

## **“Hand on” prosthesis reconstruction after peri-acetabular resection for malignant bone tumors. Our experience**

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**Introduction:** After peri-acetabular resection for bone malignancies, a reconstructive procedure is necessary to stabilise the hip, avoid limb discrepancy, and to permit full weight bearing. But as resection of this area is time and blood consuming, this procedure should be easy to perform. In this case, we use a “hand on” prosthesis.

**Methods:** Our reconstructive prosthesis uses a titanium cup with a long screw in the remaining bone (sacrum or spine). Once the cup is firmly fixed to the bone, the gap between the cup and the bone is filled with cement loaded with antibiotics and the polyethylene component, cemented on the cup. Then, the femoral component of a standard total hip prosthesis is implanted.

**Patients:** Since 1990, we have used such a reconstructive procedure in 27 patients with bone sarcoma involving the acetabulum (7 chondrosarcomas, 6 osteosarcomas, 5 bone metastases, 6 Ewing’s sarcomas and 3 other sarcomas). The average duration of the reconstructive procedure was 45 minutes. Walking started 4 to 10 days after surgery, but full weight bearing was usually authorised after 6 weeks.

**Results:** Postoperative complications were frequent: in five cases deep infections required ablation of the prosthesis (one of those got a secondary saddle prosthesis). Nine patients experienced postoperative luxation requiring orthopaedic reduction and plaster with no further complications.

**Oncologic results:** Within a median follow up of 5 years, 7 patients died of the disease and 1 from an unrelated cause. The others are disease-free survivors.

**Orthopaedic results:** According to the criteria set by the Society for Musculo-Skeletal Oncology, the results were graded as excellent in 4, good in 13, fair in 5, and bad in 5. Only two cases of loosening have been observed till now.

Best functional results are observed after resection of the acetabular and the anterior ring.

**Comments:** Its rapidity (average duration: 45 minutes) and efficacy render this procedure the reconstruction method of choice. The use of cement to fill the iliac gap permits the adjunction of antimycotics or antibiotics often needed in these complicated cases.

**Conclusion:** “Hand on” acetabular prosthesis seems to be very promising for reconstruction after en bloc resection for primary bone sarcoma. A longer follow up and more cases are necessary for a more reliable conclusion.

**Key words:** malignant bone tumors; pelvic bones surgery; prosthesis reconstruction

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