



## **FHBC Fitness Testing Protocol**

Athlete Programs 2018

### **How is fitness tested?**

Aerobic improvement is measured by the Yo-Yo Test. The Yo-Yo Test is a standard aerobic fitness test used by National Teams and is internationally applied in the team sport environment. This test was introduced to athletes during the 2014-2015 Regional season.

### **Why are the standards higher in the provincial program?**

The standards increase by program and age group to reflect the higher levels of fitness required to become eligible for the national team pathway.

## **1. Philosophy**

Field Hockey BC aims to develop the best field hockey athletes in Canada and provide opportunity to excel at the Regional, Provincial and National levels. This involves helping athletes develop in a holistic sense through technical and tactical development and a focus on areas such as lifestyle, mental skills, and nutrition. Part of this commitment includes physiological development; the development of fitness abilities.

High performance athletes need to learn how to train. **Fitness** in the game of field hockey is just as important as passing and receiving, scoring, tackling, making saves and playing well. **Fitness** is central to an athlete's success in playing this sport, both in the short and long term. **Fitness** also helps an athlete maintain a healthy and active lifestyle, minimizing and preventing injuries.

## **2. Rationale: WHY do we test fitness?**

To increase accountability and learn how to train, athletes are responsible for improving their general fitness and aerobic (endurance) ability. Fitness Testing is an objective method used to determine program eligibility. Athletes are expected to maintain and increase fitness standards during programming.

### **Fitness is tested:**

- Because it is one of the overall components of a high performance athletic experience
- Because it is an evaluation of athlete progress; for self and others
- to determine baseline and progressive data on athlete performance
- to determine a baseline for athletic screening within the FHBC athlete program and in comparison to established norms at the elite and international levels
- to expose and familiarize athletes with testing protocols that will become mainstream in and athlete's career and to lower the intimidation factor associated with testing



### 3. WHEN are athletes being tested?

Train 2 Train (U15) and Train 2 Compete (U18) will see a maximum of 4 Yo-Yo test opportunities over the course of the Regional Program. The first test will be during the Regional Program trial. Each athlete must obtain at least 1 additional score during the program to be eligible for the season-end tournament. One of the two recorded scores must meet provincial standards to be eligible for Team BC selection. **What are the fitness standards? Please see the Fitness Test Policy**

### 4. THE YO-YO TEST

#### 4.1. WHAT is the Yo-Yo Test?

The Yo-Yo Intermittent Recovery Test Level 1 is intermittent in nature, thus reflecting the intermittent nature of field hockey. It uses both aerobic (with oxygen) and anaerobic (without oxygen) energy systems.

#### 4.2. WHY do we use the Yo-Yo Test?

The Yo-Yo test is used in all regions of BC to increase consistency, validity and reliability of the results.

In 2015/2016 FHBC implemented the Yo-Yo test as the assessment tool of athletic endurance. This transition from the Beep Test to Yo-Yo Test was introduced through FHBC regional and provincial programming over 2013/14 and 2014/15. During the introduction phase, a database of test scores was developed, and players were introduced to the protocol of the Yo-Yo, which is:

- a recognized test of aerobic fitness appropriate for field hockey, in line with the common practice in sport science; and
- is used by Field Hockey Canada (FHC) for assessment and monitoring of junior and senior national teams; and
- a testing method used to prepare athletes for the elite player pathway.

### 7. So, WHAT do the results mean?

The test score converts to a figure known as VO<sub>2</sub> max. This figure represents the maximum volume of oxygen an athlete can use. As one exercises, the amount of oxygen used increases to a maximum (the VO<sub>2</sub> max). Beyond this point, the body also utilizes other energy systems (anaerobic) to meet the demands of exercise.



VO<sub>2</sub> max is measured in milliliters per kilogram of body weight per minute (ml/kg/min). It is a useful marker of the current endurance level of an athlete.

### 8. HOW should I (the athlete) prepare?

At no time should an athlete be using the Yo-Yo test to train for the test. To decrease any anxiety surrounding the testing, athletes are encouraged to discuss the purpose of the test and how best to prepare for the testing day with a Head Coach or an FHBC Regional/Provincial Coach. If an athlete has been diligent about following his or her FHBC age-appropriate fitness program, the individual testing results should be a reflection of that training.

