

# INTERSEGMENTAL COORDINATION DIFFERENCES BETWEEN BEGINNING PERFORMERS EXECUTING A BADMINTON SMASH FOR ACCURACY OR VELOCITY

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**KEY WORDS:** Intersegmental Coordination, Badminton Smash.

**INTRODUCTION:** Proper coordination is generally accepted as a very important process in skilful execution of many movement activities. It is also believed ballistic skills will exhibit a sequential intersegmental coordination pattern. Yet, what we know about how intersegmental coordination develops is relatively minimal. The purpose of this investigation was to examine a new skill (badminton smash) under two conditions (accuracy and velocity) to determine which condition would elicit the most theoretically correct intersegmental coordination pattern (Work in progress).

**METHODS:** Thirty-four individuals with no formal experience in badminton, were asked to execute the badminton smash. Teaching cues given, prior to participation in the study, were that the badminton smash should be executed: 1) with a high velocity; 2) a below horizontal trajectory angle; and 3) so it lands within the constraints of a legal court. Seventeen individuals were then tested executing the badminton smash with the net in place and the court boundaries marked (only those smashes meeting teaching cue #3 (above) were analyzed). The remaining subjects executed the badminton smash with no net or court boundaries. Three dimensional motion analysis using Vicon Motus™ was conducted for the best of three (highest velocity) smashes for each subject.

**RESULTS:** Initial data analyses point towards the subjects executing the badminton smash without a net are more sequential in their exhibition of intersegmental coordination patterns. Further, the timing of the sequences more closely matches the theoretical model developed by Morehouse and Cooper (1950) and further examined by Hudson, et al. (1991). Those individuals with the net in place are exhibiting a sequential pattern, however, the timing of segmental contributions is not as closely aligned to the theoretical model.

**DISCUSSION:** In 1991, Hudson et al. reported that interception skills add a level of complexity to ballistic tasks such that initial success in skill execution comes at the expense of proper mechanics, specifically intersegmental coordination. This statement does not take into account different ways of teaching movement skills. This investigation examines the effect of drill task on the intersegmental coordination of a skill that should be sequential in its exhibition. It will be important to determine which group appears to be “better” as future investigations will focus on which individuals will more quickly develop the movement patterns allowing them to be more proficient at ballistic skills.

**CONCLUSION:** Initial analysis has confirmed that the badminton smash exhibits a sequential intersegmental coordination pattern of movement. It is yet to be fully determined whether the accuracy group or the velocity group exhibit intersegmental coordination patterns that are more closely associated with the theoretically correct model.

## REFERENCES:

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