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Methodology for Obtaining Static Alignment Model

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Abstract : In this paper, a methodology is presented to obtain the Static Alignment Model for any transtibial amputee person. The proposed methodology starts from experimental data collected on the Hospital Militar Central, Bogotá, Colombia. The effects of transtibial prosthesis malalignment on amputees were measured in terms of joint angles, center of pressure (COP) and weight distribution. Some statistical tools are used to obtain the model parameters. Mathematical predictive models of prosthetic alignment were created. The proposed models are validated in amputees and finding promising results for the prosthesis Static Alignment. Static alignment process is unique to each subject; nevertheless the proposed methodology can be used in each transtibial amputee.

Keywords : information theory, prediction model, prosthetic alignment, transtibial prosthesis
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