

P161

# NOVEL ALIF CAGE WITH SELF-ADAPTING LORDOSIS PERFORMS WELL IN INITIAL CLINICAL USAGE

Castelain JE, Rigal J, Cogniet A, Aunoble S, **Le Huec JC**

Depart Orthorachis 2, Univ Bordeaux,

CHU Pellegrin, France

Disclosure: Medtronic teaching fees



SPINEWEEK 2016 SINGAPORE 16 - 20 MAY



# Introduction

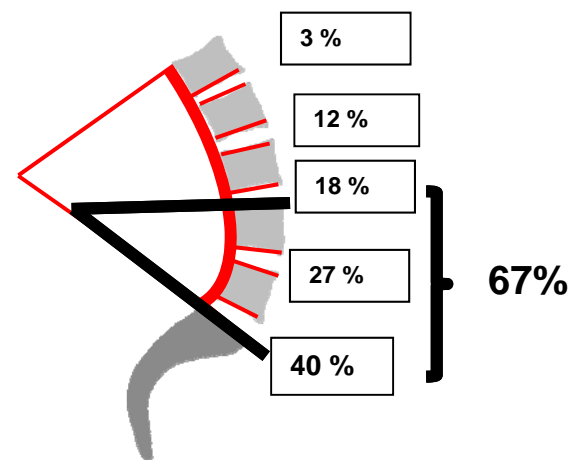
## Spinal balance is not sagittal alignment - But Good alignment helps to restore good balance

Approximately 40% of the total lumbar lordosis is found at the L5/S1 level and that its lordotic angle varies continuously from 12 to 36° (Jackson, 2000).

Despite this normal variation, most ALIF cages are available in only two or three lordotic options.

To cope with the individual physical and anatomic variations, a cage for the L5/S1 level providing a self-adapting lordotic angle seems attractive

	Pelvic Incidence (°)	Lordosis L5/S1 (°)	Lordosis L1/S1 (°)
<b>258 subjects</b>			
Mean	52.0	14.0	55.8
SD	10.5	5.9	10.2



Restoration of L5/S1 lordosis is essential for a good foundation for the spine



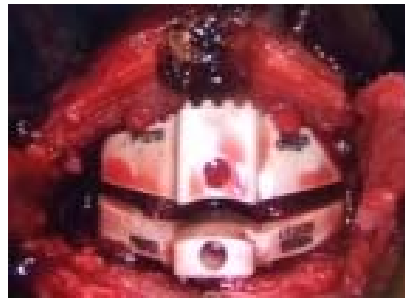
# Aim

Prospective clinical performance associated with a novel self-adaptable ALIF cage, the Statur-L (FBC Device)

The two pieces articulating cage is capable of continuously adapting from 7-21° of lordosis in situ, without change of components, external adjustment of components or insertion of additional components



STATUR®-L (FBC Device)



Adjustable alignment  
**7 to 21° CONTINUOUSLY**



Supplemental fixation locks implant  
in place at appropriate alignment

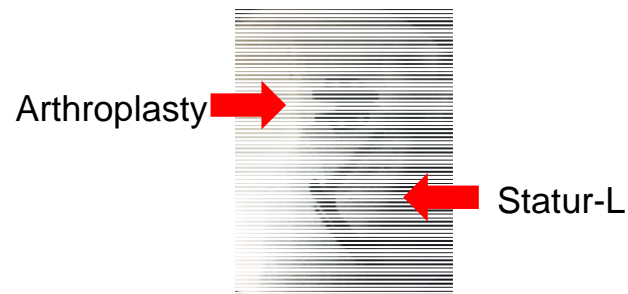


SPINEWEEK 2016 SINGAPORE 16 - 20 MAY



# Material

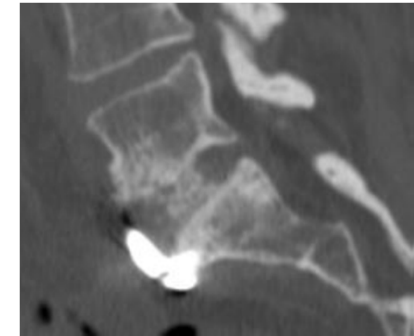
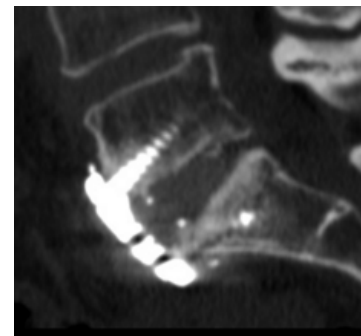
- First 20 surgeries from Bordeaux University hospital
- Mean age of 43 years (range 30-61)
- 12 women, 8 men
- 8 patients with previous disc surgery
- All surgery at L5/S1: with BMP2
- 6 two-level surgeries



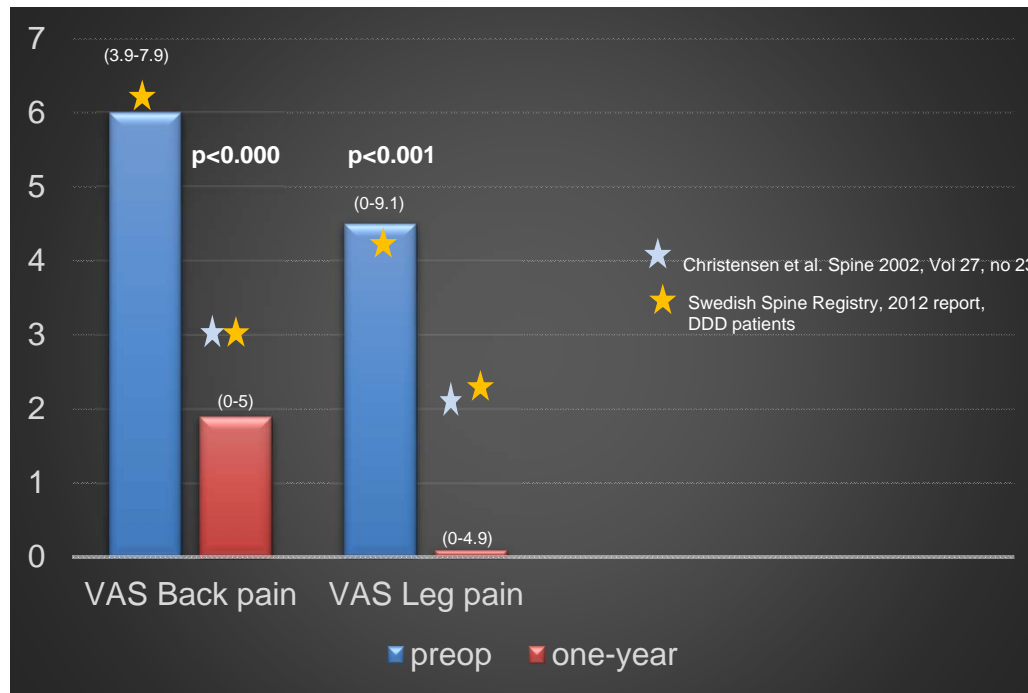
# Results

## Clinical outcome at one year follow-up

- No-reoperations
- Fusion:
  - 20 case fused
  - No nonunion (CT scan analysis)
- No implant failure (screws, plate, interbody)
- No measurable subsidence



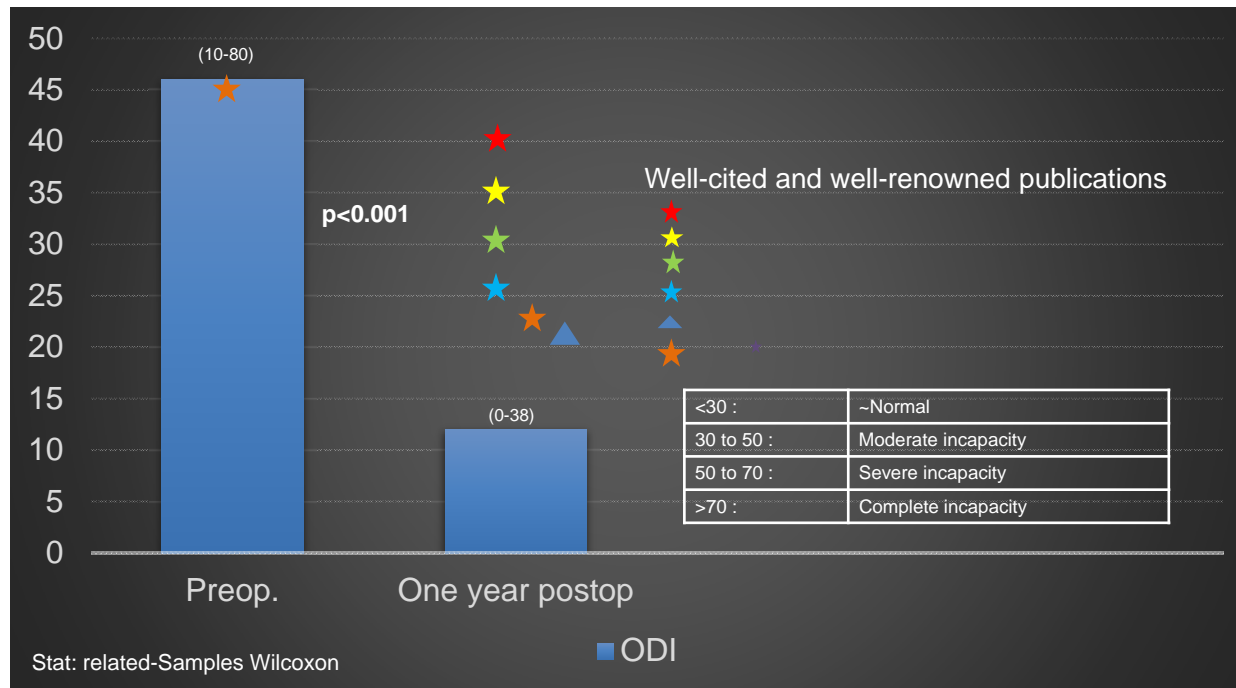
# Pain scores – VAS



SPINEWEEK 2016 SINGAPORE 16 - 20 MAY



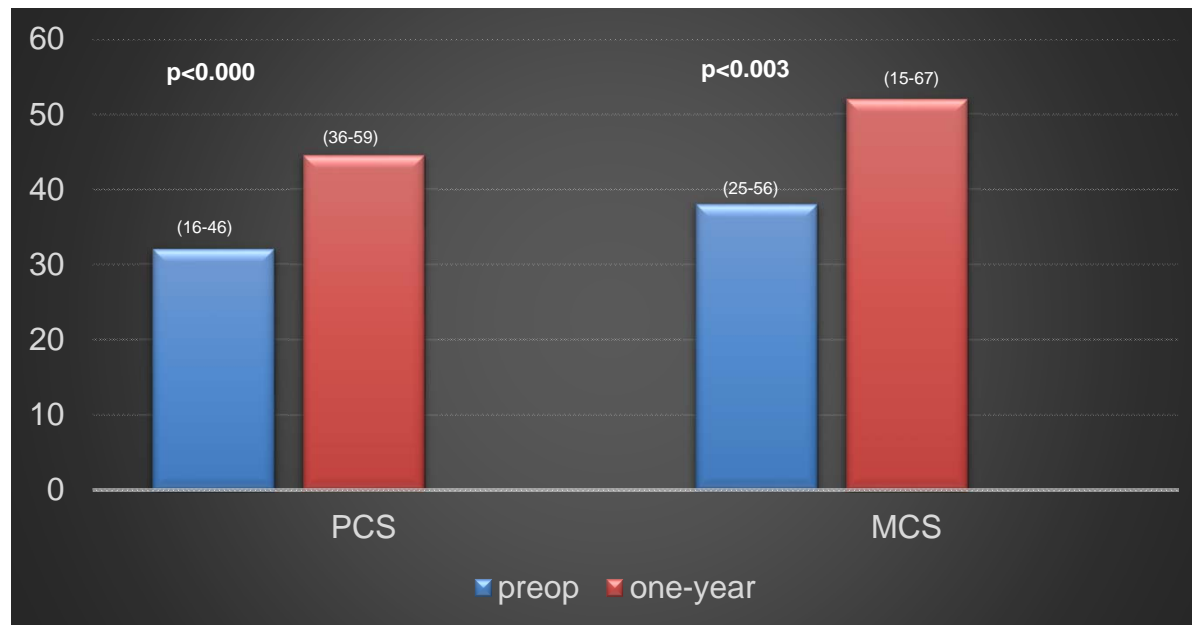
# Disability Index - ODI



SPINEWEEK 2016 SINGAPORE 16 - 20 MAY



# Quality of life - SF36



Stat: related samples Wilcoxon



SPINEWEEK 2016 SINGAPORE 16 - 20 MAY



# Disc height<sup>1</sup> at fusion level increases significantly



<sup>1</sup>Modified method of McAfee, Spine, 2005, 30(14), 1576-1583 Stat: Paired samples t-test

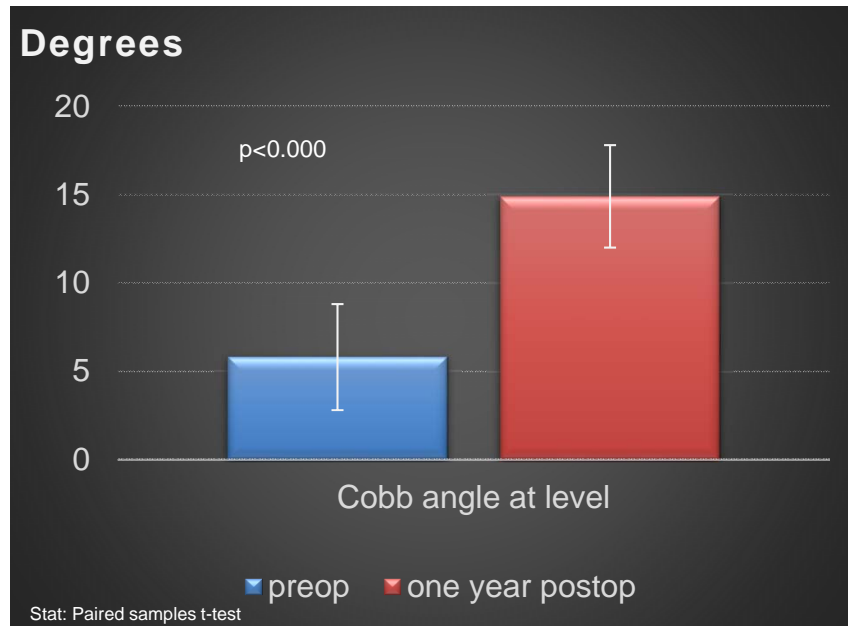
SPINEWEEK 2016 SINGAPORE 16 - 20 MAY



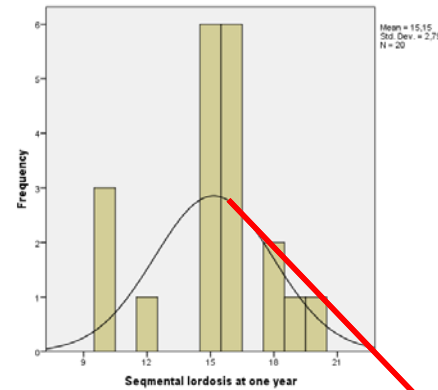


# Segmental Lordosis L5/S1

## Preoperative vs. one year follow-up



## Lordosis at one year



## Spino-pelvic parameters in normal population

	Pelvic Incidence (°)	Lordosis L5-S1 (°)	Lordosis L1-S1 (°)
<b>258 subjects</b>			
Mean	52.0	14.0	55.8
SD	10.5	5.9	10.2

Le Huec JC, Hasegawa K, eur spine J, 2016



# Conclusion

20 patients with one-year follow-up

- No complications (during surgery + postoperative)
- No re-operations
- All cases fused (100%)
- L5/S1 lordosis corrected to normal population data (15 degrees)
  - 9 degrees of lordosis improvement
- No measurable subsidence or implant migration
- Significant improvement in pain, functional outcomes and life quality



SPINEWEEK 2016 SINGAPORE 16 - 20 MAY

