Reviewer's report

Title: Physical activity is associated with a low prevalence of musculoskeletal disorders in the Royal Norwegian Navy: a cross sectional study

Version: 1 Date: 15 November 2006

Reviewer: Jan Hartvigsen

Reviewer's report:

General
This is a cross-sectional study dealing with two research questions namely the prevalence of musculoskeletal disorders (MSD) in the Norwegian Navy and associations between these and levels of physical activity at work and at leisure time. These questions are good and legitimate but I believe that the design of this study is fundamentally unsound and that the results and conclusions reported cannot be accepted face value, in fact they can be predicted even without a study.

The fact that employees in the navy have a high prevalence of MSD and that these are inversely proportionate to the level of physical activity is likely a result of the health worker effect - an inherent problem in cc studies. Probably persons whose muskuluskeletal system cannot tolerate high levels of physical activity are not fit for military work and therefore do not stay long in these occupations whereas persons whose muskuluskeletal system is able to tolerate physical activity or maybe even benefits from it tend to stay in the navy. Consequently in a cc study we find associations between the two due to this natural selection. This may also explain why the civilians have more MSD since civilian jobs are probably less strenuous so these people tend to stay in the job in spite of MSD - simply because they can tolerate the workload in spite of MSD.

I consider the measures of MSD, of physical activity, and of potential confounders to be adequate. I recomend that the authors save these results as a baseline and do a follow-up once a year for the next five years in order to assess trends over time in this population. Then they may be able to contribute with important and much needed answers about the relationship between physical activity and MSD and at the same time avoid obvious pitfalls.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because scientifically unsound

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests