Reviewer's report

**Title:** Changes in bone marrow lesions in response to weight loss in obese knee osteoarthritis patients: A prospective cohort study

**Version:** 2  **Date:** 12 January 2013

**Reviewer:** Jeffrey Driban

**Reviewer's report:**

**Major Compulsory Revisions**

1. Results (line 245): The authors reported that 1 in 6 participants had no baseline BMLs (line 236). This sample, regardless of weight loss, could not be classified as a responder and therefore automatically were identified as a nonresponder. This could cause the null findings reported in this manuscript. An argument could be made that if this sample continued to have no BMLs that would a good outcome for this sample. The authors may wish to explore (and report) one or two sensitivity analyses: 1) analyze only those with BMLs at baseline, 2) classify a participant with no BML at baseline as a responder if they did not develop a BML. Null findings on these analyses would further support the authors' conclusions and be very informative for future research.

**Minor Essential Revisions**

2. Background: It may be helpful in the background section to offer information about why the authors hypothesized that weight-loss would be associated with decreasing BML size (e.g., BMLs are associated with factors that influence loading on the joint).

3. Conclusions: It may be helpful to clarify that short-term or rapid BML change was not associated with rapidly decreased body weight. It remains unclear if the rapid weight-loss would lead to BML changes after 6 to 12 months of weight-loss (e.g., reduced loading over an extended period of time may still be associated with BML change since this was not assessed).

**Discretionary Revisions**

4. Discussion: Based on the short follow-up time it might be advantageous to discuss the changes in BMLs that the authors observed relative to Felson et al (Osteoarthritis Cartilage. 2012 Dec;20(12):1514-8. Bone marrow lesions in knee osteoarthritis change in 6-12 weeks.).

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

**Quality of written English:** Needs some language corrections before being published
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.