

Author

Sexton, Sandra (Wishaw UK)

International Confederation of Amputee Associations - IC2A Secretariat

Title

Development of the Global Prosthetic Socket Survey (leg)

Coauthors

Sexton S, Tønnevoll NO

Summary

The Global Prosthetic Socket Survey (leg) is a patient reported outcome measure designed to understand the opinions of amputees about their prosthetic socket fit. The International Confederation of Amputees is using the results of the survey to advocate for best quality of prosthetic socket fit.

Introduction

Prosthetic socket fit and comfort are priorities for amputees. The goal of socket fit is to have a socket so comfortable that the user does not need to consciously think about it. It should so fit well and intimately that body movements are efficiently transferred without skin problems. In this way the amputee can move with confidence.

The member organisations of the International Confederation of Amputee Associations (IC2A) identified prosthetic socket fit as a priority for their amputees to achieve optimal functioning. In response to this, the IC2A Board agreed their strategic objective to “advocate for best quality of prosthetic socket fit”.

A first step towards for advocacy is to understand amputee opinions about their prosthetic sockets. The Global Prosthetic Socket Survey (leg) was developed with prosthetic socket users for users. The project working group included representatives from IC2A, Proffit and Metropolia University of Applied Sciences.

Methods

In a scoping review of the literature we did not find a survey that would adequately address the project aim regarding amputee opinions about their prosthetic socket. It was agreed to develop a new survey.

A zero draft of the survey was made by Profit using their experience of user feedback. This was developed by the working group. A first draft and then a second were face validity tested online (using SurveyMonkey®) by amputees from IC2A. A final draft was created based on feedback and the question set refined. During development of the Global Prosthetic Socket Survey (leg) some relevant question sets found in the published literature were incorporated. Following external review by an expert in research ethics, the survey was finalised, ensuring anonymity of responses to facilitate international roll-out. It was made available online for a 6 month period by the IC2A Secretariat for market research purpose. Study recruitment was through IC2A via key contact emails and social media.

Results

The development of the Global Prosthetic Socket Survey (leg) survey resulted in a new 38 item questionnaire that It has four domains: about you; about your stump; about your prosthetic socket; and prosthetic fitting services.

Although study recruitment is until March 2018, at the time of this abstract, early results indicate that most respondents were trans-tibial amputees over 50 year old who were able to walk in the community limited distances (one block or equivalent) (Norvell et al, 2016). Most respondents used no mobility aid when wearing their prosthetic leg (rated using the Washington Group (2011) list of mobility aids). For those respondents that report pain, phantom pain appeared to limit their activities more than stump pain. Comfort and durability were rated most important factors when considering satisfaction. Comfort was rated on the prosthetic socket fit comfort score developed by Hanspal et al (2003).

Conclusion

The development of the Global Prosthetic Socket Survey (leg) is one of the few patient reported outcome measures that was designed with amputees in the project working group. This supports the philosophy of “nothing about us without us”. The results of the survey will help IC2A and the global community to better understand amputee opinions about their prosthetic socket. This, in turn will inform IC2A policy and forward strategic planning, particularly around advocacy for best quality of prosthetic socket fit.

Stump wellbeing is an important determinant of prosthetic limb satisfaction and mobility.

Amputees with stumps that are conical in shape with no stump pain or phantom pain led to greater degrees of satisfaction and higher mobility scores.

Achieving optimal prosthetic socket comfort was found to be of greatest significance to enable functioning. Early indications are that comfortable prosthetic fit is associated with improved mobility scores. IC2A advocates that comfort is monitored at each prosthetic user assessment using the prosthetic socket fit comfort score (Hanspal et al, 2003) asking the question “On a 0 – 10 scale, if 0 represents the most uncomfortable socket fit you can imagine, and 10 represents the most comfortable socket fit, how would you score the comfort of the socket fit of your artificial limb at the moment?”.

The prosthetic limb wearer values informed decision making when choosing their prosthetic service and/or treatment.

References

1. Hanspal RS, Fisher K, Nieveen R. Prosthetic socket fit comfort score. *Disabil Rehabil.* 2003;25(22):1278-80.
2. Norvell DC, Williams RM, Turner AP, Czerniecki JM. The development and validation of a novel outcome measure to quantify mobility in the dysvascular lower extremity amputee: the amputee single item mobility measure. *Clin Rehabil.* 2016;30(9):878-89.
3. Washington Group on Disability Statistics. Washington Group - Extended Question Set on Functioning (WG ES -F). 2011.