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## **Ceramic-Ceramic Versus Contralateral Ceramic-Polyethylene In Patients Younger Than Thirty: A 30-Year Follow-Up**

Orthopaedics / Pelvis, Hip & Femur / Joint Replacement - Primary

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### **Introduction**

We reviewed at 30 years follow-up 60 patients who had bilateral THA (one ceramic-ceramic and the contralateral ceramic-polyethylene) when they were younger than 30 years.

### **Objectives**

We evaluated the long-term rates of revision, re-revision, reason of revision, and survival of the THA on each bearing surface..

### **Methods**

The diagnosis was osteonecrosis. Surgery was performed from 1978 to 1985 in both sides within a three years delay with a posterolateral approach under general anesthesia. All patients received the same implants except for the cup (one ceramic-ceramic, AL/AL and the contralateral ceramic-polyethylene, AL/PE). The stem was made of anodized titanium alloy (TiAl6V4) and was smooth and always cemented. All the femoral heads (alumina 32 mm), all the cups (alumina-AL or polyethylene-PE) and femoral implants were made by the same manufacturer.

### **Results**

At 30 years followup, 15 among 60 hips (25%) had one revision and three had re-revision in the AL/AL group. Three allografts were used for revision or re-revision in AL/AL group. In the PE group, 25 among 60 hips (42%) had one revision (21 cup loosening due to osteolysis; 4 cup revisions for late recurrent dislocation), and among the 25 revisions, 18 hips had re-revisions, and 4 hips subsequent re-re-revision. Re-revisions and re-re-revisions were performed for aseptic loosening of the cup and recurrent dislocation). 35 allografts were necessary in the 47 revisions, re-revisions, and re-re-revisions in the PE group. Considering end point at 30 years the survival of AL/AL hips was 75% without revision and 95% without two revisions; the survival with PE cups was 58% without revision and 70% without two revisions. Hips with AL/PE bearing surfaces were approximately 6 times more likely to undergo two subsequent revisions before 30 years followup as compared with AL/AL hips.

### **Conclusions**

with the first generation of alumina, better survivorship with less revisions was the advantage of AL/AL bearing surfaces at 30 years follow-up in patients younger than thirty at the time of surgery.