Reviewer's report

Title: Measures and procedures utilized to determine the added value of microprocessor-controlled prosthetic knee joints: a systematic review

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Reviewer: Friedbert Kohler

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Comments on measure and procedures utilised to determine the added value of Microprocessor – Controlled Prosthetic Knee Joints, a Systematic Review.

General comments

The standard terminology of the international classification of functioning, disability and health should be used. This will make it easier for any potential reader of this article. The ICF classification is in two parts. Part one is “functioning and disability” and part 2 is “contextual factors”. Functioning and disability in turn has two components namely “body functions and structures”, and “activities and participation”. The second part consists of two components also, namely “environmental factors” and “personal factors” (which are not currently classified).

The component body functions and structures is divided into body functions and body structures, which have parallel chapters as the first level of the classification. For coding each chapter is further subdivided into the basic elements of the classification termed “categories” which are organised hierarchically at the second, third and fourth level. It is essential that the authors use standard ICF terminology throughout the paper to ensure that potential readers can understand the concepts discussed in the paper. Domains of person functioning as stated in line 5 of the abstract are not part of ICF terminology. Similarly in the results section of the abstract the authors write about ICF function level. This should be correctly identified and body function.

The aim of the study is clearly defined: “to review the outcome measures that have been utilised to assess the effects of microprocessor controlled prosthetic knee joints in comparison with mechanically controlled prosthetic knee joints according to the ICF classification”.

The background information is concise and builds up the argument for the need for this study. On page 4 of 27, two thirds of the way down the page, is a reference to “ICF domains of person functioning”. The meaning of this needs to be defined.

The second point of the aims of this study as outlined on page 5 refers: “to classify and structure the outcome measures identified according to the ICF framework”. The actual process of linking the concepts of outcome measures to
the ICF categories needs to be described and/or referenced. This is also pertinent to the explanation of the classification of outcome measures identified on page 6: “each parameter was given an ICF code”.

Also in the section ‘Classification of Outcome Measures Identified’ the authors make a distinction between person’s actual performance and persons self perceived performance. These are not consistent with the concepts within the ICF which has two parameters of “performance” and “capacity”. Again language consistency with the ICF language would make the article more relevant.

The second part of the paragraph under the heading ‘Classification of Outcome Measures Identified’ requires a presentation of the evidence/justification for specifying the particular purpose of each function, activity, participation or environmental factor according to a so called area of interest.

As the aim of the study is to review the main outcome measures and link them to ICF categories the results of the main outcome measures need not be emphasised and could be left out of table 2. This also applies to the type of the mechanical knee as the purpose of the article is to focus on what is being measured rather than what it is being measured on.

On page 10 in the discussion section the authors write: “No trials have studied the effects in the ICF participation domain”. As the ICF is not separated into activity and participation domains or chapters, this statement does not make sense. The discussion section seems otherwise comprehensive.

Recommendations for future research are appropriate.

The conclusion is appropriate if it phrased using standard ICF language.