### MEDICAL POLICY DETAILS

<table>
<thead>
<tr>
<th>Medical Policy Title</th>
<th>SACROILIAC JOINT FUSION/STABILIZATION: OPEN AND PERCUTANEOUS METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Number</td>
<td>7.01.93</td>
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<tr>
<td>Category</td>
<td>Technology Assessment</td>
</tr>
<tr>
<td>Effective Date</td>
<td>12/15/16, 06/21/18, 12/20/18</td>
</tr>
<tr>
<td>Revised Date</td>
<td>06/21/18, 12/20/18</td>
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</table>
| Product Disclaimer   | • If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.  
                        • If a commercial product (including an Essential Plan product) or a Medicaid product covers a specific service, medical policy criteria apply to the benefit.  
                        • If a Medicare product covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit. |

### POLICY STATEMENT

I. Based on our criteria and assessment of the peer-reviewed literature, minimally invasive sacroiliac joint (SIJ) fusion using titanium triangular implants (SI BONE (iFUSE Implant™)) for the treatment of lumbopelvic pain originating from the SIJ is considered medically necessary when ALL of the following criteria are met:

   A. Performed by an orthopedic surgeon or neurosurgeon with specific training and expertise in percutaneous SIJ surgical techniques and who regularly uses image-guidance for placement of implants;

   B. Presence of non-radiating lumbopelvic pain caudal to L5, buttock, hip, and/or groin pain without radiation into the leg(s) that impairs physical activities;

   C. SIJ pain interfering with activities of daily living;

   D. Patient localizes posterior pain to the posterior superior iliac spine (Fortin’s point);

   E. Localized tenderness to palpation over the sacral sulcus and posterior SIJ;

   F. Elicitation of typical pain on three or more provocative physical examination maneuvers/tests that stress the SIJ:

      i. Thigh thrust test
      ii. Compression test
      iii. Gaenslen’s maneuver
      iv. Distraction test
      v. FABER/Patrick’s sign
      vi. Posterior provocation test;

   G. Absence of localized tenderness to palpation of similar severity to palpation of the sacral sulcus and posterior SIJ over the greater trochanter, lumbar spine, and coccyx;

   H. Diagnostic confirmation of the SIJ as a pain generator through at least an 80% reduction in pain for the expected duration of effect of the anesthetic agent used upon two separate contrast-enhanced fluoroscopically or CT-guided intra-articular SIJ blocks using a local anesthetic performed at a minimum of two weeks apart;

   I. Confirmation of the SIJ as a pain generator through at least a 50% reduction in pain for a minimum of two weeks following one contrast-enhanced fluoroscopically or CT-guided intra-articular SIJ injection using a corticosteroid;

   J. SIJ pain without minimal clinically important difference (MCID) from a minimum of a consecutive 6 months of conservative, non-surgical treatment including all if the following unless contraindicated:

      i. Non-steroidal anti-inflammatory drugs (NSAIDs);
      ii. Prescription medication optimization;
      iii. Activity modification;
      iv. Physician supervised/prescribed active physical therapy (including home exercise program) targeting lumbopelvic (core) area; and
v. Chiropractic care;
K. Absence of generalized pain behavior (e.g., somatoform disorder) or generalized pain disorders (e.g., fibromyalgia)
L. Documentation of nicotine-free status with EITHER of the following:
   i. Patient is a nonsmoker; or
   ii. Patient has refrained from smoking for at least 6 weeks prior to planned surgery as evidence by cotinine lab results of less than or equal to 10ng/mL;
M. Absence of unmanaged significant behavioral health disorders (e.g., major depressive disorder, chronic pain syndrome, secondary gain, drug and alcohol abuse); and
N. Recent (within 6 months) diagnostic imaging studies that include ALL of the following:
   i. Plain radiographs and/or cross sectional imaging (CT or MRI) that excludes the presence of destructive lesions (e.g., tumor, infection), acute fracture of inflammatory arthropathy that would not be properly addressed by SIJ fusion;
   ii. Plain radiographs of the pelvis including the ipsilateral hip to evaluate potential concomitant hip pathology; and
   iii. Cross-sectional imaging (e.g., CT or MRI) of the lumbar spine to evaluate potential concomitant neural compression or other degenerative conditions.

II. Based on our criteria and assessment of the peer-reviewed literature, open SIJ fusion is considered medically necessary when ALL of the following criteria are met:
A. Recent (within 6 months) plain radiographs and/or cross-sectional imaging (CT or MRI) demonstrate localized SIJ pathology;
B. Documentation of nicotine-free status with EITHER of the following:
   i. Patient is a nonsmoker; or
   ii. Patient has refrained from smoking for at least 6 weeks prior to planned surgery as evidence by cotinine lab results of less than or equal to 10ng/mL.; and
C. ANY of the following:
   i. Post-traumatic injury of the SIJ (e.g., following pelvic ring fracture)
   ii. As an adjunctive treatment for SIJ infection; or
   iii. Management of sacral tumor (e.g., partial sacrectomy)
   iv. When performed as part of a multisegmental long fusion construct for the correction of spinal deformity (e.g. idiopathic scoliosis, neuromuscular scoliosis).

