

# BECKER'S SPINE REVIEW

## Hybrid cervical spine surgery as an alternative to multi-level ACDF in an ASC setting

Written by Dr. Glenn R. Buttermann of Midwest Spine & Brain Institute | Friday, 02 June 2017

Dr. Glenn Buttermann recently presented the results of cervical hybrid surgery at the American Academy of Orthopaedic Surgeons, March 2017, as well as at the Cervical Spine Research Society, December 2016. Anterior cervical decompression and fusion, (ACDF) is a reliable surgery with highly satisfactory outcomes for advanced degenerative conditions of the cervical spine. However, over time, this can also aggravate adjacent segment problems, leading to secondary surgery such as fusion at the adjacent segment.

Cervical total disc replacement, TDR, for single level conditions also gives highly satisfying outcomes and less secondary surgery at the adjacent level. A hybrid procedure entails TDR combined with an ACDF for multilevel cervical spine cases.

Dr. Buttermann's recent presentations included 50 patients who had a hybrid performed with 5 year follow-up outcomes data 56% of patients had their hybrid as an index surgery, and 44% had TDR adjacent prior to ACDF. For the index multilevel hybrid cases, the level determined to be treated with ACDF versus TDR depended upon the nature of the stenosis and disc height. That is, the level that had less stenosis and a greater disc height would typically receive the TDR.

The control group consisted of 90 multilevel ACDF patients. Additionally, validation groups of single-level ACDF and cervical TDR patients were analyzed. The study results found that the validation was satisfied with the TDR patients having the same or slightly better outcomes, as well as less secondary surgery. The hybrids and the multilevel ACDF patients had similar markedly improved outcomes over the 5-year period; however, there was a lower secondary surgery rate for the hybrid patients, 12% for the multilevel ACDF vs 8% for the hybrid.

This supports that the motion-preserving nature of hybrid surgery has a protective effect upon the adjacent level. What was not discussed at the recent presentations was that these hybrid surgeries were almost all performed as an outpatient in the ambulatory surgery center. Thus, all patients were discharged either the day of surgery or within 23 hours. Those that did spend the night, typically had a 3-level procedure performed or had history of obesity, sleep apnea, or diabetes. These comorbidities had no effects on the outcomes.

In conclusion, the cervical hybrid procedure is effective for treatment of multilevel cervical degenerative conditions. Due to hybrid surgery having a lower secondary surgery rate (that are more costly than index procedures), this procedure gives greater value to our healthcare system.

### About Dr. Buttermann

Dr. Glenn R. Buttermann is an orthopedic spine surgeon with [Midwest Spine & Brain Institute](#), Minnesota. He has mature practice based on experience, yet is also an innovator who has developed unique surgery methods and implants with an emphasis on preservation of spinal motion, and thus function.

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