

ABSTRACT

The neutral suspension casting technique is the most commonly used method for obtaining a foot impression. Reliable plaster casting aims to minimise error in orthosis fabrication and improve treatment success. The purpose of our study was to investigate the reliability of neutral suspension plaster casting in people with a painful pes cavus foot deformity. Ten participants, mean age 44.1 (SD, 10.1) years, volunteered for the study. Two plaster casts from the left foot of each participant were scanned using a 3D non-contact laser to measure six parameters relevant to orthosis fabrication. Reliability of casting was excellent for all parameters. Intraclass correlation coefficients were high (ICC 3, 1 = 0.81 to 0.99), measurement error was low and there were no significant differences between the two plaster casts of the left foot ($P < 0.05$). The neutral suspension casting technique is a reliable method to obtain an impression of the pes cavus foot prior to the fabrication of custom foot orthoses.

Keywords: rehabilitation, foot orthoses, biomechanics, podiatry

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