#### 8.1 Pre-Test Suggestions

##### 8.1.1 Pre-hydration

It is recommended that athletes pre-hydrate the night before or early in the day in advance of the test so that when running the Yo-Yo test, athletes are relying on stored body water. A quick measure of hydration is to check for a very weak colour (or no colour) in urine. Drink 500mls – 1L of water, 2-3 hours before training, allowing for some of the water to void out.

##### 8.1.2 Adequate rest

An area often ignored in training is adequate rest! Dr. Samuels, University of Calgary Centre for Sleep and Human Performance, advocates that adolescents need 9-10 hours of rest per night to be adequately rested and recovered from training. Athletes should aim for regular, structured and consistent amounts of sleep for optimal performance. It is suggested to aim to go to bed at the same time each night for the same length of sleep.

##### 8.1.3 Adequate food intake

Prior to testing, athletes need to have eaten far enough in advance to allow for adequate digestion. The general rule of thumb is 1.5 hours prior to strenuous exercise when athletes should have a snack that is high in carbohydrates. These snacks could include: bananas, oranges, apples, dried fruit, fruit juices, fruit bars, dried cereals, low fat granola bar.

*The key is **not** to consume high volumes of food but rather an adequate amount to hold you over until the test is complete. The important meals are the ones you ate the day before!*

### 9. Footwear and clothing

Athletes must wear suitable footwear for the surface they will be running on: running shoes with adequate support for inside a gym; running shoes or turf shoes for outside



short turf. Wearing running shoes on the turf may cause an athlete to slip on the pivot step, depending on the weather and/or surface condition. Comfort is the key. Do not wear brand new shoes in a testing environment! Always break them in first. Clothing should be comfortable and suitable for either inside or outside running, depending where the athlete will be performing the test.

### **10. THIS is how The Yo-Yo Test Works!**

#### **10.1 Yo-Yo Test Intermittent Recovery Test Level 1 Protocol**

- The Yo-Yo is a 20m shuttle run with a 5m jogging / recovery area
- To begin, athletes stand with one foot on the start/finish line
- Athletes run “in time” with the beeps on the disc. At each beep you sprint from the start to the 20m marker on the opposite site. The athlete must reach the 20m marker before the second beep. Each athlete waits on the 20m marker for the second beep. On the second beep, athletes sprint back to the start / finish line. Each athlete must reach the start / finish line before the third beep.
- There is a 10 second time period to then jog around the 5m recovery area (5m out and 5m back). Repeat this procedure on the next speed level and in time with the beeps of the CD.

#### **10.2 Disqualification**

Athletes will receive a warning if:

- they fail to reach the 20m marker before the second beep of the speed level
- they fail to reach the start / finish line before the third beep of a speed level
- they start crossing the start / finish line or 20m marker before the beep of the test indicates for them to do so.
- After an individual has received 2 warnings (these need NOT be consecutive), their test ends and they stop the test and their level is noted.

### **11. The Athlete’s Responsibility**

- This is a maximal test – an athlete should keep going until they no longer can if they want to receive an accurate reflection of their VO<sub>2</sub> max.
- An athlete should remove themselves from the test if they are feeling weak, faint or dizzy.
- Athletes who take asthma medication need to be sure to take it in advance of the test according to Doctor’s instructions. Focusing on reducing anxiety will reduce the likelihood of an athlete having a reaction. However, asthmatics need to be versed in how to help them deal with an “attack”, should it occur during a test. Please give your inhaler to the person running the test before you begin.
- At least 2 coaches/FHBC representatives will run the test and note your score. You are responsible for noting your score before you leave the field at the end of the session. The Athlete Program Manager (APM) will keep scores on the FHBC central



database and it is your responsibility to follow up with the APM if you need your score.

**12. Hints for the Athlete**

- Aim to pivot on the line in time with the beep.
- Use regular, deep breathing early in the test so that it becomes automatic when the going gets tough. Arms should be used to assist in the movement of the legs.
- Upon completion of the test, athletes are encouraged to keep moving. Do not sit down right away! You need to keep the blood flowing through the muscles and a proper cool down is necessary after completing the test. Use your heart rate as a guide. The BPM should drop significantly within the following 3 minutes after the test. If it does not slow down right away, allow for a longer cool down.