Sacroiliac Joint Interventions

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➲ Instructions for Use

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Related Commercial/Individual Exchange Policies

- Ablative Treatment for Spinal Pain
- Epidural Steroid Injections for Spinal Pain
- Facet Joint and Medial Branch Block Injections for Spinal Pain
- Outpatient Surgical Procedures – Site of Service

Application

UnitedHealthcare Commercial

This Medical Policy applies to UnitedHealthcare Commercial benefit plans.

UnitedHealthcare Individual Exchange

This Medical Policy applies to Individual Exchange benefit plans.

Coverage Rationale

Notes:

- This policy addresses intra-articular 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.
- Intra-articular Sacroiliac Joint injections require site-of-service review. Refer to the Medical Policy titled Outpatient Surgical Procedures – Site of Service.

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

Click here to view the InterQual® criteria.

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

Open Sacroiliac Joint Fusion (Arthrodesis) 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.

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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 and with any other devices not listed above due to insufficient evidence of efficacy.

Medical Records Documentation Used for Reviews

Benefit coverage for health services is determined by the member specific benefit plan document 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 service requested; refer to the guidelines titled Medical Records Documentation Used for Reviews.

Definitions

Provocative Tests: Tests that are performed to reproduce the patient's typical pain in the sacroiliac (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 to replicate the patient's symptoms.
- Gaenslen 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 SI Joints.
- Distraction test (gaping test): The application of downward pressure to the iliac crest while in the supine position.
- Patrick 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.

(North American Spine Society, 2021)

Sacral Lateral Nerve Block: Injection of corticosteroid and/or local anesthetic adjacent to the sacral lateral nerve that results in the temporary interruption of conduction of impulses for analgesia. Sacral Lateral Nerve Blocks attempt to block pain signals and theoretically provide relief from pain. The duration of the block depends on the dose, concentration, and type of pharmacological agent injected (Newman and Soto, 2022).

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 et al., 2009).

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 used 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 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 7- to 8-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 that is 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 and Soto, 2022)

Titanium Triangular Implant: An SI Joint implant that is intended for SI Joint Fusion (Arthrodesis) for conditions, including SI Joint disruptions and degenerative sacroiliitis (Darr et al., 2018b).

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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 the member specific benefit plan document 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), without cortical piercing
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 ilium 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)

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Description of Services

Sacroiliac Joint Fusion (Arthrodesis) (SIJF) is a surgical procedure that 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 that requires a larger incision and subsequent increased recovery time.

Minimally invasive sacroiliac (SI) fusion is a procedure that attempts to stabilize the SI Joints by fusing the sacrum to the ilium with allograft material, which limits 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. This results in placement of an intra-articular implant. In the posterior approach, a portion of the interosseous (SI Joint) ligament is sometimes removed.

Open surgical techniques involve direct visualization of the SI 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 SI Joint dysfunction is based on a combination of tests or provocative maneuvers during physical examination to help localize the pain to the SI Joint. Imaging studies do not generally help to localize pain but can be used to exclude other diagnoses that may mimic SI Joint pain (e.g., hip osteoarthritis, spine degeneration at the L5/S1 level, spinal stenosis). The physical examination may include Provocative Tests (e.g., Gaenslen maneuver, Patrick test, thigh thrust, compression and distraction tests) to stress the SI Joint and reproduce the individual's pain (Hayes, 2020, updated 2021; Foley and Buschbacher, 2006; Hooten and Cohen, 2015; Lorio et al., 2020).

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Sacral Lateral Branch Nerve Blocks

The sacral lateral branch nerve block remains unproven due to several factors, including anatomical limitations that exist and render the injection physiology ineffective. The American Society of Pain & 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 ASPN published guidance on the treatment of lower back pain, with no specific mention of lateral branch blocks (Sayed et al., 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 the 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. The authors noted that further studies are needed to improve understanding of the potential role of sacral lateral branch interventions in treating sacroiliac pain.

