NEW BIOMECHANICAL MODEL FOR TENNIS SERVE

Abstract

A sample of 70 professional ATP players was used to perform an analysis of serve in the game. Digital snapshots of the matches have been used for the purpose of analysis. Each player had 10 successfully performed serves analyzed. Sophisticated 3-D Motion Analysis System with accompanying Software was used within the analysis. The main goal of the work was to establish biomechanical regularities of the correct, orderly and effectively performed serve through 3 D analyses of the serve. The secondary goal was to establish the model that explains correct and biomechanically justified performance of the serve, which model could in the future be put into function of teaching young and perspective tennis players, as well as for technical tactical corrections of top players, at least for choosing tactics that involve serve. The established model is made up from 8 variables (A-H) and functions flawlessly while giving the opportunity to conclude and explain generally as well as specifically. The best technique of serve, and the goal of every player is to master it to perfection, will allow the complete control of performing this action with the least risk of injury.

Key words*: tennis, center of gravity, kinematic service analysis*