Reviewer's report

Title: Effectiveness of accelerated perioperative care and rehabilitation intervention compared to current intervention after hip and knee arthroplasty A before-after trial of 258 patients with a 3-month follow-up

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Reviewer: david C markel

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The prospective study presented in this manuscript is both worthwhile and thoughtfully designed. Although the follow-up period is brief, the authors' findings concur with a growing body of literature demonstrating that accelerated postoperative pathways can dramatically reduce length of stay without compromising patient safety. Research in the United States has demonstrated that these interventions can decrease length of stay even beyond the magnitude observed in this study.

Minor Essential Revisions:

1. The authors have performed multivariate linear regression analysis to adjust for potential covariates, such as the preponderance of uncemented arthroplasty procedures among the accelerated intervention cohort. The authors' own data demonstrate that unicompartmental knee arthroplasty (UKA) is intrinsically characterized by a shorter postoperative length of stay than total knee arthroplasty. Given the potential confounding effect of including 11 UKA patients in the accelerated group and none in the standard group, I would propose excluding patients who underwent UKA from this analysis entirely. The initial power analysis (page 6, second paragraph) revealed that a minimum of 104 patients were required for each group; hence, excluding 11 of the 153 patients in the accelerated intervention cohort will not jeopardize the study's power in any way, while eliminating one of the confounding factors.

2. The validity of this study's results with regard to adverse outcomes hinges on whether all hospital readmissions and mortality data were captured for these two cohorts from the Danish registries. The authors do mention that the databases utilized had been through some form of validation (page 12, first sentence of last paragraph). Further details would be helpful on the measures taken to ensure that all readmission events were indeed captured, even if a patient presented to a different hospital or to a different region altogether.

3. Achieving at least 90° of knee flexion was only used as a discharge criterion for the pre-implementation cohort. Please elaborate on the probable contribution of discarding this criterion for the post-implementation group in reducing the length of stay among those patients.
4. Under the "Adverse Effects" heading on page 12, please elaborate on the specific cause of short-term mortality for each of the two patients participating in this study.

The remaining corrections pertain only to Spelling and Syntax.

5. The word choice is misspelled on page 3, in the first sentence of the third complete paragraph.

6. The word project is misspelled on page 8, in the first sentence of the last paragraph.

7. The word arthroplasties is misspelled on page 14, in the seventh sentence of the first complete paragraph.

8. The word efficiency is misspelled on page 15, in the first sentence of the first complete paragraph.

9. Please change the word stride to the word strive on page 15, in the second sentence of the second complete paragraph.

10. Please correct the misspelled word arthrosis on the third line of Table 1 in the supplement.

**What next?:** Accept after minor essential revisions

**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.