SI Fusion: Arthrodesis vs. Skeletal Fixation

Sacral pathology has long been enigmatic in diagnosis and treatment. With the renewed focus on the sacroiliac joint (SIJ) as a pain generator, there has been an increased interest in minimally invasive and percutaneous surgery to address the SI joint. The purpose of the article is to clarify the arthrodesis options, with regard to the sacroiliac joint and differentiate these codes from skeletal fixation CPT codes used in pelvic trauma.

As of January 1, 2015, percutaneous sacroiliac fusion was elevated from a category III CPT code 0334T to a category I code 27279 - Arthrodesis, sacroiliac joint, percutaneous or minimally invasive (indirect visualization), with image guidance, includes obtaining bone graft when performed, and placement of transfixing device.

Percutaneous SI fusion involves a small incision using image guidance to place implants across the joint. Bone graft may or may not be used as well. This is differentiated from the classic open approach which uses a larger incision allowing direct visualization of the joint for debridement. Typically during open arthrodesis, the cartilage is scraped from the joint surfaces, then bone from the posterior superior iliac spine (PSIS) is harvested and placed directly within the SI joint. Instrumentation (plate or screw construct) is placed to provide fixation. The appropriate reported CPT code is 27280 - Arthrodesis, open, sacroiliac joint, includes obtaining bone graft, including instrumentation.

In 2015, NASS published coverage policy recommendations regarding Percutaneous Sacroiliac Joint Fusion:

Percutaneous SI fusion is intended for patients with low back/buttock pain who meet all of the following criteria:

a) Have undergone and failed a minimum six months of intensive non operative treatment that 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.

b) Patient’s report of typically unilateral pain that is caudal to the lumbar spine (L5 vertebrae), localized over the posterior SIJ, and consistent with SIJ pain.

c) 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 (eg greater trochanter, lumbar spine, coccyx) and that other obvious sources for their pain do not exist.

d) Positive response to a cluster of 3 provocative tests (eg thigh thrust test, compression test, Gaenselen’s test, etc).
distraction test, Patrick’s sign, posterior provocation test). Note that the thrust test is not recommended in pregnant patient or those with connective tissue disorders.

e) Absence of generalized pain behavior (e.g. somatoform disorder) or generalized pain disorders (e.g. fibromyalgia)

f) Diagnostic imaging studies that include all of the following:

1. Imaging (plain radiographs and a CT or MRI) 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

2. Imaging of the pelvis (AP plain radiograph) to rule out concomitant hip pathology

3. 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

4. Imaging of the SI joint that indicates evidence of injury and/or degeneration

g) 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 two separate occasions

h) A trial of at least one therapeutic intra-articular SIJ injection (ie corticosteroid injection)

Percutaneous SIJ fusion for SIJ pain is not indicated in any of the following scenarios:

- Any case that does not fulfill all of the above criteria
- Presence of systemic arthropathy such as ankylosing spondylitis or rheumatoid arthritis
- Presence of generalized pain behavior (eg somatoform disorder) or generalized pain disorder (eg fibromyalgia)
- Presence of infection, tumor or fracture

Presence of acute, traumatic instability of the SIJ

Presence of neural compression as seen on a MRI or CT that correlates with the patient’s symptoms or other more likely source for their pain. (https://www.spine.org/Portals/0/Documents/PolicyPractice/CoverageRecommendations/PercutaneousSacroiliacJointFusion.pdf).

A common misconception is to confuse the percutaneous SI arthrodesis code 27279 with percutaneous stabilization of the pelvis/sacrum (iliosacral fixation) used in pelvic fractures 27216. Percutaneous skeletal fixation of posterior pelvic bone fracture and/or dislocation, for fracture patterns that disrupt the pelvic ring, unilateral (includes ipsilateral ilium, sacroiliac joint and/or sacrum). When the purpose of fixation is for stabilization of pelvic fractures/SI dislocation (not arthrodesis), code 27216 should be used. When the purpose of surgery is sacroiliac arthrodesis then the appropriate codes are 27279 for percutaneous SI fusion or 27280 for open SI fusion.

In addition, with the increasing focus on MIS surgery, more spinal surgeries are being performed in ambulatory surgery centers. Site of service is becoming increasingly important because certain CPT codes cannot be used in outpatient settings. According to the Outpatient Prospective Payment System (OPPS), Open arthrodesis (CPT codes 27280) can only be performed in an inpatient setting. Percutaneous SI fusion (code 27279) can be performed in an ASC/outpatient setting. Of note, code 27216 is not on the OPPS list but is historically not reimbursed in an outpatient setting.

There are other important points involving sacroiliac arthrodesis. If the procedure is performed bilaterally, it should be reported by adding modifier -50 to the code. Instrumentation, imaging and bone graft harvest are not separately reportable as they are already included in the value of the procedure.

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Examples

1. A 65-year-old patient is eight years s/p posterolateral fusion with instrumentation from lumbar 2 to sacral 1. The patient complains of left buttock pain worse with activity. He has failed conservative treatment for greater than six months (PT, SI belt), has four positive sacroiliac provocative tests and experienced greater than 75% relief with two diagnostic blocks. The patient undergoes a left percutaneous sacroiliac fusion using multiple transfixing devices plus harvesting of local bone graft with the help of fluoroscopy.

   **Recommended coding:**
   27279 Arthrodesis, sacroiliac joint, percutaneous or minimally invasive (indirect visualization), with image guidance, includes obtaining bone graft when performed, and placement of transfixing device.

   Add modifier -50 if done bilaterally

2. A 35-year-old male is s/p MVC with symphysis pubis and left sacroiliac joint disruption. Patient undergoes percutaneous iliosacral fixation.

   **Recommended coding:**
   27216 Percutaneous skeletal fixation of posterior pelvic bone fracture and/or dislocation, for fracture patterns that disrupt the pelvic ring, unilateral (includes ipsilateral ilium, sacroiliac joint, and/or sacrum).

   Add modifier -50 if done bilaterally

3. A 40-year-old male has persistent right sacroiliac pain years after a pelvic fracture with derangement of the SI joint. Imaging reveals degenerative changes of the sacroiliac joint on the right side. On two occasions, injections of the SI joint have relieved the pain by at least 75%. The patient undergoes arthrodesis of the right SI joint from an anterior approach. The joint cartilage is directly curetted and bone graft harvested from the adjacent iliac crest for placement within the joint. A plate is placed across the joint to compress and stabilize during healing.

   **Recommended coding:**
   27280 Arthrodesis, open, sacroiliac joint, includes obtaining bone graft, including instrumentation

Resources


Author Disclosure

P Saiz: Zimmer (A); Consulting: Zimmer (Financial), Medivest (Financial), Amedica (Financial); Speaking and/or Teaching Arrangements: Zimmer (Financial); Trips/Travel: Zimmer (B), Amedica (Financial); Board of Directors: Las Cruces Surgical Center (Nonfinancial).