Sacroiliac Joint Interventions (for Kentucky Only)

Policy Number: CS200KY.14
Effective Date: April 1, 2026

➲ Instructions for Use

Table of Contents **Page**

Related Policy

- Ablative Treatment for Spinal Pain (for Kentucky Only)

Application

This Medical Policy only applies to the state of Kentucky.

Coverage Rationale

Note: This policy addresses intraarticular Sacroiliac Joint injections and fusion. This policy does not address radiofrequency ablation of the Sacroiliac Joint. For coverage criteria regarding radiofrequency ablation of the Sacroiliac Joint, refer to the Medical Policy titled Ablative Treatment for Spinal Pain (for Kentucky Only).

Sacroiliac (SI) Joint injections are proven and medically necessary in certain circumstances. For medical necessity clinical coverage criteria, refer to the InterQual® CP: Procedures, Sacroiliac (SI) Joint Injection.

Click here to view the InterQual® criteria.

Sacral Lateral Branch Nerve Blocks as a diagnostic tool prior to radiofrequency ablation are unproven and not medically necessary due to insufficient evidence of efficacy.

Sacroiliac (SI) Joint Fusions are medically necessary in certain circumstances. For medical necessity clinical coverage criteria, refer to the InterQual® CP: Procedures, Sacroiliac (SI) Joint Fusion.

Click here to view the InterQual® criteria.

For procedures that are not addressed in the above InterQual® criteria, minimally invasive joint fusion for degenerative sacroiliac disease using a Titanium Triangular Implant System is proven and medically necessary in certain circumstances. For medical necessity clinical coverage criteria, refer to the InterQual® Client Defined CP: Procedures Sacroiliac (SI) Joint Fusion (Custom) – UHG.

Click here to view the InterQual® criteria.

Fusion of the Sacroiliac Joint for the treatment of back pain presumed to originate from the Sacroiliac Joint is unproven and not medically necessary for all other indications not addressed in the above InterQual® criteria due to insufficient evidence of efficacy.

Medical Records Documentation Used for Reviews

Benefit coverage for health services is determined by the federal, state, or contractual requirements, and applicable laws that may require coverage for a specific service. Medical records documentation may be required to assess whether the member meets the clinical criteria for coverage but does not guarantee coverage of the services requested.

The patient's medical record must contain documentation that fully supports the medical necessity for the requested services. This documentation includes, but is not limited to, relevant medical history, physical examination, and results of pertinent diagnostic tests or procedures. Documentation supporting the medical necessity should be legible, maintained in the patient's medical record, and must be made available upon request.

Definitions

Provocative Tests: Tests performed to reproduce the patient's typical pain in the SI region, and can include:

- Thigh thrust test: Involves applying downward pressure along the femur while the individual is supine. Pain at the ilium or SI joint suggests SI joint dysfunction.
- Compression test (approximation test): Applies stress to the SI joint structures in an attempt to replicate the patient's symptoms.
- Gaenslen's test: Performed in the supine position. One hip is flexed by pushing the individual's knee to the chest, and the other knee is extended toward the opposite hip joint. This maneuver stresses both Sacroiliac Joints.
- Distraction test (gaping test): The application of downward pressure to the iliac crest while in the supine position.
- Patrick's sign (Fabere test): The affected leg is flexed, abducted, externally rotated, and extended so that the ankle of that leg is on top of the opposite knee. The affected leg is then slowly lowered toward the examining table.

(NASS, 2021)

Sacretectomy/Partial Sacretectomy: Removal or partial removal of the sacrum. Reconstruction of the union between the lumbar spine and the ilium following the procedure is done with spinal instrumentation to achieve stabilization. (Newman, 2022)

Sacroiliac Joint: The joint or articulation between the sacrum and ilium (Merriam-Webster).

Sacroiliac Joint Fusion (Arthrodesis): Intended to join the sacrum and the iliac bones together to stabilize the joint, with the goal of alleviating or reducing low back pain. There are two kinds of fusion surgery: minimally invasive and open.

- During minimally invasive (percutaneous) surgery, small cuts are made through the buttocks and scans are employed to guide placement of the instrumentation. Holes are drilled in the sacrum and ilium and implants are inserted across the two joints. Several devices have received U.S. Food and Drug Administration (FDA) marketing clearance. One device system, the iFuse SI Fusion System® (SI-Bone, Inc.), uses Titanium Triangular Implants to stabilize the SI joint.
- During open surgery, a seven-to-eight-inch incision is made, and muscles and tissue are separated to expose the SI joint. Cartilage is then removed between the sacrum and ilium, and a bone graft taken from the pelvis is used to connect and stabilize the joint. Screws are then inserted to keep the graft in place and stable during healing.

(Newman, 2022)

Titanium Triangular Implant: A Sacroiliac Joint (SIJ) implant intended for Sacroiliac Joint Fusion for conditions including Sacroiliac Joint disruptions and degenerative sacroiliitis (Darr, 2018).

