



Title

**RADIOLOGICAL EVALUATION OF THE METAL-BONE INTERFACE OF
A POROUS TANTALUM MONOBLOCK ACETABULAR COMPONENT**

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Purpose/Premise

A radiological evaluation with a mean follow-up of 7.3 years was conducted to examine the metal/bone interface and determine the outcomes of THA patients implanted with a *Trabecular Metal*™ Monoblock Acetabular Component.

Material and Methods

Trabecular Metal Material monoblock acetabular components were implanted in 82 consecutive THA patients (86 hips) between January and December, 1998. Clinical and radiological follow-up evaluations were conducted at 12 weeks, 24 weeks, 12 months, and then annually for a mean of 7.3 years. Patients with gaps on the initial postoperative radiograph were evaluated for component migration at two years, using Einzel-Bild-Roentgen-Analyse (EBRA) digital measurement.

Outcomes

On the initial post-operative radiograph, 25 hips had a gap between the outer surface of the component and the acetabular host bed that ranged from 1mm to 5mm. At 24 weeks, all gaps had disappeared, either due to bone ingrowth or due to the loss of the denser line in the unloaded void behind the component, and there were no acetabular component migrations. No radiolucent lines, evidence of lysis, dislocations, or other complications were found for any of the 86 components, and no revisions were performed.

Conclusion/Recommendation

The porous tantalum material appears to successfully address the problems of primary acetabular fixation, premature migration, and osteolysis caused by backside polyethylene wear. Because the components bridged the interface gaps, it was concluded that the porous tantalum material has strong osteoconductive, and possibly osteoinductive, properties.

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