

Use of the Trauma Pelvic Orthotic Device (T-POD) for Provisional Stabilization of Anterior-Posterior Compression Type Pelvic Injuries: A Cadaveric Study

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Purpose: We demonstrated that a commercially available pelvic binder, the Trauma Pelvic Orthotic Device ([T-POD](#)), is an effective way of provisionally stabilizing anterior-posterior compression type pelvic injuries.

Methods: Rotationally unstable pelvic ring injuries ([Tile B1](#) or Burgess/Young [APC II](#)) were created in 12 human non-embalmed cadaveric specimens without any evidence of previous pelvic trauma. An AP pelvic radiograph was obtained, and the symphyseal diastasis was measured. The pelvis was then stabilized in two manners: 1) a standard bed sheet folded to a width of approximately 8 inches was wrapped circumferentially around the pelvis and greater trochanters and held in place with an anterior clamp; 2) the sheet was then removed, the original symphyseal diastasis was recreated, and the pelvis was stabilized by applying the T-POD circumferentially around the pelvis and greater trochanters as described in the application instructions provided by the manufacturer. Reduction with each technique was guided by direct palpation of the pubic symphysis, and each reduction was evaluated with an AP pelvic radiograph and measurement of the symphyseal diastasis.

Results: The results are summarized below.

- Injury: average symphyseal diastasis, 39.3 mm (range, 33 to 46; 95% confidence intervals, 30.95 to 47.55).
- Sheet: average symphyseal diastasis, 17.4 mm (range, 3 to 38; 95% confidence intervals, -0.14 to 34.98).
- T-POD: average symphyseal diastasis, 7.1 mm (range, 1 to 19, 95% confidence intervals, -2.16 to 16.35).

Conclusions/Significance: Although both a circumferential sheet and the T-POD were consistently able to decrease the symphyseal diastasis, only the T-POD showed a statistically significant improvement in the diastasis when compared with injury measurements. In 75% of the cadaveric specimens (9 of 12), the T-POD was able to return the symphysis to normal (<10 mm of diastasis). Both a circumferential sheet and the T-POD were effective in provisionally stabilizing anterior-posterior compression type pelvic injuries, but the T-POD was more effective.