*National Imaging Associates, Inc.		
Clinical guidelines:	Original Date: June 2021	
PERCUTANEOUS SACROILIAC JOINT FUSION		
CPT Codes**:	Last Revised Date: May December	
- Percutaneous Sacroiliac Joint (SIJ) Fusion: 27279	2023	
**See UM Matrix for allowable billed groupings and		
additional covered codes		
Guideline Number: NIA_CG_407	leline Number: NIA_CG_407	

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GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.

STATEMENT

(Aall SIJ fusion surgeries will be reviewed on a case-by-case basis.):

Operative treatment is indicated when the natural history of surgically treated lesions is better than the natural history for non-operatively treated lesions. All operative interventions must be based on a positive correlation with clinical findings, the natural history of the disease, the clinical course, and diagnostic tests or imaging results. All individuals being considered for surgical intervention should receive a comprehensive neuromusculoskeletal examination to identify pain generators that may either respond to non-surgical techniques or may be refractory to surgical intervention.

Aggressive surgical approaches to fusion may be an indication for denial of cases (when such techniques have not been demonstrated to be superior to less morbid techniques) or recommendation for alternative procedure. Because of variable outcomes with fusion surgery, individuals should be actively involved in the decision-making process and provided appropriate decision-support materials explaining potential risks/benefits and treatment alternatives when considering this intervention.

All operative interventions must be based upon positive correlation of clinical findings, clinical course, and diagnostic tests and must be performed by surgeons with appropriate training (neurosurgery, orthopedic surgery). A comprehensive assimilation of these factors must lead to a specific diagnosis with positive identification of pathologic condition(s). A failure of accurate correlation may be an indication for denial of cases. It is imperative to rule out non-physiologic modifiers of pain presentation or non-operative conditions (e.g., peripheral neuropathy, piriformis syndrome, myofascial pain, sympathetically mediated pain syndromes, psychological conditions, etc.) prior to consideration of elective surgical intervention.

Scope

<u>Spinal surgeries should be performed only by those with extensive surgical training</u> (neurosurgery, orthopedic surgery).

Instrumentation, bone formation or grafting materials, including biologics, should be used at the surgeon's discretion; however, use should be limited to FDA approved indications regarding the specific devices or biologics.



PERCUTANEOUS SACROILIAC JOINT (SIJ) FUSION

(all SIJ fusion surgeries will be reviewed on a case-by-case basis):

Because of variable outcomes with fusion surgery, individuals should be actively involved in the decision-making process and provided appropriate decision-support materials when considering this intervention.

Surgical indications Surgical indications

- (when ALL of the following are present): [1, 2, 3, 4]⁴⁻⁴
 - Low back/buttock pain that is typically unilateral and caudal to the lumbar spine localized over the SIJ that impairs daily activities for at least 6 months
 - Failure to improve with at least 6 months of appropriate active non-operative treatment that must include medications, PT, and a home exercise program
 - Physical exam demonstrating pain to palpation over the sacral sulcus in the absence of tenderness of similar severity elsewhere
 - Absence of generalized pain behavior
 - Positive pain response to a cluster of 3 provocative tests (e.g., thigh thrust, compression test, Gaenslen's test, distraction test, Faber test)
 - Diagnostic imaging studies that include ALL of the following:
 - Imaging (plain radiographs and a CT or MRI) of the sacroiliac (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 plain radiograph) to rule out concomitant hip pathology
 - 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
 - Imaging of the SI joint that indicates evidence of injury and/or degeneration
 - At least 75% reduction of pain for the expected duration of the anesthetic used following an image-guided, contrast -enhanced intra-articular SIJ injection on 2 separate occasions
 - A trial of at least one therapeutic intra-articular SIJ injection (i.e., corticosteroid injection)



NOTE: Instrumentation, bone formation or grafting materials, including biologics, should be used at the surgeon's discretion; however, use should be limited to FDA approved indications regarding the specific devices or biologics.

RELATIVE CONTRAINDICATIONS FOR SPINE SURGERY

(NOTE: Cases may not be approved if the below contraindications exist):

- **Medical contraindications** to surgery (e.g., severe osteoporosis; infection of soft tissue adjacent to the spine and may be at risk for spreading to the spine; severe cardiopulmonary disease; anemia; malnutrition and systemic infection) [5, 6]. 5, 6
- Psychosocial risk factors. It is imperative to rule out non-physiologic modifiers of pain presentation or non-operative conditions mimicking radiculopathy or instability (e.g., peripheral neuropathy, piriformis syndrome, myofascial pain, sympathetically mediated pain syndromes, sacroiliac dysfunction, psychological conditions, etc.) prior to consideration of elective surgical intervention [7]. Individuals with clinically significant depression or other psychiatric disorders being considered for elective spine surgery will be reviewed on a case-by-case basis and the surgery may be denied for risk of failure.
- Active Tobacco or Nicotine use prior to fusion surgery. Individuals must be free from smoking and/or nicotine use for at least six weeks prior to surgery and during the entire period of fusion healing [8, 9]. 8-13
- Morbid Obesity. Contraindication to surgery in cases where there is significant risk and concern for improper post-operative healing, post-operative complications related to morbid obesity, and/or an inability to participate in post-operative rehabilitation_[10, 11].¹⁴⁻¹⁷ These cases will be reviewed on a case-by-case basis and may be denied given the risk of failure.

