



Title

REDUCED WEAR WITH OXIDIZED ZIRCONIUM FEMORAL HEADS

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Purpose/Premise

This paper reports on a study comparing femoral heads made of oxidized zirconium with heads made of Co-Cr.

Material and Methods

Heads made of each material were articulated with nonirradiated and irradiated UHMWPE in a hip simulator. Some of the heads were tumbled in an abrasive medium before testing. Polyethylene wear was measured gravimetrically.

Outcomes

In the abrasive test, the zirconium heads showed 63% less wear with the nonirradiated polyethylene, and 95% less with the irradiated polyethylene. In clean conditions, the zirconium heads showed 32% less wear with the nonirradiated polyethylene. No detectable wear was found with either metal when articulated with irradiated polyethylene in clean conditions.

Conclusion/Recommendation

The authors concluded that the use of oxidized zirconium femoral heads should reduce wear in THA in the presence of third body abrasives.

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