Lower back pain and pain involving the area of the posterior iliac spine are extremely common. Degeneration of the sacroiliac joint (SIJ) is one potential cause for lower back pain and pain radiating into the groin or buttocks. Degenerative changes to the lumbar spine and sacroiliac joints are common. A recent study evaluating SIJ abnormalities in a primary low back pain population demonstrated 31.7% of patients demonstrated SI joint abnormalities. As is the case for the evaluation and management of isolated lower back pain, the evaluation, management, and role for surgical intervention in SIJ pain is very controversial.

Many patients have degenerative changes of the disc, facet joints, and SIJs. A recent systematic review performed to determine the diagnostic accuracy of tests available to clinicians to identify the disc, facet joint, or SIJ as the source of low back pain concluded that tests do exist that change the probability of the disc or SIJ (but not the facet joint) as the source of low back pain. It was also concluded that the usefulness of these tests in clinical practice, particularly for guiding treatment selection, remains unclear.

Although there is general agreement that SIJ pathological changes are a potential cause of pain, there is far less agreement about the optimal management of these conditions. A variety of conditions can cause SIJ dysfunction including degenerative and inflammatory arthritis, trauma, prior lumbosacral fusion, hip arthritis, limb length inequality, infections, and neoplasia. There is increasing evidence that image intensifier-guided single percutaneous injection can correctly localize pain to the SIJ but the optimal management strategy remains controversial. Recent publications have compared surgical versus injection treatments and fusion versus denervation procedures. A systematic review found improvement regardless of the treatment, with most studies reporting over 40% improvement in pain as measured by VAS or NRS scores. It cautioned that one of the studies reported 17.6% of patients experiencing mild/no pain compared with 82.4% experiencing marked/severe pain at 39 months after SIJ fusion procedures. This systematic review also noted that despite improvements in reported pain, less than half of patients who had work status reported as returning to work.

Because of the functional and socioeconomic consequences of chronic lower back pain, numerous surgical treatments to improve this condition have been attempted by spinal surgeons through the years. Arthrodesis of the SIJ is a surgical procedure with a long history dating to the beginnings of spinal surgery. Poor results, high complication rates and the need for additional surgical procedures have generally diminished the enthusiasm for this procedure until recently. A variety of “minimally invasive” procedures have been recently introduced that have rekindled enthusiasm for the surgical management of SIJ pathology. The technique demonstrated in the “Stabilization of the SIJ with SI-Bone” is one of these new techniques. There has been a recent publication detailing the very short term clinical outcomes with this technique that reported encouraging results. In this series of 50 patients, quality of life questionnaires were available for 49 patients preoperatively, 41 patients at 3 months, 40 at 6 months and only 27 at 12 months, complicating the ability to accurately assess true outcomes.

Although the focus of this video by Geiser is on the surgical technique, there should have been more information provided on the expected surgical outcomes and potential complications of SIJ fusion. The video only gives minimal information on how to appropriately select patients with potential SIJ pathology for surgical intervention. There are insufficient recommendations on the clinical and radiographic follow-up needed for this procedure. A concern with this implant is whether the porous plasma spray coating on the implant actually results in bone growth across the SIJ or only serves as a stabilizer. If true fusion does not result, deterioration in the clinical result could occur over time.

This video nicely demonstrates the surgical technique of stabilization of the SIJ with SI-Bone product. There are numerous unanswered questions regarding patient selection for SIJ fusion or stabilization. There are an increasing number of surgical techniques for treating SIJ pathology and it is not clear which method may provide the best outcomes. Without prospective trials with nonconflicted surgeons and standardized selection criteria, the true role for SIJ fusion procedures in the management of chronic lower back pain will remain murky. The consequences of the unsupported enthusiasm for the surgical management of discogenic back pain still negatively impacts the public perception of spinal surgeons. Much more high quality information is needed regarding the surgical management of SIJ pathology before widespread use of this technique should be adopted.

References
2. Geiser F: Stabilization of the Sacroiliac Joint (SIJ) with the SI-Bone Surgical Technique. Neurosurg Focus (Special Supplement) 33: Video 8, 2013