Reviewer's report

Title: Lifestyle and metabolic factors in relation to shoulder pain and rotator cuff tendinitis: A population-based study

Version: 3 Date: 14 June 2010

Reviewer: Kurt T Hegmann

Reviewer's report:

The authors have been highly responsive to the reviewers. This is an interesting study.

Major compulsory revisions: none
Minor essential revisions: none

1. The case definition is still somewhat unclear. Was there a body diagram used, or was it merely a subjective interpretation of the region of the body? Also, this revision now uses terms of "shoulder joint pain" and "rotator cuff region", which makes this somewhat unclear (is there a difference? if not suggest one term)

2. The standardized protocol helped significantly in understanding the research for defining health outcomes. However, after having a standardized examination, the person is classified apparently by the physician (and not standardized case definitions?) into "possible or definite" (please see prior critique). The researchers do not state how that is done. Is this a gestalt step, or was there a protocol to take a certain combination of exam findings to reach those thresholds? If it was standarized, it should be spelled out. If it was not standardized, that weakness should be noted both in the methods and limitations para.

3. Other weaknesses that should be added to the limitations paragraph in the discussion section include: 1) underpowered for some exposures (seems likely looking at some of the data that trend although probably not major impacts; please also see prior critique), 2) not all CV risks were positive and this is not well explained (please also see prior critique), and 3) the authors do not have data to calculate pack-years for all subjects, rather only limited to those who are current smokers, thus this limits some of the strength of the conclusions on risk from tobacco and should be noted.

4. Abstract. There is not uniform support for the atherosclerotic theory in this study’s data. Suggest some cautionary language, e.g., conclusions section could be reworded to: "Disturbed glucose metabolism and atherosclerosis may be partial underlying mechanisms, although this study did not find all atherosclerotically-linked factors are apparent risks." (or similar)

Discretionary revisions:
1. The prevalence of chronic RC tendinosis is still low as previously noted, but the authors are correct that many publications have similarly low prevalence estimates (thus above re. case definition is somewhat important).

2. The other underlying mechanism for obesity may simply be weight of the arm lifted. The reason obesity may be prominent in this study could be the combination of systemic and biomechanical factors. The authors may wish to include this information (please see prior critique).

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 have no competing interests