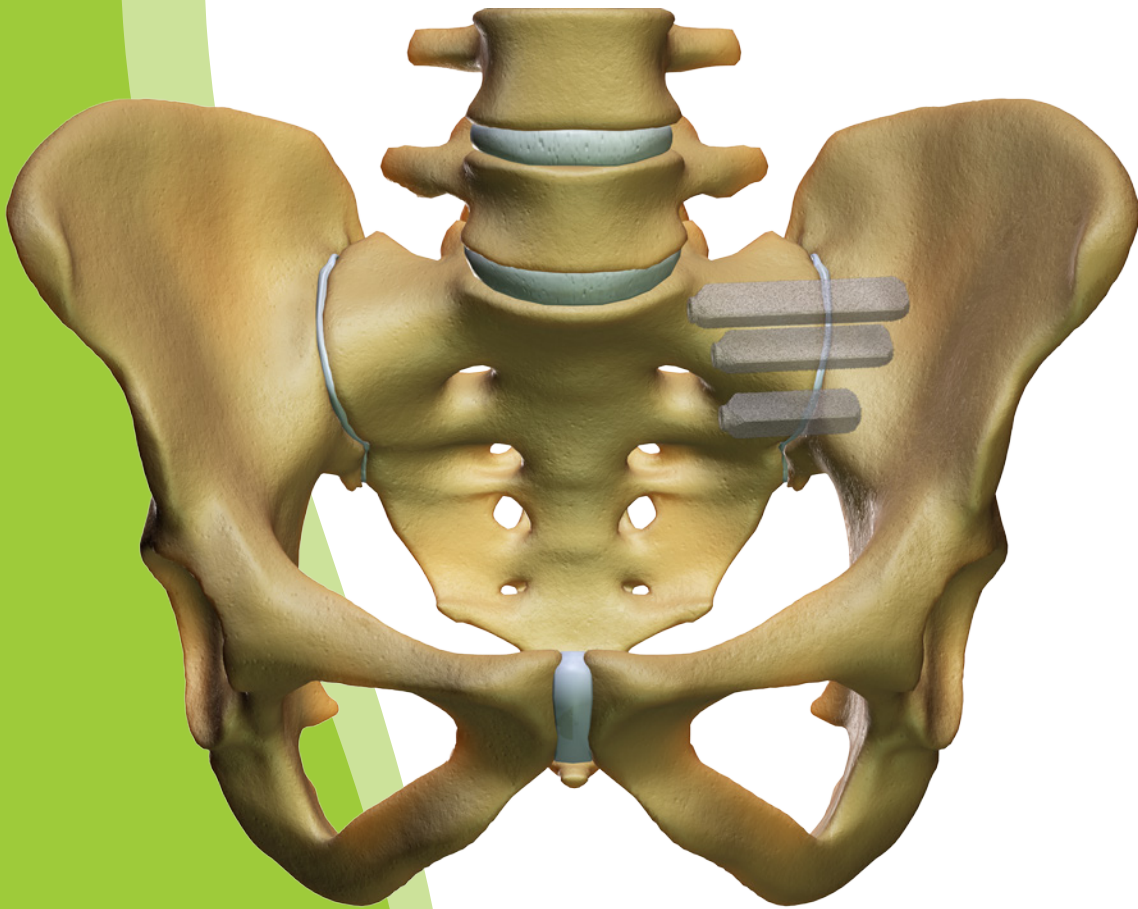


**SI-BONE**® | **iFuse** Implant System®  
Minimally Invasive Sacroiliac Joint Surgery



**A MIS Approach to  
the Management of  
SI Joint Conditions**

# SI Joint in Low Back Pain

The SI joint has long been recognized as a source of low back pain and several reports of surgical treatment date back to the 1920's.<sup>1,2,3</sup> Sacroiliac joint pain has numerous possible causes including:

- Degeneration of the SI joint: degenerative sacroiliitis
- Disruption of the SI joint: SI joint disruption, SI joint laxity
- Inflammation of the SI joint: ankylosing spondylitis, Reiter's syndrome, inflammatory bowel disease
- Congenital problems: sacral dysplasia
- Fracture
- Acute or chronic infection
- Bone disease: hyperostosis, sickle cell anemia
- Tumor: benign or malignant

Numerous publications have studied the prevalence of SI joint pain as a component of low back pain as well as in patients with prior lumbar fusion.

- Up to 25% of all low back pain is SI joint in origin – but the diagnosis of SI joint disease is frequently overlooked. – *Cohen*<sup>4</sup>
- It is common for pain from the SI joint to mimic discogenic or radicular low back pain. – *Weksler*<sup>5</sup>
- Many patients go on to receive lumbar fusion instead of SI joint fusion, so SI joint disease should be strongly considered in differential diagnosis of low back pain. – *Weksler*<sup>5</sup>
- The incidence of SI joint degeneration in post-lumbar fusion surgery is 75% at 5 years post-surgery. – *Ha*<sup>6</sup>
- The SI joint is a pain generator in low back pain of 43% of post-lumbar and lumbosacral fusion patients, the so-called 'failed back surgery' patients. – *DePalma*<sup>7</sup>
- The anti-inflammatory effect of SIJ injections is not permanent and does not offer an opportunity to stabilize an incompetent SI joint. – *Zelle*<sup>8</sup>

## Diagnosis of SI Joint Disorders

- Sacroiliac (SI) joint disorders require appropriate interpretation of a patient's history, clinical exam results, and imaging studies.
- A differential diagnosis is necessary to rule out other sources of pain such as the hip or spine.
- Provocative tests followed by diagnostic injections are recommended for confirmation of the SI joint as the pain generator.

FABER



Compression



Thigh Thrust



Distraction



Gaenslen



Diagnostic Injections

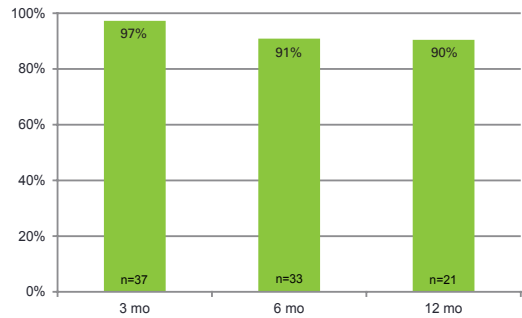


# iFuse Product Benefits

The **iFuse System** is intended for sacroiliac joint fusion for conditions including sacroiliac joint disruptions and degenerative sacroiliitis.

- Triangular implant profile minimizes rotation and an interference fit minimizes micromotion
- Porous plasma titanium spray coating with irregular surface designed to promote bone ingrowth
- Designed specifically to stabilize and fuse the heavily loaded SI joint
- Rigid titanium constructs and large implant surface area provide stability
- Compared to 8.0 mm screws, the iFuse is 3 times stronger under shear & bending loads (Data on file)
- No conflicts with lumbar fusion devices

**Survey Question:** Would you choose to have this procedure for the other side if needed? (Y/N)



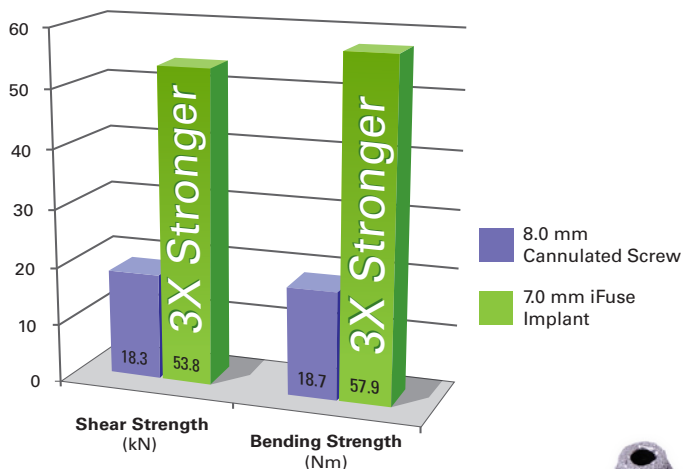
Retrospective Evaluation of Minimally Invasive Surgical (MIS) Method. Presented by Frank Phillips, M.D. at the International Society for the Advancement of Spine Surgery 11th Annual Meeting, 2011, Las Vegas, NV

As with all surgical procedures and permanent implants, there are risks and considerations associated with surgery and use of the iFuse Implant. Please review the iFuse Instructions For Use for a complete discussion of contraindications, warnings, precautions, and risks.

With the **iFuse Implant System®**, there is no need for:

- Preparation of the joint prior to implant
- BMP or autologous bone graft
- Additional fixation such as pedicle screws and rods
- Hollow modular anchorage screws
- Cannulated compression screws
- Threaded cages within the joint