LEGISLATIVE LANGUAGE

Washington

Washington State Health Care Authority: Health Technology Clinical Committee [12]

Number and coverage topic:

1. 20210618A – Sacroiliac joint fusion – rereview

HTCC coverage determination:

<u>In adults, 18 years old and older, with chronic sacroiliac joint pain related to</u> <u>degenerative sacroiliitis and/or sacroiliac joint dysfunction, minimally invasive and open sacroiliac joint fusion procedures are **not covered benefits.**</u>



Note - The scope of this decision does not apply to the following:

- Low back pain of other etiology (e.g., radiculopathy, neurogenic claudication), sacroiliac joint pain related to recent major trauma or fracture, infection, cancer, or sacroiliitis associated with inflammatory arthropathies;
- Sacroiliac joint fusion revision surgery.

HTCC reimbursement determination:

<u>Limitations of coverage: N/A</u> <u>Non-covered indicators: N/A</u>

BACKGROUNDOVERVIEW

- All operative interventions must be based upon positive correlation of clinical findings, clinical course, and diagnostic tests and must be performed by surgeons with appropriate training (neurosurgery, orthopedic surgery). A comprehensive assimilation of these factors must lead to a specific diagnosis with positive identification of pathologic condition(s). A failure of accurate correlation may be an indication for denial of cases. It is imperative to rule out non-physiologic modifiers of pain presentation or non-operative conditions (e.g., peripheral neuropathy, piriformis syndrome, myofascial pain, sympathetically mediated pain syndromes, psychological conditions, etc.) prior to consideration of elective surgical intervention.
- Operative treatment is indicated when the natural history of surgically treated lesions is better than the natural history for non-operatively treated lesions.
 - All individuals being considered for surgical intervention should first undergo a comprehensive neuro-musculoskeletal examination to identify mechanical pain generators that may respond to non-surgical techniques or may be refractory to surgical intervention
- While sufficient time allowances for non-operative treatment are required to determine
 the natural cause and response to non-operative treatment of low back pain disorders,
 timely decision making for operative intervention is critical to avoid de-conditioning and
 increased disability
- In general, if the program of non-operative treatment fails, operative treatment is indicated when:
 - Improvement of the symptoms has plateaued or failed to occur, and the residual symptoms of pain and functional disability are unacceptable at the end of 6 months of active treatment, or at the end of longer duration of non-operative programs for debilitated individuals with complex problems; and/or
 - Frequent recurrences of symptoms cause serious functional limitations even if a non-operative active treatment program provides satisfactory relief of symptoms, and restoration of function on each recurrence





POLICY HISTORY

Date	Summary
December 2023	Added Table of Contents
	<u>Updated references</u>
	 Edited text for clarity Added legislative language for WA state
May 2023	Updated references
May 2022	Replaced "patients" with "individuals" where appropriate

