

Paramedic – Evidence Based Medicine (P-EBP) Program

Paramedic CAT (Critically Appraised Topic) Worksheet

Title: Comparison of scoop stretcher vs. backboard for immobilization of suspected hip fractures

Report By: Lorne Pearce PCP (ACP student)

2nd Party Appraiser: Judah Goldstein PCP

Clinical Scenario: An 83 year old female falls in the kitchen and is unable to get up. Her husband calls 911 and paramedics arrive to find her lying supine and complaining of pain in her hip, which is exacerbated with movement. Paramedics roll her on to her uninjured side to place her on a backboard for extraction to their waiting stretcher. Would a scoop stretcher allow for less movement and less pain, and decreased scene time for this patient?

PICO (Population – Intervention – Comparison – Outcome) Question:

In patients with suspected hip or pelvis injury (P), does extraction using a scoop stretcher (I) compared to extraction using a traditional long backboard (C) lessen patient movement, pain, and on scene time (O)?

Search Strategy:

In PubMed: (hip fracture OR pelvis fracture or pelvic fracture) AND (scoop stretcher OR backboard OR spine board)

Search Outcome: This search yielded 4 hits, only one of which was relevant to this PICO question.

Paramedic – Evidence Based Medicine (P-EBP) Program

Relevant Papers:

AUTHOR, DATE	POPULATION: SAMPLE CHARACTERISTICS	DESIGN (LOE)	OUTCOMES	RESULTS	STRENGTHS/ WEAKNESSES
Krell et al 2006	31 adult subjects. Mean age 26 ± 7 years, healthy volunteers	Prospective LOE II	Spinal immobilization. Comfort.	Decreased flexion and increased comfort with the scoop stretcher	Identical test group for both forms of immobilization, but small sample group, and study funded and supplied by Ferno.

Comments:

This study indicated that the Ferno scoop stretcher causes significantly less flexion during application, as well as increased comfort when compared to a traditional backboard. The scoop stretcher did demonstrate greater sagittal flexion during the lifting phase of the testing. There was also some evidence of significantly decreased time for application of the scoop stretcher. This study was not able to address the outcomes of on scene time and associated pain.

Clinical Bottom Line:

While it seems a logical extrapolation that the scoop stretcher would be beneficial for our prospective population of hip and pelvis injuries, a study which specifically addresses this population is necessary to safely recommend the Ferno scoop stretcher for this use. A clinical trial with a larger sample size is recommended as well.

References:

Krell J, McCoy M, Sparto P, Fisher G, Stoy W, Hostler D (2006). Comparison of the Ferno Scoop Stretcher with the Long Backboard for Spinal Immobilization. *Preshospital Emergency Care* 10; 46-51.