Reviewer's report

Title: Meat consumption and risk of primary hip and knee joint replacement due to osteoarthritis: a prospective cohort study

Version: 1 Date: 27 July 2010

Reviewer: Donna Thorpe

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Minor Essential Revisions
1. There is no rationale given for the construct of the variable ‘Ratio of red meat consumption to chicken/fish consumption’, which strangely excludes processed meat consumption. A biologically meaningful rationale would give more confidence that the finding has meaning.

Discretionary Revision
2. The observation in a previous study by the authors, that the rate of total joint replacement in the immigrant group in the MCCS was substantially less than in the Australian/UK group (not totally explained by education), despite similar prevalence of OA, would be of interest to the reader. [Wang Y, et al. Reduced rates of primary joint replacement for osteoarthritis in Italian and Greek migrants to Australia: the Melbourne Collaborative Cohort Study. Arthritis Research & Therapy 2009:]. Might this differential rate of total joint replacement not suggest possible genetic influence on progression to endstage osteoarthritis?

3. Was there a sensitivity analysis of effects of meat intake (at least for red meat) by the two groups? This would be helpful to the reader (given the actual differences in meat consumption patterns, difference in the size of these two groups, potential genetic differences—perhaps in hip structure?) even if the results of analyses do not differ substantially between groups. However, at the very least, a comment on lack of differences in results from such analyses between the two groups would be helpful to the reader in interpreting the results.

4. In Table 3, the distributions for the categorical row variables (%women, ‘country of birth’, and ‘education’) by level of red meat consumption (using row percentages) would be more visually illuminating than displaying how a particular level of red meat consumption differs by each of the categorical variables (column percentages).

5. The lack of information on the effect of total meat consumption on risk of total
joint replacement seems conspicuous in its absent.

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

**Quality of written English:** Acceptable

**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.