Aesculap® activ C

Cervical Disc Prosthesis
Retain Mobility

Aesculap Spine

B BRAUN
SHARING EXPERTISE

activ C

Back to life enjoyed to the full

- Natural mobility
- During surgery and in everyday life
- Stability
- The step into an eventful future supported by Clinical evidence

V A T I O N

activ C

Natural mobility

Retaining mobility of your patients

activ C

I T Y

Physiological center of rotation

- COR in central position
- Close to COR of degenerated discs according to latest study results

Suchomel et al.: Sagittal segmental alignment after activ C cervical arthroplasty after 1 year follow-up, Abstract #35, ISASS 2012, Barcelona.

Penning L.: Normal movements of the cervical spine. Am J Roentgenol. 1978;130:317–26.

Dvorak J. et al.: In vivo flexion/extension of the normal cervical spine J of Orthopaedic Research, 1991;9(6):828–34.

Reconstruction of lordosis

- Good balancing and alignment
- Significant correction of segmental angulation

Suchomel et al.: Does sagittal position of the CTDR related center of rotation influence functional outcome? Prospective 2 year follow-up analysis, Abstract #35, ISASS 2012, Barcelona.

Sustainable restoration of height

- Low profile
- Good contact to bone surface
- Anatomical adapted footprint and shape
- No subsidance
- No dislocation
- Restoration of Height

Suchomel et al.: Does sagittal position of the CTDR related center of rotation influence functional outcome? Prospective 2 year follow-up analysis, Abstract #35, ISASS 2012, Barcelona.

Meisel et al.: Does CTDR have a lower risk of device subsidence compared to ACDF? 2 year results of a prospective multicenter study, Abstract #249, ISASS 2012, Barcelona.

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During surgery and in everyday life

Multilevel treatement through intelligent implant design

Multilevel treatment

- Combination of spikes and keel
- Treatment of 2 or 3 levels is possible. Prevention of vertebral body split caused by double keel prosthesis

Safe midline positioning

- Keel on the inferior side
- Solid anchorage in the inferior vertebral body and accurate positioning in the midline

Safe preparation of the keel bed

- Intelligent instrumentation and reamer guidance
- No chiseling
- Easy and gentle preparation of the keel bed; risk of spinal cord and blood vessel injuries reduced

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Stability in every situation

High stability and accurate placement

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L I T Y

Anatomic design

- Large contact area through convex shape of the superior prosthesis plate
- Guided by the anatomy of the vertebral body, allowing accurate placement and fitting ▶ **primary stability**

Solid anchorage cranial + caudal

- Spikes on the superior plate
- Improved anchorage in the dome - superior to keel anchorage ▶ **primary stability**
- Keel on the inferior plate
- Stable anchorage in the inferior vertebral body and solid support against rotation and lateral dislocation ▶ **primary stability**

Rapid and safe osteointegration

- Plasmapore® coating
- Fast ingrowth of bone cells ▶ **secondary stability**

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Clinical evidence for an effective treatment and a better qualit

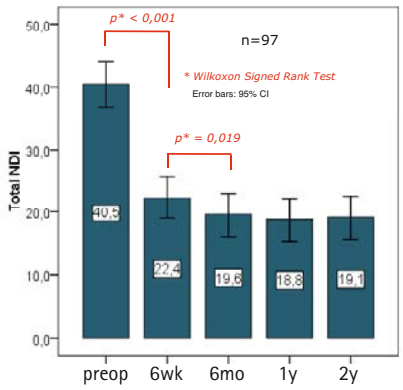
Qualitative evaluation of study device

- ✔ All devices show ideal lateral placement (< 2 mm of midline placement in the m/l-direction)
- ✔ All devices intact (no device disassembled, loose or fractured)
- ✔ No device subsidence (≥ 3 mm) observed
- ✔ No device migration (> 3 mm) observed
- ✔ No device expulsion (≥ 50 % of the a/p dimension of the device extends beyond the anterior margin of the disc space)

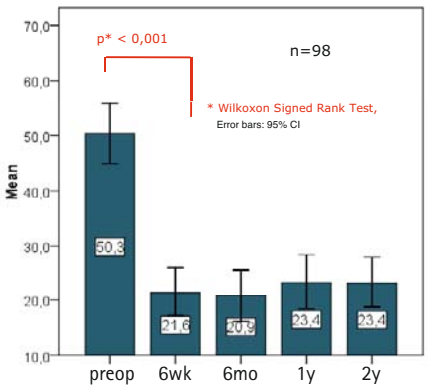
y of life

Clinical Results – NDI & VAS

NDI - all cases with 2 years



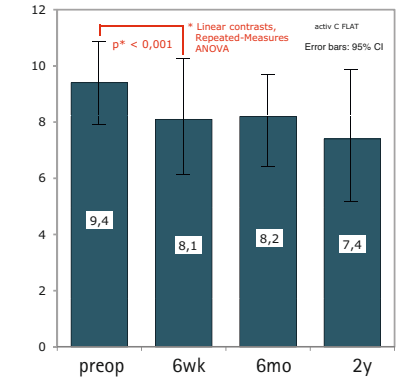
VAS Neck Pain - Severity



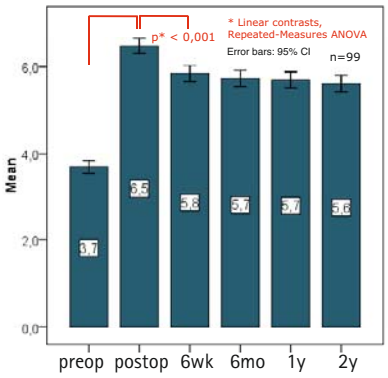
- Reduction of NDI over all time points
- Significant reduction of NDI from pre-OP to 6 weeks and from 6 weeks to 6 month
- Significant reduction of VAS Neck & Arm Pain from pre-OP to 6 weeks and from pre-OP to 1 year

Functional Results – ROM & Disc Height

ROM up to 2 years (activ C FLAT)



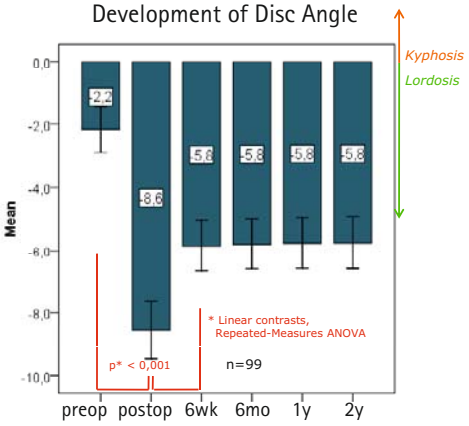
Disc Height



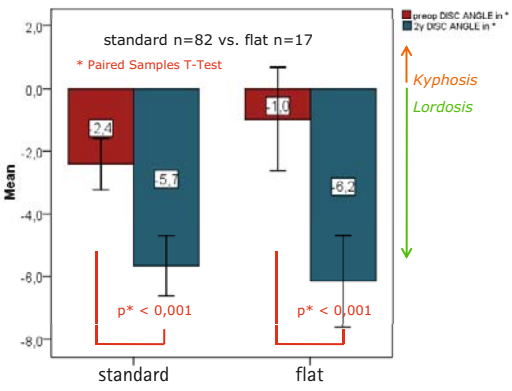
- Slight correction of degenerative instability directly post-OP
- Very good maintenance of ROM over all time points
- Significant restoration of disc height and maintenance of disc height from 6 weeks post-OP (after spike penetration) to all other time-points

Functional Results – Correction of Disc Angle / Lordotization

Development of Disc Angle



Correction of Disc Angle



- Significant restoration of disc angle with significant post-OP lordosis
- Maintenance of lordosis over all time points
- Significant correlation of COR of implant and the extent of achieved lordotization (the more anterior the COR-I, the better the correction of disc angle)

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