REFERENCES

- [1] A. S. Himstead, N. J. Brown, S. Shahrestani, K. Tran, Davies, L. J and M. Oh, "Trends in Diagnosis and Treatment of Sacroiliac Joint Pathology Over the Past 10 Years: Review of Scientific Evidence for New Devices for Sacroiliac Joint Fusion," *Cureus*, vol. 13, no. 6, 2021.
- [2] North American Spine Society, "Diagnosis and Treatment of Adults with Sacroiliac Joint Pain: A Protocol for a Systematic Review and Clinical Guideline by the North American Spine Society," 24 February 2023. [Online]. Available: https://www.spine.org/Portals/0/assets/downloads/ResearchClinicalCare/Guidelines/SacroiliacJointPain-Protocol.pdf. [Accessed 2023].
- [3] D. W. Polly, J. Swofford, P. G. Whang, C. J. Frank, J. A. Glaser, R. P. Limoni, D. J. Cher, K. D. Wine, J. N. Sembrano and INSITE Study Group, "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 Surger*, vol. 10, 2016.
- [4] P. G. Whang, E. Darr, S. C. Meyer, D. Kovalsky, C. Frank, H. Lockstadt, R. Limoni, A. J. Redmond, P. Ploska, M. Oh, A. Chowdhary, D. Cher and T. Hillen, "Long-Term Prospective Clinical and Radiographic Outcomes After Minimally Invasive Lateral Trasiliac Sacroiliac Joint Fusion Using Triangular Titanium Implants," *Medical Devices: Evidence and Research*, vol. 12, pp. 411-22, 2019.
- [5] V. Puvanesarajah, F. H. Shen, J. M. Cancienne, W. M. Novicoff, A. Jain, A. L. Shimer and H. Hassanzadeh, "Risk factors for revision surgery following primary adult spinal deformity surgery in patients 65 years and older," *Journal of Neurosurgery Spine*, vol. 25, 2016.
- [6] K. Varshneya, T. J. Rayyan, P. Fatemi, M. N. Stienen, Z. A. Medress, A. L. Ho, J. K. Ratliff and A. Veeravagu, "predictors of 2-year reopoeration in Medicare patients undergoing primary thoraculumbar deformity surgery," *Journal of Neurosurgery Spine*, vol. 33, 2020.
- [7] North American Spine Society, "Clinical Guidelines for Diagnosis and Treatment of Lumbar Disc Herniation with Radiculopathy," 2012. [Online]. [Accessed 2023].
- [8] K. L. Jackson II and J. G. Devine, "The Effects of Smoking and Smoking Cessation on Spine Surgery: A Systematic Review of the Literature," *Global Spine Journal*, vol. 6, 2016.
- [9] R. S. Nunna, P. B. Ostrov, D. Ansari, J. R. Dettori, P. Godolias, E. Elias, A. Tran, R. J. Oskouian, R. Hart, A. Abdul-Jabbar, K. L. Jackson, J. G. Devine, A. I. Mehta, O. Adogwa and J. R. Chapman, "The Risk of Nonunion in Smokers Revisited: A Systematic Review and Meta-Analysis," *Global Spine Journal*, vol. 12, no. 3, 2022.



- [10] F. Cofano, G. Di Perna, D. Bongiovanni, V. Roscigno, B. M. Baldassarre, S. Petrone, F. Tartara, D. Garbossa and M. Bozzaro, "Obesity and Spine Surgery: A Qualitative Review About Outcomes and Complications. Is It Time for New Perspectives on Future Researches?," *Global Spine Journal*, vol. 12, no. 6, 2022.
- [11] A. Feeley, J. McDonnell, I. Feeley and J. Butler, "Obesity: An Independent Risk Factor for Complications in Anterior Lumbar Interbody Fusion? A Systematic Review," *Global Spine Journal*, vol. 12, no. 8, 2022.
- [12] Authority WSHC, "Health Technology Clinical Committee Sacroiliac joint fusion-rereview," 2023. [Online]. [Accessed September 2023].



REFERENCES

- 1. POLLY DW, SWOFFORD J, WHANG PG, ET AL. TWO-YEAR OUTCOMES FROM A RANDOMIZED CONTROLLED TRIAL OF MINIMALLY INVASIVE SACROILIAC JOINT FUSION VS. NON-SURGICAL MANAGEMENT FOR SACROILIAC JOINT DYSFUNCTION. INT J SPINE SURG. 2016;10:28. DOI:10.1444/3028
- 2. 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. MED DEVICES (AUCKL). 2019;12:411-422. DOI:10.2147/MDER.S219862
- 3. HIMSTEAD AS, BROWN NJ, SHAHRESTANI S, TRAN K,
 DAVIES JL, OH M. TRENDS IN DIAGNOSIS AND TREATMENT OF
 SACROILIAC JOINT PATHOLOGY OVER THE PAST 10 YEARS:
 REVIEW OF SCIENTIFIC EVIDENCE FOR NEW DEVICES FOR
 SACROILIAC JOINT FUSION. CUREUS. JUN 2021;13(6):E15415.
 DOI:10.7759/CUREUS.15415



4. SOCIETY NAS. DIAGNOSIS AND TREATMENT OF ADULTS
WITH SACROILIAC JOINT PAIN: A PROTOCOL FOR A
SYSTEMATIC REVIEW AND CLINICAL GUIDELINE BY THE NORTH
AMERICAN SPINE SOCIETY. NORTH AMERICAN SPINE SOCIETY.
MAY 23, 2023. UPDATED FEBRUARY 24, 2023. ACCESSED
APRIL, 2023. HTTPS://WWW.SPINE.ORG/RESEARCH-CLINICAL-CARE/QUALITY-IMPROVEMENT/CLINICAL-GUIDELINES

