The influence of prostheses and prosthetic foot alignment on postural behavior in transtibial amputees

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Abstract

Lower limb amputation presents a kinesiological problem. The type and alignment of each prosthetic component in transtibial amputees is determinative for postural stability and bipedal locomotion to a great extent. The aim of this study was to qualify the influence of variation in prostheses and prosthetic foot alignment in transtibial amputees on postural behaviour. Postural behaviour was analyzed in a group of 13 males (age 56 ± 13 years) with five different prostheses and prosthetic foot lignment. The results of the study show that change in prostheses alignment has an influence on muscle activity and on selected posturographic parameters. As the kinesiologically most optimal we have identified the extension of the prostheses by 1 cm with regard to normal prosthesis alignment.

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