Merging Biomechanical Models of the Shoulder with Digital Human Modeling

Clark Dickerson, Don Chaffin

Digital human models have recently gained widespread use in the area of workplace design and evaluation. Placement of task-related workspace components in the virtual environment has allowed for analyses of fit, worker reach ability, and application of population norms to several tasks. The creation of biomechanical models to describe the loading in the human shoulder allows analysis of the specific effect of performing tasks on the musculoskeletal components of the shoulder. Through the integration of these technologies, it is possible to evaluate prospective jobs with respect to their impact on the loading of specific body tissues. This paper highlights both the methodology of this integration as well as the utility of the finished analysis tool.

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