Study Examines Impact of Resident Duty-hour Restrictions on Neurotrauma Patients; Results Show Higher Complication Rate in Teaching Hospitals When Duty Hours are Limited

Miami (April 17, 2012) — According to study results offered today at the 80th Annual Scientific Meeting of the American Association of Neurological Surgeons (AANS) in Miami, researchers have found an association of increased complications (and no change in mortality) with the implementation of ACGME resident duty-hours restrictions within teaching hospitals; as well as no change in complications and an improvement in mortality in non-teaching hospitals.

The ACGME resident duty-hour restrictions were implemented in 2003 based on the belief that resident fatigue is a contributor to medical errors. The researchers examined the effect of duty-hour restrictions on outcome in neurotrauma patients, reviewing and analyzing the details of more than 222,000 admissions for neurosurgical trauma. An analysis of the Nationwide Inpatient Sample database was conducted, and the researchers compared a time period with no duty-hour restrictions (1999-2002) to one with restrictions (2005-2008) for both mortality and complications. Both teaching and non-teaching hospitals were analyzed to account for any potential differences due to non-duty-hour-related factors. The results of that study, Higher Complications and No Improvement in Mortality in the ACGME Resident Duty-Hour Restriction Era: An Analysis of over 107,000 Neurosurgical Trauma Patients in the Nationwide Inpatient Sample database, will be presented by Brian L. Hoh, MD, FAANS, 10:15-10:29 a.m., on Tuesday, April 17. Co-authors are Daniel Neal, MS; Dominic Kleinhenz, BS; Daniel Hoh, MD; J. Mocco, MD, MS; and Fred Barker II, MD.

There were 107,006 teaching hospital admissions and 115,604 non-teaching hospital admissions for neurosurgical trauma. Multivariate logistic regressions demonstrated, in teaching hospitals, a significantly higher risk of complication in the time period with restrictions. Meanwhile, in non-teaching hospitals, there was no difference in complication rate. In teaching hospitals, there was no significant decrease in mortality rate between the two time periods, while in non-teaching hospitals, there was a significant improvement in mortality in the time period with restrictions versus the time period with no restrictions.

From the analysis of the data, the researchers found the implementation of the ACGME resident duty-hour restrictions was associated with increased complications and no change in mortality for neurotrauma patients in teaching hospitals, while in non-teaching hospitals there was no change in complications and an improvement in mortality. These findings could indicate that the increase in complications witnessed at teaching hospitals was due to implementation of duty-hour restrictions, and that the overall improvement in mortality seen in non-teaching hospitals was negated in teaching hospitals because of an increase in mortality as a result of resident duty-hour restrictions.

Disclosure: the author reports no conflicts of interest.

The 2012 AANS Annual Meeting press kit includes releases on highlighted scientific research, AANS officer and award winners, and National Neurosurgery Awareness Week. These releases will be posted under Media/Press on the 2012 AANS Annual Meeting website page. Additional information about the AANS Annual Scientific Meeting and the Meeting Program is available at: http://www.aans.org/Annual%20Meeting/2012.aspx.

Media Representatives: If you would like to cover the meeting or interview a neurosurgeon — either on-site or via telephone — please contact John Iwanski, AANS Director of Member and Public Outreach, at 847-378-0517, or call the Annual Meeting Press Room beginning Monday, April 16 at 786-276-4501.

Founded in 1931 as the Harvey Cushing Society, the American Association of Neurological Surgeons (AANS) is a scientific and educational association with more than 8,100 members worldwide. The AANS is dedicated to advancing
the specialty of neurological surgery in order to provide the highest quality of neurosurgical care to the public. All active members of the AANS are certified by the American Board of Neurological Surgery, the Royal College of Physicians and Surgeons (Neurosurgery) of Canada or the Mexican Council of Neurological Surgery, AC. Neurological surgery is the medical specialty concerned with the prevention, diagnosis, treatment and rehabilitation of disorders that affect the entire nervous system including the spinal column, spinal cord, brain and peripheral nerves. For more information, visit www.AANS.org.

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