

Abstract Submitted
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Time-Resolved Two-Component Force Analysis of a Swimmers Kick¹ PAUL LEGAC, TIMOTHY WEI, RPI, RUSSELL MARK, USA Swimming, SEAN HUTCHISON, King Aquatics — A two-dimensional dynamic force balance was constructed to study and improve kicking motions of elite swimmers. Previous methods used elastic tethers which altered the swimmers motion. Apparently no time-resolved measurements have ever been made either. The balance used was a simple truss in which static dynamics could be applied in order to break the kick's force up into its x and y components, giving the ability to see in which direction the majority of the force was being applied. An underwater video camera was also implemented so that the forces produced could be directly related to the motion of the swimmer. This relation was then used to determine how a swimmer could change his/her kick to be a more effective swimmer. Measurements made with Megan Jendrick (2000 Olympic gold medalist) and Ariana Kukors (3x US National Champion) will be presented.

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