



5.244 An ENTREQ Meta-Synthesis of Prosthetic Limb Prescription Guidelines and Recommendations

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BACKGROUND

Prosthetists frequently rely on Clinical Practice Guidelines when deciding on the appropriate prosthetic components to optimize outcomes for their patients. However, given the vast array of prosthetic components available, and the even wider array of patient preferences and factors that can also affect prosthetic component selection, gaps in Clinical Practice Guidelines are likely to exist. Furthermore, for some cutting-edge prosthetic developments such as bone-anchored limbs, even general clinical recommendations may be sparse.

AIM

We performed a systematic review of the available literature concerning guidelines and recommendations for upper- and lower-limb prosthetic component prescription, with a particular focus on the role of prosthetists' decision-making in this process.

METHOD

Record identification and review adhered to the Preferred Reporting Items for Systematic reviews and Meta-Analyses literature search extension (PRISMA-S) statement. Our meta-synthesis employed meta-study methodology to pool knowledge and summarize common areas of agreement and disagreement amongst the literature, adhering to the Enhancing Transparency in Reporting the synthesis of Qualitative research (ENTREQ) statement. We identified 758 records between database and manual search, from which 43 reports were included in systematic review and meta-synthesis.

RESULTS

An overwhelming majority of the included reports (37) focused on prosthetic componentry for lower-limb amputation, which supported the recommendation of microprocessor knees for community ambulators and the use of carbon fiber and fiberglass feet over solid-ankle cushion heel or energy storing and return feet. Substantially fewer reports (8) focused on prosthetic componentry for upper-limb amputation and typically only recommended the use of any prosthetic device, noting no general advantage of either body-powered or myoelectric prostheses over the other. Notable gaps in the literature included prosthetic recommendations for patients with partial-foot/hand or disarticulation-level amputations. Lower-limb prosthetic components including shock and torque absorbers and alignment adapters were rarely mentioned. Finally, all studies investigating componentry used in conjunction with non-suspended prostheses (e.g. bone-anchored limbs) based their recommendations on the assumption that patients used a socket prosthesis.

DISCUSSION AND CONCLUSION

Relevant literature on the topics of prosthetic prescription can be sparse. Several research gaps have been identified for future studies to establish consensus and recommendations, including joint disarticulation prostheses and prosthetic components for bone-anchored limbs. Addressing these knowledge gaps will contribute to ongoing efforts within the field to enhance quality of life for individuals with limb loss and limb difference.

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