

# Outcomes of **Shoulder Resurfacing Arthroplasty** in correlation to aetiology

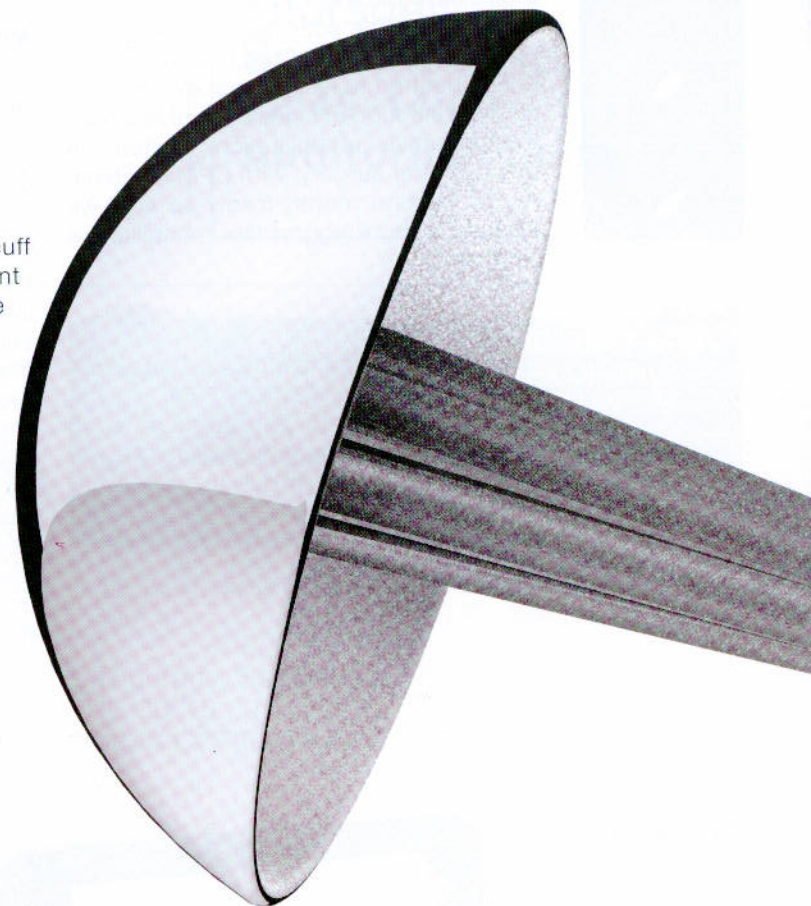
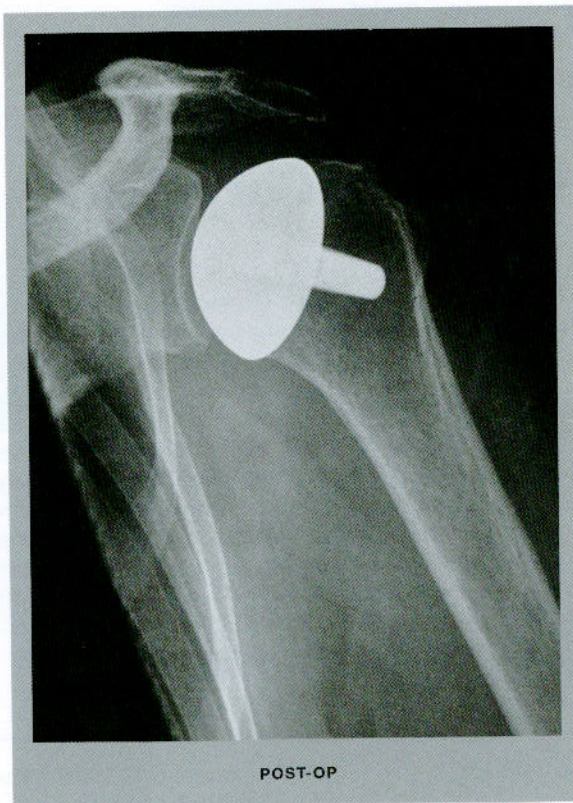
Over the past twenty years, shoulder resurfacing arthroplasty has been widely adopted as an alternative to conventional stemmed shoulder arthroplasty for the treatment of glenohumeral arthropathy<sup>1</sup>. Shoulder resurfacing consists of reaming the proximal portion of the humeral head and fitting a metal-alloy cap over the remainder of the head, no intramedullary stem is used. The cap may or may not be coupled with a glenoid component. The early clinical results, developments, and new innovations of shoulder resurfacing have paralleled similar advances in hip surgery. However, there are functional and anatomic differences between the two joints: the shoulder joint generally supports lower loads, has a greater range of motion, and has a decreased offset<sup>1,2</sup>.

The proper indications for resurfacing shoulder arthroplasty are important for successful outcomes. The aim of our study was to compare clinical outcomes in correlation to aetiology.

Between September 2005 and December 2007, 39 patients (average age  $61.77 \pm 11.59$  years) treated in 3 centers (Mare-Klinikum and Universitaet Kiel (Germany), A.ö. Bezirkskrankenhaus St. Johann in Tirol (Austria), Polyclinique du Parc, St. Saulve (France) with the SMR resurfacing shoulder arthroplasty were assessed in a retrospective study with a mean follow up of  $42.9 \pm 7.8$  months<sup>3</sup>. Primary diagnosis was cuff tear arthropathy in 46.1%, primary osteoarthritis in 38.5%, secondary osteoarthritis in 10.3% and rheumatoid arthritis in 5.1%. Glenoid analysis found concentric erosion in 92.3% and eccentric erosion in 7.7%. 61.5% were a type A1 morphology, 28.2% A2 and 10.3 B1. The status of the cuff was intact in 28.2%, attenuated in 18%, with minor tears in 43.5% and with massive tears in 10.3%. In 6 cases, a resurfacing CTA head was used because of massive cuff rupture.

At the mean follow up time of  $42.9 \pm 7.8$  months, the Constant Score increased by an average of 40 points with a significant pain relief and improved ROM of  $80^\circ$  in forward flexion. Active external and internal rotation had also improved, thus restoring anatomic conditions.

This study confirms that the bigger the initial rotator cuff lesion is, the greater the percentage of development of glenoiditis and glenoid osteoarthritis, and the medialization of the centre of rotation will be and lower the Constant Score at follow-up. Good mid-term results correlate with the integrity of the rotator cuff. Glenoid replacement combined with resurfacing arthroplasty should be recommended in cases of preoperative glenoid erosion with good cuff conditions. Additional, long-term studies are needed to evaluate the survivorship of these implants. ✕



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## References

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2. Levy O, Funk L, Storza G, Copeland SA. Cementless surface replacement arthroplasty (Copeland CSRA) for osteoarthritis of the shoulder. *J Shoulder Elbow Surg.* 2004 May-Jun;13(3):266-71.
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