

27. **UNILATERAL LOWER LIMB AMPUTATIONS FROM TRAUMATIC EVENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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 <https://www.youtube.com/watch?v=0JIMP5Fyl7s&t=2343s>

INTRODUCTION: Limb amputations are one of the most devastating injuries for young people in traumatic settings. People with lower extremity loss face challenges in performing daily activities and managing life-long complications; thus, rehabilitation and prostheses are critical in improving the quality of life. This systematic review and meta-analysis aims to determine the outcomes of people who had unilateral transtibial and transfemoral amputations in terms of mobility, physical activity, prosthesis usage, and associated pain.

METHODS: An in-depth search was conducted on the electronic databases of PubMed and Science Direct databases in September 2022 to find studies that investigated the health outcomes of traumatic unilateral leg amputees. Observational studies, clinical studies, comparative studies, and randomized controlled trials in the English language and within the last 10 years (2012-2022) were thoroughly screened according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline. The quality of search results was checked by the Newcastle-Ottawa Scale (NOS). The current meta-analysis included four observational studies which comprised 563 patients, 352 transtibial, and 211 transfemoral amputations. RevMan 5.4 software was used to calculate risk ratios (RRs) with 95% confidence intervals (CI) to conduct this meta-analysis.

RESULTS: The pooled effect estimate showed no statistically significant difference between transtibial and transfemoral amputees (RR = 1.15, 95% CI [0.93, 1.43], P = 0.21) in terms of physical activity. People who had transtibial amputations used prostheses more frequently than those who had transfemoral amputations (RR = 1.21, 95% CI [1.09, 1.35], P = 0.0004). There was no statistical difference between the two groups who reported pain during prosthesis wearing (RR = 1.03, 95% CI [0.62, 1.73], P = 0.91). **CONCLUSION:** People who used leg prostheses more frequently were associated with more independent mobility and adequate physical activity. Leg prostheses with better accommodation and mobility benefit people with traumatic unilateral transtibial amputations.

Key words: Traumatic Amputation; Leg Prosthesis; Artificial Limb.