Reviewer's report

Title: Analysis of knee flexion characteristics and how they alter with the onset of knee osteoarthritis: A case control study

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Reviewer: Koichi Shinkoda

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-Title: Analysis of knee flexion characteristics and how they alter with the onset of knee osteoarthritis: A case control study

The authors evaluated the gait profile and motion characteristics of 23 patients with knee osteoarthritis (knee OA patients) compared to 21 healthy persons (controls) using a sensor system (gaitWALK). They discovered that patients with knee OA had a significantly lower knee flexion range of motion (ROM) during stance and swing phases of gait compared to healthy controls. Analysis of the data suggests that knee flexion ROM can be a discriminant factor between knee OA patients and controls. The paper could be particularly useful to clinicians without easy access to a gait laboratory who are involved in rehabilitation of patients with knee OA, but there are some significant points to be clarified.

-Major Compulsory Revisions
1. First paragraph in the Methods section

The characteristics of the knee OA patients selected for the study should be clarified, especially the stage of knee osteoarthritis in their group, if the authors want to show the alteration of the knee flexion during gait with "onset of knee osteoarthritis" as referred in the title.

- Minor Essential Revisions
1. First paragraph in the Methods section and fifth paragraph in the Discussion section

It is preferable to explain what abbreviation “the ACR” means.

2. First paragraph in the Protocol section

Please explain the specific sites on which sensors were attached.

3. In the Data analysis section, “stride time (sec)” should be rewritten as “stride time (s)” according to the International System of Units.

4. In Figure 4, please write the unit (deg) in y-axis and identify what 1.00 and 2.00 in x-axis mean.
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: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.