

Sacroiliac Joint Fusion

Last Review Date: March 8, 2024

Number: MG.MM.SU.61bC5

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Definitions

Sacroiliac joint (SIJ) fusion (Aka arthrodesis)	Sacroiliac joint fusion 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. Sacroiliac joint fusion may be performed as a minimally invasive surgical (MIS) procedure or as an open surgical procedure requiring a larger incision and subsequent increased recovery time. Percutaneous SIJ fusion is a MIS approach in which instrumentation involving cages or screws, with or without bone graft, are placed percutaneously in order to achieve a fusion. Fusion of the SIJ, combined with bone grafts and other metal implant devices, is an extensive procedure; generally considered a salvage procedure when all other measures have failed to provide pain-relief.
Sacroiliac Joint Syndrome	Sacroiliac joint problems are referred to by varying terms, including sacroiliac joint dysfunction, sacroiliac joint inflammation, sacroiliac joint strain, and sacroiliac joint syndrome. Each of these terms refers to a condition that causes pain in the SIJ area from a variety of causes. Individuals often experience pain in the lower back and hips, but pain may also be present in the groin and thighs; often aggravated by any form of movement including sitting, lifting, running or walking. The cause of SIJ inflammation and pain can be difficult to diagnose since the SIJ is not easily palpated or manipulated, radiographs or other imaging studies are often normal, and other conditions (e.g., degenerative arthritis, lower back pain, sciatica) can cause similar symptoms.
Sacral Insufficiency Fractures	Sacral insufficiency fractures occur when the quality of the sacral bone has become inadequate to handle the stress of weight bearing. The bone has lost some of its supporting structure and becomes weak and fragile. Sacral insufficiency fractures are usually located parallel to the spine, most often in the ala or "wings" of the sacrum, just beside the SIJ. A transverse fracture may also be present that connects an insufficiency fracture when it occurs on both sides of the sacrum. Sacral insufficiency fractures are known to develop in older persons, particularly in women, due to the presence of osteoporosis without definite trauma history. Other risk factors that can weaken the bone include pelvic radiation, steroid use, rheumatoid arthritis, hyperparathyroidism, anorexia nervosa, liver transplantation, osteopenia, Paget's disease, hip joint replacement and prior lumbosacral fusion. Sacral insufficiency fractures can also occur in pregnant or breastfeeding women due to temporary osteoporosis.

Related Medical Guidelines <u>Lumbar Fusion and Intervertebral Fusion Devices</u> <u>Pain Management</u>

Guideline

A. Open SIJ fusion

Considered medically necessary for any of the following indications:

- 1. As an adjunct to sacrectomy or partial sacrectomy related to tumors involving the sacrum
- 2. As an adjunct to the medical treatment of SIJ infection/sepsis
- 3. Post traumatic SIJ injury (e.g., pelvic ring fracture)
- 4. During multisegmental correction of spinal deformities (e.g. scoliosis, kyphosis surgery, etc.) which extend to the ilium

Limitations/Exclusions

Open SIJ fusion (or any technique not proven) is not considered medically necessary for any of the following clinical conditions due to insufficient evidence of therapeutic value:

- 1. Mechanical low back pain
- 2. Sacroiliac joint syndrome
- 3. Degenerative sacroiliac joint disease
- 4. Radicular pain
- 5. Sacroiliac insufficiency fractures

Coding for Open SIJ Fusion

B. Minimally-invasive surgical (MIS) fusion of the SIJ

All of the following criteria must be met:

- Moderate to severe pain with functional impairment and pain persists despite a minimum 6 months of intensive nonoperative treatment (must include medication optimization, activity modification, bracing, and active therapeutic exercise targeted at the lumbar spine, pelvis, SIJ and hip including a home exercise program)
- 2. Presence of unilateral pain that is caudal to the lumbar spine (L5 vertebrae), localized over the posterior SIJ and consistent with SIJ pain
- Thorough physical exam demonstrates localized tenderness with palpation over sacral sulcus (Fortin's point [insertion point of long dorsal ligament inferior to the posterior superior iliac spine [PSIS]) in the absence of tenderness of similar severity elsewhere (e.g., greater trochanter, lumbar spine, coccyx); and, other obvious source(s) for pain is not found to exist
- 4. Positive response to cluster of 3 provocative tests (e.g., thigh thrust test, compression test, Gaenslen's test, distraction test, Patrick's sign, posterior provocation test)
- 5. Absence of generalized pain behavior (e.g., somatoform disorder) or generalized pain disorders (e.g., fibromyalgia)
- 6. Diagnostic imaging studies; inclusive of all:

