

Evidence Discussion (CMM-611: Sacroiliac Joint Fusion or Stabilization)

Risks of minimally invasive sacroiliac (SI) joint fusion include but are not limited to infection, neurovascular injury, persistent or incomplete relief of symptoms, possible need for more surgery, non-union, fracture, hemorrhage, hematoma, deep vein thrombosis, pulmonary embolus, and death. [1-4] Issues related to the implant (e.g. migration, loosening, breakage, malposition) are also possible. [1, 4] Complication rates for minimally invasive SI joint fusion have been reported in the literature to be as high as 16.4%. [17] Given the potential possibility for significant complications, proper patient selection is critical to minimize the risk benefit ratio. Supportive subjective symptoms and physical exam findings, imaging findings to rule out other sources of pain and positive results of diagnostic injections are required as it can be challenging to identify the SIJ as the source of pain. [7, 35, 36] As multiple etiologies for low back pain exist, pain should be non-radicular and localized to the posterior superior iliac spine (Fortin's point). [8] Multiple articles have indicated that three or more of six provocation SI joint tests have the best predictive power when looking at physical exam findings. [5, 6, 7] No imaging studies have been found to be accurate in diagnosing SIJ pain. [34] The North American Spine Society (NASS) Coverage Policy Recommendations: *Minimally Invasive Sacroiliac Joint Fusion* (2021) recommends imaging (both x-ray and CT or MRI) should rule out destructive lesions, lumbar spine neural compression or other degenerative conditions and ipsilateral hip pathology as potential more likely sources of pain. [9] Regarding diagnostic injections, studies have shown a single SI joint injection with or without steroid has a false positive rate of 20-54% [5, 10-12]. It is therefore recommended that confirmation of SI joint pain requires two separate diagnostic injections with at least 75% improvement. [9, 13-15, 18, 35]

Given the risks of surgery and difficulty of definitively identifying the SI joint as a pain generator, it is generally accepted to start treatment with conservative measures including NSAIDs and other medications, activity modifications, therapeutic injections and physical therapy. [16, 18, 36] Surgical treatment may be considered when a patient has persistent moderate to severe pain, functional impairment, and failed a minimum of 6 months of conservative care. [9, 16, 18, 36]

It has been shown in the literature that patients with psychosocial disorders or with a smoking history undergoing fusion have poorer outcomes and higher complication rates. [20-26] Proper identification and treatment of these conditions prior to surgery may significantly improve many outcome measures.

Contraindications to minimally invasive SI joint fusion as noted in the North American Spine Society (NASS) Coverage Policy Recommendations: *Minimally Invasive Sacroiliac Joint Fusion* (2021) include the presence of systemic arthropathy such as ankylosing spondylitis or rheumatoid arthritis, the presence of generalized pain behavior or generalized pain disorder or the presence of infection or tumor. [9]

Indications for open SI joint fusion include severe traumatic injuries associated with pelvic ring disruption, multisegment spinal constructs extending to the ilium, management of sacral tumors or adjunctive use to the medical treatment of sacroiliac

joint infection. [27-33]

Although the use of any coverage criteria includes the possible risk of delayed care, EviCore firmly believes the benefits of our evidence based criteria best ensure patient safety and highly outweigh any clinical harms.

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