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by federal, state, or contractual requirements and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

CPT Code	Description
27278	Arthrodesis, sacroiliac joint, percutaneous or minimally invasive, with image guidance, includes obtaining bone graft when performed, unilateral; placement of intra-articular device(s), with cortical piercing

CPT Code	Description
27279	Arthrodesis, sacroiliac joint, percutaneous or minimally invasive, with image guidance, includes obtaining bone graft when performed, unilateral; placement of transarticular device(s) and/or intra-articular device(s) piercing the lateral or medial cortices of the ileum and the lateral cortex of the sacrum
27280	Arthrodesis, sacroiliac joint, open, includes obtaining bone graft, including instrumentation, when performed
64451	Injection(s), anesthetic agent(s) and/or steroid; nerves innervating the sacroiliac joint, with image guidance (i.e., fluoroscopy or computed tomography)

Description of Services

Sacroiliac Joint Fusion (SIJF) is a surgical procedure, which fuses the iliac bone (pelvis) to the spine (sacrum) for stabilization. It is performed for a variety of conditions including trauma, infection, cancer, and spinal instability. SIJF may be performed as a minimally invasive procedure or as an open surgical procedure requiring a larger incision and subsequent increased recovery time.

Minimally invasive SI Fusion is a procedure that attempts to stabilize the sacroiliac (SI) joints by fusing the sacrum to the ilium with allograft material, limiting movement of the joint. (Hayes, 2023)

There are two surgical approaches that are commonly used for minimally invasive SIJF:

- A lateral transarticular approach, in which devices are placed across the SI joint from lateral to medial. In the lateral approach, the SI joint is accessed laterally through a small incision made in the buttock to access the ilium. A pin is passed through the ilium across the SI joint into the center of the sacrum, avoiding the neural foramen. A drill is used to create a pathway through the ilium to the sacrum. An implant is inserted (with the lateral portion of the implant sitting in the ilium and the medial end in the sacrum), spanning the SI joint. Typically, three implants are used per side.
- 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 Sacroiliac Joint (SIJ) ligament is sometimes removed.

Open surgical techniques involve direct visualization of the Sacroiliac Joint and may include anterior and posterior approaches that can be performed with and without screws or plates, and a posterior midline fascial splitting approach.

Diagnosis of SIJ dysfunction is based on a combination of tests or provocative maneuvers during physical examination to help localize the pain to the SIJ. Imaging studies do not generally help to localize pain but can be used to exclude other diagnoses that may mimic SIJ pain (e.g., hip osteoarthritis, spine degeneration at the L5/S1 level, spinal stenosis). The physical examination may include Provocative Tests (e.g., Gaenslen's maneuver, Patrick's test, thigh thrust, and compression and distraction tests) to stress the SIJ and reproduce the patient's pain. (Hayes, 2020; Foley and Buschbacher, 2006; Hooten and Cohen, 2015; Lorio, 2020)

Clinical Evidence

Sacral Lateral Branch Nerve Blocks

The sacral lateral branch nerve block remains unproven due to several factors, including anatomic limitations that exist rendering the injection physiology ineffective. The American Society of Pain and Neuroscience (ASPN) reports that the supporting evidence is of moderate quality which is insufficient to establish the effectiveness of this test. Additionally, the North American Spine Society (NASS) notes that testing, such as the lateral branch nerve block is supported by limited published evidence.

In 2022, The American Society of Pain and Neuroscience (ASPN) published guidance on the treatment of lower back pain. No specific mention of lateral branch blocks (Sayed, 2022).

King et al. (2015) evaluated the literature on sacral lateral branch interventions and found it to be sparse. The searches yielded two primary publications on sacral lateral branch blocks and 15 studies of the effectiveness of sacral lateral branch thermal radiofrequency neurotomy. One study demonstrated the face validity of multisite, multidepth sacral lateral branch blocks for diagnosis of posterior sacroiliac complex pain. Some evidence of moderate quality exists on therapeutic

procedures, but it is insufficient to determine the indications and effectiveness of sacral lateral branch thermal radiofrequency neurotomy, and more research is required.

Clinical Practice Guidelines

In the Evidence-Based Clinical Guidelines for Multidisciplinary Spine Care, NASS (2020) lists the following recommendation for the diagnosis and treatment of low back pain:

- Lateral branch nerve blocks can be utilized diagnostically, especially for dorsal ligament pain of the sacroiliac (SI) joint; however, evidence supporting this is limited.

Minimally Invasive Fusion of the Sacroiliac Joint

Ghaddaf et al. (2024) conducted a systematic review and meta-analysis comparing minimally invasive sacroiliac joint (MISIJ) fusion using a triangular titanium implant (TTI) system with nonoperative management for SIJ dysfunction. The analysis included eight articles representing three clinical trials and a total of 423 participants. All MISIJ procedures utilized the TTI implant system. The authors reported their findings demonstrated a significant reduction in pain scores and Oswestry Disability Index (ODI) scores in the MISIJ fusion group compared to nonoperative management. The rate of adverse events associated with MISIJ fusion was not higher than that observed with nonoperative care and participants undergoing MISIJ fusion also reported a notable decrease in opioid use. The authors noted that, while several other implant systems for MISIJ fusion exist—such as hydroxyapatite-coated screws and simmetry implant systems, the evidence supporting their safety and efficacy is derived from non-randomized and non-controlled studies. These studies were further limited by small sample sizes, reducing the generalizability of their findings. The authors concluded their review provided statistically significant and clinically meaningful evidence favoring MISIJ fusion with TTI over nonoperative management in terms of pain relief, disability, health-related quality of life (HRQoL), and patient satisfaction. [Darr et al. (2018a), Polly et al. (2015), Polly et al. (2016), and Vanaclocha et al. (2017) were included in this systematic review.]

