Reviewer’s report

Title: Evaluation of Zonal Diversity of Cartilage Degeneration and Necessity of Pre-contrast Measurements Using Radial dGEMRIC in Adults with Acetabular Dysplasia

Version: 1 Date: 18 August 2012

Reviewer: Christoph Zilkens

Reviewer’s report:

This is a well written and interesting article investigating different regions of hip joint cartilage in dysplastic hips with dGEMRIC from radial sequences.

The article is well suited for publication. However, several points have to be addressed:

- 35 hips in 21 patients: this is very tough if you want to perform statistics. Please consult a statistician or use one hip per patient if you want to stay out of trouble.
- the study cohort is very inhomogenous and 14 - 54 years is a wide range. We do not know about dGEMRIC values in different age groups with morphologically healthy cartilage.
- Tönnis grade 2 to 3 is severe OA. If you try to position your region of interest you might measure contrast agent or effusion instead of cartilage, especially if you cannot distinguish acetabular from femoral cartilage.
- did you use morphological MRI to verify the position of your regions of interest?
- did you have to exclude ROIs due to artifacts?

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests