Resident Duty-Hour Reform Associated With Increased Complication Rate

New study links resident duty-hour reform to negative outcomes for hip fracture patients

ROSEMONT, Ill., Sept. 2 /PRNewswire-USNewswire/ -- A new study finds a 2003 reform of the length of resident on-duty hours has led to an increase in the rate of perioperative (the span of all three phases of surgery: before, during and after) complications for patients treated for hip fractures. Among other restrictions, this reform limited the resident workweek to 80 hours. The resulting complications vary significantly, with an increasing rate of worse outcomes seen in teaching hospitals, according to a study published in the September 2009 issue of The Journal of Bone and Joint Surgery (JBJS).

"The data suggests a statistically significant increase in selected complications after implementation of the duty-hour reforms in teaching hospitals, where residents help deliver care, compared to non-teaching hospitals. This may go against common assumptions regarding outcomes as they relate to the length of resident hours," said study lead author James M. Browne, MD, an orthopaedic surgeon currently completing a fellowship in Rochester, Minnesota. The study was performed at Duke University Medical Center.

On July 1, 2003, The Accreditation Council for Graduate Medical Education implemented a resident duty-hour reform for all medical and surgical residents, including orthopaedic resident surgeons, in the U.S. Dr. Browne and his co-authors at Duke reviewed data from teaching and nonteaching hospitals for 48,430 patients treated for hip fractures in a nationwide inpatient sample database, reviewing two groups:

-- the first from 2001 and 2002 before resident duty-hour reform; and -- the second in 2004 and 2005 after reform.

This study sought to measure changes in the rate of patient death or resulting in-hospital complications since this reform. No increase in death rates was found, but an increase in resulting negative outcomes was found in teaching hospitals compared to nonteaching hospitals. The undesired results included increases in the rate of:

-- pneumonia, -- hematoma, -- transfusion, -- renal complications, and -- nonroutine discharge.

In addition to an increase in the rate of medical complications, the study also notes an increase in length and cost of stay in teaching hospitals.

"I think it would be premature for a patient to make any medical decisions based on the results of this study. What this data does tell us is that this issue needs to be examined further. Remember, this is limited to hip fracture outcomes tracked during a limited time period and does not take into account any improvements in delivery of care since 2005," said Dr. Browne.

A recent report from the Institute of Medicine proposes further limitations on resident work hours.

"Surgeons and policy-makers need more data to understand the full impact of these duty hour changes on our patients. As we consider any kind of reform, we must continue to keep the safe delivery of care that results in successful patient outcomes as our number one priority," said Dr. Browne.

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