

## Discectomy Patients at High Risk of Reherniation: Confirming the Carragee Large-Defect Results

Gerrit Joan Bouma MD; P. D. Klassen; Javier Fandino MD; Frederic Martens MD; Robert Hes MD 1. Sint Lucas Andreas Ziekenhuis, Dept. of Neurosurgery, Amsterdam, NL; 2. St. Bonifatius Hospital GmbH, Dept. of Neurosurgery, Lingen, DE; 3. Dept. of Neurosurgery, Kantonsspital Aarau, CH; 4. OLV Ziekenhuis, Dept. of

Neurosurgery, Aalst, BE; 5. ZNA Middelheim, Dept. of Neurosurgery, Antwerp, BE

Lucas Andreas

## Introduction

Studies have identified a higher risk of **reherniation** after lumbar discectomy in patients with **larger anular defects**. Carragee et al found that the reherniation rate was over five times higher in patients with anular defect widths wider than 6mm, compared to the rest of the patients studied; the **reherniation rate was 27%**, **compared to 1%** in patients with slit/fissure type defects with recurrences occurring within the first 2.5 years. Defect size is not typically measured and is rarely reported in the literature. This study sought to confirm the higher risk of reherniation faced by patients with larger anular defects, by reviewing the results of a discectomy-only cohort from an ongoing RCT of an anular closure device.

## **Methods**

Interim data from the **control cohort** of an ongoing RCT comparing Barricaid anular closure to control was reviewed for symptomatic reherniations. A key inclusion criterion for the study are **anular defect at least 6mm wide** (measured intra-operatively, Fig. 1 and animation), similar to the definition used by Carragee et al to define their 'massive defect' group. A **limited discectomy**, as defined by Spengler, was performed. Symptomatic reherniations were reported and Kaplan-Meier survivorship was estimated based on time to reherniation, and compared to the data presented by Carragee et al.



# Results

- 227 patients are included from the discectomy-only cohort.
- Mean time from surgery was 18 months, with a maximum of three years.
- Mean volume of nucleus removed was 1.2cc, confirming limited discectomy was performed.
- Mean defect width was 8.0mm; mean defect size was 39.5mm2.
- Symptomatic reherniations were observed in 26 patients (11.4%).
- Kaplan-Meier estimates of survivorship were 88% at 18 months and 81% at three years, compared to 84% and 76% respectively in Carragee et al. (Fig. 3)



## Conclusions

These interim results from an ongoing study of **discectomy patients with large anular defects** confirm a **high early recurrence** risk as predicted by earlier studies.

### **Learning Objectives**

By the conclusion of this session, participants should be able to identify patients at risk of reherniation due to defect size.

#### References

Carragee EJ, Han MY, Suen PW, et al. Clinical outcomes after lumbar discectomy for sciatica: the effects of fragment type and anular competence. J Bone Joint Surg Am 2003;85-A:102-8.

**Disclaimer:** The clinical data presented herein are part of an ongoing prospective randomized post-marketing study. The data presented in this abstract are not the primary or secondary endpoints of the study as presented, no claims of safety and effectiveness are being made, and the study statistical analysis plan (SAP) will not be violated by such presentation.

