**Is Scheduled Perioperative Intravenous Acetaminophen Use In Geriatric Hip Fractures Cost-Effective?**

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**Purpose:** The elderly population of the United States continues to rise, resulting in a concordant expected increase in the number of hip fractures in this population. This has substantial impact on the health-care system, and it is important that steps are taken to make medical treatment decisions that both benefit the patient and are economically responsible. Scheduled intravenous (IV) acetaminophen has been shown to be beneficial in managing pain in orthopaedic surgery and improving outcomes in geriatric hip fracture patients. The purpose of this study was to evaluate the cost-effectiveness of scheduled IV acetaminophen use in geriatric patients with a hip fracture.

**Methods:** A retrospective review was performed of all patients 65 years and older admitted to a Level I trauma center who received operative treatment for a hip fracture (AO/OTA 31-A, 31-B) over a 2-year period. Demographic data, inhospital variables, outcome measures, and hospital billing data (broken down by department) were analyzed. 330 consecutive fractures in 326 patients met inclusion criteria. These patients were divided into two cohorts. Group 1 (165 fractures) consisted of patients treated before the initiation of a standardized IV acetaminophen perioperative pain-control protocol, and Group 2 (165 fractures) consisted of those treated after the protocol was initiated.

**Results:** Group 2 had significantly lower mean length of hospital stay (3.8 vs 4.4 days, P <0.001), visual analog scale pain score (4.2 vs 2.8, P <0.001), and narcotic use (41.3 vs 28.3 mg, P <0.001). With billing data broken down by department, group 2 had lower mean total cost of hospital bed (-24.7%, $5758 vs $7181, P <0.001), decreased pharmacy expense (-21.1%, $2104 vs $2549, P = 0.05), and decreased total cost of hospitalization (-8.0%, $27,171 vs. $29,345, P = 0.05). Group 2 had an increase in cost of supplies and implants (14.8%, $4509 vs $3843, P <0.001) and operating room services (7.0%, $5472 vs $5090, P = 0.03). When accounting for these increased supply costs, the overall cost of hospitalization was decreased 20.2% for group 2 (-20.2%, $16,967 vs $20,386, P <0.001). There was positive correlation between length of stay and cost of bed (r = 0.61, P <0.001) and length of stay and total cost of hospitalization (r = 0.53, P <0.001). There was no significant correlation between use of IV acetaminophen and total cost (r = -0.06, P = 0.28) or use of IV acetaminophen and pharmacy cost (r = -0.02, P = 0.72).

**Conclusion:** The utilization of scheduled IV acetaminophen as part of a standardized pain management protocol for geriatric hip fractures resulted in decreased length of hospital stay, which was correlated with decreased cost of hospitalization, and its use resulted in improved pain control and lower narcotic use without any increase in pharmacy cost. IV acetaminophen use can improve outcomes in geriatric hip fractures in a cost-effective manner.