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SCIENTIFIC POSTER PRESENTATION: SURGICAL EDUCATION

Duty-hour restrictions are associated with improved outcomes in patients undergoing general surgical procedures

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INTRODUCTION: The Accreditation Council for Graduate Medical Education (ACGME) duty-hours restrictions were implemented in July 2003. While their effect on surgical residents has been extensively studied, it remains unclear how these policies affected outcomes in patients undergoing general surgical procedures.

METHODS: The Nationwide Inpatient Sample was retrospectively reviewed before (01/01/2001 to 06/30/2003) and after (1/1/2008 to 12/31/2010) the implementation of the ACGME duty-hour restrictions in teaching and non-teaching hospitals. Only emergent admissions for general surgical procedures were selected. In order to detect any association between duty-hour restrictions and patient outcomes in teaching hospitals, non-teaching hospitals were used as controls. Multivariate regression analysis was useful after controlling for patient comorbidities, hospital factors, procedure types, and the magnitude of changes in outcomes between the two periods in both hospital settings.

RESULTS: A total of 479,801 cases were analyzed. After controlling for all potential confounders, compared to non-teaching hospitals, the implementation of duty-hour restrictions in teaching hospitals was associated with an 11% reduction in overall morbidity (OR=0.89; 95% CI; 0.85-0.93; $p<0.001$), a 16% percent reduction in mortality (OR=0.84; 95% CI; 0.78-0.96; $p<0.001$). Length of stay was not affected (Mean Difference =+0.16 days (95% CI; -0.03, +0.34; $p=0.09$). Hospital charges increased by 5,562 US$ (95% CI; 4409.44, 6714.81; $p<0.001$).

CONCLUSIONS: The implementation of duty-hours restrictions was associated with decreased mortality and morbidity in general surgical patients in teaching hospitals. While length of stay remained unchanged, hospital charges increased significantly.