In a literature review conducted through April 2024, ECRI evaluated the LinQ (PainTeq) bone allograft implant for SI joint fusion. The review found that evidence from three single-arm, before-and-after studies suggests the LinQ system is safe and may lead to improvements in pain and functional outcomes for patients with SI joint dysfunction over a follow-up period of up to one year. However, due to the absence of comparative data, it remains unclear how LinQ performs relative to other SIJ fusion techniques. Without data from comparative trials, the specific contribution of LinQ to observed patient outcomes cannot be determined. ECRI emphasized the need for large, randomized controlled trials that directly compare LinQ with other fusion methods and conservative treatments, and that report on patient-centered outcomes over longer follow-up durations.

A 2024 evidence review by Hayes, which examined full-text clinical studies and systematic reviews, found limited support for the use of minimally invasive posterior SIJ fusion using engineered bone allografts placed within the joint for the treatment of chronic SIJ pain. Furthermore, an evaluation of full-text clinical practice guidelines and position statements revealed that current guidance either does not support or provides unclear support for this technique.

Whang et al. (2023) conducted a data abstraction and random-effects meta-analysis to evaluate the safety and efficacy of SI joint fusion procedures using data from published patient cohorts. Patient-reported outcomes (PROs) and safety metrics were analyzed based on surgical technique: transiliac approaches—including lateral transiliac (LTI) and posterolateral transiliac (PLTI)—and posterior interpositional (PI) procedures. A total of 57 cohorts comprising 2,851 individuals were included: 43 cohorts (2,126 individuals) for LTI, 6 cohorts (228 individuals) for PLTI, and 8 cohorts (497 individuals) for PI procedures. Among these, LTI procedures demonstrated superior efficacy in reducing pain and disability. Adverse outcomes such as implant removal, bone fragment dislodgment into the sacral foramina, fractures, wound infections, and bleeding requiring surgical intervention were infrequent across all groups. Notably, no studies reported implant breakage or migration. Randomized controlled trials were available only for the LTI technique. The authors concluded overall, the literature strongly supports the safety and effectiveness of minimally invasive SI joint fusion, with the most robust and high-quality evidence available for the LTI approach. Additionally, they noted only one implant system—iFuse—has Level 1 evidence and independent radiographic confirmation of joint fusion. (Polly et al. (2016), Whang et al. (2019), Claus et al. (2020) and Vanaclocha et al. (2017) included in this meta-analysis.)

Chang et al. (2022) conducted a systematic review on the existing literature to assess the safety and efficacy of minimally invasive SI joint fusion. A search was conducted from 1987 through 2021 using PubMed, Embase, Cochrane and a clinical trial registry. A total of 40 studies were included for evaluation of SI joint pain; five studies two randomized controlled trials (RCTs) and three controlled cohort studies (CCSs) provided evidence about effectiveness, and all 40 studies provided evidence about safety. Two RCTs and one CCS compared minimally invasive SI joint fusion with the iFuse Implant System to that of conservative management; two CCSs compared the effectiveness of alternative minimally invasive fusion procedures. The authors found the minimally invasive SI joint fusion appeared to improve pain, physical

function, and quality of life (QOL) when compared to conservative treatment. Two of the CCSs evaluated alternative minimally invasive fusion procedures and one CCS compared the iFuse implant system to that of the Rialto SI Fusion System (a cylindrical threaded implant system). Pain was measured by visual analog scale (VAS) in both groups and the authors found improvements in pain for both groups but no significant difference between the two. However, it was noted that the group receiving the Rialto system had an increase in revision rates when compared with those in the iFuse group. Limitations included small sample sizes and heterogeneity when reporting adverse effects, inconsistencies in the reported findings for the two RCTs, and only two studies that compared the iFuse implant system with that of another limiting the generalizability of findings to other devices.

ECRI (2022) published a literature search on Rialto Sacroiliac Fusion System (Medtronic plc.) for Minimally Invasive Spinal Fusion through October 2022 and stated the following. Whether Rialto improves pain, functional status, or QOL in patients with SI dysfunction is unclear because two nonrandomized comparative studies and one before-and-after study are at too high a risk of bias to be conclusive. Additional studies that provide long-term comparative-effectiveness data are needed to determine whether any Rialto improvements in patient outcomes are sustained long-term and how Rialto compares with other minimally invasive spine (MIS) systems and open surgery.

ECRI (2022) conducted a literature review of the SI-LOK sacroiliac (SI) joint fixation system for SI joint fusion through October 2022. They stated that the effectiveness of the SI-LOK system in treating SI joint dysfunction remains uncertain due to the very low-quality of available evidence, which is limited to one nonrandomized comparison study and two before-and-after treatment studies. The report emphasized the need for randomized studies comparing SI-LOK with other minimally invasive systems and open surgical approaches; however, no such studies are currently underway.

In 2022, the National Institute for Health and Care Excellence (NICE) published medical technology guidance on using the iFuse implant system for treating chronic sacroiliac joint pain. It provided the following recommendations: iFuse implant system is recommended as an option for treating chronic sacroiliac joint pain. iFuse should be considered for use in people with a confirmed diagnosis of chronic sacroiliac joint pain (based on clinical assessment and a positive response to a diagnostic injection of local anesthetic in the sacroiliac joint) and whose pain is inadequately controlled by non-surgical management.

