

## Abstract No. 11146

### Resection of the Acetabulum and Pelvis: Should We Still Offer Reconstructive Options?

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**Introduction:** Limb salvage after type II resection of a pelvic sarcoma presents a challenge for orthopaedic surgeons. There is no consensus on the ideal method of reconstruction, with options including amputation, resection arthroplasty, pseudoarthrosis, allografts, saddle prosthesis or custom made megaprotheses.

**Purpose:** The purpose of this study was to investigate the complications, outcomes and functional results following various treatments after acetabular type II resection.

**Methods:** Twenty-three patients with pelvic sarcomas underwent type II acetabular resection at our institution between 1993 and 2014. The initial diagnosis was chondrosarcoma in 7 patients, Ewing's sarcoma in 5, Giant Cell Tumor in 4, Osteosarcoma in 2, and another primary sarcoma in 5. The reconstruction included an allograft or allograft-prosthetic composite (APC) in 9 patients, a saddle prosthesis in 5, and a custom megaprosthesis in 2. Four patients had no reconstruction following their resection and 3 patients had amputations. Complications were documented and functional outcomes were assessed using the Musculoskeletal Tumor Society (MSTS) scoring system.

**Results:** In patients treated with reconstructive surgery, complications occurred in 6 of 9 patients with allograft/APC (67%), 4 of 5 saddle prostheses (80%), and both patients with custom megaprotheses. The most common complications were infection (3) and fracture/dislocation (4). There were no complications in patients with amputations, and only one of four patients with no reconstruction had a complication (early arthritis). Overall, the mean MSTS score was 64%. Patients with no reconstruction averaged 63% MSTS scores while those with allograft/APC averaged 77%. This difference was most apparent in the external support and walking categories. Among the 9 patients with allograft/APC, 6 patients have retained their implants and the other 3 have had them removed. When comparing the group with no reconstruction and specifically those with retained allograft/APC, the differences in external support (1.8 versus 4.2, respectively) and walking (2.8 versus 4.3, respectively) become even more pronounced.

**Conclusion:** Despite complications there is a trend in patients implanted with allograft/APC to have better MSTS scores than those with resection arthroplasty and psuedoarthrosis, particularly in the functional categories of external support and walking ability, provided their implants are retained. In patients whose medical condition is not a contraindication and they are willing to accept the risk of complications, allograft/APC may allow them to have a more normal gait without external assistive devices.