



**Protocols for the  
Physiological Assessment of  
Gaelic Football Development  
Squads**

## **Introduction**

Physical fitness in Gaelic football has been defined by the OTú as, “ the ability to perform the basic techniques, engage in physical contests and respond to the signs, sounds and signals experienced during the game with the least possible expenditure of energy”.

## **Physical Fitness Tests**

### **Aims**

1. To provide players with an assessment of their fitness levels and to identify key areas of fitness that need to be developed.
2. To provide the coach with an objective means of collecting information upon which subsequent evaluations and decisions are made.

### **Objectives**

The Physical fitness tests are designed to:

- Monitor and record the physical development of talented young players.
- Assess and evaluate specific areas of fitness.
- Provide constructive feedback.
- Prescribe training programmes based on strengths/weaknesses to help improve aspects of fitness.
- Identify positional differences and therefore tailor the training programme accordingly.
- Look for indicators that can help prevent injury and player burnout.
- Educate coaches and players so that they have a better understanding of the physical demands of the sport.

### **Test Protocol**

It is necessary to adhere to the following protocols to obtain valid and reliable results. This allows standardisation between tests within counties and between counties. All tests need to be carried out indoors in a hall or gymnasium to ensure that the environment and surface conditions are standardised throughout. The same equipment should be used each time a test is conducted. Aspects such as the encouragement given to players and the rest period allowed between repetitions of a single test or between different tests should remain constant from one test occasion to the next.

## **Pre-test Preparation**

- All players should be familiar with the test procedures before formal testing.
- Players should not train on the day of the test and they should refrain from any unaccustomed exercise the previous day.
- Players should maintain their normal diet in the days leading up to the test and not eat for two hours before the test.
- On the test day, players should avoid smoking, drinking alcohol, tea, or coffee; and taking any substances that are known to affect or may be suspected of affecting performance.
- Each player should be in good health and fully recovered from previous injuries on the day of testing.

## **Test Battery**

The following tests are designed to assess specific aspects of fitness in a manner relevant to Gaelic footballer players. Both the timing and content of a warm up should be kept constant ahead of each testing session. The warm up may be carried out before any tests, or alternatively may be carried out before the commencement of the sprint tests. The recommended order of administration is height (optional), body mass (optional), flexibility, vertical jump, medicine ball throw, agility, speed, speed endurance and shuttle run. It is essential that the shuttle run is administered last in the session. Water should be available throughout the duration of the tests.

### **Test 1 Height**

#### *Purpose*

Standing height is an important factor because taller players have an advantage when contesting aerial possession of the ball.

#### *Procedure*

Remove trainers and stand erect with heels, buttocks and shoulders pressed against the wall with the arms hanging freely by the side. Players should be instructed to look straight ahead, take a deep breath and stand as tall as possible. Use a ruler to mark the spot on the wall and measure in centimetres.

### **Test 2 Body Mass**

#### *Purpose*

Lighter individuals are likely to be more mobile around the pitch than their heavier counterparts. Excess body weight is also likely to negatively influence speed.

#### *Procedure*

Remove shoes, heavy clothing and valuables. Stand still and erect with weight evenly distributed on the centre of the scales. Record measurements in kilograms.

### **Test 3 Flexibility**

#### *Purpose*

Muscles respond to continuous training by becoming tighter and shorter, therefore limiting range of motion. This can result in injury and limit power output. Maintaining good flexibility through regular stretching can improve the range of motion of a joint and actively reduce the incidence of soft tissue injuries.

#### **Sit & Reach Procedure (Adapted Sit & Reach)**

**Equipment Needed: Measuring Tapes x 2, Scotch Tape, Metre Stick (Optional)**

Place the start (0cm) of 2 measuring tapes adjacent to a solid wall and place parallel, approximately 50cm apart. Ensure tape measures are taped solidly to the floor. The player will sit between the tapes, back flat against the wall, knees flat and feet together. Player must move both hands in a slow controlled manner as far as possible alongside the measuring tapes. At the furthest point of reach the player will hold the position for at least 1 second. If the hands reach different points, the lower / back point is taken as the reading.

**Repeat this test twice per person and record to the nearest cm.**

### **Test 4 Lower Body Power**

#### *Purpose*

In multiple sprint sports such as Gaelic football, players are now required to be faster and more powerful than their predecessors. Strength is defined as the ability to apply force and power is defined as the ability to apply a force at speed. Strength in Gaelic football relates to the ability of a player to be able to give and take a shoulder tackle and to contest possession of the ball. In addition, skills need to be performed dynamically and explosively. Good muscular strength facilitates power development and lays the foundation for sprinting and high intensity training such as plyometrics.

#### **Vertical Jump Procedure**

**Equipment Needed: Measuring Tape, Coloured Chalk, Duster / Damp Cloth**

The player takes a piece of coloured chalk in their strong hand and, standing adjacent to the wall, makes a small mark at the highest point of reach possible. The player then performs a maximal jump, making a mark at the highest point of the jump with the coloured chalk. The measurement is the difference between the original reach height and the top of the mark made when jumping.

**Repeat this test twice per person and record to the nearest cm.**

## **Test 4 Upper Body Power**

### *Purpose*

In multiple sprint sports such as Gaelic football, players are now required to be faster and more powerful than their predecessors. Strength is defined as the ability to apply force and power is defined as the ability to apply a force at speed. Strength in Gaelic football relates to the ability of a player to be able to give and take a shoulder tackle and to contest possession of the ball. In addition, skills need to be performed dynamically and explosively. Good muscular strength facilitates power development and lays the foundation for sprinting and high intensity training such as plyometrics.

