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Appendix 1

Criterion for Internal Validity

A specific question was formulated to assess each criterion. If the publication included information to affirmatively answer to that question, then that criterion was scored as "met" (and noted with a "●" in Table 3).

IV-1. Comparison or control group used

Were distinct control (or comparison) and intervention groups formed?

Note: This criterion was applied to publications that described an experimental group design (i.e., randomized controlled trial [E_1] or controlled trial [E_2]).

IV-2. Groups formed by random assignment

Were subjects assigned to control (or comparison) and intervention groups by random assignment?

Note: This criterion was applied to publications that described an experimental group design (i.e., randomized controlled trial [E_1] or controlled trial [E_2]).

IV-3. Groups comparable at baseline

Were subjects assigned to the control (or comparison) and intervention groups similar prior to provision of the intervention?

Note: This criterion was applied to publications that described an experimental group design (i.e., randomized controlled trial [E_1] or controlled trial [E_2]).

IV-4. Groups handled in the same way

Were subjects assigned to the control (or comparison) and intervention groups managed similarly throughout the study?

Note: This criterion was applied to publications that described an experimental group design (i.e., randomized controlled trial [E_1] or controlled trial [E_2]).

IV-5. Control group or comparison appropriate

Were the same or similar prosthetic components (e.g., sockets, knees and feet) used across subjects or between testing conditions? For the purposes of this review, prosthetic sockets, knees, and feet were required to be comparable across subjects or testing conditions. Functionally-equivalent components (e.g., same type of foot or duplicate sockets) were deemed to be comparable and acceptable to meet this criterion.

Note: This criterion was applied to publications that described an experimental study design (i.e., randomized controlled trial [E_1], controlled trial [E_2], interrupted time series trial [E_3], single-subject experimental trial [E_4], or controlled before-and-after trial [E_5]).

IV-6. Intervention(s) blinded

Were methods for blinding participants to the interventions under study described?

Note: This criterion was applied to publications that described an experimental study design (i.e., randomized controlled trial [E_1], controlled trial [E_2], interrupted time series trial [E_3], single-subject experimental trial [E_4], or controlled before-and-after trial [E_5]).

IV-7. Inclusion criteria appropriate

Were specific inclusion criteria (that allowed readers to identify the population from which participants were being recruited) described?

Note: This criterion was applied to publications that described participation of more than one subject (i.e., $n > 1$).

IV-8. Exclusion criteria appropriate

Were specific exclusion criteria (that allowed readers to identify the population from which participants were being recruited) described?

Note: This criterion was applied to publications that described participation of more than one subject (i.e., $n > 1$).

IV-9. Protocol addresses fatigue and learning

Were methods to minimize the effects of fatigue or learning described (e.g., was rest provided to study participants between testing conditions)?

Note: This criterion was applied to publications that described consecutive or repeated outcome measurements that may have been susceptible to fatigue or learning.

IV-10. Protocol addresses accommodation and washout

Were participants provided with time to accommodate to unfamiliar interventions or washout the effects of earlier interventions prior to testing (e.g., was time for acclimation to a novel MPK provided prior to testing)?

Note: This criterion was applied to all publications.

IV-11. Attrition explained and less than 20%

Was attrition of study subjects described and, if attrition was greater than 20%, were the potential implications discussed?

Note: This criterion was applied to publications that described study designs that permitted assessment of participants on more than one occasion (i.e., randomized controlled trial [E_1], controlled trial [E_2], interrupted time series trial [E_3], or controlled before-and-after trial [E_5], cohort study [O_1], case-controlled study [O_2], case series [O_5]) and included more than one participant ($n > 1$).

IV-12. Attrition equal between groups

Was attrition similar for the control (or comparison) and intervention group? If attrition differed between groups, were the potential implications discussed?

Note: This criterion was applied to publications that described experimental group design (i.e., randomized controlled trial [E_1] or controlled trial [E_2]).

IV-13. Outcome measures reliable

Was evidence of reliability for the selected outcome measure(s) described or cited?

Note: This criterion was applied to all publications.

IV-14. Statistical analysis appropriate

Were statistical analyses (inferential, descriptive, or otherwise) consistent with the data collected described or cited?

Note: This criterion was applied to all publications.

IV-15. Effect size reported

Were effect sizes estimated and reported?

Note: This criterion was applied to publications that described data that permitted effect size estimation (i.e., mean outcomes for each intervention were available).

IV-16. Statistical significance reported

Were inferential statistical analyses conducted and the results reported?

Note: This criterion was applied to publications that described data that permitted inferential statistical analyses.

IV-17. Statistical power adequate

Was *a priori* justification of a targeted sample size described?

Note: This criterion was applied to publications that described participation of more than one subject (i.e., n > 1). This criterion was deemed to be "not applicable" if the publication described the study as a pilot study or that it was exploratory in nature.

IV-18. Free from conflicts of interest

Were the resources, affiliations, or contributions described in the publication free from potential conflicts of interest to the results of the study? Examples of potential conflicts of interest include funding from the manufacturer of a device, employment of an investigator by a manufacturer, or participation in the study by an investigator.

Note: This criterion was applied to all publications.

Appendix 2
Criterion for External Validity

A specific question was formulated to assess each criterion. If the publication included information to answer to that question, then that criterion was scored as "met" (and noted with a "●" in Table 3).

EV-1. Sample characteristics adequately described

Were specific participant characteristics described in the publication? For the purposes of this review, age and cause of amputation (at a minimum) were required to meet this criterion.

Note: This criterion was applied to all publications.

EV-2. Sample representative of the target population

Was information to assess representativeness of participants to the population of interest described in the publication? For the purposes of this review, appropriate inclusion criteria (IV- 7), appropriate exclusion criteria (IV-8), and an adequate description of the participants (EV-1) were required to meet this criterion.

Note: This criterion was applied to all publications.

EV-3. Outcome measures adequately described

Were the outcome measure(s) used in the study described in the publication with sufficient detail to allow for replication of the study procedures?

Note: This criterion was applied to all publications.

EV-4. Outcome measures valid for this study

Was evidence of validity for the selected outcome measure(s) described or cited in the publication? For the purposes of this review, details (e.g., manufacturer and model) provided for instruments or equipment that are typically considered to be a "gold standard" outcome measure (e.g., motion analysis or metabolic energy equipment) were deemed adequate to meet this criterion.

Note: This criterion was applied to all publications.

EV-5. Intervention adequately described

Were the interventions under study and the differences between or among them described in the publication? For the purposes of this review, details regarding functional differences between the interventions were required to meet this criterion.

Note: This criterion was applied to all publications.

EV-6. Findings clinically significant/relevant

Were the results of the study described in the publication placed in context of one or more clinically relevant outcomes?

Note: This criterion was applied to all publications.

EV-7. Conclusions placed in the context of existing literature

Were the results of the study described in the publication discussed with respect to similar studies that included the target population or other populations of interest?

Note: This criterion was applied to all publications.

EV-8. Conclusions supported by findings

Were the conclusions described in the publication supported by the results of the study?

Note: This criterion was applied to all publications.