

UNLEASH[®]

UNLEASHED: Single Position Lateral L2-L4 Fusion featuring CONDUIT[™] Lateral Interbody System and Percutaneous Instrumented Fusion with Brainlab Cirq[®] Robotics and Curve[®] Navigation System

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“As a neurosurgeon, I’ve found CONDUIT[™] Lateral Interbody, VIPER PRIME[®] Screws, and the Cirq[®] Robotic Arm to maximize my effectiveness in performing minimally invasive spine surgeries.”

“In my experience, the Cirq[®] Robotic System makes placement of the percutaneous VIPER PRIME[®] Screw seamless and fast. Each screw placement took about 90 seconds to complete once the trajectory was locked in.”



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Patient History:

- 57-year-old male
- Hx of Colon Ca s/p colectomy, DM, HTN, OSA
- Ht 1.981m / Wt 155.6 Kg / BMI 39.6
- Prior L2-4 laminectomy, right L2-L4 endoscopic foraminotomy
- Presenting with unrelenting back and right thigh pain
- Minimal to no relief with physical therapy
- Initial response to epidural injections, but failed to produce lasting pain relief

Surgical Intervention: L2-L4 Single Position Lateral Interbody Fusion with Percutaneous Posterior Fixation utilizing the UNLEASH[®] Lateral Procedural Solution (with Brainlab Cirq and Curve Navigation System)

“In my experience, a single position lateral interbody fusion provides me with ergonomic improvement in OR workflow, which translates into significant reduction in procedure time.”

- INSIGHT[™] Lateral Access System
- CONDUIT[™] Lateral Interbody System (L2-L4) - “In most cases, I get indirect compression when I use CONDUIT[™] Lateral cages, which obviates the need to perform direct decompression from the posterior approach.”
- VIPER PRIME[®] Screws (L2-L4) - Placement with the Brainlab Cirq Robotic System in the lateral decubitus position

Outcome Data (6 months post-op results):

- Reduction of L3 anterolisthesis
- Disc height restoration and indirect decompression of bilateral foramen achieved from L2-L4
- Immediate resolution of right thigh pain upon waking up
- Significant improvement in low back pain
- Patient discharged home on POD #4
- Estimated Blood Loss 400 mL
- Total Procedure Time: 3 hours 29 minutes

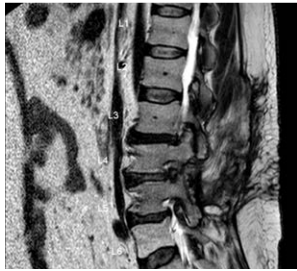


The CONDUIT[™] Interbody System is the first 3D printed cage platform with nano-scale features cleared by the FDA. It consists of 3D-printed cellular titanium implants that feature 80% porous macro-, micro-, and nanostructures, designed to mimic cortical and cancellous bone, and facilitate fusion.^{1,2}

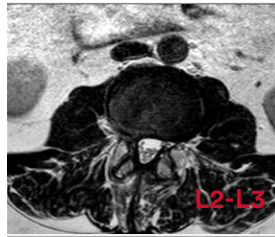


The VIPER PRIME[®] System is a technique for percutaneous pedicle screw placement that enables surgeons to target pedicles and insert screws in one single instrument pass.

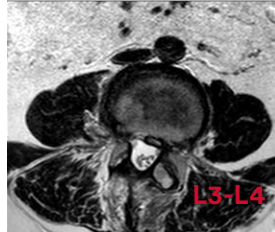
Pre-Op Images:



(MRI)



L2-L3



L3-L4

MRI Lumbar Spine:

- Prior laminectomy defect from L2-L4
- Severe bilateral foraminal stenosis from L2-L4
- Axial through L2-L3 and L3-L4 level demonstrates central canal stenosis is not as severe. Severe bilateral foraminal stenosis is resulting from a combination of anterolisthesis of L3 and facet arthropathy and bulging disc



L
Erect
Flexion



L
Erect
Extension

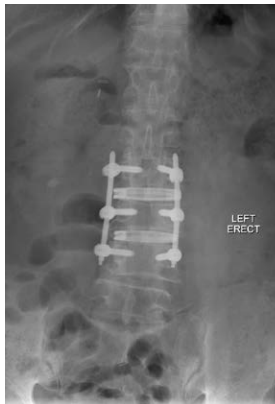
(Flexion/Extension X-Rays)

Flexion/Extension Views of the Lumbar Spine:

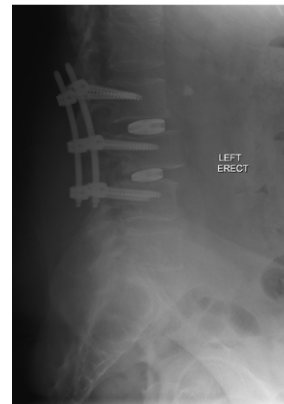
- Grade 1 anterolisthesis of L3 that is more pronounced when standing up. When compared to supine MRI, anterior L3 slippage is more pronounced.
- Although the degree of anterolisthesis does not change significantly between flexion-extension while standing, the angle of the disk space at L3-4 changes significantly.



Post-Op Images:



LEFT
ERECT



LEFT
ERECT



Inspired by the form of the human arm, the **Cirq® Robotic Arm** is a reliable and intuitive surgical assistant. This modular robotic platform weighing only 24 lbs. (11 kg) is part of the Brainlab Digital Spine Surgery ecosystem and adapts to a range of clinical indications with its versatile “hand” modules. For spine, the Cirq® Robotic Arm complements automated screw planning, 3D navigation and intraoperative imaging.



Curve® Navigation is a versatile image guided surgery platform that offers more than navigation—it's your mobile entry into digital surgery. With a light-weight cart featuring an extra-large 4K display, you can plan, review, document and stream your surgery from anywhere in the O.R.

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1.SEM Report. 1/28/2019. ADAPTIV #103546250

2. VAL2016-043 Strut diameter summary rev 0. 11/20/2017.

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