

## BADMINTON: SPECIFIC MOVEMENT AGILITY TESTING SYSTEM

Frederick, M.F.A<sup>1,2</sup>, Dayang Hjh Tiawa Awang Hj Hamid<sup>2</sup>, A. H Omar<sup>2,3</sup>, Khairuddin Hasan<sup>2</sup>,  
Kamaruzaman Soeed<sup>2,3</sup> and Izwyn Zulkapri<sup>2,3</sup>

<sup>1</sup>Faculty of Sports Science & Coaching, Universiti Pendidikan Sultan Idris, Malaysia

<sup>2</sup>Sport Innovation and Technology Centre (SITC), Universiti Teknologi Malaysia

<sup>3</sup>Faculty of Biomedical and Health Science Engineering, Universiti Teknologi Malaysia

**INTRODUCTION:** Agility is an important quality in many sports played on court or field. In badminton, agility indicates the ability to move to the approaching shuttle with a correct footwork. There are several agility performance tests that have been developed according to the nature of the different sports namely rugby, netball and football which focuses on the change of direction speed and perceptual/decision making [1-3]. However, specific agility testing for badminton currently available only focuses on the change of direction speed with all tests forgoing the perceptual/decision making aspect [4]. Therefore, the purpose of this study is to present a new methodology for measuring specific movement agility in badminton. Additionally, a second purpose of the research is to investigate if there were differences of agility performance (changes of direction speed and decision time) between pre-planned agility (sequence movement) test and specific movement agility (randomly movement) test using previously developed system i.e. Badminton Agility Training and Testing System.

**METHODS:** Specifically, the agility performance of male players (n=40) when responding to interactive LED lights (Fig. 1) showing the direction shot (randomly) from opponent, was compared to a traditional, pre-planned agility movement where no external stimulus (sequence) was present. Subjects were randomly selected among students enrolled in badminton as their curriculum course. The test was conducted after they have completed 14 weeks of the course. The total change of direction speed of the players was the primary dependent measures of interest.

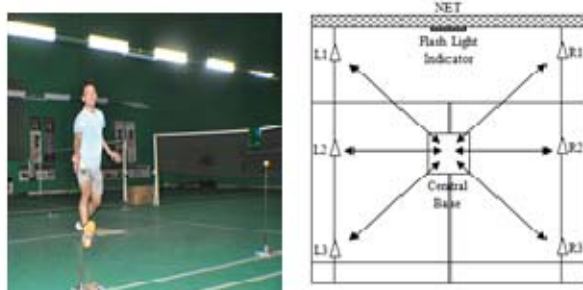


Figure 1: Agility Training and Testing System.

**RESULTS AND DISCUSSION:** The results showed that significant differences existed between the two test conditions proving that the system was assessing different types of agility. The pre-planned agility (sequence) was found to be faster compared to the specific movement agility test (random) with significant difference ( $P < 0.05$ ) between the mean results ( $25.63 \pm 1.94$  s and  $31.66 \pm 1.66$  s). This difference was found to be caused by the presence of decision making (decision time) in the specific movement agility test [5].

**CONCLUSION:** Therefore, the results suggest that badminton-specific movement agility test system is a better measure of badminton specific agility performance than an equivalent non-specific pre-planned agility test since the nature of the game of badminton requires change of direction speed and decision making. Future research may include elite badminton players to further assess the device's capability.

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