

## American Academy of Orthopaedic Surgeons Annual Meeting

# Revision of reverse shoulder arthroplasty requires careful planning to avoid re-revision

March 4, 2016

ORLANDO, Fla. — Glenoid-related problems and infections occurred in 32% and 22%, respectively, of 139 revision surgeries performed following reverse total shoulder arthroplasty in 1,438 patients, according to findings presented at the American Academy of Orthopaedic Surgeons Annual Meeting.

Investigators from Germany and Australia studied the outcomes of 83 women and 56 men who underwent primary reverse shoulder arthroplasty (RSA) between 2008 and 2014.

“Complication in RSA leads to a significantly reduced outcome, but it is still acceptable if the prosthesis is retained. Removal of the implant after a time of instability, infection and loosening leaves the patient over time with poor results.” **Michael J. Koch, MD**, of Munich, who presented the results, said.

Ninety of the index procedures were performed at Koch’s institution, and 49 patients were referred.

“Almost one-third of our patients needed more than one intervention,” he said.

Koch and colleagues retrospectively evaluated why the revisions were needed, as well as outcomes through 2 years and any associated complications.

“In our data, glenoid-associated complication was the number one reason with 32%,” he said.

Among the other reasons revision procedures were needed included instability (25 patients), scapular spine fractures (17 patients) and periprosthetic humeral fractures (11 patients). Humeral fractures were treated with either open reduction and internal fixation or prosthesis exchange.

“Time from reverse to revision was 28 months, average,” Koch said.



**Michael J.  
Koch**

For the infection cases, the standard procedure surgeons used was a two-stage exchange, he noted. Instability was highly correlated with proximal bone loss, and investigators used 3-D CT to assess the bone quality in those cases, according to Koch.

Even in the face of a high complication rate, investigators noted the subjective shoulder value and Constant scores used to evaluate patients' outcomes improved in all the patients at a mean follow-up of 3.2 years. – *by Susan M. Rapp*

## Reference:

Koch MJ, et al. Paper #299. Presented at: American Academy of Orthopaedic Surgeons Annual Meeting; March 1-5, 2016; Orlando, Fla.

**Disclosure:** Koch reports no relevant financial disclosures.

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## PERSPECTIVE



**John G.  
Costouros**

The shoulder arthroplasty market continues to be the fastest growing segment of the arthroplasty market worldwide. The percentage of reverse shoulder arthroplasties (RSAs) performed has recently surpassed conventional total shoulder arthroplasty and continues to grow given a much broader surgical indications profile. With this will come a growing revision burden and greater technical challenges for orthopedic surgeons who face these challenging cases, especially in the context of limited glenoid bone stock. The recent study by Koch reported on 139 revisions following RSA that occurred on average 28 months following the index procedure. Unsurprisingly, glenoid-related problems were the primary cause of failure in one-third of revision cases followed by infection. The choice of reconstructive options in the setting of glenoid bone loss following failed RSA continues to evolve. Type of bone graft, methods of fixation, constantly improving implant and baseplate designs that facilitate initial stability, incorporation of bone grafts and ultimate healing and durability will improve our ability to treat these complex cases.

**John G. Costouros, MD, FACS**

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**Disclosures:** Costouros reports he receives royalties from Arthrex.

## PERSPECTIVE

This is one of the largest studies on causes and outcomes for revision of reverse shoulder arthroplasty (RSA). While the weakness of the study is its retrospective nature, the strength comes from the large number of patients included. There are many take-home messages to be aware of, but I would like to emphasize the importance of glenoid baseplate positioning, as it can be the major source of complications. By properly positioning the glenoid baseplate, you can prevent scapular notching and other glenoid complications. To do that, you have to obtain good exposure of the glenoid before implanting the baseplate. In this way, shoulder surgery once again becomes a soft tissue surgery procedure. I congratulate the authors for such a huge study that sheds more light on RSA revision surgery.

**Carlos Torrens, MD**

*Head of Shoulder Unit  
Hospital del Mar de Barcelona  
Barcelona*



**Carlos Torrens**

**Disclosures:** Disclosure: Torrens reports he is a consultant to DePuy Synthes.

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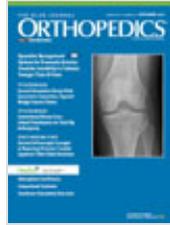
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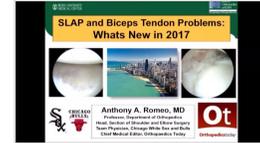
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