A SURVEY OF PROSTHETIC FOOT
CLINICAL SELECTION CRITERIA
Gerald Stark, MSEM, CPO/L, FAAOP
The Fillauer Companies, Inc., Chattanooga, Tennessee

INTRODUCTION
A previous small sample telephone survey of 19 pre-selected clinicians were interviewed regarding their individual foot selection criteria. Of the over 105 foot designs presently available, prosthetists chose from a surprisingly small number of 4-5 predominant “mainstay” designs. This limited initial survey identified factors affecting foot selection used in the present study. The current survey was developed to utilize common terminology, delineate functional subsets, and determine clinical priorities with mutually exclusive and weighted responses.

METHOD
Apparatus: A ten-question survey was posted with a third-party service for 3 weeks on the OANDP-L List Serv.
Subjects: 130 participants, 31 did not complete the second page and were excluded.
Procedures: Participants answered 10 questions with single, small group rankings, distribution, and weighted ratings.
Data Analysis: Data was collected with distribution for each answer. The weighted responses were collected to produce a weighted Pareto Diagram.

RESULTS
Experience was 80.8% cumulatively indicated they had 5 or more years. The number of feet recommended per week at 53.5% was 0-2 feet per week. Somewhat surprising was the small number of “mainstay” feet. The largest group was 24.2% with 4 different feet. 3-6 constituted 75.7% of the population. When asked about the top 4 clinical selection features that most influence foot selection “Amputation Level” was highest at 3.100, followed by “Evidence Based Quantitative Data” and “Special Features” at 2.87.
The four most important factors for Multi-axis feet favored exterior slopes, grass, pavement, and ground constituted 78.33% of the response counts. Features rated for Dynamic Response feet were “Inversion-Eversion(Split Toe) Forefoot” with 4.27. “Midfoot Rolling Mechanism” at 4. When asked “How long should a Dynamic Response foot last” the largest number was 3 years at 35.4% and 3-5 years included 82.9% of responses. When limited to a 4 of 8 of “Rules of Thumb, respondents chose "Reimbursement level greatly influences component choice” most. When asked to choose 4 statements that correspond to the feet chosen from 8 statements “High Tech Design” was highest at 3.36 second was “Physiologic Motion” with 2.83.

DISCUSSION
This study was skewed to those with more than 20 years of experience. Somewhat surprising is that 17.2% chose between only three types of feet. A number of respondents indicated that “Evidence Based Quantitative Data” influenced their decision, but the survey did not ask what specific data they use or would use. Outdoor terrain appears to be the biggest reason to pursue multiaxis feet while indoor activities are rated lower. Value statements were somewhat limiting in scope and did not solicit or factors offered by the participant. Admittedly this was done to facilitate efficacy of the survey.

CONCLUSION
75% of Prosthetists draw from a fairly exclusive group of only 3-6 foot designs. Prosthetists rate “Evidence Based Data” and the “Special Features” of feet quite highly. Outdoor activities appear to be the main reason prosthetists utilize to multiaxis designs. Dynamic Response feet should incorporate Inversion-Eversion, Rolling Motion, and Integrated shock. Most prosthetists feel feet should last 3-5 years, and look to “High Tech Designs” that provide “Physiologic Motion” that have prior “Past Positive Experiences” when making a foot choice.

REFERENCES
Boone, D., Coleman, K., JPO, 18-1S, 68-79, 2006

American Academy of Orthotists & Prosthetists
38th Academy Annual Meeting and Scientific Symposium
March 21-24, 2012