- a. Imaging (plain radiographs and a CT or MRI) of the SI joint that excludes the presence of destructive lesions (e.g., tumor, infection), fracture, traumatic SIJ instability or inflammatory arthropathy that would not be properly addressed by percutaneous SIJ fusion
- b. Imaging of the pelvis (AP plain radiograph) to rule out concomitant hip pathology
- c. Imaging of the lumbar spine (CT or MRI) to rule out neural compression or other degenerative condition that can be causing low back or buttock pain
- 7. At least 75 % pain-reduction for the expected duration of 2 anesthetics (on separate visits; each with a different duration of action) and the ability to perform previously painful maneuvers following an image-guided, contrast-enhanced, intra-articular SIJ injection.

Coding for MIS Fusion

Revision History

Mar. 8. 2019	Removed Trial of \geq 1 therapeutic intra-articular SIJ injection as MIS prerequisite
Mar. 9, 2018	Added Commercial coverage for MIS fusion

Open SIJ Fusion Procedure Codes

27280	Arthrodesis, open, sacroiliac joint, including obtaining bone graft, including instrumentation, when performed
27299	Unlisted procedure, pelvis or hip joint

Open SIJ Fusion Diagnosis codes

C41.4	Malignant neoplasm of pelvic bones, sacrum, and coccyx
C79.51	Secondary malignant neoplasm of bone
D16.8	Benign neoplasm of pelvic bones, sacrum, and coccyx
D48.0	Neoplasm of uncertain behavior of bone and articular cartilage
D49.2	Neoplasm of unspecified behavior of bone, soft tissue, and skin
M40.00	Postural kyphosis, site unspecified
M40.10	Other secondary kyphosis, site unspecified
M40.209	Unspecified kyphosis, site unspecified
M40.299	Other kyphosis, site unspecified
M41.00	Infantile idiopathic scoliosis, site unspecified
M41.07	Infantile idiopathic scoliosis, lumbosacral region
M41.08	Infantile idiopathic scoliosis, sacral and sacrococcygeal region
M41.117	Juvenile idiopathic scoliosis, lumbosacral region
M41.119	Juvenile idiopathic scoliosis, site unspecified
M41.127	Adolescent idiopathic scoliosis, lumbosacral region
M41.129	Adolescent idiopathic scoliosis, site unspecified
M41.20	Other idiopathic scoliosis, site unspecified
M41.27	Other idiopathic scoliosis, lumbosacral region
M41.30	Thoracogenic scoliosis, site unspecified

M41.40	Neuromuscular scoliosis, site unspecified
M41.47	Neuromuscular scoliosis, lumbosacral region
M41.50	Other secondary scoliosis, site unspecified
M41.57	Other secondary scoliosis, lumbosacral region
M41.80	Other forms of scoliosis, site unspecified
M41.87	Other forms of scoliosis, lumbosacral region
M41.9	Scoliosis, unspecified
M43.27	Fusion of spine, lumbosacral region
M43.28	Fusion of spine, sacral and sacrococcygeal region
M46.28	Osteomyelitis of vertebra, sacral and sacrococcygeal region
M46.38	Infection of intervertebral disc (pyogenic), sacral and sacrococcygeal region
M53.2X7	Spinal instabilities, lumbosacral region
M53.2X8	Spinal instabilities, sacral and sacrococcygeal region
M53.3	Sacrococcygeal disorders, not elsewhere classified
M89.751	Major osseous defect, right pelvic region and thigh
M89.752	Major osseous defect, left pelvic region and thigh
M89.759	Major osseous defect, unspecified pelvic region and thigh
S32.810A	Multiple fractures of pelvis with stable disruption of pelvic ring, initial encounter for closed fracture
S32.810B	Multiple fractures of pelvis with stable disruption of pelvic ring, initial encounter for open fracture
S32.810D	Multiple fractures of pelvis with stable disruption of pelvic ring, subsequent encounter for fracture with routine healing
S32.810G	Multiple fractures of pelvis with stable disruption of pelvic ring, subsequent encounter for fracture with delayed healing
S32.810K	Multiple fractures of pelvis with stable disruption of pelvic ring, subsequent encounter for fracture with nonunion
S32.810S	Multiple fractures of pelvis with stable disruption of pelvic ring, sequela
S32.811A	Multiple fractures of pelvis with unstable disruption of pelvic ring, initial encounter for closed fracture
S32.811B	Multiple fractures of pelvis with unstable disruption of pelvic ring, initial encounter for open fracture
S32.811D	Multiple fractures of pelvis with unstable disruption of pelvic ring, subsequent encounter for fracture with routine healing
S32.811G	Multiple fractures of pelvis with unstable disruption of pelvic ring, subsequent encounter for fracture with delayed healing
S32.811K	Multiple fractures of pelvis with unstable disruption of pelvic ring, subsequent encounter for fracture with nonunion
S32.811S	Multiple fractures of pelvis with unstable disruption of pelvic ring, sequela

Minimally-Invasive Fusion Procedure Codes

27278	Arthrodesis, sacroiliac joint, percutaneous, with image guidance, including placement of intra- articular implant(s) (eg, bone allograft[s], synthetic device[s]), without placement of transfixation device (eff. 1/1/2024)
0775T	Arthrodesis, sacroiliac joint, percutaneous, with image guidance, includes placement of intra articular implant(s) (eg, bone allograft[s], synthetic device[s])(eff. 1/1/2023) (Del. 1/1/2024)
27279	Arthrodesis, sacroiliac joint, percutaneous or minimally invasive (indirect visualization), with image guidance, includes obtaining bone graft when performed, and placement of transfixing device

Minimally-Invasive Fusion Diagnosis Codes

M43.18	Spondylolisthesis, sacral and sacrococcygeal region
M43.27	Fusion of spine, lumbosacral region
M43.28	Fusion of spine, sacral and sacrococcygeal region
M46.1	Sacroiliitis, not elsewhere classified
M51.17	Intervertebral disc disorders with radiculopathy, lumbosacral region
M53.2X7	Spinal instabilities, lumbosacral region
M53.2X8	Spinal instabilities, sacral and sacrococcygeal region
M53.3	Sacrococcygeal disorders, not elsewhere classified
M53.87	Other specified dorsopathies, lumbosacral region
M53.88	Other specified dorsopathies, sacral and sacrococcygeal region
M99.14	Subluxation complex (vertebral) of sacral region
S33.2XXA	Dislocation of sacroiliac and sacrococcygeal joint, initial encounter
\$33.2XXD	Dislocation of sacroiliac and sacrococcygeal joint, subsequent encounter
S33.2XXS	Dislocation of sacroiliac and sacrococcygeal joint, sequela
S33.6XXA	Sprain of sacroiliac joint, initial encounter
S33.6XXD	Sprain of sacroiliac joint, subsequent encounter
S33.6XXS	Sprain of sacroiliac joint, sequela
S33.8XXA	Sprain of other parts of lumbar spine and pelvis, initial encounter
S33.8XXD	Sprain of other parts of lumbar spine and pelvis, subsequent encounter
S33.8XXS	Sprain of other parts of lumbar spine and pelvis, sequela

References

- 1. Al-Khayer A, Hegarty J, Hahn D, Grevitt MP. Percutaneous sacroiliac joint arthrodesis: a novel technique. J Spinal Disord Tech. 2008; 21(5):359-363.
- 2. Ashman B, Norvell DC, Hermsmeyer JT. Chronic sacroiliac joint pain: fusion versus denervation as treatment options. Evid Based Spine Care J. 2010; 1(3):35-44.
- 3. Belanger TA, Dall BE. Sacroiliac arthrodesis using a posterior midline fascial splitting approach and pedicle screw instrumentation: a new technique. J Spinal Disord. 2001; 14(2):118-124.
- 4. Berthelot JM, Gouin F, Glemarec J, et al. Possible use of arthrodesis for intractable sacroiliitis in spondylarthropathy: report of two cases. Spine (Phila Pa 1976). 2001; 26(20):2297-2299.
- 5. Buchowski JM, Kebaish KM, Sinkov V, et al. Functional and radiographic outcome of sacroiliac arthrodesis for the disorders of the sacroiliac joint. Spine J. 2005; 5(5):520-528.
- Chou R, Loeser JD, Owens DK, et al. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: an evidence-based clinical practice guideline from the American Pain Society. Spine (Phila Pa 1976). 2009; 34(10):1066-1077.
- 7. Cummings J Jr, Capobianco RA. Minimally invasive sacroiliac joint fusion: one-year outcomes in 18 patients. Ann Surg Innov Res. 2013; 7(1):12.
- 8. Duhon BS, Cher DJ, Wine KD, et al. Safety and 6-month effectiveness of minimally invasive sacroiliac joint fusion: a prospective study. Med Devices (Auckl). 2013; 6:219-229.
- 9. Ebraheim NA, Ramineni SK, Alla SR, Ebraheim M. Sacroiliac joint fusion with fibular bone graft in patients with failed percutaneous iliosacral screw fixation. J Trauma. 2010; 69(5):1226-1229.
- 10. Gallia GL, Haque R, Garonzik I, et al. Spinal pelvic reconstruction after total sacrectomy for en bloc resection of a giant sacral chordoma. Technical note. J Neurosurg Spine. 2005; 3:501-506.

