**Reviewer's report**

**Title:** The relationship between lower limb muscle volume and body mass in ambulant individuals with bilateral cerebral palsy

**Version:** 0  **Date:** 22 Aug 2017

**Reviewer:** Richard Baker

**Reviewer's report:**

This is a well written paper that reports a solid and important piece of experimental work.

The only detail I think that could be usefully added would be to include BMI in Table 1. If the CP group had a higher BMI then the differences could be attributed to a higher proportion of adipose tissue. Calculating a group BMI from the average height and weight suggests that BMI might be higher in the TD group which I think is useful to know.

I'd encourage the authors to think a little more about the significance of their findings. The study is important in confirming that the children with CP have smaller muscles than their typically developing peers. I've got a feeling that the data is telling us more than this but am not sure what.

It looks to me as if none of the regression lines would fit much less well if forced to go through the origin which would suggest that the mass normalised muscle volume is lower in CP than the TD by a fixed percentage independent of weight/age (different for each muscle though). Given that the introduction places the purpose of this study in terms of known deterioration in gross motor function do the results help us understand this any more? If the mass normalised volume is deficient by a fixed percentage regardless of mass/age then presumably it doesn't.

Were other parameters measured (fibre length, physiological cross section)? It would be a shame to have to wait for another publication if they were particularly given that the data presentation is reasonably straightforward and could easily be extended to different parameters?
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
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