For use of cylindrical threaded implants (CTIs) for SIJ fusion in adult patients, an updated 2021 Hayes health technology report reflects a very-low-quality body of evidence and is insufficient for drawing any conclusions regarding the efficacy and safety of this technology. There continues to be substantial uncertainty for this technology due to a small body of evidence and lack of comparative studies.

A Hayes technology assessment (2020) stated that there is moderate-quality evidence suggesting that minimally invasive SIJ fusion with the iFuse Implant System is efficacious for adult patients with SIJ dysfunction that is unresponsive to non-surgical management (NSM). iFuse implants are consistently associated with improved pain and disability from baseline without substantial safety concerns. Consistent evidence suggests that the use of the iFuse for the treatment of SIJ dysfunction may lead to clinically significant reductions in pain and disability. Comparative results suggest that SIJ fusion with iFuse is associated with better patient-reported outcomes.

Claus et al. (2020), (included in Chang et al., (2022) and Whang et al. (2023) above) conducted a clinical outcome comparison of minimally invasive SI joint fusion between the iFuse [triangular dowel implant (TDI)] Implant system and the Rialto CTI system. A total of 156 patients were evaluated; 82 received the iFuse system and 74 patients received the Rialto system. The primary outcomes were postoperative VAS, ODI, and Short Form-12 evaluation at six months and one year; secondary outcomes included rate of surgery revision and time to revision. Both sets of cohorts experienced significant improvement in patient reported outcomes at six months when compared to their preoperative assessments. However, the authors found a significant difference in the length of the procedure between the two groups. The CTI procedure averaged 60 minutes in length, while the TDI averaged only 41.2 minutes. In addition, it should be noted that there was a 6.1% revision rate for the CTI cohort and only a 2.4% revision rate for the TDI patient group. While the authors found both the iFuse and Rialto SI joint fusion devices appear to suggest a significant improvement in pain, disability, and QoL, further attention should be allocated to the evaluation of the complication rates as they were found to be as high as 52% in the CTI system. Study limitations included the retrospective study design, small number of participants for each group, lack of randomization of participants and lack of long-term outcomes.

ECRI performed a literature review of the iFuse implant system for minimally invasive sacroiliac joint fusion. The report stated that iFuse reduces SIJ pain and improves pain and quality of life (QOL) compared with nonsurgical conservative management (NCM) and screw-type implants. At four-year follow-up, revision surgery rates were 3.6%. How well iFuse works compared with MIS (e.g., Rialto) or open surgery cannot be determined from nonrandomized comparison and single-arm studies that provide very-low-quality evidence. Additionally, studies in the SR are at risk of bias because of

small sample size, retrospective design, and lack of control groups and randomization. The RCTs are at risk of bias from the use of subjective measures, (e.g., pain, QOL) and lack of blinding. (ECRI, 2016; updated 2022).

In 2019, Whang et al., reported long-term (five-year) results from two prospective clinical trials (INSITE and SIFI; previously described) investigating the use of minimally invasive lateral transiliac SIJF using TTI (iFuse implant System, SI-BONE, Inc.) as a treatment for sacroiliac joint dysfunction. As previously described, a total of 103 participants were enrolled in the LOIS study with clinic visits at three, four, and five years and comparison of CT scans performed at five years to prior CT scans at one or two years. At the five-year follow-up, the mean reported SIJ pain score had significantly reduced by 54.1 points, from 81.5 points at baseline to 27.1 points. A total of 77 (82.8%) study participants reported improvements of at least 20 points in SIJ pain scores. The study's primary outcome (VAS improvement of at least 20 points in the absence of severe device-related adverse event, neurologic adverse event, and revision surgery) was achieved in 76 participants at five years (81.7%, 95% CI, 72.4-89.0%). ODI was reduced from 56.3 points preoperatively to 29.9 points; a statistically significant improvement of 26.2 (21.6) points. Furthermore, an independent radiographic analysis exhibited a high rate of successful bone apposition to implants on both the sacral and iliac sides of the SI joint, a high rate of bony bridging, and a low rate of radiolucency's (98%, 87%, and 5%, respectively). Authors concluded that the five-year data from the LOIS study establishes the long-term safety and effectiveness of minimally invasive SIJF with TTI for SIJ dysfunction, demonstrated by improvement in pain, disability and QOL in conjunction with a low risk of complications and high rate of long-term durability. (This study is included in the Whang et al. (2023) systematic review above.)

Tran et al. (2019) published a systematic review comparing the effectiveness of minimally invasive joint fusion (i.e., utilizing the iFuse device) compared to screw-type surgeries. A total of 20 studies were pooled to calculate a standardized mean difference (SMD) across pain, disability, and global/quality-of-life outcomes, including 14 studies evaluating the iFuse system and seven studies evaluating cylindrical, threaded implants. Studies evaluating cylindrical, threaded implants consisted of case series and cohort studies. Participants receiving these implants experienced significantly worse pain outcomes compared to participants receiving iFuse.

Darr et al. [2018b; LOIS (Long Term Outcomes from INSITE and SIFI); NCT02270203] reported three-year clinical and functional outcomes (including disability and quality of life) following minimally invasive sacroiliac joint fusion with the IFuse Implant System in 103 subjects from the INSITE and SIFI clinical trials. Subjects were evaluated in 12 study clinics at study start and at three, four, and five years. The primary efficacy endpoint was a composite of three, four, and five years defined as a reduction from preoperative VAS sacroiliac joint pain score of at least 20 points, absence of device-related serious adverse events, absence of neurological worsening, and absence of surgical revision. Other outcomes included improvements in VAS sacroiliac pain score, ODI, EQ-5D score, proportion of non-working subjects who returned to work, and occurrence of serious adverse events. The mean (standard deviation) preoperative sacroiliac joint pain score was 81.5 and mean preoperative ODI was 56.3. At three years, the mean pain sacroiliac joint pain score decreased to 26.2 (a 55-point improvement from baseline; $p < 0.0001$) and the mean ODI was 28.2 (a 28-point improvement from baseline). A total of 82% of subjects were very satisfied with the procedure at three years. The proportion of subjects who would have the procedure again was lower at three years compared to earlier time points. Limitations of this study include lack of data from a control group that received only non-surgical treatment. Most INSITE study subjects in the non-surgical group who experienced inadequate pain relief crossed over to surgical care at month six. The authors acknowledged that subjects at participating sites had slightly larger 24-month improvements in sacroiliac joint pain and ODI compared to those at non-participating sites as the calculated impact on three-year pain scores was small, that is, approximately four points for VAS sacroiliac joint pain and 2.4 points for ODI.

Darr et al. (2018a; LOIS trial; NCT02270203) reported four-year prospective follow-up in participants undergoing minimally invasive SIJF using TTI (iFuse Implant System, SI-BONE) for sacroiliac joint dysfunction. At four years follow-up clinical outcomes were similar to three-year findings, the mean (standard deviation) preoperative sacroiliac joint pain score in 88.3% (n = 91) of participants had decreased by 54 points from baseline, disability ODI scores decreased by 26 points; and QOL rates improved by 0.3 points (0-1 scale). The LOIS study limitations were previously outlined above by Darr and colleagues (2018b). (This study is included in the Ghaddaf et al. (2024) systematic review above.)

NICE guidance was published in April 2017 on minimally invasive SIJ fusion surgery for chronic sacroiliac pain. The recommendations include: Current evidence on the safety and efficacy of minimally invasive SI joint fusion surgery for chronic SI pain is adequate to support the use of this procedure. Patients having this procedure should have a confirmed diagnosis of unilateral or bilateral SI joint dysfunction due to degenerative sacroiliitis or SI joint disruption. This technically challenging procedure should only be done by surgeons who regularly use image-guided surgery for implant placement. The surgeons should also have had specific training and expertise in minimally invasive SI joint fusion surgery for chronic SI pain.

Rappoport et al. (2017) reported on an industry-sponsored prospective study of SIJ fusion with a cylindrical threaded implant (SI-LOK).35 The study included 32 participants with a diagnosis of SIJ dysfunction who had failed nonoperative treatment, including medication, physical therapy, and therapeutic injections. A diagnostic injection was performed to confirm the source of pain to the SIJ. The procedure included drilling to prepare for screw insertion and implantation of three screws, at least one of which was slotted. The slotted screws were packed with autogenous bone graft from the drill reamings. Pain and disability scores were reduced following device implantation, and revisions within the first 12 months of the study were low. Follow-up will continue for two years. There is limited evidence on fusion of the SIJ with devices other than the triangular implant. One-year results from a prospective cohort of 32 participants who received a cylindrical slotted implant showed reductions in pain and disability similar to results obtained for the triangular implant. However, there is uncertainty in the health benefit of SIJ fusion/fixation with this implant design. Therefore, controlled studies with a larger number of participants and longer follow-up are needed to evaluate this device.

Two retrospective nonrandomized comparative studies were published in 2017. Vanaclocha et al found greater pain relief with SIJ fusion than with conservative management or SIJ denervation. Spain and Holt reported a retrospective review of surgical revision rates following SIJ fixation with either surgical screws or the iFuse triangular implant.13 Revision rates were lower with the iFuse device than observed with surgical screws. (Vanaclocha et al. (2017) included in the Whang et al. (2023) and Ghaddaf et al. (2024) systematic reviews above.)

Polly et al. (2016) reported two-year outcomes from the randomized controlled trial (Polly, 2015; INSITE) of individuals treated with minimally invasive sacroiliac joint fusion for chronic sacroiliac joint dysfunction. Of the 102 participants originally treated with sacroiliac joint fusion, 89 (87%) were evaluated at two years. Although the clinical trial used a different composite endpoint, clinical outcomes in this report were based on the amount of improvement in sacroiliac joint pain and ODI scores. Improvement was defined as a change of 20 points in the sacroiliac joint pain score and 15 points in ODI score. Substantial improvement was defined as a change of 25 points in sacroiliac 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% of participants had improvement and substantial improvement in sacroiliac joint pain score, and 68.2% and 65.9% had improvement and substantial improvement in ODI. In addition, the proportion of participants taking opioids was reduced from 68.6% at baseline to 48.3% (29.6% reduction; p = 0.0108 for change). A total of 22 (23%) adverse events related to device or procedure occurred in the sacroiliac joint fusion group (n = 102), including ipsilateral or contralateral sacroiliac joint pain and trochanteric bursitis (n = 9), surgical wound problems (n = 5), postoperative medical problems (n = 4, including nausea/vomiting, urinary retention, and atrial fibrillation), iliac fracture (n = 1), asymptomatic physical exam or radiographic findings (n = 2), and neuropathic symptoms (n = 1). Three participants assigned to sacroiliac joint fusion and one participant who underwent sacroiliac joint fusion as a crossover treatment underwent revision surgery within the 24-month follow-up period. Limitations of this study include lack of a sham comparator group and the high crossover rate to sacroiliac joint fusion at six months. (This study is included in the Whang (2023) and Ghaddaf (2024) systematic reviews above.)

