

# Post binder radiography in pelvic trauma

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## DESCRIPTION

A 45-year-old man was dragged behind a car during an alleged assault. He had evidence of head injury and lower limb injury. A prehospital pelvic binder was applied, and he was conveyed to a major trauma centre.

Vital signs on arrival were heart rate 102 bpm, blood pressure 84/65 mm Hg and Glasgow Coma Scale (GCS) of 11. He was intubated for decreasing GCS and CT scanned following primary survey assessment in accordance with advanced trauma life support protocols. The CT was performed with the binder in situ, and revealed a unilateral sacral fracture (Denis type 2),<sup>1</sup> but no symphysis diastasis, as seen in [figure 1](#). Secondary survey noted a swollen and bruised scrotum, along with abrasions to the lower limbs.

The binder was removed post-CT and pelvic radiograph taken within 10 min as per local major trauma centre protocol. Importantly, the radiograph, seen in [figure 2](#), revealed significant diastasis of the symphysis, corresponding to an anteroposterior compression type mechanism of injury that was masked by the pelvic binder during CT.<sup>2</sup>

Other injuries included 10 rib fractures and a scalp laceration. The patient remained haemodynamically stable and was admitted to the intensive care unit, where he made good progress. He went on to have internal fixation of his pubic symphysis 8 days later.

In the early postoperative period, despite standard anticoagulation, he was diagnosed with a pulmonary embolus for which he was treated with



**Figure 2** Anteroposterior pelvis radiograph illustrating symphysis diastasis with abnormal widening between points (C and D).

rivaroxaban over 3 months, but otherwise had no complications. At 6-month follow-up, the patient was independently mobile and had successfully returned to work.

## Learning points

- ▶ Pelvic binders can mask the appearance of pelvic diastasis in trauma.
- ▶ Examination findings should accompany radiological findings in trauma.
- ▶ Always perform plain film radiography of the pelvis after removing the pelvic binder in trauma.

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**Patient consent** Obtained.

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**Figure 1** Axial CT at the level of the femoral necks showing (A) binder placement; and (B) a closed symphysis.



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