Clinical Practice Guidelines

American Academy of Pain Medicine (AAPM)/American Society of Regional Anesthesia & Pain Medicine (ASRA-PM)

McCormick et al. (2025), in consensus practice guidelines on sacroiliac joint (SIJ) complex pain developed by a multispecialty working group, state that, currently, no single stand-alone clinical, imaging, or injection-based factor strongly predicts the outcome of sacral lateral branch radiofrequency ablation; future studies are needed to identify patient phenotypes associated with success and failure. (recommendation rating: prognostic sacral lateral branch blocks are preferred for selecting sacral lateral branch radiofrequency ablation candidates; grade C-B, low level of evidence).

North American Spine Society (NASS)

In the *Evidence-Based Clinical Guidelines for Multidisciplinary Spine Care*, NASS (2020) recommends that for the diagnosis and treatment of low back pain, lateral branch nerve blocks can be used diagnostically, especially for dorsal ligament pain of the SIJ; however, evidence supporting this is limited.

Minimally Invasive Fusion of the Sacroiliac Joint

Ghaddaf et al. (2024) conducted a systematic review and meta-analysis that compared minimally invasive SIJ (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 individuals. All MISIJ procedures used the TTI implant system. The authors reported that their findings demonstrated a significant reduction in pain scores and Oswestry Disability Index (ODI) scores in the MISIJ fusion group compared with those receiving nonoperative management. The rate of adverse events associated with MISIJ fusion was not higher than that observed with nonoperative care, and individuals who were 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 that supports their safety and efficacy is derived from nonrandomized and noncontrolled studies. These studies were further limited by small sample sizes, which reduces the generalizability of their findings. The authors concluded that their review provided statistically significant and clinically meaningful evidence that favors MISIJ fusion with TTI over nonoperative management in terms of pain relief, disability, health-related quality of life (QOL), and individuals' satisfaction. (Darr et al and Cher, 2018a, Polly et al., 2015, Polly et al., 2016, and Vanaclocha et al., 2018, were included in this systematic review.)

ECRI (2024) conducted a literature review through April 2024 that evaluated the LinQ (PainTEQ) bone allograft implant for SIJ fusion. The review found that evidence from three single-arm, before-and-after studies suggests that the LinQ system is safe and may lead to improvements in pain and functional outcomes in individuals with SIJ dysfunction over a follow-up period of up to 1 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 outcomes in individuals cannot be determined. ECRI emphasized the need for large randomized controlled trials (RCTs) that directly compare LinQ with other fusion methods and conservative treatments and report on patient-centered outcomes over longer follow-up durations.

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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 SIJ fusion procedures using data from published cohorts of individuals. Patient-reported outcomes and safety metrics were analyzed based on surgical technique: transiliac approaches, including lateral transiliac (LTI) and posterolateral transiliac, and posterior interpositional procedures. Overall, 57 cohorts, comprising 2,851 individuals, were included: 43 cohorts (2,126 individuals) for LTI, six cohorts (228 individuals) for posterolateral transiliac, and eight cohorts (497 individuals) for posterior interpositional 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 that required surgical intervention were infrequent across all groups. Notably, no studies reported implant breakage or migration. RCTs were available only for the LTI technique. The authors concluded that overall, the literature strongly supports the safety and effectiveness of MISIJ fusion, with the most robust and high-quality evidence available for the LTI approach. Additionally, they noted that 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., 2018, are included in this meta-analysis.)

Chang et al. (2022) conducted a systematic review of the existing literature to assess the safety and efficacy of MISIJ fusion. A search was conducted from 1987 through 2021 using PubMed, Embase, Cochrane, and a clinical trial registry. Overall, 40 studies were included for the evaluation of SIJ pain; five studies [two 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 MISIJ fusion with the iFuse Implant System vs conservative management; two CCSs compared the effectiveness of alternative minimally invasive fusion procedures. The authors found that the MISIJ fusion appeared to improve pain, physical function, and QOL compared with conservative treatment. Two of the CCSs evaluated alternative minimally invasive fusion procedures, and one CCS compared the iFuse Implant System with the Rialto SI fusion system [a cylindrical threaded implant (CTI) system]. Pain was measured by visual analog scale (VAS) in both groups, and the authors found improvements in pain in both groups but no significant difference between the two. However, it was noted that the group that received the Rialto system had an increase in revision rates compared with those in the iFuse group. Limitations include small sample sizes; heterogeneity when reporting adverse effects; inconsistencies in the reported findings for the two RCTs; and inclusion of only two studies that compared the iFuse Implant System with other minimally invasive procedures, which limits the generalizability of findings to other devices.

ECRI (2022) published a literature search on the Rialto sacroiliac fusion system (Medtronic plc.) for minimally invasive spinal fusion through October 2022. ECRI stated that whether Rialto improves pain, functional status, or QOL in individuals with sacroiliac 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 individuals' outcomes are sustained long term and how Rialto compares with other minimally invasive spine systems and open surgery.

ECRI (2022) conducted a literature review of the SI-LOK SIJ fixation system for SIJ fusion through October 2022. They stated that the effectiveness of the SI-LOK system in treating SIJ 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 that compare 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 published medical technology guidance on using the iFuse Implant System for treating chronic SIJ pain. It stated that (1) the iFuse Implant System is recommended as an option for treating chronic SIJ pain and that (2) iFuse should be considered for use in people with a confirmed diagnosis of chronic SIJ pain (based on clinical assessment and a positive response to a diagnostic injection of local anesthetic in the SIJ) and whose pain is inadequately controlled by nonsurgical management.

A Hayes Technology Assessment (2020, updated 2021) stated that there is moderate-quality evidence that suggests that MISIJ fusion with the iFuse Implant System is efficacious in adult individuals with SIJ dysfunction that is unresponsive to nonsurgical management. 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.

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Claus et al. (2020) (included in Chang et al., 2022, and Whang et al., 2023, above) conducted a clinical outcome comparison of MISIJ fusion between the iFuse [triangular dowel implant (TDI)] Implant System and the Rialto CTI system. Overall, 156 individuals were evaluated; 82 received the iFuse system, and 74 individuals received the Rialto system. The primary outcomes were postoperative VAS, ODI, and 12-Item Short Form Survey evaluation at 6 months and 1 year; the secondary outcomes included rate of surgery revision and time to revision. Both sets of cohorts experienced significant improvement in patient-reported outcomes at 6 months compared with 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 in the CTI cohort and only a 2.4% revision rate in the TDI patient group. While the authors found that both the iFuse and Rialto SIJ fusion devices appear to provide 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 reported by the authors include the retrospective study design, small number of individuals in each group, lack of randomization of individuals, and lack of long-term outcomes.

ECRI (2016; updated 2022) performed a literature review of the iFuse Implant System for MISIJ fusion. The report stated that iFuse reduces SIJ pain and improves pain and QOL compared with nonsurgical conservative management and screw-type implants. At the 4-year follow-up, revision surgery rates were 3.6%. How well iFuse works compared with minimally invasive spine (e.g., Rialto) or open surgery cannot be determined from nonrandomized comparisons and single-arm studies that provide very low-quality evidence. Additionally, studies in the systematic review are at a risk of bias because of a small sample size, retrospective design, and lack of control groups and randomization. The RCTs are at a risk of bias from the use of subjective measures (e.g., pain, QOL) and lack of blinding

Whang et al. (2019) reported long-term (5-year) results from two prospective clinical trials (INSITE and SIFI; previously described) that investigated the use of minimally invasive LTI SIJ fusion using TTI (iFuse Implant System; SI-BONE, Inc.) as a treatment for SIJ dysfunction. As previously described, 103 participants were enrolled in the LOIS study, with clinic visits at 3, 4, and 5 years and comparison of computed tomography (CT) scans performed at 5 years to prior CT scans at 1 or 2 years. At the 5-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 study participants (82.8%) 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, neurological adverse event, and revision surgery) was achieved in 76 participants at 5 years (81.7%; 95% CI, 72.4%-89.0%). The ODI was reduced from 56.3 points prior to the operation to 29.9 points, which is 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 SIJ, a high rate of bony bridging, and a low rate of radiolucencies (98%, 87%, and 5%, respectively). The authors concluded that the 5-year data from the LOIS study establish the long-term safety and effectiveness of MISIJ fusion with TTI for SIJ dysfunction, which is 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 that compared the effectiveness of minimally invasive joint fusion (i.e., using the iFuse device) compared with screw-type surgeries. Overall, 20 studies were pooled to calculate a standardized mean difference across pain, disability, and global/QOL outcomes, including 14 studies that evaluated the iFuse system and seven studies that evaluated CTIs. Studies that evaluated CTIs consisted of case series and cohort studies. Individuals who were receiving these implants experienced significantly worse pain outcomes than individuals who were receiving iFuse. Study limitations include a lack of comparative data, which restricted the ability to draw comparisons across treatment approaches. The authors concluded that additional well-powered, randomized controlled research is needed to further evaluate the effectiveness of SI joint treatment modalities and their long-term effects on patient outcomes.

