Date / Time: **Thursday, Feb 7 / 14:30 - 15:45**
Session Name and Room: **Prosthetics : Lower Limb - 15** **Room 1.03**
Abstract Title: **The Development Of The Plus-M, A New Measure Of Mobility For Prosthetic Limb Users**
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Introduction
Standardized outcome measures can be used to document clients' health outcomes and facilitate treatment of those requiring prosthetic and orthotic services. The Prosthetic Limb Users Survey-Mobility (PLUS-M) was developed using modern psychometric Methods to be a brief, precise and flexible measure of mobility for persons with lower limb amputation.

Methods
A candidate item bank was developed from existing instruments, input from clinical and scientific experts, and feedback from prosthetic limb users. Items were administered to a large sample of unilateral amputees. Data were used to develop scoring using Item Response Theory (IRT). Five-level response options range from "with no difficulty" to "cannot do." Unidimensionality was assessed by confirmatory factor analysis (CFA). Item fit to IRT was assessed using standard statistical criteria.

Results
105 candidate items were administered to over 1000 prosthetic limb users with traumatic or dysvacular amputation etiologies. CFA Results supported unidimensionality. Items were calibrated using a two-parameter graded-response IRT model. Items with poor discrimination and those with less than optimal fit were dropped from the bank. The item and test characteristic curves documented that the PLUS-M score is reliable and precise across different levels of mobility (from low to high mobility). The calibrated item bank can be administered by Computerized Adaptive Testing (CAT). A subset of 8 items was selected for a PLUS-M Short Form to minimize respondent burden. PLUS-M score is a t-score with a mean of 50 and standard deviation of 10.

Discussion
Results support validity and reliability of the PLUS-M. IRT calibration allows for PLUS-M to be administered by paper or by CAT on phones, tablets, or computers.

Conclusion
The PLUS-M is a psychometrically sound, brief, and precise measure of mobility for prosthetic limb users. The full instrument and short form are freely available and ready for use in clinical care and research.