Reviewer's report

**Title:** Magnesium Deficiency: Effect on Bone Mineral Density in the Mouse Appendicular Skeleton

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**Reviewer:** Guy A. Howard

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

**Advice on publication:** Other (see below)

Compulsory revisions:
1. Page 4, para 1, last line: need to clarify the units cited as "mg/Mg/dl" (something is amiss)
2. Page 6, para 2, 1st sentence: Add specific site measured to be consistent with the wording "In contrast..." which starts this sentence.
3. Page 7, para 3, line 3: State the skeletal site at which the BMD was measured.
4. Page 8, line 2: "...has been previously been noted..." (Needs re-wording)
5. Page 8, line 3: "...greater surfaces areas and turnover..." (Needs re-wording)
6. Page 8, line 5: "It is of (?) interest to note..." (or It is interesting to note)
7. Page 12, reference #10: year should be after the journal title
9. Legends for Fig. 1 and Fig. 2: Need to indicate here (or somewhere in the manuscript the number of animals used (n=?)
10. Include data in a table or a statement in the text as to the body weight of the animals at the start and at the termination of the experiment to indicate how successful pair-feeding was.

Discretionary revisions:
1. Page 10, legend to Fig. 1: Need to consider re-wording:
   Line 3: "BMC in controls increased significantly over time (with all change from baseline to week 2." This would be better stated as "BMC increased over the 1st 2 weeks, with no change thereafter through 6 weeks."
   Line 4: Consider restating as "Although there was no change in BMC of femurs from Mg-deficient mice during the first 2 weeks of treatment, BMC decreased significantly by weeks 4 and 6."

**Competing interests:**
None declared.