

## **Pelvic Binders and Arteriography: Effect of a Pelvic Fracture Management Protocol on Mortality.**

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**PURPOSE:** To evaluate a protocol's ability to improve mortality among pelvic fracture patients at high risk for death.

**METHODS:** A review of pelvic fracture patients treated between 1997 and 1999 revealed 3 groups at high for death: elderly patients, patients with unstable fracture patterns, and patients in hemodynamic shock. A protocol aimed at decreasing mortality was implemented. The protocol emphasized rapid pelvic stabilization using a pelvic binder and pelvic arteriography in selected cases. Triggers for protocol activation were: 1) age greater than 54; 2) hemodynamic shock (systolic blood pressure <100mm Hg) on arrival or within the first 24 hours of hospital stay; or 3) unstable fracture pattern (APC2, APC3, LC3, VS). Using two-sided Fishers exact test, mortality rates in patients treated under the protocol were compared to those seen in the pre-protocol period.

**RESULTS:** 141 patients at high risk for mortality were treated before, and 150 patients were treated after, protocol implementation.

Before protocol implementation, 32 of 65 patients (49%) in shock on arrival or within the first 24 hours of hospital stay died, whereas 18 of 80 (23%) in shock died after implementation, a 53% drop in mortality ( $p < 0.001$ ).

12 of 49 patients (24%) over age 54 died before protocol implementation, whereas 9 of 41 (22%) over age 54 died after implementation, a 10% drop in mortality ( $p = .5$ ).

18 of 77 (23%) patients with unstable fractures died before protocol implementation, whereas 7 of 46 (15%) with unstable fractures died after implementation, a 35% drop in mortality ( $p = 0.36$ ).

**DISCUSSION/CONCLUSION:** The protocol's ability to decrease mortality in patients in shock on arrival or within the first 24 hours of hospital stay, the group at greatest risk for death, was significant.

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