In 2016, Sturesson et al., reported another industry-sponsored nonblinded RCT of the iFuse Implant System in 103 participants. 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 (e.g., steroid injections, RFA) were not allowed. The primary outcome was change in VAS pain score at 6 months. Of 109 randomized subjects, six withdrew before any treatment. All participants assigned to iFuse underwent the procedure, and follow-up at six months was in 49 of 51 participants in the control group and in all 52 participants in the iFuse group. At six months, VAS pain scores improved by 43.3 points in the iFuse group and by 5.7 in the control group. ODI scores improved by 5.8 points in the control group and by 25.5 points in the iFuse group. 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 six months. Participants were assigned 2:1 to minimally invasive SI joint fusion or to nonsurgical management. Nonsurgical management included a stepwise progression of nonsurgical treatments, depending on individual participant choice. The primary outcome measure was six-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. Participants in the control arm could crossover to surgery after six months. Baseline scores indicated that the participants 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. A clinically important (15-point) improvement in ODI score was found in 27.3% of controls compared with 75.0% of fusion participants. 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 participants 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. Although these results generally favored fusion, the trial is limited due to the high number of participants that

crossed over from the control group to the fusion group. This limits the comparative long-term conclusions that can be drawn.

Clinical Practice Guidelines

American Society of Pain and Neuroscience (ASPN)

In 2022, ASPN published guidance on the treatment of lower back pain. The following recommendations were provided concerning SIJ injections. Minimally invasive sacroiliac fusion (Grade, A; Level, 1-A; Level of certainty, High). (Sayed, et al., 2022)

North American Spine Society (NASS)

In the Evidence-Based Clinical Guidelines for Multidisciplinary Spine Care, NASS (2020) lists the following recommendation for the diagnosis and treatment of low back pain:

- Intra-articular steroid joint injections may be considered in patients with suspected SI joint pain (Grade of Recommendation): C [poor quality evidence (Level IV or V studies) for or against the recommended intervention].

In 2015, NASS published recommendations in a coverage committee document for therapeutic SIJ injections. The document states that intraarticular SIJ injections of corticosteroid with or without local anesthetic are indicated for the treatment of low back pain when all of the listed criteria are met:

- Patient's report of nonradicular, typically unilateral pain that is caudal to the lumbar spine (L5 vertebrae), localized over the posterior SIJ, and consistent with SIJ pain.
- A thorough physical examination demonstrating localized tenderness with palpation over the sacral sulcus (Fortin's point, i.e., 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 (e.g., greater trochanter, lumbar spine, coccyx) and that other obvious sources for their pain do not exist.
- Positive response to a cluster of three provocative tests (e.g., thigh thrust test, compression test, Gaenslen's test, distraction test, Patrick's sign, posterior provocation test). Note that the thrust tests is not recommended in pregnant patients or those with connective tissue disorders.
- SIJ pain has been confirmed with diagnostic SIJ injections.

NASS (2015, updated 2021) published the following coverage policy recommendations on Minimally Invasive Sacroiliac Joint Fusion. The recommendations state "SIJ fusion...is indicated for the treatment of SIJ pain for patients with low back/buttock pain who meet all of the following criteria":

- Have undergone and failed a minimum six months of intensive nonoperative treatment that must include medication optimization, activity modification, and active therapeutic exercise targeted at the lumbar spine, pelvis, SIJ and hip including a home exercise program.
- Patient's report of nonradicular, typically unilateral pain, that is maximal below the L5 vertebrae, localized over the posterior SIJ, and consistent with SIJ pain.
- A physical examination typically demonstrating localized tenderness with palpation over the sacral sulcus (Fortin's point, i.e., at the insertion of the long dorsal ligament inferior to the PSIS) or the absence of tenderness elsewhere (e.g., greater trochanter, lumbar spine, coccyx) and that would explain the patient's symptoms.
- Positive response to a cluster of three provocative tests (1. Patrick's or FABER, 2. Gaenslen, 3. thigh thrust, 4. sacral thrust, 5. distraction, 6. compression). Note that the thrust test is not recommended in pregnant patients or those with connective tissue disorders.
- Absence of generalized pain behavior (e.g., somatoform disorder) or generalized pain disorders (e.g., fibromyalgia).
- Diagnostic imaging studies that include all of the following:
  - Imaging [plain radiographs and a CT (computed tomography) or MRI (magnetic resonance imaging)] of the SI joint that excludes the presence of destructive lesions (e.g., tumor, infection) or inflammatory arthropathy that would not be properly addressed by percutaneous SIJ fusion.
  - Imaging of the pelvis [AP (anteroposterior) plain radiograph] to rule out concomitant hip pathology that would better explain the patient's symptoms.
  - Imaging of the lumbar spine (CT or MRI) to rule out neural compression or other degenerative condition that, in combination with the patient's history, physical, and other testing would more likely be the source of their low back or buttock pain.
  - Imaging of the SI joint that indicates evidence of injury and/or degeneration.
- At least 75% reduction of pain, documented by pain diary, for the expected duration of the anesthetic used following an image-guided, contrast-enhanced intra-articular SIJ injection on two separate occasions.
- A trial of at least one therapeutic intra-articular SIJ injection (i.e., corticosteroid injection).

