Reviewer’s report

Title: Fracture prevention with calcium and vitamin D supplementation: is there publication bias?

Version: 1 Date: 16 November 2006

Reviewer: Graeme Jones

Reviewer’s report:

This is an interesting hypothesis that is backed by reasonable evidence for nonvertebral but not hip fractures. There are a number of revisions that appear essential

1. The manuscript is too long currently given the subject matter. Much of the introduction and discussion are redundant. Both could be shortened by about half.

2. There are other reasons why the vitamin D studies may differ. The most important is that of vitamin D status. It seems obvious that supplementing vitamin D will only work in those who are deficient. There is considerable debate about the actual cutoff currently but most authors would support a level around 50nmol/l. Unfortunately, most of more recent papers have inadequate assessment of vitamin D stores which makes interpretation difficult. The second is regarding the dose used. While discussed, this requires more emphasis. eg 400 IU is clearly not enough to prevent deficiency based on the Lips trial.

3. The conclusion that vitamin D and calcium play little role in age related bone loss is too strong. This should be diluted. The strongest study in terms of design is the Chapuy study and this showed a clear protective effect so a conclusion such as calcium and vitamin D supplementation prevents fracture in those who are deficient, have good compliance and are at highest risk would appear more appropriate. The actual calcium intake that is necessary is uncertain but may be much less than current RDIs while more work is needed in subjects who are vitamin D insufficient.

4. Lastly, it should be acknowledged that the lack of publication bias for hip fracture may actually be real not just due to missing data.

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

'I declare that I have no competing interests'