

# Study of a Spine Fusion Surgery

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## Editorial

Members of the North American Spine Society (NASS) have expressed concern regarding recent commentary on spine surgery by Deyo, Nachemson, and Mirza, published in the *New England Journal of Medicine*. These authors question the value of performing spine fusion surgery for pain from degenerative conditions and immediately following cervical discectomy. They also criticize the benefit of surgical implants, and imply that spinal fusion is rarely, if ever, indicated for conditions other than severe scoliosis, spondylolisthesis, spinal tuberculosis and fractures. There is a need for a balanced presentation of these and other important spine care topics. The commentary prompted a voluntary multidisciplinary group from the Board of the North American Spine Society to assess the commentary in detail, including its clinical critiques of spine surgery and all of the references accompanying the article. This multidisciplinary panel of doctors practice within the fields of clinical psychology, internal medicine, neurosurgery and orthopedic spine surgery. As concerned members of the spine care community and practicing health care professionals, we are obligated to highlight some of the specific weaknesses in the commentary and add important caveats regarding their reasoning or oversights that resulted in some of their misleading conclusions on spine care. Specifically, the article had numerous stated or implied observations on spine fusion surgery with regard to:

- The “overuse” of spinal fusion surgery
- Comparisons of total hip replacement surgical rates to spinal fusion surgery rates
- Geographic variation of the prevalence rate of surgical fusion procedures
- The controversy over fusion for discogenic pain

- The “overuse” of spinal instrumentation
- Lack of justification for the use of instrumentation to aid fusion
- Complication rates with the use of spinal instrumentation
- The published literature for the evaluation of spinal fusion surgery
- Cervical fusion after cervical discectomy • Vision loss following spinal surgery
- Placebo-controlled trials: sham surgery
- Evolving medical technologies and the “learning curve” of surgical techniques

The claims of the article were supported by a select literature review and attempted to narrow the role of fusion in spine surgery to conditions limited to those proven by evidence-based standards. On the face of it, this appears to be a reasonable suggestion. The article, however, presented a non-systematic evaluation of selected literature and did not employ a meta-analysis or other objective scoring criteria by which the methodologies of the reference studies could be impartially rated. Our comments are organized around the above-mentioned issues here doctors suggest that the procedure of fusion may be overused. Furthermore, they state that much of the increase in fusion rates results from a rise in surgeries on older adults with spinal stenosis, as well as from an increasing rate of fusion surgeries for discogenic pain strongly suggest that fusion operations are performed in excess and lay the groundwork for implicating a possible profit motive as the reason. There are no data, however, to prove that the increase in spinal fusion is not legitimate on its own terms. It is certainly possible that spine fusion was under-utilized prior to 1997 rather than over-utilized today. As opposed to ten or twenty years ago, spine specialists now have superior diagnostic tools, better understanding of the structural causes of lower back pain (LBP) and realize the dangers of introducing instability after wide decompression for severe foraminal stenosis. As well, we have vastly improved procedural techniques for fusion.

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