follow-up of 17.6 months. The authors concluded that all outcome measures showed a statistical improvement for alleviating pelvic girdle pain. However, the review consisted of nonrandomized studies with some methodological limitations. More research is needed for this patient population.

A systematic review was conducted by Heiney (2015) that evaluated minimally invasive sacroiliac joint fusion utilizing a lateral transarticular technique. A total of 12 unique studies were included and concluded for this particular technique that minimally invasive SI joint fusion that patients reported improvements in pain, disability, and quality of life scores.

A 2012 systematic review found that the quality of evidence for surgical treatment (débridement, fusion) compared to injection treatment (corticosteroid, botulinum toxin, prolotherapy) for chronic sacroiliac pain was very low. No studies were identified that directly compared surgery to injection therapy. Seven case series using a range of surgical techniques that evaluated a range of surgical treatments were included and summarized. The literature was considered heterogeneous and insufficient to evaluate the comparative effectiveness of surgical treatments compared to other treatments. Several surgical studies reported complications including but not limited to infections, nonunion, further surgery, and intraoperative fracture. Studies had small sample sizes and provided little information on determining successful fusion.

In 2010, Ashman conducted a systematic review comparing fusion to denervation for chronic SI joint pain. Six case series on fusion were identified that evaluated a single treatment. As a result, no conclusions could be drawn for the comparative efficacy of the treatments.

Randomized Controlled Trials

In 2015, Whang et al reported an industry-sponsored nonblinded RCT of the iFuse Implant System in 148 patients. Twelve-month follow-up to this RCT was reported by Polly et al in 2015. However, by 12 months, almost all patients in the control group had crossed over to SI JOINT fusion. Two-year follow-up of this trial was reported by Polly et al in 2016. This last publication will be discussed in the case series section of this report. Trial inclusion was based on a determination of the SI JOINT as a pain generator from a combination of a history of SI JOINT-localized pain, positive provocative testing on at least three of five established physical tests, and at least a 50% decrease in SI JOINT pain after image-guided local anesthetic injection into the SI JOINT. The duration of pain before enrollment averaged 6.4 years (range, 0.47-40.7 years). A large proportion of subjects (37%) had previously undergone lumbar fusion, steroid SI JOINT infections (86%), and RFA (16%).

Patients were assigned 2:1 to minimally invasive SI JOINT fusion (n=102) or to nonsurgical management (n=46). Nonsurgical management included a stepwise progression of nonsurgical treatments, depending on individual patient choice. During follow-up, control patients received physical therapy (97.8%), intra-articular steroid injections (73.9%), and RFA of sacral nerve roots (45.7%). The primary outcome measure was 6-month success rate, defined as the proportion of treated subjects with a
20-mm improvement in SI JOINT pain in the absence of severe device-related or neurologic adverse events or surgical revision. Patients in the control arm could crossover to surgery after six months. Baseline scores indicated that the patients were severely disabled, with VAS pain scores averaging 82.3 out of 100 and ODI scores averaging 61.9 out of 100 (0=no disability, 100=maximum disability).

At six months, success rates were 23.9% in the control group versus 81.4% in the surgical group (posterior probability of superiority >0.999). A clinically important (≥15-point) improvement in ODI score was found in 27.3% of controls compared with 75.0% of fusion patients. Measures of QOL (36-Item Short-Form Health Survey, EuroQol-5D) also improved to a greater extent in the surgery group. Of the 44 nonsurgical management patients still participating at six months, 35 (79.5%) crossed over to fusion. Compared to baseline, opioid use at six months decreased from 67.6% to 58% in the surgery group, and increased from 63% to 70.5% in the control group (p=0.082). At 12 months, opioid use was similar between groups (55% vs 52%, p=0.61). Although these results generally favored fusion, the trial is limited due to the high number of patients that crossed over from the control group to the fusion group. This limits the comparative long-term conclusions that can be drawn.

