Reviewer's report

Title: Chronic low back pain is associated with reduced vertebral bone mineral measures in community-dwelling adults.

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Reviewer: Jun Iwamoto

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Brigg et al. analyzed a community-based cohort of healthy, middle-aged adults to determine whether the association between CLBP and vertebral bone mineral measures would be greater for those derived from lateral-projection methods compared to PA-projection measures. They showed that CLBP in males was associated with reduced vertebral bone mineral measures acquired through lateral-projection DXA, independent of age, height and mass. The examination is well done and the paper is well written.

Comments
1. What is the mechanism for the occurrence of CLBP related to lower BMD? Did CLBP reduce BMD or did lower BMD cause CLBP? How come lower BMD was associated with CLBP?
2. Did the subjects with CLBP have some clinical risk factors for lower BMD?
3. BMD and BMC are key data in this study so that information about the reproducibility of DXA measurements needs to be given somewhere.
4. T or Z scores of bone mineral measures must be discussed. Did some of the study subjects with CLBP have low BMD corresponding to osteoporosis or osteopenia?
5. Although physical activity was evaluated, occupation may also be important because it could influence the occurrence of LBP. Posture in terms of alignment of the spine (scoliosis, lordosis, and kyphosis) is also an important factor. Discuss these issues.
6. Strength and limitation need to be discussed.

Level of interest: An article of importance in its field

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'