Surgeon Experience Impacts Complication Rates For Spinal Stenosis Surgery

For patients undergoing surgery for spinal stenosis, the risk of complications is higher when the surgeon performs very few such procedures (less than four per year), states a study in the June issue of *Neurosurgery*, official journal of the Congress of Neurological Surgeons. The journal is published by Lippincott Williams & Wilkins, a part of Wolters Kluwer Health. In contrast, the complication rate is not significantly affected by the volume of spinal stenosis surgeries performed at the hospital, according to the new research. The senior author was Dr. Ali Bydon of Johns Hopkins Unviersity.

Using a large database of hospitalized patients, the researchers analyzed outcomes in nearly 49,000 patients undergoing surgery for lumbar spinal stenosis—narrowing of the spinal canal in the lower back. Rates of complications and in-hospital death were compared for surgeons and hospitals with different "volumes" of surgery for spinal stenosis from 2005 through 2008. The volume of spinal stenosis surgeries by each surgeon was categorized from "very low" (less than 15 operations over four years) to "very high" (more than 81 procedures in four years). Hospital volume ranged from less than 68 to more than 394. These categories were compared with the risk of complications and death, with adjustment for other factors.

Complication rates ranged from 11.6 percent for patients operated on by surgeons with a very low volume of spinal stenosis surgeries to 8.6 percent for surgeons who performed a very high volume of procedures. On adjusted analysis, the risk was 38 percent higher for surgeons in the very low volume category, compared to the very high volume category. Risk was not significantly increased for surgeons at intermediate levels (low, medium, or high). After adjustment for surgeon volume, the volume of surgeries performed at the hospital did not significantly affect complication rate. Hospital volume was also unrelated to the total cost of the procedure or the number of days spent in the hospital. Neither surgeon volume nor hospital volume significantly affected the risk of death.

For several types of relatively high-risk surgical procedures, outcomes tend to be better when the procedure is performed by surgeons and at hospitals that perform more such procedures. Few studies have looked at how surgeon and hospital volume affect the outcomes of spine surgery. The new study suggests that surgeon volume affects the risk of complications from lumbar spinal stenosis surgery. However, the difference is significant only on comparison of the lowest vs. highest-volume surgeons, averaging less than four versus more than 20 procedures per year.

Dr. Bydon and co-authors write, "For patients undergoing surgery for lumbar spinal stenosis, the individual surgeon's experience, skill, and clinical knowledge may be

key determinants of outcomes, whereas hospital resources may be of secondary importance." They note that most of the high and very high-volume surgeons in their study practiced at larger, university-affiliated hospitals. However, they also point out that more than 40 percent of these higher-volume surgeons didn't work at large university hospitals—in fact, many worked at smaller or rural hospitals. "Therefore," the researchers add, "the resources of a large academic medical center or a large, urban hospital may not be necessary for a high-volume spine surgeon."

Source URL (retrieved on *11/26/2014 - 6:37am*):
http://www.surgicalproductsmag.com/news/2012/06/surgeon-experience-impacts-complication-rates-spinal-stenosis-surgery