Darr et al. (2018b) (LOIS trial; ClinicalTrials.gov ID: NCT02270203) reported 3-year clinical and functional outcomes (including disability and QOL) following MISIJ fusion with the iFuse Implant System in 103 participants from the INSITE and SIFI clinical trials. Participants were evaluated in 12 study clinics at study start and at 3, 4, and 5 years. The primary efficacy end point was a composite of 3, 4, and 5 years, which was defined as a reduction from preoperative VAS SIJ 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 the VAS sacroiliac pain score, ODI, EQ-5D score, proportion of nonworking participants who returned to work, and occurrence of serious adverse events. The mean (SD) preoperative SIJ pain score was 81.5 (12.6), and the mean preoperative ODI was 56.3 (12.1). At 3 years, the mean SIJ 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). Overall, 82% of participants were very satisfied with the procedure at 3 years. The proportion of participants who would have the procedure again was lower at 3 years than earlier time points. Limitations of this study include a lack of data from a control group that received only nonsurgical treatment. Most INSITE study

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participants in the nonsurgical group who experienced inadequate pain relief crossed over to surgical care at month 6. The authors acknowledged that participants at participating sites had slightly larger 24-month improvements in SIJ pain and the ODI than those at nonparticipating sites, as the calculated impact on 3-year pain scores was small, that is, approximately 4 points for VAS SIJ pain and 2.4 points for the ODI.

Darr et al. (2018a) (LOIS trial; NCT02270203) reported 4-year prospective follow-up in participants who were undergoing MISIJ fusion using TTI (iFuse Implant System; SI-BONE, Inc.) for SIJ dysfunction. At 4 years of follow-up, clinical outcomes were similar to 3-year findings; the mean (SD) preoperative SIJ pain score in 88.3% of participants (n = 91) 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 are outlined above by Darr et al. (2018b). (This study is included in the Ghaddaf et al., 2024, systematic review above.)

Vanaclocha et al. (2018) conducted a retrospective study that evaluated outcomes associated with conservative management, SIJ denervation, and MISIJ fusion in 137 patients with SIJ pain that had not responded to conservative treatment. The study included 63 patients treated with conservative management, 47 who underwent SIJ denervation, and 27 who received MISIJ fusion. Pain scores and ODI assessments were collected at follow-up visits. Based on their analysis, the authors reported that patients who underwent minimally invasive SIJ fusion had favorable long-term outcomes, with sustained improvements observed through up to 6 years of follow-up, whereas responses to conservative management and SIJ denervation were poor long term. The authors also observed lower opioid use and improved work status among patients who were treated with SIJ fusion compared with those who received conservative management or denervation. The authors noted several limitations, including the retrospective, nonrandomized study design and differences in demographic and clinical characteristics between treatment groups. Additional limitations include variable follow-up durations, with some patients followed up for up to 6 years, but an average follow-up period of slightly less than 4 years. (This study is included in the Whang et al., 2023, and Ghaddaf et al., 2024, systematic reviews above.)

National Institute for Health and Care Excellence guidance was published in April 2017 on MISIJ fusion surgery for chronic sacroiliac pain. The guidance states that the current evidence on the safety and efficacy of MISIJ fusion surgery for chronic sacroiliac pain is adequate to support the use of this procedure. Individuals who undergo this procedure should have a confirmed diagnosis of unilateral or bilateral SIJ dysfunction due to degenerative sacroiliitis or SIJ 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 specific training and expertise in MISIJ fusion surgery for chronic sacroiliac pain.

Rappoport et al. (2017) reported on an industry-sponsored prospective study of SIJ fusion with a CTI (SI-LOK). The study included 32 participants who had a diagnosis of SIJ dysfunction and experienced failure of 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 2 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 that were similar to results obtained for the triangular implant. However, the authors indicated that there is uncertainty in the health benefits of SIJ fusion/fixation with this implant design. Therefore, controlled studies that include a larger number of individuals and longer follow-up are needed to evaluate this device.

Spain and Holt (2017) reported a retrospective review of surgical revision rates following SIJ fixation with either surgical screws or the iFuse triangular implant. Based on their analysis, the authors observed that revision rates were lower with the iFuse device than those observed with surgical screws.

Polly et al. (2016) reported 2-year outcomes from an RCT (Polly et al., 2015; INSITE) in participants who were treated with MISIJ fusion for chronic SIJ dysfunction. Of the 102 participants who were originally treated with SIJ fusion, 89 (87%) were evaluated at 2 years. Although the clinical trial used a different composite end point, the clinical outcomes in this report were based on the amount of improvement in SIJ pain and ODI scores. Improvement was defined as a change of 20 points in the SIJ pain score and 15 points in the ODI score. Substantial improvement was defined as a change of 25 points in SIJ pain score or a score of 35 or less and an improvement of 18.8 points in the ODI score. At 24 months, 83.1% and 82% of participants had improvement and substantial improvement in the SIJ pain score, respectively, and 68.2% and 65.9% had improvement and substantial improvement in the ODI. In addition, the proportion of participants who were taking opioids was reduced from 68.6% at baseline to 48.3% (29.6% reduction; p = 0.0108 for change). A total of 22 adverse events (23%) related to a device or procedure occurred in the SIJ fusion group (n = 102), including ipsilateral or contralateral SIJ pain and trochanteric bursitis (n = 9), surgical wound problems (n = 5), postoperative medical problems

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(n = 4; including nausea/vomiting, urinary retention, and atrial fibrillation), iliac fracture (n = 1), asymptomatic physical examination or radiographic findings (n = 2), and neuropathic symptoms (n = 1). Three participants who were assigned to SIJ fusion and one participant who underwent SIJ fusion as a crossover treatment underwent revision surgery within the 24-month follow-up period. Limitations of this study reported by the authors include a lack of a sham comparator group and high crossover rate to SIJ fusion at 6 months. (This study is included in the Whang et al., 2023, and Ghaddaf et al., 2024, systematic reviews above.)

In 2017, 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 et al. trial, including at least 50% pain reduction on the SIJ block. The 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, radiofrequency ablation) were not allowed. The primary outcome was a change in VAS pain score at 6 months. Of 109 randomized participants, six withdrew before any treatment. All participants who were assigned to iFuse underwent the procedure, and follow-up at 6 months was in 49 of 51 participants in the control group and in all 52 participants 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. ODI scores improved by 5.8 points in the control group and by 25.5 points in the iFuse group. QOL 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 et al., this trial was also not blinded and lacked a sham control. Outcomes were only assessed to 6 months. Participants were assigned 2:1 to MISIJ fusion or to nonsurgical management. Nonsurgical management included a stepwise progression of nonsurgical treatments, depending on individual participant choice. The primary outcome measure was 6-month success rate, defined as the proportion of treated participants with a 20-mm improvement in SIJ pain in the absence of severe device-related or neurological adverse events or surgical revision. Participants in the control arm could cross over to surgery after 6 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 6 months, success rates were 23.9% in the control group vs 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 Survey and EQ-5D) also improved to a greater extent in the surgery group. Of the 44 nonsurgical management participants who were still participating at 6 months, 35 (79.5%) crossed over to fusion. Compared with baseline, opioid use at 6 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 authors noted that the trial is limited due to the high number of participants who 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 & Neuroscience (ASPN)

In 2024, the ASPN published a comprehensive practice guideline intended to serve as a foundational reference for the appropriate management of SI joint disorders in adult patients. The best practice statement on surgical treatment for SIJ pain notes that minimally invasive surgical treatment may be considered when patients have experienced failure of 6 months of conservative treatment and the diagnosis has been confirmed by history, physical examination, and greater than 50% pain relief following a diagnostic, image-guided SIJ injection. Currently, there is no comparative evidence that demonstrates the superiority of one minimally invasive technique over another. Therefore, the recommended approach is to select the safest technique with the greatest likelihood of clinical success. The chosen approach and implants should be supported by peer-reviewed prospective clinical evidence that demonstrates safety and efficacy. (Sayed et al., 2024)

