

Sports Medicine & Movement Laboratory

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Upper Extremity Muscle Activations during Pitching with Baseballs of Different Weights

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ABSTRACT

Background: Weighted implement training (WIT) is becoming increasingly popular in baseball player development programs. However, research addressing the biomechanical differences between normal throwing and exercises using baseballs of altered weight is limited.

Purpose: The purpose of this paper was to examine possible differences in muscle activity between normal pitching and pitching with underweight and overweight baseballs.

Study Design: Descriptive Laboratory.

Methods: Xx male baseball pitchers ($Xx \pm Xx$ yrs.; $Xx \pm Xx$ cm; $Xx \pm Xx$ kg) threw five fastballs of various weights (3oz, 4oz, 5oz, 6oz, 7oz) to a catcher while kinematic data were collected using an electromagnetic tracking system (trakSTAR™, Ascension Technologies, Inc., Burlington, VT, USA). Muscle activity data from the upper trapezius (UT), lower trapezius (LT), latissimus dorsi (LD), pectoralis major (PM), triceps brachii (TB), biceps brachii (BB), forearm flexor bundle (FFB), and forearm extensor bundle (FEB) were collected and synched with kinematic data through The MotionMonitor™ (Innovative Sports Training, Chicago, IL., USA).

This abstract is a brief overview of a project currently in the data collection phase. We have currently collected data from four participants.

Further information can be found at www.sportsmedicineandmovement.com as well as <https://scholar.google.com/citations?user=ae6HxHgAAAAJ&hl=en>. Specific inquiries can be sent to goliver@auburn.edu. Thank you again for your participation in our research and we look forward to your further participation. Thank you!