Saber™
LUMBAR I/F CAGE® SYSTEM
Made with CFRP

Surgical Technique
Product Catalogue

DePuy Spine is a joint venture with Biedermann Motech GmbH

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- Deformity - Degenerative
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- Tissue Management

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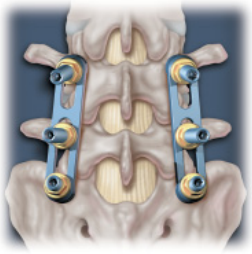
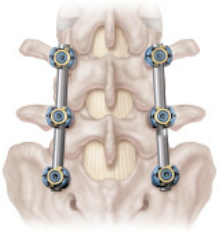
The Saber™ Lumbar I/F Cage® is built upon the proven design features and the clinical success of the original lumbar Brantigan Cage.
The Lumbar I/F Cage® has 10 years of clinical history for the treatment of degenerative disc disease with documented success of restoring disc height and achieving fusion.
Building on this success, the Saber™ Lumbar I/F Cage® offers a contoured profile which is designed to fit the natural shape of the disc space, allowing ease of insertion and improved stability as the implant corresponds to the cortical rim of the endplate.

The Saber™ PLIF Cage is made of a carbon fibre reinforced PEEK material and is supplied non sterile. It is radiolucent, thereby allowing visualisation of the fusion when viewed by normal plan radiographs. Available in three footprint sizes of 9, 11 and 13 mm widths, the Saber™ Cage is offered in 1 mm incremental height options from 8 mm to 13 mm. These are available in both 0° and 5° options.
Supporting instrumentation includes the Saber™ Instrument Set and the TLIF SG Set. Approved pedicle fixation systems include Monarch™, MOSS® Miami and Expedium™ Spinal Systems. This Surgical Technique will be illustrated using the Monarch™ Spinal System.





Building upon decades of design history, clinical experience and biomechanical performance of the VSP®, Isola® and MOSS® Miami Systems, the Monarch™ Spine System represents the combination of these technologies. By combining Pedicle Bolt and in-line Polyaxial screw technology into a single system, surgeons may intra-operatively choose to build a construct utilising either technology.

Modular polyaxial washers can be added to Pedicle or Reduction Bolts to provide a 25° cone of angulation at any position within a Spine Plate or Offset Connector slot.

Monarch™ in-line Polyaxial Screws incorporate an internal closure mechanism, which captures the rod while maintaining the ability to independently lock the rod with a pre-loaded set screw.

Implant options include:

- 6.35 mm and 5.50 mm Titanium Rod diameters
- Monoaxial and Polyaxial Screws (4.75, 5.50, 6.25, 7.00, 7.75, 8.50 mm diameters)
- Pedicle and Reduction Bolts (Polyaxial capable)
- Spine Plates
- Offset Slotted Connectors
- Polyaxial Band Clamp
- Anatomic Open and Closed Hooks

The MOSS® Miami System is a versatile hook, rod, and screw system utilising polyaxial screw technology and a patented dual closure mechanism offering 6 points of contact with the rod. MOSS® Miami is available in Titanium and Stainless Steel in a variety of rod diameters.

- 5.0 Stainless Steel Rod diameter
- 5.5 Titanium Rod diameter
- Monoaxial and Polyaxial Screws (4.35, 5.0, 6.0, 7.0 diameters)
- Hooks and Reduction Screws
- Sacral Connectors

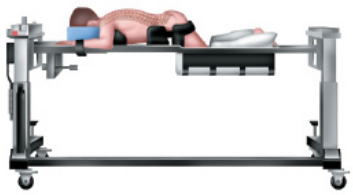


Figure 1

The patient is placed on a frame or table, allowing the abdomen to hang freely. Care should be taken to protect the patient's pressure points.

It is advised that the shoulders should be abducted less than 90 degrees to avoid damage to the brachial plexus (Figure 1).

Step Two Exposure

A posterior midline incision is made long enough so that the pedicles above and below the screw insertion sites can be exposed and accessed if necessary. Further exposure of the facets joints or other posterior elements is dependent on surgical preference, eg for those surgeons who routinely undertake a less invasive PLIF procedure it would not be necessary to expose the facet joints at this stage. A variety of soft tissue retractors can be used to maintain the correct exposure. Localising X-Ray or image intensification is made to verify the appropriate spinal level.

Step Three Laminotomy

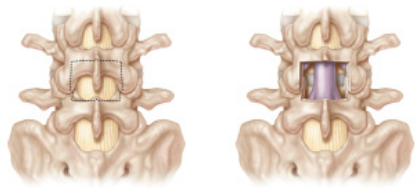


Figure 2

A small laminotomy is made to expose the medial wall of the pedicles and the origin and insertion of the ligamentum flavum. The ligamentum flavum must be completely removed. The Laminotomy can be performed with a small osteotome, chisel or Kerrison type rongeur. Excised bone can be cleaned and saved as graft material for later in the PLIF procedure. Care is taken to preserve the spinous process and / or the upper half of the lamina to minimise disruption to adjacent segments (Figure 2).

The axilla of the exiting and traversing nerve root over the disc space must be visualised and mobilised since this creates a safe working area for the PLIF technique.

Carefully release any adhesions from the dura over the disc space.

The epidural veins covering the disc space should be cut and cauterised with a bipolar to allow clear visualisation and access to the disc space.

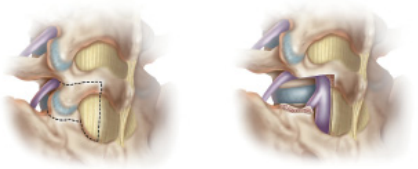


Figure 3

Some surgeons may prefer to access through a bilateral laminotomy. In this situation both inferior and superior articular processes are completely removed thereby exposing the entire foraminal canal and exiting nerve root (Figure 3). This allows the midline to remain intact, whilst allowing a thorough decompression of the exiting nerve root.

Care is taken to preserve the pars inter-articularis, the upper half of the lamina, and the facet joint above.

This exposure is favoured for a lateral or far lateral approach, or if the patient has a small or previously operated spinal canal where the dura is difficult to mobilise and retract.

Step Four Pedicle Screw Insertion

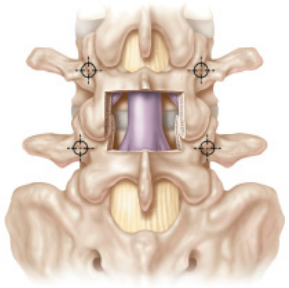


Figure 4

The optimum insertion point of the pedicle is at the intersection of the a horizontal line joining the midpoint of the transverse process and a vertical line through the mid point of the superior articular process. The remaining mamillary process above the pars inter-articularis can also be used as a landmark for the entry point of the pedicle screws (Figure 4).

The centre of the pedicle canal can be easily identified using a neural dissector or Slim Jim. The entry point into the pedicle canal can be exposed using an awl, high-speed burr or a rongeur.

The pedicle canal is entered with a blunt curved tip probe. Ball tipped feelers and pedicle screw taps are used to prepare the space for screw insertion. The appropriate sized screw (diameter and length) is then inserted into the pedicle.

At any point, X-Ray or image intensification can be used to verify correct placement.

***Note**: Some surgeons may prefer to undertake the laminotomy prior to screw insertion.*

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