International Society for the Advancement of Spine Surgery (ISASS)

In 2020, ISASS published a policy update titled: "Minimally Invasive Surgical Sacroiliac Joint Fusion (for Chronic Sacroiliac Joint Pain): Coverage Indications, Limitations, and Medical Necessity" (Lorio, et al, 2020). ISASS recommends coverage for minimally invasive SIJ fusion when all of the following criteria are met:

- Significant SIJ (sacroiliac joint fusion) pain (e.g., pain rating at least five on the 0-10 numeric rating scale where 0 represents no pain and ten represents worst imaginable pain) or significant limitations in activities of daily living.
- SIJ pain confirmed with at least three physical examination maneuvers that stress the SIJ and cause the patient's typical pain.
- Confirmation of the SIJ as a pain generator with ≥ 75% acute decrease in pain upon fluoroscopically guided diagnostic intra-articular SIJ 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 opioids (if not contraindicated) and one or more of the following: rest, physical therapy, SIJ steroid injection 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 ruled out (e.g., L5/S1 compression, hip osteoarthritis).
- Minimally invasive SIJ fusion is **not** indicated for patients with the following:
  - Less than six months of back pain.
  - Failure to pursue conservative treatment of the SIJ (unless contra-indicated).
  - Pain not confirmed with a diagnostic SIJ block.
  - Existence of other pathology that could explain the patient's pain.

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

UnitedHealthcare medical policies are based on clinical evidence and do not represent an endorsement of any specific manufacturer's product.

Products used for sacroiliac joint fusion are numerous. Refer to the following website for more information and search by product name in device name section: http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm. (Accessed July 7, 2025)

SIJ injection with corticosteroids and/or local anesthetics is a procedure and therefore not subject to FDA regulation. However, any medical devices, drugs, biologics, or tests used as a part of this procedure may be subject to FDA regulation. Refer to the following website for additional information: http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm. (Accessed July 7, 2025)

References

Chang E, Rains C, Ali R, et al. Minimally invasive sacroiliac joint fusion for chronic sacroiliac joint pain: a systematic review. Spine J. 2022 Jan 10:S1529-9430(22)00005-5.

Claus CF, Lytle E, Kaufmann A, et al. Minimally invasive sacroiliac joint fusion using triangular titanium versus cylindrical threaded implants: a comparison of patient-reported outcomes. World Neurosurg. 2020 Jan;133:e745-e750.

Darr E, Cher D. Four-year outcomes after minimally invasive transiliac sacroiliac joint fusion with triangular titanium implants. Med Devices Evid Res. 2018a; 11:287-289.

Darr E, Meyer SC, Whang PG, et al. Long-term prospective outcomes after minimally invasive trans-iliac sacroiliac joint fusion using triangular titanium implants. Med Devices (Auckl). 2018b; 11:113-121.

ECRI. Clinical Evidence Assessment. iFuse Implant System (SI-Bone, Inc.) for Minimally Invasive Sacroiliac Joint Fusion. May 2016. Updated September 2019. Updated November 2022.

ECRI. Clinical Evidence Assessment. LinQ (PainTeq) for sacroiliac joint fusion. April 2024.

ECRI. Clinical Evidence Assessment. Rialto Sacroiliac Fusion System (Medtronic plc.) for Minimally Invasive Spinal Fusion. November 2022.

ECRI. Clinical Evidence Assessment. SI-LOK System (Globus Medical) for Sacroiliac Fusion. November 2022.

Foley BS, Buschbacher RM. Sacroiliac joint pain: anatomy, biomechanics, diagnosis, and treatment. Am J Phys Med Rehabil. 2006;85(12):997-1006.

Ghaddaf AA, Alsharef JF, Alsharef NK, et al. Minimally invasive sacroiliac joint fusion using triangular titanium implants versus nonsurgical management for sacroiliac joint dysfunction: a systematic review and meta-analysis. Can J Surg. 2024; 67(1): E16- E26.

Hayes Evidence Analysis Research Brief. Minimally Invasive Posterior Sacroiliac Joint Fusion for Management of Sacroiliac Joint Pain. May 2023.

Hayes. Evolving Evidence Review. Minimally Invasive Posterior Sacroiliac Joint Fusion Using a Bone Allograft for Management of Sacroiliac Joint Pain. March 2024.

Hayes. Health Technology Assessment. Minimally Invasive Sacroiliac Joint Fusion Using Cylindrical Threaded Implants. September 2020. Updated October 2021.

Hayes. Health Technology Assessment. Minimally Invasive Sacroiliac Joint Fusion Using Triangular Titanium Implants (iFuse Implant System, SI-Bone Inc.) September 2020. Updated October 2021.

Hooten WM, Cohen SP. Evaluation and treatment of low back pain: a clinically focused review for primary care specialists. Mayo Clin Proc. 2015;90(12):1699-1718.

