

Three-Year Prospective Clinical and Radiological Results of a New Flexible Horseshoe Acetabular Cup

Field, et al, Hip International: The Journal of Clinical and Experimental Research on Hip Pathology and Therapy, 2012, 598-606. doi: 10.5301

THIS PAPER reports the three-year follow up of a clinical trial of a MOTIS[®] acetabular cup. 25 patients were split into two separate groups and were implanted with the product (though two different stem designs were used across the groups.)

Overall, all 25 acetabular cups exhibited excellent fixation at up to 3 years and 19 patients have shown positive results at this stage with only 1 patient requiring a revision at 21 months due to a squeak and a further 3 patients requiring a revision due to calcar resorption. This squeak issue has since been established experimentally and resolved as a design issue, while investigations into the calcar resorption are still underway. However there was no correlation between identified problems across both groups.

In summary, the use of MOTIS in this application enables a unique implant design of a polymeric monobloc bearing component with a large bearing diameter and minimal thickness, which enables less bone removal during implantation. This study has also demonstrated the potential for positive fixation of cementless devices, possibly due to improved load transfer provided by a more flexible material.

Interest in the use of PEEK-OPTIMA[®] biomaterials in total joint arthroplasty continues to grow due to the improved performance properties offered. This study from Field, in particular, demonstrates that MOTIS may be a viable alternative to incumbents as well as offering design flexibility due to its unique properties.

Invibio continues to invest in new product development projects, as most recently demonstrated by the EnDuRE (Enhanced Durability Resurfacing Endoprosthesis) project which saw the development of a new kind of hip implant at the Fraunhofer Institute for Manufacturing Engineering and Automation IPA. MOTIS was selected as the material of choice for the hip socket due to its high wear resistance, strength and biocompatible properties. Project partnerships such as this indicate that we can offer expert assistance for similar programs which can broaden your product portfolio.



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