

Testing your Maximal Aerobic Power for Oztag!

What is maximal aerobic power and why is it important to your performance?

Maximal aerobic power is a measure of our aerobic endurance capacity and dictates how long we can exercise at a given intensity. During an Oztag match we typically cover between 2-2.5 km and research from the 2013 Queensland State Cup reported Queensland representative players covered greater total and relative distance than non-selected players (See: http://www.queenslandoztag.com.au/index.php?page_id=117); meaning they covered more distance over less time. This suggests that maximal aerobic power is highly related to Oztag match performance and training programs need to consider how we can best improve maximal aerobic power for the Oztag player. However, to ensure our training is actually improving our Oztag performance we need accurate and reliable fitness tests. This issue of Sport Science Update focuses on how you can measure your maximal aerobic power using the Yo-Yo IR1 test allowing you to track your improvements and get the best out of your training.

Table 1. Efforts, distance and time at running speeds during an Oztag Match

	Jogging (3.6 – 10.8 km/h)		Medium-intensity running (10.8 – 18 km/h)	
	Selected	Non-Selected	Selected	Non-selected
Number of efforts	60	57	46	38
Total and relative distances (m)	1448 (53%)	1195 (55%)	748 (28%)	553 (25%)
Average effort distance (m)	22	20	15	13
Total time (min:sec)	13:51 (53%)	11:22 (50%)	3:22 (13%)	2:28 (11%)
Average effort time (sec)	12.9	11.4	3.5	4.0

For table explanations see Supplement 1 (hyperlink)

$$\text{Maximal Aerobic Power (VO}_2\text{max)} = \text{Yo-Yo IR1 distance (m)} \times 0.0084 + 36.4$$

Set up:



In the next Issue:

The movement demands of Oztag refereeing using GPS Technology

Do you have a question for the sport science team?

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The Yo-Yo Intermittent Recovery Test #1

Similar to the Beep-Test, the Yo-Yo IR1 is a graded exercise test that assesses our fitness by measuring how much distance we can cover whilst gradually increasing running speed. However, the Yo-Yo IR1 involves a short 5-10 sec break between efforts to reflect the intermittent nature of team sports such as Oztag! To run the test you will need at least 3 markers, a 25 m measuring tape and the downloaded Yo-Yo IR1 iTunes app (<https://itunes.apple.com/si/app/id403230836?mt=8&affid=1993500>). The test will usually take between 6-20 min to complete depending on fitness levels.

How to do it!

1. First, watch this YouTube video of how to do the Yo-Yo IR1 (<http://www.youtube.com/watch?v=ofKKeocYhd4>)
2. Use the cones to mark out the lines as per diagram below: 20 metres and 5 metres apart.
3. The participant starts behind the middle line and begins running 20 m when instructed by audio file.
4. There is an active recovery period (10 seconds) between every 20 m shuttle effort (out and back) during which the participant must walk or jog the 5 m shuttle and return to the starting point.
5. A warning is given when the participant does not complete a successful 20 m shuttle effort in the allocated time and the test is terminated upon the following unsuccessful 20 m shuttle effort.
6. Using this table (<http://www.topendsports.com/testing/yo-yo-intermittent-levels.htm>) find the accumulated distance you covered and equate your maximal aerobic power using the equation given to the left.

HOW DO YOU COMPARE WITH THE BIG LEAGUES?

AFL =	60 ml/kg/min
NRL =	50 ml/kg/min
Hockey =	61.8 ml/kg/min
Soccer =	57.8 ml/kg/min

Do you have a Question?

Ask the Sport Science Team!

Get Tagged,

You'll Love It!