In 2016, Sturesson et al reported another industry-sponsored nonblinded RCT of the iFuse Implant System in 103 patients.[12] Selection criteria were similar to those of the Whang trial, including at least 50% pain reduction on SI JOINT block. Mean pain duration was 4.5 years. Thirty-three percent of patients had undergone prior lumbar fusion. Nonsurgical management included physical therapy and exercises at least twice per week; interventional procedures (e.g., steroid injections, RFA) were not allowed. The primary outcome was change in VAS pain score at six months.

Of 109 randomized subjects, six withdrew before treatment. All patient assigned to iFuse underwent the procedure, and follow-up at six months was in 49 of 51 patients in the control group and in all 52 patients in the iFuse group. At six months, VAS pain scores improved by 43.3 points in the iFuse group and by 5.7 points in the control group (p<0.001). ODI scores improved by 25.5 points in the iFuse group and by 5.8 points in the control group (p<0.001, between groups). QOL outcomes showed a greater improvement in the iFuse group than in the control group. Changes in pain medication use are not reported. Although these results favored fusion, with magnitudes of effect in a range similar to the Whang RCT, this trial was also not blinded and lacked a sham control. Outcomes were only assessed to six months. Six-month results for the Whang and Sturesson trials are shown in Table 1.

Table 1. Summary of 6-Month iFuse Results From Whang et al[9] and Sturesson et al[12]

<table>
<thead>
<tr>
<th>Results</th>
<th>VAS Score</th>
<th>Success End Point</th>
<th>ODI Score</th>
<th>SF-36 PCS Score</th>
<th>EQ-5D TTO Index</th>
</tr>
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<tr>
<td></td>
<td>Ctrl</td>
<td>iFuse</td>
<td>Ctrl</td>
<td>iFuse</td>
<td>Ctrl</td>
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<tr>
<td>Baseline</td>
<td>82.2</td>
<td>82.3</td>
<td>61.1</td>
<td>62.2</td>
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<td>Follow-up</td>
<td>70.4</td>
<td>29.8</td>
<td>23.9%</td>
<td>31.9</td>
<td>32.0</td>
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<td>Change</td>
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<td>-52.6a</td>
<td>-4.9</td>
<td>-30.3a</td>
<td>1.2</td>
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<tr>
<td>Sturesson et al (2016)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>73.0</td>
<td>77.7</td>
<td>-5.8</td>
<td>-25.5</td>
<td>0.11</td>
</tr>
<tr>
<td>Follow-up</td>
<td>67.8</td>
<td>34.4</td>
<td>-5.7</td>
<td>-43.3</td>
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</tr>
</tbody>
</table>

The success end point was defined as a reduction in pain VAS score of ≥20, absence of device-related events, absence of neurologic worsening, and absence of surgical intervention.

Ctl: control; EQ-5D TTO: EuroQoL Time Tradeoff Index; ODI: Oswestry Disability Index; SF-36 PCS: 36-Item Short-Form Health Survey Physical Component Summary; VAS: visual analog scale.

a p<0.001.

Nonrandomized Studies

Case Series With Good Reported Follow-Up Rates
Case series with good follow-up rates are more likely to provide valid estimates of outcomes. Series with good follow-up rates (>80%) are reported in this section.

In 2012, Rudolf retrospectively analyzed his first 50 consecutive patients treated with the iFuse Implant System.[13] There were 10 perioperative complications, including implant penetration into the sacral neural foramen (two patients) and compression of the L5 nerve (1 patient); these three patients required surgical retraction of the implant. At three years postsurgery, 1 patient required additional implants due to worsening symptoms. At a minimum of 24 months of follow-up (mean, 40 months), the treating surgeon was able to contact 45 patients. The mean pain score was two (1 to 10 scale), and 82% of patients had attained the minimal clinically important difference in pain score (defined as ≥ 2 of 10).

