Evidence-Based Practice (EBP) - E162

Poster

Abstract Title:

Prolonged Backboard Mitigation - Limiting Backboard Related Complications - Development of RN Backboard Removal Policy

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Background & Purpose:

Prolonged backboard exposure places patients at high risk for hospital acquired complications such as airway and respiratory compromise, increased ICP, and soft tissue breakdown, identified as preventable complication by CMS. Studies suggest backboard exposure may elicit symptoms of spinal injury leading to false-positive spinal exams and unnecessary radiographs. Surgical residents at a Level II trauma center identified need for reducing backboard exposure time. A performance improvement project was initiated to decrease backboard exposure to less than 20 minutes from the patients arrival to the ED. Implementing an RN driven protocol allows for rapidly removal off the backboard on arrival.

Study/Project Design:

2009 retrospective data determined baseline time. 2010-13 concurrent data to measure post protocol implementation

Setting:

Emergency/Trauma Department of Level II Trauma Center

Sample:

Initial study included 122 patients due to limited data. With use of Trauma Registry custom data points, 2010-2013 post policy review increased to approx. 950 patients per year.

Procedures:

The data and project proposal was first introduced at Multidisciplinary Trauma Peer Review Committee. The ED MD Committee liaison volunteered to be the physician champion and advisor for protocol development. Guidelines were based on best practice recommendation from emergency, trauma, neurosurgical, and pre-hospital disciplines. It allowed RN's under the physicians direction, to initiate rapid backboard removal. The goal was set for 20 minutes or less from time of arrival to time of backboard removal. With Peer Review's recommendation, the policy was introduced to the ED staff. Education included backboard removal guidelines, processes and competencies for all ED nurses and paramedics regarding logrolling while maintaining spinal immobilization. Evaluation of outcomes was possible through the registry data collection and nursing documentation compliance for 3.5 yrs. of tracking and monitoring through the PI process.

Findings/Results:

Although initial sample size (2009) was limited the data indicated patients with immediate trauma team involvement were removed approximately 2.5 times sooner than patients with less critical injuries (consults). Pre-policy implementation, average time of BB removal for most severely injured patients (trauma 1 activations) was 28 min., second highest activation (trauma II) was 25 min. and trauma consults average time was 71 min. The data suggested correlation between total backboard time and patient acuity, patient provider, times seen and/or all. With implementation of RN protocol and Trauma Registry custom data point (2010 - time off backboard, 2012 - 99.88 Removal of external immobilization device) to capture BB removal time in ED RN documentation, results yielded significant decrease of exposure of T1 =57% decrease (in BB removal time), T2 =52% decrease, consults=69% decrease. Yearly tracking/monitoring since 2010 revealed drastic reductions with overall current exposure being reduced 60% since pre-protocol implementation. Initial study group did not include backboard complications, with none (zero) being reported post policy implementation.

Discussion/Conclusions/Implications:

Post policy implementation in May of 2010, the ED has consistently met the 20 min. BB removal target for the most severely injured (Trauma I and Trauma 2 activations). BB removal time for trauma consults (non-trauma activations) has been reduced >69% since implementation of the protocol but remains just over the 20 min. goal at 22 min. RN competencies have been assigned to new RN hires, TNCC classes, and yearly ED RN competency reviews. Regional outreach to all referring hospitals has been added to quarterly outreach meetings. Backboard removal is continuously monitored for RN protocol compliance. Concurrent PI reviews/referrals are initiated for patients experiencing prolonged backboard exposure.