King W, et al. Diagnosis and treatment of posterior sacroiliac complex pain: a systematic review with comprehensive analysis of the published data. Pain Med. 2015 Feb;16(2):257-65.

Lorio M, Kube R, Araghi A. International Society for the Advancement of Spine Surgery Policy 2020 Update-Minimally Invasive Surgical Sacroiliac Joint Fusion (for Chronic Sacroiliac Joint Pain): Coverage Indications, Limitations, and Medical Necessity. Int J Spine Surg. 2020 Dec;14(6):860-895.

Merriam-Webster online dictionary. https://www.merriam-webster.com/medical/sacroiliac%20joint. Accessed July 7, 2025.

National Institute for Health and Care Excellence (NICE). iFuse for treating chronic sacroiliac joint pain. October 2018. Updated August 2022.

National Institute for Health and Care Excellence. Minimally invasive sacroiliac joint fusion surgery for chronic sacroiliac pain. April 2017.

Newman DP, Soto AT. Sacroiliac Joint Dysfunction: Diagnosis and Treatment. Am Fam Physician. 2022 Mar 1;105(3):239-245. PMID: 35289578.

North American Spine Society (NASS). Diagnosis and treatment of low back pain. NASS Coverage Recommendations. Burr Ridge, IL: NASS; 2020.

North American Spine Society (NASS). Minimally invasive sacroiliac joint fusion. NASS Coverage Recommendations. Burr Ridge, IL: NASS; June 2015. Updated September 2021.

North American Spine Society (NASS). Sacroiliac joint injections. NASS Coverage Recommendations. Burr Ridge, IL: NASS; November 2015.

Polly DW, Cher DJ, Wine KD, et al. Randomized controlled trial of minimally invasive sacroiliac joint fusion using triangular titanium implants vs nonsurgical management for sacroiliac joint dysfunction: 12-month outcomes. Neurosurgery. 2015; 77(5):674-691.

Polly, DW, Swofford, J, Whang, P, et al. Two-year outcomes from a randomized controlled trial of minimally invasive sacroiliac joint fusion vs non-surgical management for sacroiliac joint dysfunction. International journal of spine surgery. 2016 Aug 23; 10:28.

Rappoport LH, Luna IY, Joshua G. Minimally invasive sacroiliac joint fusion using a novel hydroxyapatite-coated screw: preliminary 1-year clinical and radiographic results of a 2-year prospective study. World Neurosurg. 2017 May;101:493-497.

Sayed D, Grider J, Strand N, et al. The American Society of Pain and Neuroscience (ASPN) Evidence-Based Clinical Guideline of Interventional Treatments for Low Back Pain. J Pain Res. 2022; 15: 3729-3832.

SI-Bone. iFuse Implant System®. https://si-bone.com/si-joint-pain-treatment/ifuse-implant-system. Accessed June 24, 2024 July 7, 2025.

Spain K, Holt T. Surgical revision after sacroiliac joint fixation or fusion. Int J Spine Surg. Apr 2017;11:5.

Sturesson B, Kools D, Pflugmacher R, et al. Six-month outcomes from a randomized controlled trial of minimally invasive SI joint fusion with triangular titanium implants vs conservative management. Eur Spine J. May 14, 2016.

Tran ZV, Ivashchenko A, Brooks L. Sacroiliac Joint Fusion Methodology - Minimally Invasive Compared to Screw-Type Surgeries: A Systematic Review and Meta-Analysis. Pain Physician, 2019 Feb 1;22(1).

Vanaclocha V, Herrera JM, Sáiz-Sapena N, et al. Minimally Invasive Sacroiliac Joint Fusion, Radiofrequency Denervation, and Conservative Management for Sacroiliac Joint Pain: 6-Year Comparative Case Series. Neurosurgery 2017.

Whang PG, Darr E, Meyer SC, et al. Long-term prospective clinical and radiographic outcomes after minimally invasive lateral transiliac sacroiliac joint fusion using triangular titanium implants. Medical Devices (Auckl). 2019; 12:411-422.

Whang PG, Patel V, Duhon B, et al. Minimally invasive SI joint fusion procedures for chronic SI joint pain: systematic review and meta-analysis of safety and efficacy. Int J Spine Surg. 2023 Dec 26;17(6):794-808.

Policy History/Revision Information

Date	Summary of Changes
04/01/2026	**Applicable Codes** • Updated list of applicable CPT codes to reflect annual edits; revised description for 27278 and 27279 **Supporting Information** • Archived previous policy version CS200KY.13

Instructions for Use

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the federal, state, or contractual requirements for benefit plan coverage must be referenced as the terms of the federal, state, or contractual requirements for benefit plan coverage may differ from the standard benefit plan. In the event of a conflict, the federal, state, or contractual requirements for benefit plan coverage govern. Before using this policy, check the federal, state, or contractual requirements for benefit plan coverage. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

UnitedHealthcare uses InterQual® for the primary medical/surgical criteria, and the American Society of Addiction Medicine (ASAM) for substance use, in administering health benefits. If InterQual® does not have applicable criteria, UnitedHealthcare may also use UnitedHealthcare Medical Policies, Coverage Determination Guidelines, and/or Utilization Review Guidelines that have been approved by the Kentucky Department for Medicaid Services. The UnitedHealthcare Medical Policies, Coverage Determination Guidelines, and Utilization Review Guidelines are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.