

### Reduction of Symphyseal Diastasis During CT Scan

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**Purpose:** We sought to determine the quantifiable difference in pubic symphysis diastasis when comparing CT scan and pelvic radiographs in individuals with anterior pelvic ring injuries.

**Methods:** This was a retrospective chart and radiographic review in a Level I trauma center. Between 2002 and 2013 all individuals requiring internal fixation of anterior pelvic ring were reviewed. Out of 163 patients, 72 met inclusion criteria. Patients with symphysis diastasis were included if the pelvic radiograph and CT scan were performed without a pelvic binder and imaging was adequate for required measurements. Symphyseal diastasis was measured on the initial pelvic radiograph, and the CT scout and axial views. The main outcome measurement was a comparison of measured symphyseal diastasis on CT scan and pelvic radiographs.

**Results:** 72 patients met inclusion criteria. 97% (70 of 72) had a reduction of their symphysis diastasis in the CT with an average reduction of 6.6 mm (range, -2.6 to 35.5 mm). The average diastasis on radiograph was 26.3 mm compared to 19.7 mm on CT scout ( $P < 0.001$ ). 14 patients (19.2%) had a reduction from greater than 25 mm to less than 25 mm, a traditional cut-off for operative intervention.



Figures: AP pelvis X-ray, Scout CT, Axial CT prior to application of pelvic sheet

**Conclusion:** The AP pelvis radiograph remains an important part of the workup for trauma patients. Reliance on CT scan alone underestimates true degree of pelvic displacement. Not obtaining pelvic radiographs in the acute setting limits the information on which the medical team can base both short-term and long-term decisions in regards to pelvic ring injuries.