



PROSTHETIC FOOT EMULATION CASE STUDY

Leveraging robotics to enable rapid test-driving of prosthetic feet*



Challenges in Prosthetic Care

- Lack of data and processes to enable personalized, evidence-based care and reimbursement decisions for individuals with lower limb amputation
- Quality of care is reliant on clinician skill and experience, and many clinicians are retiring and/or overworked
- Prosthetic foot users walk slower and fall more often than their peers, and some prosthetic feet are even abandoned

Goals for Evidence-Based Care

- Utilize subjective data to precisely optimize patient performance and provider financial outcomes
- Balance costs and benefits of advanced prosthetic foot technologies
- Engage patients actively in prosthetic design and selection process
- Rapidly explore a wide range of prosthetic foot options
- Maintain standardized and equitable care across all patients

The Humotech Solution

Caplex™ is programmed to mimic the mechanics of clinically-available prosthetic feet. While the patient walks, the provider can select different foot options from our software interface. In this way, patients can rapidly test-drive different foot options. Patient-reported measures can be assessed across a wide range of potential solutions. Emulation technology enables trialing to occur much more quickly and economically than if the actual feet themselves were ordered, fit, and tested.

Potential Benefits of Emulation

For patients who may otherwise struggle to access more advanced foot options, emulation can provide the ability to collect experiential data across foot models. Leveraging this data could improve a provider's ability to be fairly reimbursed. Additional benefits could include: improved customer satisfaction, reduced effort in drafting justifications, improved trust with payors, and more .