



ALIF Anterior Column Realignment (ACR)



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SAGITTAL PLANE DEFORMITY

Sagittal plane deformity is an increasingly recognized cause of pain and disability in adult patients, and several studies^{*} show that adequate restoration of sagittal plane alignment, in addition to spinopelvic balance, is essential for desirable outcomes in adult deformity. Traditional methods used to correct fixed sagittal deformities include posterior-based osteotomies, such as Smith-Petersen osteotomies (SPO) and three-column resections, such as pedicle subtraction osteotomies (PSO), and vertebral column resections (VCR). However, these techniques are associated with significant morbidity, including prolonged operative times, neurological complications, and a high volume of blood loss.^{**}

VALUE OF ALIF ANTERIOR COLUMN REALIGNMENT

With a rich clinical history, ALIF is a popular and clinically accepted procedure for treating certain pathologies of the lumbar spine. Like other lumbar interbody fusion procedures, the surgical goals of an ALIF include:

- 1. Restoring and maintaining natural disc space and posterior foraminal height.
- 2. Decompressing the neural elements (indirectly).
- 3. Introducing or restoring proper sagittal and coronal alignment of the spinal column.

Influenced by the initial success of XLIFACR through both the approach and ability to achieve sagittal correction from the anterior column, ALIF ACR can now help provide a full solution to address sagittal plane deformity in the lower levels of the lumbar spine.



Interbody implant design

- 20° & 30° hyperlordotic footprints to restore lumbar lordosis and sagittal balance.
- 34 & 38mm wide with 6, 8, & 10mm posterior heights and four-point fixation to provide maximum stability.
- Rounded anterior implant corners to accommodate spinal rotation and 35° screw trajectory.

Fixation

- 4.5 & 5.5mm self-drilling, self-tapping bone screws.
- Threaded, tapered-block, single-step locking mechanism with black triangle visual indicator.
- Angled and straight instrumentation.
- Cleared for use with supplemental posterior fixation.



ALL division and placement of Brigade hyperlordotic implants

*Data on file. **Anterior column realignment (ACR) for focal kyphotic spinal deformity using a lateral transpsoas interbody approach and ALL release. Akbarnia BA, et al. J Spinal Disord 2013, Epub ahead of print.



ALIF PROCEDURAL SOLUTION - ANTERIOR COLUMN REALIGNMENT

NUMBS – FREE RUIN MODE

During distraction, trialing, and graft placement, NVM5 may be set to Free Run mode to detect mechanical irritation of the lumbar roots and spinal nerves.

OSTEOCEL PLUS[†]



Advanced allograft cellular bone matrix for a complete fusion solution with osteoconductive, osteoinductive, and osteogenic properties.

^tOsteocel Plus in not cleared for use inside the Brigade implant aperture.

Brigade Hyperlordotic Implant System

- Two anatomically designed footprints (34 x 24mm & 38 x 28mm) and two hyperlordotic angles (20° & 30°) available to restore sagittal alignment.
- Full arsenal of dedicated instrumentation, including angled and straight awls and screwdrivers.
- A medial access inserter to hold implant in place during awl and screw delivery.
- An angled awl with a knurled backout wheel to aid in awl retraction.





Broad Range of Posterior Fixation Options

Armada Sophisticated premier posterior fixation system – from degenerative to complex deformities.



Precept

Premier MAS system that addresses simple to the most complex pathologies, offering advanced designs in guide technologies, rod insertion, reduction capabilities, and compression/distraction.



Reference the applicable Armada, Brigade, CoRoent, MaXcess, Osteocel Plus, and Precept Technique Guides or Reference Manuals and/or Instructions for Use (IFU) for additional important labeling information.

ALIF ACR CASE STUDY - DEGENERATIVE DISC DISEASE WITH RESULTING DEFORMITY

DEGENERATIVE SCOLIOSIS WITH SAGITTAL IMBALANCE

Age: 75 years Gender: Male Osteotomies: No osteotomies Procedure: L4-S1 ALIF, T11-Pelvis PSF

ALIF ACR resulted in restoration of sagittal balance, correction of alignment, indirect decompression, and restoration of disc height, while minimizing need for posterior osteotomies and associated morbidity.

Post-op
Measurements:
$LL = 75^{\circ}$
<i>SS</i> = <i>55</i> °
$PI = 62^{\circ}$
<i>PT</i> = 22°
<i>SVA</i> = <i>3.5cm</i>



Pre-op lateral radiograph



Pre-op A/P radiograph







Post-op A/P radiograph



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