

# 10 Year Employment History After Randomization to BRYAN Cervical Arthroplasty versus Anterior Cervical Fusion

Jeffrey Evan Florman MD; Allan D. Levi MD PhD; William F Lavelle MD; K. Daniel Riew MD  
Maine Medical Center, University of Miami Miller School of Medicine,  
State University of New York Upstate, Columbia University

## Introduction

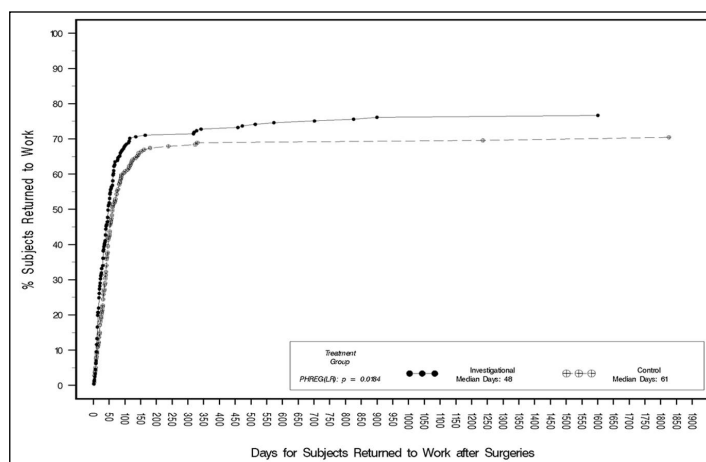
Cervical arthroplasty has been advocated as an alternative to anterior discectomy and fusion with the added potential benefit of early return towards unrestricted activities. However, the long-term consequences of arthroplasty remain incompletely described including the occurrence of occupational compromise. Ten year experience with the BRYAN disc arthroplasty trial provides opportunity to report patient employment data.

## Methods

A 10-year analysis of outcomes following FDA investigation of patients randomized to the BRYAN cervical arthroplasty versus fusion at a single level was performed. Patients were followed at regular intervals with data prospectively collected on patients followed for up to 10 years. The primary outcome measure for this publication was employment status at each time point of follow up.

## Results

Of 463 patients randomized in the study, 65% were employed preoperatively with equal percentage in the investigational and control groups. Of the 242 patients who underwent arthroplasty, 49.2% returned to work at 6 weeks compared to 39.4% of the 221 patients who underwent fusion. At 3 months, more patients were employed in both groups than had been employed preoperatively. From 6 months to 2 years postoperatively, there was a nearly equal likelihood of active employment in the two groups with the 6-month and 24-month employment rate being 76.8% of the investigational and 73.6% of the controls. At all-time points after 2 years, there was some drop off in the control group by about 10% in the percent employed that was not seen in the investigational group. At 10 years, of the 128 patients in arthroplasty and 104 patients in fusion groups evaluated for overall success, 76.2% were employed compared to 64.1% of the 104 patients.



## Conclusions

In a randomized trial of single level arthroplasty with the BRYAN disc versus fusion, a greater number of patients returned to work at 6 weeks after arthroplasty compared to fusion although this difference was not different by 6 months. However, after 2 years, there was a sustained trend towards higher rates of employment in those that underwent arthroplasty compared to fusion through the rest of the first postoperative decade.

## Learning Objectives

By the conclusion of this session, participants should be able to: Discuss employment after cervical arthroplasty versus fusion

## References

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