Hanger Institute Research Shows Adjustable-Volume Prosthetic Sockets Significantly Improve Socket Comfort, Mobility and Quality of Life

Large-scale clinical study demonstrates meaningful improvements in socket comfort, mobility, and daily prosthesis wear times

Austin, TX, July 21, 2026— Today the Hanger Institute for Clinical Research and Education announced the publication of a new study, *Longitudinal improvements in comfort, mobility, and quality of life with adjustable-volume prosthetic sockets*, in the journal *Physical Medicine and Rehabilitation (PM&R).* The results of the study demonstrated that adjustable-volume prosthetic sockets (AVS) are associated with clinically meaningful improvements in socket comfort and overall quality of life for lower-limb prosthetic users.

Led by researchers from the **Hanger Institute for Clinical Research and Education** across multiple U.S. prosthetic clinics, the research analyzed outcomes for more than 400 adults transitioning from fixed-geometry to adjustable-volume sockets between 2023 and 2025. Improvements were observed among users of both above and below knee prostheses and across both short- and longer-term follow-up assessments.

"For decades, prosthesis users have been limited to managing volume changes with added or removed socks because fixed-geometry sockets have limited ability to accommodate daily or long-term residual limb volume fluctuations, often leading to poor socket fit, user discomfort, and in some cases, discontinued prosthesis use," said Hanger's Chief Clinical Officer Shane Wurdeman, PhD, FAAOP(D). "This research provides real-world evidence from a large patient population that adjustable-volume sockets benefit patients across all amputation levels, representing a meaningful clinical advance."

The study revealed significant improvements across all measured outcomes. Socket comfort scores increased from 5.59 to 7.16 on a 10-point scale ($p < .001$), and quality of life, general satisfaction, satisfaction with walking ability, and prosthetic mobility all improved significantly. Notably, improvements in socket comfort were positively correlated with longer daily prosthesis wear times and greater overall satisfaction.

About the Hanger Institute for Clinical Research and Education

The Hanger Institute for Clinical Research and Education is an assembly of experts and resources dedicated to advancing clinical practice and improving patient outcomes through leading-edge research, evidence-based care, and quality education.

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