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## Novel Use of a Hip Spacer to Perform Reconstruction Following Extra-Articular Scapula Resection for Sarcoma

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### Background

Patients with high-grade scapula and peri-scapular sarcomas may be treated with either an extra-articular scapula resection (Tikhoff-Linberg procedure) or an intra-articular total scapulectomy. After such a resection, reconstruction of the remaining shoulder girdle must be performed. We present a case in which a hip spacer is used to perform the reconstruction following an extra-articular scapula resection for high grade spindle cell sarcoma.

### Methods

A 79 year old female presented with a mass increasing in size on the posterior aspect of her right shoulder. Computed tomography scanning demonstrated an expansile tumour in the region of the right scapula that had destroyed most of the blade. Ultra-sound guided biopsy indicated the lesion was a high-grade spindle cell sarcoma. There was no evidence of metastases on further imaging.

A Tikhoff-Linberg procedure of the right shoulder was subsequently conducted with en-bloc resection of the scapula, distal clavicle and proximal humerus. In order to reconstruct the shoulder girdle, a hip spacer (Spacer G by Orthodynamics) was cemented into the proximal humerus with the soft tissues tensioned appropriately. A synthetic mesh (LARS ligament by Corin) was then sutured over the prosthesis and secured to the osteotomised clavicular remnant and chest wall with non-absorbable sutures.

### Results

The patient made an uneventful post-operative recovery. The histopathological report confirmed a high-grade spindle cell sarcoma that had been completely excised with 2mm margins. Her wounds healed well with no complications and she retained very good hand, elbow and wrist function but no active motion of her shoulder.

Over three years following surgery she is alive and well, having been continuously disease free with no evidence of local or distant recurrence. Currently her Musculoskeletal Tumour Society Score (MSTS) score is 63 % and her Toronto Extremity Salvage Score (TESS) is 49 %.

### Conclusion

This case demonstrates that a comparatively inexpensive, readily available non-custom made hip spacer used in a novel way may serve to augment a definitive humeral suspension following a Tikhoff-Linberg procedure with a satisfactory result in terms of cosmesis, acceptance, distal upper limb function and disease free survival.

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