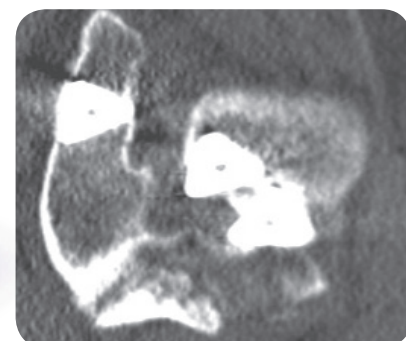
## Shear & Bending Strength Comparison



iFuse Implants:  
30-70 mm length,  
4 and 7 mm diameter

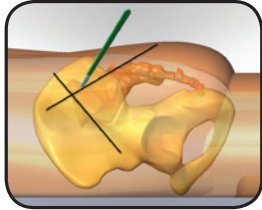


Post-op X-ray

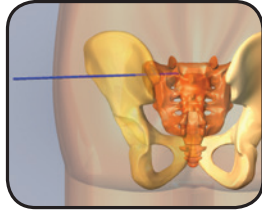


12-months Post-op sagittal CT scan

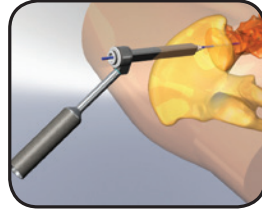
# iFuse Surgical Technique



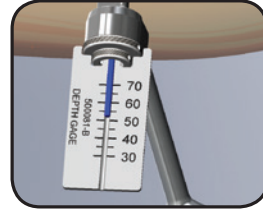
1. Skin Mark & Incision



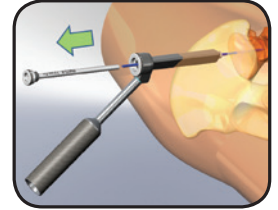
2. Pin Insertion



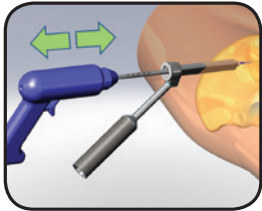
3. Place Soft Tissue Protector



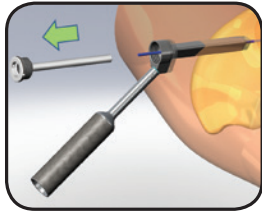
4. Measure Depth



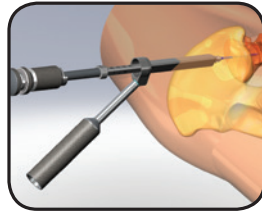
5. Remove Pin Sleeve



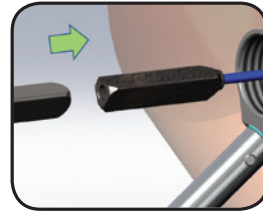
6. Drill



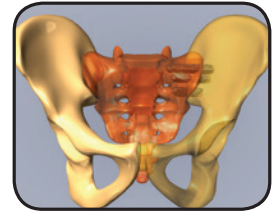
7. Remove Drill Sleeve



8. Broach



9. Insert Implant



10. Repeat

## Ordering Information

To order your iFuse Implant System, please contact your local SI-BONE sales representative or call SI-BONE at **408.207.0700**

## iFuse Implants

		Diameter (mm)	
		4.0	7.0
Implant Length (mm)	30	4030-90	7030-90
	35	4035-90	7035-90
	40	4040-90	7040-90
	45	4045-90	7045-90
	50	n/a	7050-90
	55	n/a	7055-90
	60	n/a	7060-90
	65	n/a	7065-90
70	n/a	7070-90	

## Disposables

Description	Part No.
Steinmann Pin, 3.2 mm	500078
Blunt Steinmann Pin, 3.2 mm	500095
Cannulated Drill, 7.0 x 3.2	500076
Steinmann Pin, 2.0 mm	500079
Blunt Steinmann Pin, 2.0 mm	500096
Cannulated Drill, 4.0 x 2.0	500082

## References

- Goldthwait, Joel E, and Robert B Osgood. "A Consideration of the Pelvic Articulations from an Anatomical, Pathological and Clinical Standpoint." *Boston Medical and Surgical Journal* 152, no. 21 (1905): 593-601.
- Campbell, Willis C. "An Operation for Extra-articular Fusion of the Sacro-iliac Joint." *Surgery, Gynecology and Obstetrics* 45 (1927): 218-219.
- Smith-Petersen MN, Rogers WA. End result study of arthrodesis of the sacroiliac joint for arthritis - traumatic and non-traumatic. *Journal of Bone and Joint Surgery* 1926; 8:118-136.1.
- Cohen, Steven P. Sacroiliac joint pain: a comprehensive review of anatomy, diagnosis, and treatment. *Anesthesia and Analgesia*. 2005 Nov; 5(101): 1440-53
- Weksler, Velan, et al. The role of sacroiliac joint dysfunction in the genesis of low back pain: the obvious is not always right. *Archives of Ortho and Trauma Surgery*. 2007 Dec; 10(127): 858-888
- Ha, Kee-Yong, et al. Degeneration of sacroiliac joint after instrumented lumbar or lumbosacral fusion. *Spine*, 2008; 33(a): 1192-1198.
- DePalma, Michael J., et al. Etiology of Chronic Low Back Pain in Patients Having Undergone Lumbar Fusion. *Pain Medicine* 2011; 12: 224-233
- Zelle, Boris, et al. Sacroiliac Joint Dysfunction, Evaluation and Management. *Clinical Journal of Pain*, 2005 Sept/Oct 21(5): 446-455

**SI-BONE®** | **iFuse Implant System®**  
Minimally Invasive Sacroiliac Joint Surgery

SI-BONE, Inc.  
3055 Olin Avenue, Suite 2200  
San Jose, CA 95128  
t 408.207.0700 f 408.557.8312  
info@si-bone.com  
www.si-bone.com