Kettering Health Network Hip Fracture Block Program

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PROBLEM STATEMENT

• Hip fractures are one of the most frequent causes of morbidity and mortality among the elderly population.
• The incidence of hip fractures in the US has increased with longer life expectancy. Projection analysis indicates numbers will reach 400,000 by 2040.
• The projected cost of treating this growing population is estimated to rise to 24 billion. Most hospital’s report hip fracture repair as a loss leader.
• In the past, improving surgical techniques and medical care were the focus of decreasing length of stay. Now we realize that developing a smooth pathway with a multidisciplinary team can reduce complications, improve discharge ambulatory status and shorten length of stay. (Khasraghi, F. A. et al. (2005))

CRITICAL APPRAISAL OF EVIDENCE


Collective Evidence:
• A Coordinated Hip Fracture Service including a multidisciplinary team reduced time to surgery, incidence of medical complications and length of hospital stay for geriatric hip fracture patients. (Khasraghi, F. A. et al. (2005))
• Strong evidence supports that regional analgesia improves pain control in preoperative hip fracture patients. 6 high strength studies showed decreased pain after hip fracture with the use of regional anesthesia in the form of fascia iliaca or femoral nerve blocks. One of the trials reported a incidence of reduction in postop delirium. (AAOS)
• Moderate evidence supports that surgical intervention within 48 hours of admission results in better outcomes for hip fracture patients. 5 moderate strength studies showed decreased mortality, pain, complications and length of stay (AAOS).
• The 24 Mortality rate indicates numbers will reach 840,000 by 2040. The incidence of hip fractures in the US has increased with longer life expectancy. Projection analysis indicates numbers will reach 400,000 by 2040. The projected cost of treating this growing population is estimated to rise to 24 billion. Most hospital’s report hip fracture repair as a loss leader.

THE PILOT PRACTICE CHANGE

Goal: The hip fracture block program is to decrease complications by administering fascia iliaca blocks to hip fracture patients within the first 2 hours of presentation to the emergency department and to perform surgical repair within 24 hours.

Results:
• Within the first 1.5 years, the Kettering/Sycamore Hip Fracture Block Program has demonstrated decreases in the following quality measures:
  • Pain scores:
  • Length of stay:
  • Cost:
  • Readmission rates

EVALUATION

Purpose: To evaluate the ongoing effectiveness of the Hip Fracture Block Program

Evaluation method: Periodic audits of the following:
• Anesthesia page to block time
• ED door to OR time
• Length of stay
• Readmission
• Cost
• Block efficacy
• Block complications
• Pain scores
• Mortality rate

Key outcomes: reduced length of stay, reduced cost, reduced readmission rate

Measurements: Electronic Medical Record Chart Review, Micas Quality System, Data Mart & Ancom Software

Possible confounding factors: comorbid conditions, multiple trauma patients, pathological fractures in terminal cancer patients

Data analysis plan: confirmatory data analysis and regression analysis

ONE YEAR RESULTS

- 16% Decrease Pain Score
- 21% Decrease Length of Stay

ONE YEAR COST REDUCTION

- 2% Cost reduction at Kettering
- 7% Cost Reduction at Sycamore

- 35% Decrease Pain Score
- 13% Decrease Length of Stay
- 25% Decrease Readmission Rate