5. PUVANESARAJAH V, SHEN FH, CANCIENNE JM, ET AL. RISK FACTORS FOR REVISION SURGERY FOLLOWING PRIMARY ADULT SPINAL DEFORMITY SURGERY IN PATIENTS 65 YEARS AND OLDER. J NEUROSURG SPINE. OCT 2016;25(4):486-493. DOI:10.3171/2016.2.SPINE151345

6. VARSHNEYA K, JOKHAI RT, FATEMI P, ET AL. PREDICTORS
OF 2-YEAR REOPERATION IN MEDICARE PATIENTS
UNDERGOING PRIMARY THORACOLUMBAR DEFORMITY
SURGERY. J NEUROSURG SPINE. JUL 24 2020:1-5.
DOI:10.3171/2020.5.SPINE191425

7. KREINER DS, HWANG SW, EASA JE, ET AL. AN EVIDENCE-BASED CLINICAL GUIDELINE FOR THE DIAGNOSIS AND TREATMENT OF LUMBAR DISC HERNIATION WITH RADICULOPATHY. SPINE J. JAN 2014;14(1):180-91. DOI:10.1016/J.SPINEE.2013.08.003

8. ANDERSEN T, CHRISTENSEN FB, LAURSEN M, HØY K, HANSEN ES, BÜNGER C. SMOKING AS A PREDICTOR OF NEGATIVE OUTCOME IN LUMBAR SPINAL FUSION. SPINE (PHILA PA 1976). DEC 1 2001;26(23):2623-8.
DOI:10.1097/00007632-200112010-00018



9. GLASSMAN SD, ANAGNOST SC, PARKER A, BURKE D, JOHNSON JR, DIMAR JR. THE EFFECT OF CIGARETTE SMOKING AND SMOKING CESSATION ON SPINAL FUSION. SPINE (PHILA PA 1976). OCT 15 2000;25(20):2608-15.
DOI:10.1097/00007632-200010150-00011

- 10. JACKSON KL, 2ND, DEVINE JG. THE EFFECTS OF SMOKING AND SMOKING CESSATION ON SPINE SURGERY: A SYSTEMATIC REVIEW OF THE LITERATURE. *GLOBAL SPINE J*. NOV 2016;6(7):695-701. DOI:10.1055/S-0036-1571285
- 11. PATEL RA, WILSON RF, PATEL PA, PALMER RM. THE EFFECT OF SMOKING ON BONE HEALING: A SYSTEMATIC REVIEW. BONE JOINT RES. 2013;2(6):102-11. DOI:10.1302/2046-3758.26.2000142
- 12. KHALID SI, THOMSON KB, CHILAKAPATI S, ET AL. THE IMPACT OF SMOKING CESSATION THERAPY ON LUMBAR FUSION OUTCOMES. WORLD NEUROSURG. AUG 2022;164:E119-E126. DOI:10.1016/J.WNEU.2022.04.031
- 13. NUNNA RS, OSTROV PB, ANSARI D, ET AL. THE RISK OF NONUNION IN SMOKERS REVISITED: A SYSTEMATIC REVIEW AND META-ANALYSIS. *GLOBAL SPINE J.* APR 2022;12(3):526-539. DOI:10.1177/21925682211046899
- 14. EPSTEIN NE. MORE RISKS AND COMPLICATIONS FOR ELECTIVE SPINE SURGERY IN MORBIDLY OBESE PATIENTS. SURG NEUROL INT. 2017;8:66. DOI:10.4103/SNI.SNI_49_17



15. FEELEY A, MCDONNELL J, FEELEY I, BUTLER J. OBESITY: AN INDEPENDENT RISK FACTOR FOR COMPLICATIONS IN ANTERIOR LUMBAR INTERBODY FUSION? A SYSTEMATIC REVIEW. GLOBAL SPINE J. OCT 2022;12(8):1894-1903. DOI:10.1177/21925682211072849

16. COFANO F, PERNA GD, BONGIOVANNI D, ET AL. OBESITY AND SPINE SURGERY: A QUALITATIVE REVIEW ABOUT OUTCOMES AND COMPLICATIONS. IS IT TIME FOR NEW PERSPECTIVES ON FUTURE RESEARCHES? GLOBAL SPINE J. JUL 2022;12(6):1214-1230. DOI:10.1177/21925682211022313

17. BONO OJ, POORMAN GW, FOSTER N, ET AL. BODY MASS INDEX PREDICTS RISK OF COMPLICATIONS IN LUMBAR SPINE SURGERY BASED ON SURGICAL INVASIVENESS. SPINE J. JUL 2018;18(7):1204-1210. DOI:10.1016/J.SPINEE.2017.11.015



Reviewed / Approved by NIA Clinical Guideline Committee

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