Reviewer's report

Title: Maintenance of bone mineral density after implantation of a femoral neck hip prosthesis

Version: 1 Date: 16 May 2007

Reviewer: Jean-Claude Theis

Reviewer's report:

General
The authors report bone mineral density changes in a series of 20 patients treated with a new uncemented femoral neck prosthesis using DEXA up to 12 months post surgery. Conventional stemmed femoral implants have been shown to result in proximal femoral bone loss as a result of stress shielding. More proximal load transmission obtained following femoral head resurfacing or short femoral neck implants has been demonstrated in vitro but very little clinical data is available in relation to bone mineral density changes following implantation of these new designs.

The implant used in this study is an uncemented neck prosthesis with a CoCrMo macroporous surface texture with an extension sitting against the lateral cortex just below the greater trochanter to counter the varus forces applied to the implant during weightbearing.

The methodology used in the paper is scientifically sound and the data analysis appropriate. The results show that this type of short femoral neck prosthesis preserves bone mineral density of the proximal femur as compared to conventional stems and confirms the in vitro biomechanical studies.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The authors need to indicate and prove that this study has gone through an Ethics Committee Review process.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

None

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Discretionary Revisions (which the author can choose to ignore)

None

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests