Title: Real-World Evidence Stemming from Orthotic and Prosthetic Clinical Outcomes.

Presenters:
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Learning Objectives:
Upon completion, participants will be able to describe:
1. Recent evidence related to functional mobility and falls for lower limb prosthesis users,
2. The level of physical function impairment associated with lower limb orthosis users,
3. Advances in current cranial remolding orthosis care, and
4. Differences in upper extremity prosthesis user function.

Why is this session needed-
There is a greater emphasis than ever before on population health management. This is a challenging concept for niche populations such as those requiring orthotic and prosthetic care. A lack of understanding of the associated clinical effectiveness in real-world environments of orthotic and prosthetic rehabilitation and the associated modalities undermine the value of rehabilitation of this population. Subsequently, the ability to provide optimal care for these individuals risks being leveled by policy changes favorable to conditions more prevalent. However, recent efforts to implement common core outcome measures combined with advanced data analytic techniques is affording an investigation into the impact of the different types of care provided to patients that rely our O&P services. The resulting series of publications that have stemmed from this work available to all providers enhances orthotists' and prosthetists' ability to protect and advance the care of their patients. The manuscripts and analyses stemming from the real-world evidence being captured is providing arrows for clinicians to add to their quiver; this session will equip clinicians to use the arrows to their advantage.

Description-
This session will review recent publications examining the clinical benefits as well as the economic impact from orthotic and prosthetic rehabilitation. The benefit of the studies presented includes the large-sample populations, consequently providing real-world information at a population level. Historically, the evolution of orthotic and prosthetic care has had to rely on the anecdotal experiences of a vocal few, or worked to translate small laboratory-based studies into meaningful information for the real-world user. The studies covered in this session will provide new meaning to population health management for the orthosis and prosthesis user and ensure attendees are well-suited to continue to provide best care for their patients.

Presentation Outline-
- Overview and Introductions
- Outcomes advancing Real World Evidence in Orthotic and Upper Extremity Prosthetic Care
- Outcomes advancing Real World Evidence in Lower Extremity Prosthetic Care
- Outcomes differentiating O&P Care with Outcomes Rather than Features
- Discussion and Questions

References (Studies to be referenced in session in addition to new analyses currently ongoing in these areas)-
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3. DiBello SA, Wurdeman SR, Gorniak SL. Orthotic Research Initiative for Outcomes aNalysis (ORION 1): predictors of PROMIS PF for stroke survivors seeking orthotic intervention. Disabil Rehabil. 2021; [Epub ahead of print].
4. England DL, Miller TA, Stevens PM, Campbell JH, Wurdeman SR. Assessment of a 9-item PROMIS upper extremity

instrument among individuals with upper limb amputation. Am J Phys Med Rehabil. 2021; 100(2):130-137.

5. Wurdeman SR, Stevens PM, Campbell JH. Mobility Analysis of AmpuTees (MAAT I): Quality of life and satisfaction are strongly related to mobility for patients with a lower limb prosthesis. Prosthet Orthot Int. 2018; 42: 498-503.

6. Wurdeman SR, Stevens PM, Campbell JH. Mobility Analysis of AmpuTees II: comorbidities and mobility in lower limb prosthesis users. Am J Phys Med Rehabil. 2018; 97: 782-8.

7. Wurdeman SR, Stevens PM, Campbell JH. Mobility analysis of amputees (MAAT 3): Matching individuals based on comorbid health reveals improved function for above-knee prosthesis users with microprocessor knee technology. Assist Technol. 2018: 1-7.

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9. Wurdeman SR, Stevens PM, Campbell JH. Mobility analysis of AmpuTees (MAAT 5): Impact of five common prosthetic ankle-foot categories for individuals with diabetic/dysvascular amputation. J Rehabil Assist Technol Eng. 2019; 6: 2055668318820784.

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11. Miller TA, Paul R, Forthofer M, Wurdeman SR. Impact of time to receipt of prosthesis on total healthcare costs 12 months post-amputation. Am J Phys Med Rehabil. 2020; 99(11):1026-1031.

12. Miller TA, Paul R, Forthofer M, Wurdeman SR. IMPACT 2: The role of earlier receipt of a lower limb and emergency department utilization. PM&R. 2021; 13(8):819-826.

13. Anderson CB, Wurdeman SR, Miller MJ, Christiansen CL, Kittelson AJ. Development of a physical mobility prediction model to guide prosthetic rehabilitation. Prosthet Orthot Int. 2021; 45(3):268-275.

14. Campbell JH, Stevens PM, Wurdeman SR. OASIS 1: Retrospective analysis of four different microprocessor knee types. J Rehab Assist Tech Eng. 2020; 5(7):2055668320968476.