- 11. Giannikas KA, Khan AM, Karski MT, Maxwell HA. Sacroiliac joint fusion for chronic pain: a simple technique avoiding the use of metalwork. Eur Spine J. 2004; 13(3):253-256.
- 12. Giannoudis PV, Tsiridis E. A minimally-invasive technique for the treatment of pyogenic sacroiliitis. J Bone Joint Surg Br. 2007; 89(1):112-114.
- Griffin DR, Starr AJ, Reinert CM, et al. Vertically unstable pelvic fractures fixed with percutaneous iliosacral screws: does posterior injury pattern predict fixation failure? J Orthop Trauma. 2006; 20(1 Suppl):S30-S36.
- 14. Hsu JR, Bear RR, Dickson KF. Open reduction internal fixation of displaced sacral fractures: technique and results. Orthopedics. 2010; 33(10):730.
- International Society for the Advancement of Spinal Surgery (ISASS). Recommendations for Coverage Criteria for Sacroiliac Joint Fusion. July 2016. <u>https://isass.org/isass-policy-statement-minimally-invasive-sacroiliac-joint-fusion-july-2016/</u>. Accessed March 8, 2024.
- 15. Kasten MD, Rao LA, Priest B. Long-term results of iliac wing fixation below extensive fusions in ambulatory adult patients with spinal disorders. J Spinal Disord Tech. 2010; 23(7):e37-e42.
- 16. Kibsgård TJ, Røise O, Stuge B. Pelvic joint fusion in patients with severe pelvic girdle pain a prospective singlesubject research design study. BMC Musculoskelet Disord. 2014; 15:85.
- 17. Klineberg E, McHenry T, Bellabarba C, et al. Sacral insufficiency fractures caudal to instrumented posterior lumbosacral arthrodesis. Spine (Phila Pa 1976). 2008; 33(16):1806-1811.
- Lin J, Lachmann E, Nagler W. Sacral insufficiency fractures: a report of two cases and a review of the literature. J Womens Health Gend Based Med. 2001; 10(7):699-705.
- Lorio MP, Rashbaum R. ISASS policy statement minimally invasive sacroiliac joint fusion. Int J Spine Surg. 2014; 8.
- Miller LE, Reckling WC, Block JE. Analysis of postmarket complaints database for the iFuse SI Joint Fusion System: a minimally invasive treatment for degenerative sacroiliitis and sacroiliac joint disruption. Med Devices (Auckl). 2013; 6:77-84.
- National Government Services. Local Coverage Determination (LCD): Minimally-invasive Surgical (MIS) Fusion of the Sacroiliac (SI) Joint. October 2019. <u>https://www.cms.gov/medicare-coverage-database/details/lcddetails.aspx?LCDId=36406&ver=9&s=41&DocType=All&bc=AgIAAAAAgAAA&. Accessed March 8, 2024.</u>
- 21. Minimally-invasive Surgical (MIS) Fusion of the Sacroiliac (SI) Joint Minimally-invasive Surgical (MIS) Fusion of the Sacroiliac (SI) Joint. April 2016.
- 22. Newman CB, Keshavarzi S, Aryan HE. En bloc sacrectomy and reconstruction: technique modification for pelvic fixation. Surg Neurol. 2009; 72(6):752-756.
- North American Spine Society (NASS). NASS Coverage Policy Recommendations. Minimally Invasive Sacroiliac Joint Fusion. September, 2021. <u>https://www.spine.org/coverage</u>. Accessed March 20, 2023.
- Papanastassiou ID, Setzer M, Eleraky M, et al. Minimally invasive sacroiliac fixation in oncologic patients with sacral insufficiency fractures using a fluoroscopy-based navigation system. J Spinal Disord Tech. 2011; 24(2):76-82.
- 25. Peng KT, Huang KC, Chen MC, et al. Percutaneous placement of iliosacral screws for unstable pelvic ring injuries: comparison between one and two C-arm fluoroscopic techniques. J Trauma. 2006; 60(3):602-608.
- Polly DW, Cher DJ, Wine KD, et al.; INSITE Study Group. 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.
- 27. Rudolf L, Capobianco R. Five-year clinical and radiographic outcomes after minimally invasive sacroiliac joint fusion using triangular implants. Open Orthop J. 2014; 8:375-383.
- Rudolf L. MIS fusion of the SI joint: does prior lumbar spinal fusion affect patient outcomes? Open Orthop J. 2013; 7:163-168.
- 29. Rudolf L. Sacroiliac joint arthrodesis-MIS technique with titanium implants: report of the first 50 patients and outcomes. Open Orthop J. 2012; 6:495-502.