In 2016, results from a case series of 172 patients undergoing SI JOINT fusion reported to two years were published by Duhon et al.[14,15] Patients were formally enrolled in a single-arm trial (NCT01640353) with planned follow-up for 24 months. Success was defined as a reduction of VAS pain score of 20 mm (out of 100 mm), absence of device-related adverse events, absence of neurologic worsening, and absence of surgical reintervention. Enrolled patients had a mean VAS pain score of 79.8, a mean ODI score of 55.2, and had a mean pain duration of 5.1 years. At six months, 136 (80.5%) of 169 patients met the success end point, which met the prespecified Bayesian probability of success rate. Mean VAS pain scores were 30.0 at six months and 30.4 at 12 months. Mean ODI scores were 32.5 at six months and 31.4 at 12 months. At two years, 149 (87%) of 172 patients were available for follow-up. VAS pain score at two years was 26.0 and ODI score was 30.9. Thus, 1-year outcomes were maintained at two years. Other outcomes (eg, QOL scores) showed similar maintenance or slight improvement compared to 1-year outcomes. Use of opioid analgesics decreased from 76.2% at baseline to 55% at two years. Over the 2-year follow-up, 8 (4.7%) patients required revision surgery.

In 2016, Polly et al reported 2-year outcomes from the RCT of SI JOINT fusion.[11] When reported, without an untreated control group, the study was a case series. Of 102 subjects originally assigned to SI JOINT fusion and treated, 89 (87%) were evaluated at two years. Although the clinical trial used a different composite end point, in this report, clinical outcomes were based on the amount of improvement in SI JOINT pain and in ODI scores. Improvement was defined as a change of 20 points in SI JOINT pain score and 15 points in ODI score. Substantial improvement was defined as a change in in 25 points in SI JOINT pain score or a score of 35 or less and an improvement of 18.8 points in ODI score. At 24 months, 83.1% and 82% had improvement and substantial improvement in SI JOINT pain score, and 68.2% and 65.9% had improvement and substantial improvement in ODI. By 24 months, the proportion taking opioids was reduced from 68.6% at baseline to 48.3%.

A 2014 report by Rudolph and Capobianco described 5-year follow-up for 17 of 21 consecutive patients treated at their institution between 2007 and 2009.[16] Of the four patients lost to follow-up, two had died and one had become quadriplegic due to severe neck trauma. For the remaining patients, mean VAS score (range, 0-10) improved from 8.3 before surgery to 2.4 at five years; 88.2% of patients had substantial clinical benefit, which was defined as a 2.5-point decrease in VAS score or a raw score less than 3.5. Mean ODI score at five years was 21.5. Imaging by radiograph and computed tomography showed intra-articular bridging in 87% of patients with no evidence of implant loosening or migration.

Case Series With Unknown Follow-Up Rates

The following case series did not report follow-up rates or study methodologies did not permit calculation of the complete number of patients treated.
In 2013, Smith et al retrospectively compared open with minimally invasive SI JOINT fusion. Because all patients received fusion, this study should be interpreted as a case series, with attention paid to the minimally invasive fusion group. Only patients with medical records documenting 12- or 24-month pain scales were included, resulting in 114 patients selected for the minimally invasive group. Losses to follow-up could not be determined. At 12 months, VAS pain scores decreased to a mean of 2.3 from a baseline of 8.1. At 24 months, mean VAS pain score was 1.7, but data for only 38 patients were analyzed. These improvements in VAS pain score were greater than those for open fusion, but conclusions of comparative efficacy should not be made given this type of study. Implant repositioning was performed in 3.5% of patients in the minimally invasive group.

A large (N=144) industry-sponsored, multicenter retrospective series was reported by Sachs et al in 2014. Consecutive patients from 6 sites were included if preoperative and 12-month follow-up data were available. No information was provided on the total number of patients treated during the same time interval. Mean baseline pain score was 8.6. At a mean 16-month follow-up, VAS score was 2.7 (\(\frac{10}{10}\)), an improvement of 6.1. Ten percent of patients reported an improvement of 1 point or less. Substantial clinical benefit, defined as a decrease in pain score by more than 2.5 points or a score of 3.5 or less, was reported in 91.9% of patients.

In 2016, Sachs et al reported outcomes of 107 patients with a minimum follow-up of 3 years. The number of potentially eligible patients was not reported, so the follow-up rate is unknown. Pain scores improved from a mean of 7.5 at baseline to 2.5 at a mean follow-up time of 3.7 years. ODI score at follow-up was 28.2, indicating moderate residual disability. Overall satisfaction rate was 87.9% (67.3% very satisfied, 20.6% somewhat satisfied). Revision surgery was reported in five (4.7%) patients. Without knowing the number of eligible patients, the validity of this study cannot be determined.