III. Based on our criteria and assessment of the peer-reviewed literature, minimally invasive SIJ fusion or stabilization using titanium triangular implants has not been proven to be medically effective and therefore is considered investigational, including but not limited to ANY of the following:
A. Any case that does not fulfill ALL of the above criteria;
B. Less than 6 months of SIJ pain and/or functional impairment;
C. Systemic arthropathy (e.g., ankylosing spondylitis, psoriatic arthritis, rheumatoid arthritis);
D. Generalized pain behavior (e.g., somatoform disorder) or generalized pain disorders (e.g., fibromyalgia);
E. Presence of infection, tumor, or fracture;
F. Acute traumatic instability of the SIJ;
G. Presence of neural compression as seen on an MRI or CT that correlated with the patient’s symptoms or other more likely source for the patients pain;
H. Any condition that would prevent insertion of the implants; and
I. Bilateral procedures on the same date of service.

IV. Based on our criteria and assessment of the peer-reviewed literature, the use of minimally invasive fusion products other than (SI BONE (iFUSE Implant™) System (e.g., Rialto SI Fusion System, Symmetry SI Joint Fusion System, Silex Sacroiliac Joint Fusion System, SiJoint Direct Posterior Fusion, Samba-Screw System, SI-LOK Sacroiliac Joint Fixation System) for minimally invasive SIJ fusion has not been proven to be medically effective and therefore is considered investigational.

V. Based on our criteria and assessment of the peer-reviewed literature, open SIJ fusion has not been proven to be medically effective and therefore is considered investigational, including, but not limited to ANY of the following:
A. Mechanical low back pain;

Proprietary Information of Excellus Health Plan, Inc.
POLICY GUIDELINES

The Federal Employee Health Benefit Program (FEHBP/FEP) requires that procedures, devices or laboratory tests approved by the U.S. Food and Drug Administration (FDA) may not be considered investigational and thus these procedures, devices or laboratory tests may be assessed only on the basis of their medical necessity.

DESCRIPTION

The sacroiliac joint, or SI joint (SIJ), is a large L-shaped synovial joint in the pelvis that connects the sacrum and the ilium of the pelvis. This joint is a strong, weight bearing joint on both sides of the pelvis. These joints are supposed to move together as single unit. Sacroiliac joint pain is often from dysfunction from one of the two joints. When one joint does not move properly pain may be felt as one-sided low back pain or midline “tailbone” pain. The joint can move too much (hypermobility) or too little (hypomobility) and can feel “locked-up”. Pain can be dull or very sharp. When SI joint dysfunction is severe, this joint can refer pain to the hip, lower back, groin, buttocks, and even down the back of the thigh. The majority of patients can be treated non-operatively through anti-inflammatory medications, physical therapy, or SI joint injections. However, when conservative therapies have failed to improve symptoms, surgical intervention may be proposed. Within the past few years, there has been resurgence in the recognition of the SI joint as a potential source of low back pain as treatment options for SI joint dysfunction have advanced.

Open Sacroiliac (SI) joint fusion was an early technique used to stabilize the sacroiliac joint. However the open procedure has been associated with long intraoperative times, intraoperative bleeding and long rehabilitative times. Therefore, minimally invasive SIJ fusion techniques have been investigated. Minimally invasive fusion aims to permanently stabilize the SIJ but avoid the morbidity of the open procedure. Minimally invasive fusion of the SI joint has been performed with several types of implants, including triangular, porous, titanium coated implants, hollow modular screws, titanium cages, and allograft dowels. Two surgical approaches are commonly used for minimally invasive SIJ fusion: a lateral transarticular approach, in which devices are placed across the SI joint from lateral to medial; and a posterior approach, in which devices are placed into the ligamentous portion of the joint via dissection of the multifidus muscle and removal of ligaments covering the outer posterior surface of the joint. In the posterior approach, a portion of the interosseous SIJ ligament is sometimes removed.

RATIONALE

Several percutaneous or minimally invasive fixation/fusion devices have been cleared for marketing by the FDA. They include the SI-FIX Sacroiliac Joint Fusion System (Medtronic), the IFUSE® Implant System (SI Bone), the SImetry® Sacroiliac Joint Fusion System (Zyga Technologies), Sileo™ Sacroiliac Joint Fusion System (X-spine Systems) and the SI-LOK® Sacroiliac Joint Fixation System (Globus Medical).

Although open SIJ fusion has been used since the 1920s and case reports of outcomes exist, the open procedure is rarely performed and hence clinical trials do not exist. For individuals who have SIJ pain who receive SIJ fusion, the evidence includes 2 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 non-blinded RCTs reported superior short-term results for fusion, but there is potential for bias because these trials lacked sham controls and used subjective outcome measures. Two case series of reasonable size and good follow-up showed that benefits obtained at 6 months persist to 2 years. One small case series showed good outcomes persist to 5 years. The case series are consistent with durability of treatment benefit, but only if there is a true benefit of treatment.