- Rysavý M, Pavelka T, Khayarin M, Dzupa V. Iliosacral screw fixation of the unstable pelvic ring injuries. Acta Chir Orthop Traumatol Cech. 2010; 77(3):209-214.
- 31. Sachs D, Capobianco R, Cher D, et al. One-year outcomes after minimally invasive sacroiliac joint fusion with a series of triangular implants: a multicenter, patient-level analysis. Med Devices (Auckl). 2014; 7:299-304.
- 32. Sachs D, Capobianco R. Minimally invasive sacroiliac joint fusion: one-year outcomes in 40 patients. Adv Orthop. 2013; 2013:536128.
- Sachs D, Capobianco R. One year successful outcomes for novel sacroiliac joint arthrodesis system. Ann Surg Innov Res. 2012; 6(1):13.
- Salehi SA, McCafferty RR, Karahalios D, Ondra SL. Neural function preservation and early mobilization after resection of metastatic sacral tumors and lumbosacropelvic junction reconstruction. Report of three cases. J Neurosurg. 2002; 97(1 Suppl):88-93.
- Sar C, Kilicoglu O. S1 pediculoiliac screw fixation in instabilities of the sacroiliac complex: biomechanical study and report of two cases. J Orthop Trauma. 2003; 17(4):262-270.
- 36. Schütz U, Grob D. Poor outcome following bilateral sacroiliac joint fusion for degenerative sacroiliac joint syndrome. Acta Orthop Belg. 2006; 72(3):296-308.
- Schweitzer D, Zylberberg A, Córdova M, Gonzalez J. Closed reduction and iliosacral percutaneous fixation of unstable pelvic ring fractures. Injury. 2008; 39(8):869-874.
- 38. Smith AG, Capobianco R, Cher D, et al. Open versus minimally invasive sacroiliac joint fusion: a multi-center comparison of perioperative measures and clinical outcomes. Ann Surg Innov Res. 2013; 7(1):14.
- 39. Tjardes T, Paffrath T, Baethis H, et al. Computer assisted percutaneous placement of augmented iliosacral screws: a reasonable alternative to sacroplasty. Spine (Phila Pa 1976). 2008; 33(13):1497-1500.
- 40. Tsiridis E, Upadhyay N, Gamie Z, Giannoudis PV. Percutaneous screw fixation for sacral insufficiency fractures: a review of three cases. J Bone Joint Surg Br. 2007; 89(12):1650-1653.
- Tumialán LM, Mummaneni PV. Long-segment spinal fixation using pelvic screws. Neurosurgery. 2008; 63(3 Suppl):183-190.
- U.S. Food and Drug Administration (FDA) 510(k) Premarket Notification Database. iFuse SI Fusion System Summary of Safety and Effectiveness. No. K110838. Rockville, MD: FDA. April 21, 2011. <u>http://www.accessdata.fda.gov/cdrh_docs/pdf11/K110838.pdf</u>. Accessed March 8, 2024.
- U.S. Food and Drug Administration (FDA) 510(k) Premarket Notification Database. SImmetry[™] Sacroiliac Joint Fusion System Summary of Safety and Effectiveness. No. K110512. Rockville, MD: FDA. March 23, 2011. <u>http://www.accessdata.fda.gov/cdrh_docs/pdf11/K110512.pdf</u>. Accessed March 8, 2024.
- 42. Vavken P, Krepler P. Sacral fractures after multi-segmental lumbosacral fusion: a series of four cases and systematic review of literature. Eur Spine J. 2008; 17 (Suppl 2):S285-S290.
- 43. Whang P, Cher D, Polly D, et al. Sacroiliac joint fusion using triangular titanium implants vs. non-surgical management: six-month outcomes from a prospective randomized controlled trial. Int J Spine Surg. 2015; 9:6.
- 44. Wise CL, Dall BE. Minimally invasive sacroiliac arthrodesis: outcomes of a new technique. J Spinal Disord Tech. 2008; (8):579-584.