International Society for the Advancement of Spine Surgery (ISASS)

In 2020, the 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). The ISASS recommends coverage for MISIJ fusion when all the following criteria are met:

- Significant SIJ (SIJ fusion) pain (e.g., pain rating of at least 5 on the 0-10 numeric rating scale, where 0 represents no pain, and 10 represents the 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 on fluoroscopically guided diagnostic intra-articular SIJ block using local anesthetic.
- Failure to respond to at least 6 months of nonsurgical treatment that consists of nonsteroidal anti-inflammatory drugs and/or opioids (if not contraindicated) and one or more of the following: rest, physical therapy, and SIJ steroid injection. Failure to respond means continued pain that interferes with activities of daily living and/or results in functional disability.

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- 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).
- MISIJ fusion is not indicated in patients with the following:
  - Less than 6 months of back pain.
  - Failure to pursue conservative treatment of the SIJ (unless contraindicated).
  - Pain not confirmed with a diagnostic SIJ block.
  - Existence of other pathology that could explain the patient's pain.

North American Spine Society (NASS)

In the *Evidence-Based Clinical Guidelines for Multidisciplinary Spine Care*, NASS (2020) recommends that for the diagnosis and treatment of low back pain, intra-articular steroid joint injections may be considered in patients with suspected SIJ 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 regarding therapeutic SIJ injections. The document states that intra-articular SIJ injections of a corticosteroid with or without local anesthetic are indicated for the treatment of low back pain when all 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 point; i.e., at the insertion of the long dorsal ligament inferior to the posterior superior iliac spine or posterior superior iliac spine) 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 test, distraction test, Patrick sign, posterior provocation test); note that the thrust test 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 MISIJ 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 experienced failure of a minimum of 6 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 point; i.e., at the insertion of the long dorsal ligament inferior to the posterior superior iliac spine) 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 or FABER, (2) Gaenslen, (3) thigh thrust, (4) sacral thrust, (5) distraction, and (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 the following:
  - Imaging (plain radiographs and a CT or magnetic resonance imaging) of the SIJ 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 (anteroposterior plain radiograph) to rule out concomitant hip pathology that would better explain the patient's symptoms.
  - Imaging of the lumbar spine (CT or magnetic resonance imaging) to rule out neural compression or other degenerative condition that, in combination with the patient's history, physical examination, and other testing, would more likely be the source of their low back or buttock pain.
  - Imaging of the SIJ that indicates evidence of injury and/or degeneration.
- At least 75% reduction of pain, documented by a 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 (e.g., corticosteroid injection).

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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 the device name section: http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm. (Accessed July 29, 2026)

Sacroiliac joint 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 that are 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 29, 2026)

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Policy History/Revision Information

Date	Summary of Changes
11/01/2026	**Coverage Rationale** • Replaced reference to “Sacroiliac Joint Fusion” with “Sacroiliac Joint Fusion *(Arthrodesis)*” **Definitions**

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Date	Summary of Changes

	• Updated definition of:
	  ○ Provocative Tests
	  ○ Titanium Triangular Implant
	Supporting Information
	• Updated *Description of Services*, *Clinical Evidence*, and *References* sections to reflect the most current information
	• Archived previous policy version 2026T0621O

Instructions for Use

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the member specific benefit plan document must be referenced as the terms of the member specific benefit plan may differ from the standard plan. In the event of a conflict, the member specific benefit plan document governs. Before using this policy, check the member specific benefit plan document and any applicable federal or state mandates. 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.

This Medical Policy may also be applied to Medicare Advantage plans in certain instances. In the absence of a Medicare National Coverage Determination (NCD), Local Coverage Determination (LCD), or other Medicare coverage guidance, CMS allows a Medicare Advantage Organization (MAO) to create its own coverage determinations, using objective evidence-based rationale relying on authoritative evidence (Medicare IOM Pub. No. 100-16, Ch. 4, §90.5).

UnitedHealthcare may also use tools developed by third parties, such as the InterQual® criteria, to assist us in administering health benefits. UnitedHealthcare Medical Policies 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.

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