

**Effect of a Dedicated Orthopaedic Advanced Practice Provider in a Level I Trauma Center: Analysis of Length of Stay and Cost**

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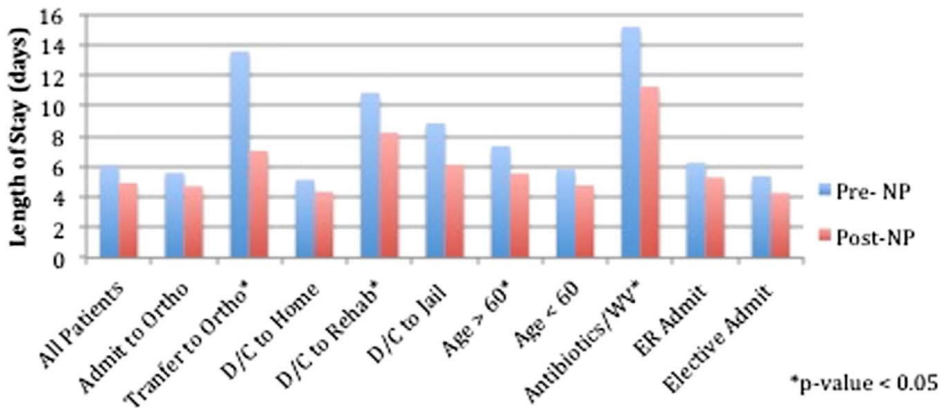
**Purpose:** The objective of this study is to analyze the effect of an orthopaedic trauma advanced practice provider on length of stay and cost in a Level I trauma center. The hypothesis of this study is that the addition of a single full-time nurse practitioner (NP) to the orthopaedic trauma team at a Level I trauma center would decrease overall length of stay (LOS) and hospital cost.

**Methods:** A retrospective chart review of all patients discharged from the orthopaedic surgery service 1 year prior to the addition of an NP (Pre-NP) and 1 year after the hiring of a NP (Post-NP) were reviewed. Chart review included age, gender, LOS, discharge destination, intravenous antibiotic use, wound-vac vacuum-assisted closure] therapy, admission location, and length of time to surgery. Statistical analysis was performed utilizing the Wilcoxon/Kruskal-Wallis test.

**Results:** The hiring of an NP yielded a statistically significant decrease in the LOS across the following patient subgroups: patients transferred from the trauma service (13.56 compared to 7.02 days;  $P < 0.001$ ), patients aged 60 years and older (7.34 compared to 5.04 days;  $P = 0.037$ ), patients discharged to a rehab facility (10.84 compared to 8.31 days;  $P = 0.002$ ), and patients discharged on antibiotics/wound-vac therapy (15.16 compared to 11.24 days;  $P = 0.017$ ). Length of time to surgery was also decreased (1.26 compared to 1.01 days,  $P = 0.02$ ). A cost analysis of the subgroup of patients transferred to orthopaedics from another service yielded a savings of \$1,059,480 per year.

PAPER ABSTRACTS

**Mean LOS in Pre- and Post-NP Periods**



**Conclusion:** The addition of a dedicated orthopaedic trauma advanced practice provider at a county Level I trauma center resulted in a statistically significant decrease in LOS and

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.

thus reduced indirect costs to the hospital. Given the substantial indirect cost savings from a reduction in LOS provided from hiring a dedicated orthopaedic NP, it can be concluded that they provide the hospital with a positive net present value. This supports the hiring and maintenance of an NP to an orthopaedic team at an academic Level I trauma county hospital and should serve as a model on which to base future orthopaedic practices.