In March of 2015, Whang, et al. reported the six-month follow-up of an industry-sponsored non-blinded RCT of the iFuse Implant System in 148 patients. The twelve-month follow-up was reported by Polly and colleagues, in November of 2015.
Trial inclusion was based on the determination of the SIJ as a pain generator from a combination of a history of SIJ-localized pain, positive provocative testing on at least 3 of 5 established physical tests, and at least a 50% decrease in SIJ pain after image-guided local anesthetic injection into the joint. The duration of pain before enrollment averaged 6.4 years (range, 0.47-40.7 years). Patients were assigned 2:1 to minimally invasive SIJ fusion (n=102) or to nonsurgical management (n=46). Nonsurgical management included a stepwise progression, depending on individual patient needs of pain medications, 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 SIJ 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 6 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.

At 6 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 quality of life (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 6 months, 35 (79.5%) crossed over to fusion. Opioid use remained high in both groups at 6 months (70.5% for controls vs 58.0% for fusion; p=0.082) and at 12 months (55% vs 52%, respectively, p=0.61). Although these results generally favored fusion and had high methodologic quality, the trial had a high potential for bias (non-blinded study, subjective outcome measures).

In 2016, Sturesson and colleagues reported another industry-sponsored non-blinded RCT of the iFuse Implant System in 103 patients. Inclusion was based on similar criteria as the Whang trial, including at least 50% pain reduction on SIJ block. Mean pain duration was 4.5 years. Nonsurgical management included physical therapy and exercises at least twice per week; interventional procedures (eg, steroid injections, RFA) were not allowed. The primary outcome was change in VAS pain score at 6 months. Of 109 randomized subjects, 6 withdrew before any treatment. All patients assigned to iFuse underwent the procedure, and follow-up at 6 months was in 49 of 51 patients in the control group and in all 52 patients in the iFuse group. At 6 months, VAS pain scores improved by 43.3 points in the iFuse group and by 5.7 in the control group (p<0.001). ODI scores improved by 5.8 points in the control group and by 25.5 points in the iFuse group (p<0.001, between groups). Quality of life outcomes showed a greater improvement in the iFuse group than in the control group. Although these results favored fusion, with magnitudes of effect in a range similar to the RCT by Whang, this trial was also not blinded and lacked a sham control. Outcomes were only assessed to 6 months.

Sachs, et al. (2016) 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. Satisfaction rate was 87.9% (67.3% very satisfied, 20.6% somewhat satisfied). Revision surgery was reported in 5 (4.7%) patients. Without knowing the number of eligible patients, the validity of this study cannot be determined.

In 2016, Schoell and colleagues analyzed postoperative complications tracked in an administrative database of minimally invasive SIJ fusions. Although during the study there was no specific CPT code for minimally invasive sacroiliac fusion, CPT codes listed by a policy statement were used. Using the Humana insurance database, patients with complications were identified using ICD-9 codes corresponding to a surgical complication within 90 days or 6 months if the codes were used for the first time. Of 469 patients, the overall incidence of complications was 13.2% at 90 days and 16.4% at 6 months. For specific complications, the infection rate was 3.6% at 90 days and the rate of complications classified as nervous system complications was 4.3%. The authors noted that the infection rate observed was consistent with the infection rates reported by Polly et al, but much higher than those reported for other types of minimally invasive spine procedures.

**CODES**

- Eligibility for reimbursement is based upon the benefits set forth in the member’s subscriber contract.
- CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.
CPT Codes

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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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<tr>
<td>27280</td>
<td>Arthrodesis, open, sacroiliac joint, including obtaining bone graft, including instrumentation, when performed</td>
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HCPCS Codes

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ICD10 Codes

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<tr>
<td>S33.6</td>
<td>Sprain of sacroiliac joint</td>
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REFERENCES


Cher DJ and Polly DW. Improvement in health state utility after sacroiliac joint fusion: comparison to normal populations. Global Spine J 2016 March;6(2):100-107.


Proprietary Information of Excellus Health Plan, Inc.
Medical Policy: SACROILIAC JOINT FUSION/STABILIZATION: OPEN AND PERCUTANEOUS METHODS
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*Key Article

KEY WORDS

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a Local Coverage Determination (LCD) for minimally-invasive surgical (MIS) fusion of the sacroiliac joint (L36406). Please refer to the following LCD website for Medicare Members: https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=36406&ContrId=298&ver=3&ContrVer=1&CntrctSelected=298*1&Cntrct=298&name=National+Government+Services%2c+Inc.+(13201%2c+A+and+B+and+HHH+MAC%2c+J+-+K)&s=All&DocType=Active&bc=AggAAAQAAAAAAA%3d%3d&