### **Medicine Ball Throw Procedure**

**Equipment Needed: Medicine Ball (5kg), Measuring Tape (10m)**

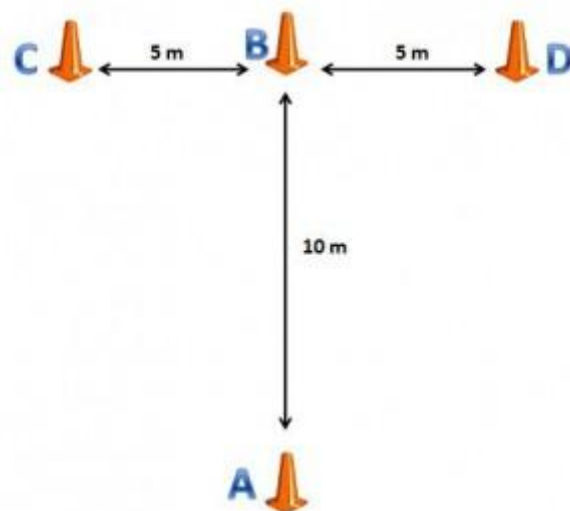
The start of the measuring tape (0cm) is placed against the wall and extended adjacent to the wall to a length of at least 6m. Player sits on the floor beside the measuring tape, with back flat against the wall, knees flat and feet together. The medicine ball is then placed in the players hands and he/she will perform a chest pass with the aim to cover as large a horizontal distance as possible. Ensure player keeps knees flat while performing the throw.

**Repeat this test twice per person and record to the nearest 10cm.**

## **Test 5 Agility (T Test)**

### *Purpose*

In Gaelic football players are required to perform sudden changes in body direction in combination with rapid movement of limbs. The whole-body movement can be in the horizontal plane, as when the player is evading an opponent, or in the vertical plane, as when a player is jumping.



### **T-Test Procedure**

**Equipment Needed: Measuring Tape (10m+), Cones, Scotch Tape, Stopwatch**

The cones need to be placed at the locations and correct distances illustrated in the diagram. For the starting position the player should adopt a low centre of gravity and a forward lean and stand just behind the start line. On the command “GO” the player sprints forward as fast as possible to cone B. The player must touch cone B with the hand, before sprinting forwards to either cone C or cone D (touch with the hand). When they touch either cone C or D, they then rotate and sprint to the other cone (either C or D, depending on which cone they touched previously and touch with the hand). The player then returns to cone B (touch), before sprinting past cone A. The watch is stopped once the player crosses the start (end) line again.

**Repeat this test twice per person and record to the nearest one hundredth of a second.**

### **Test 8 Speed**

Although, a player may spend less than one minute actually sprinting during a match, the ability to run faster than an opponent may give a team a competitive edge.

#### **20m Sprint Procedure**

**Equipment Needed: Measuring Tape (20m+), Stopwatch, Cones**

A distance of 20m should be measured to the nearest cm and there should be a minimum of 5 metres beyond the 20m mark, in order to provide the players with ample space to slow down. Players should perform a few strides at half- then three-quarter pace over 20 metres prior to sprinting. For the starting position the player should adopt a low centre of gravity and a forward lean and stand just behind the start line.

The stopwatch is started on the command ‘GO’ called by the controller who will be standing at the 20m mark. The stopwatch is then stopped once the player has passed the marked distance or finish line. The score recorded (accurate to 1/100<sup>th</sup> of a second) should be the best time at least 2 trials. Allow 2-3 minutes recovery between sprints.

**Repeat this test twice per person and record to the nearest one hundredth of a second.**

### **Test 8 Speed Endurance**

#### *Purpose*

The ability to engage in maximal effort and maintain it over a prolonged duration is extremely important for Gaelic football players. This test is designed to identify the ability of a player to maintain high intensity effort over a prolonged duration.

### **300 Yard Shuttle Procedure**

**Equipment Needed: Measuring Tape (25Yd+), Stopwatch, Cones**

Measure out a distance of 25 yards. The player will start at one end, and will run 12 consecutive length of the 25 yards course, without stopping. They will accrue a total of 300 yards. They will only need to place one foot on the line at the end of each shuttle before commencing the next shuttle. Maximal effort should be maintained throughout.

**Repeat this test once per person and record to the nearest tenth of a second.**

### **Test 9 Aerobic Endurance**

Endurance (also referred to as aerobic power/stamina) can be described as the ability to take oxygen from the atmosphere and supply it to the working muscles, in order to produce energy which can then be used to fuel exercise.

#### *Purpose*

In Gaelic football, it is not uncommon for players to cover 7-11 km in a match. Therefore, a high level of endurance is essential, not only to reduce fatigue but also to maintain skill and concentration levels throughout the match, which can greatly reduce the risk of injury. Aerobic fitness can also enhance recovery in between sprints and aid recovery from games and training bouts. A sound aerobic foundation is also a prerequisite to higher intensity anaerobic training such as speed and speed-endurance training, since recovery from this type of training is largely aerobic in nature.

The multistage fitness test is used as an accurate estimate of aerobic power. The activity is similar to that of Gaelic football with respect to the stop, start, and change of direction movement patterns.

### **20m Shuttle Test Procedure**

**Equipment Needed: Measuring Tape (25Yd+), Stopwatch, Cones**

Players are required to run a set distance of 20 metres in time with an audio signal. As the test proceeds the interval between successive beeps gets smaller, therefore the players have to run progressively faster. The test is terminated when a player can no longer keep pace with two successive audio signals. During the test, it is important that the players cover the set distance and touch each line with the foot prior to turning and proceeding towards the next line. In order to administer the test effectively, it is recommended that one test leader calls out or keeps a record of when players drop out of the test, or are unable to maintain the required pace. Results are expressed as the level and shuttle.