**Adverse Events**

From January 2010 through August 2016, a total of 438 MAUDE database injury reports were identified (product code OUR): 355 mentioned revision, 188 malposition, 32 radicular pain, 24 impingement or impingement, and 14 infection.

**Summary**

For individuals who have SI joint pain who receive SI joint fusion, the evidence includes two RCTs of minimally invasive fusion and a number of case series. Relevant outcomes are symptoms, functional outcomes, quality of life, medication use, and treatment-related morbidity. Both nonblinded RCTs reported superior short-term results for fusion, but more long term data is needed. Several case series have reported follow-up out to five years and report good outcomes, however, they are limited by study design and lack of a comparator group. More studies are needed that measure objective outcomes in order to evaluate the long-term effectiveness and safety of SI joint fusion.

**Clinical Practice Guidelines**

**North American Spine Society**

The North American Spine Society (NASS) published coverage recommendations for percutaneous sacroiliac joint fusion in 2015. NASS indicated that there was relatively moderate evidence. In the absence of high-level data, policies reflect the multidisciplinary experience and expertise of the
committee members in order to present reasonable standard practice indications in the United States. NASS recommended coverage when all of the following criteria are met:

1. “[Patients] have undergone and failed a minimum 6 months of intensive nonoperative treatment that must include medication optimization, activity modification, bracing and active therapeutic exercise targeted at the lumbar spine, pelvis, SI JOINT and hip including a home exercise program.
2. Patient’s report of typically unilateral pain that is caudal to the lumbar spine (L5 vertebra), localized over the posterior SI JOINT, and consistent with SI JOINT pain.
3. A thorough physical examination demonstrating localized tenderness with palpation over the sacral sulcus (Fortin’s point, ie, at the insertion of the long dorsal ligament inferior to the posterior superior iliac spine or PSIS) in the absence of tenderness of similar severity elsewhere (eg, greater trochanter, lumbar spine, coccyx) and that other obvious sources for their pain do not exist.
4. Positive response to a cluster of 3 provocative tests (eg, thigh thrust test, compression test, Gaenslen’s test, distraction test, Patrick’s sign, posterior provocation test). Note that the thrust test is not recommended in pregnant patients or those with connective tissue disorders.
5. Absence of generalized pain behavior (eg, somatoform disorder) or generalized pain disorders (eg, fibromyalgia).
6. Diagnostic imaging studies that include ALL of the following:
   a. Imaging (plain radiographs and a CT [computed tomography] or MRI [magnetic resonance imaging]) of the SI joint that excludes the presence of destructive lesions (eg, tumor, infection) or inflammatory arthropathy that would not be properly addressed by percutaneous SI JOINT fusion.
   b. Imaging of the pelvis (AP [anteroposterior] plain radiograph) to rule out concomitant hip pathology.
   c. Imaging of the lumbar spine (CT or MRI) to rule out neural compression or other degenerative condition that can be causing low back or buttock pain.
   d. Imaging of the SI joint that indicates evidence of injury and/or degeneration.
7. At least 75% reduction of pain for the expected duration of the anesthetic used following an image-guided, contrast-enhanced intra-articular SI JOINT injection on 2 separate occasions.
8. A trial of at least one therapeutic intra-articular SI JOINT injection (ie, corticosteroid injection).”

International Society for the Advancement of Spine Surgery

The International Society for the Advancement of Spine Surgery (ISASS) published a policy statement on minimally invasive sacroiliac joint fusion. These recommendations were updated in 2016. ISASS lists criteria for determining a patient’s eligibility regarding minimally invasive SI joint fusion. However, the statement has several limitations including but not limited to the literature review methods are not transparent, there is no formal assessment of the quality of the evidence, and there is not a clear link between the recommendations and supporting evidence. ISASS recommendations state that patients who have all of the following criteria may be eligible for minimally invasive SI JOINT fusion:

- “Significant SI joint pain … or significantly limitations in activities of daily living because of pain from the SI joint(s).
- “SI joint pain confirmed with … at least three positive physical provocation examination maneuvers that stress the SI joint.
- “Confirmation of the SI joint as a pain generator with ≥ 75% acute decrease in pain immediately following fluoroscopically guided diagnostic intra-articular SI joint block using local anesthetic.
• “Failure to respond to at least six months of non-surgical treatment consisting of non-steroidal anti-inflammatory drugs and/or … one or more of the following: … physical therapy…. Failure to respond means continued pain that interferes with activities of daily living and/or results in functional disability;
• “Additional or alternative diagnoses that could be responsible for the patient’s ongoing pain or disability have been considered, investigated and ruled out.”

American Society of Interventional Pain Physicians (ASIPP)

The ASIPP guidelines published in 2013 have a recommendation for diagnostic sacroiliac joint injections which were based on a systematic review of the evidence.[22] The guideline indicates that sacroiliac joint blocks appear to be the evaluation of choice to provide appropriate diagnosis, due to the inability to make the diagnosis of sacroiliac joint-mediated pain with noninvasive tests. The ASIPP guidelines conclude and recommend the following for diagnostic sacroiliac joint blocks:

• The evidence for diagnostic intraarticular sacroiliac joint injections is good with 75% to 100% pain relief as the criterion standard with controlled local anesthetic or placebo blocks, and fair due to the limitation of the number of studies with 50% to 74% relief with a dual block.
• Controlled sacroiliac joint blocks with placebo or controlled comparative local anesthetic blocks are recommended when indications are satisfied with suspicion of sacroiliac joint pain.

American Society of Anesthesiologists Task Force on Chronic Pain Management and the American Society of Regional Anesthesia and Pain Medicine Practice

In 2010, the American Society of Anesthesiologists Task Force on Chronic Pain Management and the American Society of Regional Anesthesia and Pain Medicine Practice updated their guidelines for chronic pain management.[23] The guidelines recommend that diagnostic sacroiliac joint injections or lateral branch blocks may be considered for the evaluation of patients with suspected sacroiliac joint pain.

American Pain Society (APS)

The 2009 practice guidelines from the APS were based on a systematic review that was commissioned by the APS and conducted at the Oregon Evidence-based Practice Center.[2,24] The APS guideline states that there is insufficient evidence to evaluate the validity or utility of diagnostic sacroiliac joint block as a diagnostic procedure for low back pain with or without radiculopathy.

Summary

Based on the established use of injections to diagnose pain in other joints and clinical practice guideline recommendations, controlled diagnostic injections (two blocks with anesthetics of different duration) in select patients may be considered medically necessary for the diagnosis of sacroiliac joint pain when the policy criteria are met.

Sacroiliac joint fusion or fixation performed by open procedure is considered standard of care for traumatic injuries, tumors involving the sacrum, and SI joint infection/sepsis as outlined in the Medical Policy Criteria and therefore may be considered medically necessary. Sacroiliac joint fusion performed by an open procedure for any other indication is considered not medically necessary.
There is not enough research on percutaneous or minimally invasive sacroiliac joint fixation or fusion to permit conclusions regarding the effect of these procedures on health outcomes and safety. More research is needed that measures objective outcomes for a longer period of time. Therefore, these techniques are considered investigational for the treatment of SI joint pain.

REFERENCES


**CROSS REFERENCES**

*Lumbar Spinal Fusion*, Surgery Policy No. 187

Percutaneous Vertebroplasty, Kyphoplasty, Sacroplasty, and Coccygeoplasty, Surgery, Policy No. 107
<table>
<thead>
<tr>
<th>CODES</th>
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<td>Unlisted procedure, spine</td>
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<tr>
<td></td>
<td>27096</td>
<td>Injection procedure for sacroiliac joint, anesthetic/steroid, with image guidance (fluoroscopy or CT) including arthrography when performed</td>
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<td>27279</td>
<td>Arthrodesis, sacroiliac joint, percutaneous or minimally invasive (indirect visualization), with image guidance, includes obtaining bone graft when performed, and placement of transfixing device</td>
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