

## Retrospective Functional Outcome and X-ray Analysis of Patients with Symphysis Disruption in Association with Posterior Pelvic Ring Injury in Hospital of Traumatology and Orthopedics (2009–2013)

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**Aim.** The aim of the study is to compare midterm and long-term functional and X-ray outcomes after open reduction and internal fixation (ORIF) of symphysis pubis only or both pelvic rings for patients with anterior and posterior pelvic ring injury.

**Material and methods.** 88 patients with different types of pelvic injuries received surgical treatment at HTO from January 2009 to December 2013. The criteria for inclusion in the study were symphysis pubis disruption and posterior pelvic ring disruptions (Young-Burgess classification APC II and APC III) receiving surgical treatment as standard of care symphysis pubis ORIF only or extra posterior pelvic ring fixation. 20 patients matching the criteria were selected for the study. All 20 patients received surgical treatment with ORIF. In 9 cases surgeon's choice was symphysis pubis osteosynthesis with plate and lumbopelvic fixation (group 1), and in 11 cases – symphysis pubis osteosynthesis only (group 2). Clinical examination of all patients was performed 6 weeks, 3, 6 and 12 months after surgery. Clinical evaluation including the ability to bear weight and absence of pain was carried out. Pre-operational and post-operational radiographs were used to determine location of injury, to carry out Young-Burgess classification of the injuries and document healing progress in the selected patients.

### Results.

1. The clinical examination has shown significantly better early functional outcome (absence of pain and full weight bearing) in 7 patients from group 1.
2. During 6 month post-operational evaluation, 8 patients from group 2 reported regular pain in SI joint during bearing weight on ipsilateral side. No patient from group 1 reported painful experience.
3. X-ray analysis has shown no secondary dislocation of symphysis or sacroiliacal joint in both groups.

### Conclusion.

1. The outcome depends on exact reposition and surgeon's experience.
2. The best early functional and midterm radiographic results were observed in patients with symphysis pubis osteosynthesis and lumbopelvic fixation.
3. Symphysis pubis osteosynthesis in combination with lumbopelvic fixation allows for more early weight bearing.
4. Long-term results from radiological examinations show frequent development of osteoarthritis in SI joint in group 2.
5. Lumbopelvic fixation should become a standard operation in cases when pelvic injury is classified as APCII or APCIII (Young-Burgess).