

## PARAMEDIC CAT (Critically Appraised Topic)

29/03/2018

**Title:** Pre-hospital Pelvic Hemorrhage Control: Pelvic Binder Application vs. Extraperitoneal Pelvic Packing

**Report by:** Samantha Kiss

**Clinical Scenario:** Paramedics respond to an 18 year old male patient who has been thrown off of his motorcycle following a collision on a major highway. He has instability in his pelvis and is hemodynamically unstable, so paramedics decide to apply a pelvic binder for arterial hemorrhage control and stabilization.

### PICO:

*In patients with pelvic fractures suffering from traumatic pelvic hemorrhage, does the use of a pelvic binder versus extraperitoneal packing treatment improve the outcome for the patient?*

**Search Strategy:** (MH "Emergency Medical Services" or ems or prehospital or paramedic) and (pelvic binders or pelvic fractures) and (outcome)

**Search Outcome:** 8 papers

**Relevant Papers:** 2 were chosen for this CAT.

Authors	Design	Population	Intervention	Outcomes Measured	Results
Tötterman, A., Madsen, JE., Skaga, NO., Røise, O.	Convenience sampling	18 patients with pelvic trauma	Extraperitoneal pelvic packing (EPP)	Within 30 days, 13/18 patients survived, systolic blood pressure increased post EPP	Patients experienced significant increase in systolic blood pressure immediately after EPP  Weaknesses: - Small

					sample group
van Stigt, S.F.L., van Vugt, A.B., Tan, E.C.T.H.	Convenience sampling	15 patients with unstable pelvic fractures	T-POD pelvic binder application	2 patients died due to hemorrhagic shock within 6 hours of arriving to hospital No observation of skin necrosis or compartment syndrome during T-POD application	Authors considered the other injuries that could affect the outcomes  Weaknesses: - Small sample group

**Comments:** One of the studies focused on the application of a pelvic binder inside of the hospital rather than a prehospital setting, which could skew the patient's outcome due to the longer wait time for a treatment. Both had very small sample sizes, and need to have more research behind them before anything statistically significant is determined.

**Clinical Bottom Line:** Both seem like they are helpful, but would likely work better in the hospital setting. More research needs to be done for both interventions.

References:

Tötterman, A., Madsen, JE., Skaga, NO., Røise, O. (2007) Extraperitoneal pelvic packing: a salvage procedure to control massive traumatic pelvic hemorrhage. *J Trauma*. 62(4):843-52. Retrieved from DOI:10.1097/01.ta.0000221673.98117.c9

van Stigt, S.F.L., van Vugt, A.B., Tan, E.C.T.H. (2010) Effect of a new pelvic stabilizer (T-POD®) on reduction of pelvic volume and haemodynamic stability in unstable pelvic fractures. *Injury*. 41(12):1239-1243. Retrieved from DOI: <https://doi.org/10.1016/j.injury.2010.03.013>