



Ulster GAA Sport Science Services  
Fitness Testing Procedures 2012 – 2016



Ulster GAA Fitness Testing Procedures

For County Academy Squads

2012 - 2016



## Ulster GAA Sport Science Services Fitness Testing Procedures 2012 – 2016

### **Introduction**

This document has been compiled by Kevin McGuigan (Ulster GAA, Sport Science Support Officer) following consultation with a range of people, including County Games Managers, sport science professionals at the Sports Institute of Northern Ireland and internal Ulster GAA staff.

The aim of this document is to provide coaching staff within each of the counties of Ulster with clear guidelines regarding fitness testing. It is expected that coaches working with county academy squads will use this document to guide their fitness testing sessions. Over the following pages you will find information on the various issues, including;

- Core Test Battery;
- Equipment required;
- Test Protocol;
- Measurement of results;
- Collection, presentation, feedback and application of results;
- Session structure.

Ulster GAA will require the coaches of each county academy squad to complete the core test battery at least once annually. The test session should be carried out at the first collective session of each development squad. Results will be forwarded to Ulster GAA Sport Science Support Officer, Kevin McGuigan. All results will be included in a central database which can then be used as reference point for all coaches going forward.

This central database will allow for;

- Calculating 'norms' and ranges for each test at the range of age groups (U14 – Minor);
- Identification of development / trends in results over time;
- Tracking of individual player development / group development across the age ranges, up to and including minor level;
- Identification of individual county requirements in terms of fitness developments.



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### Summary of Core Test Battery

The core test battery has been designed to allow all county academy squads to gather a set of test results effectively regardless of equipment and facilities available. ***Each county will be required to submit results a minimum of once annually for all county academy squads.***

Some counties may have some specialist equipment available (e.g. timing gates). These should be used to gather results for the relevant tests (e.g. use the timing gates to measure the T-Test results). The availability of equipment may lead to counties wishing to carry out a range of supplementary tests. ***The core tests outlined must be included*** in order to help standardise testing within Ulster. Ulster GAA will only require the submission of results from the core tests, with supplementary test results for use as the county wishes.

***All squads should be tested using an indoor facility, where possible with a specialist indoor sports hall of minimum length 25 metres.*** Indoor testing is essential to eliminate the possibility of weather and other environmental factors affecting the testing session. If available, it is advisable to use a non-slip specialist sport surface. Many counties have school buildings readily available; however, efforts should be made to avoid typical assembly hall surfaces. These wooden surfaces tend to be dusty slippery surfaces and can be difficult for players to deliver good performance on. The hall will need to be at least 25m in length to allow for administration of several of the tests, in particular the Bleep Test.

***Players should also be encouraged to wear the correct footwear for indoor sessions.*** Many players, particularly at underage level tend to wear 'fashion' trainers which offer little grip and more importantly, little protection and support for the feet and ankles during the test session. Players should be advised in advance of the testing session to wear proper running / cross training shoes to the fitness testing session.



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**Core Test Battery**

Component OF Physical Fitness	Equipment Required	Protocol	Measurement
<p><b>Height</b></p> <p>Taller players can have an advantage when contesting aerial possession and may be more suited to certain positions</p>	<ul style="list-style-type: none"> <li>• Measuring Tape (2m +);</li> <li>• 30cm ruler;</li> <li>• Coloured chalk;</li> <li>• Duster / damp cloth.</li> </ul>	<ol style="list-style-type: none"> <li>1. Remove footwear;</li> <li>2. Stand erect, with heels, buttocks and shoulders in contact with the wall;</li> <li>3. Arms should hang freely by the side, while looking directly ahead;</li> <li>4. Take a deep breath in and stand as tall as possible;</li> <li>5. Use a ruler to mark the spot on the wall (using coloured chalk) that corresponds with the height of the top of the head.</li> <li>6. Measure height using tape measure, and record result;</li> <li>7. Clean mark from wall</li> </ol>	<ol style="list-style-type: none"> <li>1. Measurement should be made from the bottom of the wall to the mark made on the wall;</li> <li>2. Ensure the tape measure is vertical when measuring. If possible try to use a vertical line already obvious on the wall;</li> <li>3. Measurement should be recorded to the nearest half centimetre (cm);</li> </ol>
<p><b>Weight</b></p> <p>Lighter players are likely to be more mobile around the pitch, while excess weight can negatively affect speed</p>	<ul style="list-style-type: none"> <li>• Weighing scales</li> </ul>	<ol style="list-style-type: none"> <li>1. Remove footwear;</li> <li>2. Remove heavy clothing and empty pockets (measurements should be made in t-shirt, shorts, socks);</li> <li>3. Stand tall with arms hanging freely by sides and look straight ahead.</li> </ol>	<ol style="list-style-type: none"> <li>1. Measurement should be taken in Kilograms (Kg) and recorded to the nearest tenth of a kilogram (if scales permit – 0.1kg)</li> </ol>



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<p><b>Balance (Proprioception)</b></p> <p>This test can help to identify general balance issues, ankle weaknesses and imbalance between strong and weak sides</p>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ol style="list-style-type: none"> <li>Instruct players to get into pairs, numbered 1 &amp; 2;</li> <li>Partner 1 will then balance on their right foot for 30 seconds;</li> <li>Partner 2 will count each time partner 1 has to regain balance by 'touching down' with the left foot;</li> <li>Repeat this process with partner 1 balancing on their left foot;</li> <li>Instruct partners to switch roles and repeat test.</li> </ol>	<ol style="list-style-type: none"> <li>Measurement of this test will be number of touches required when balancing on each foot.</li> </ol>
<p><b>Upper Body Power: Medicine Ball Throw</b></p> <p>Power is defined as the ability to apply force at speed. There are numerous example of the need for upper body power in Gaelic games (tackle, shoulder challenge, breaking tackles etc)</p>	<ul style="list-style-type: none"> <li>Measuring Tape (5m +);</li> <li>U14 – U17: 4Kg Medicine Ball;</li> <li>Minor, U21, Senior: 5Kg Medicine Ball.</li> </ul>	<ol style="list-style-type: none"> <li>Player should sit with their lower back, shoulders and head resting against the wall;</li> <li>Legs should be placed flat out in front, with feet kept together;</li> <li>The player will perform a 2 handed maximal chest pass in front of them;</li> <li>The ball should be returned to the player who will be allowed to take a second attempt when ready.</li> <li>Players should perform 5 press ups for a warm up 60 seconds before throwing.</li> </ol>	<ol style="list-style-type: none"> <li>Measurement should be recorded at the point of the first bounce, and recorded to the nearest 5 centimetres (cm);</li> <li>Only record the best of 2 attempts.</li> </ol>



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<p><b>Lower Body Power: Standing Long Jump</b></p> <p>Power is defined as the ability to apply force at speed. There are numerous example of the need for lower body power in Gaelic games (Jumping, accelerating, kicking etc.)</p>	<ul style="list-style-type: none"> <li>• Measuring Tape (5m +);</li> <li>• Scotch Tape</li> </ul>	<ol style="list-style-type: none"> <li>1. Clearly mark the take off line with scotch tape;</li> <li>2. Player begins standing upright with toes at the take off line and arms hanging freely by sides;</li> <li>3. The player will jump using a 2 foot take off and will attempt to cover maximal horizontal distance (arms can swing freely);</li> <li>4. The player should land on 2 feet also, before returning to the take off mark for a second attempt when ready.</li> <li>5. Players should perform 2-3 jumps 60 seconds before the test.</li> </ol>	<ol style="list-style-type: none"> <li>1. The result recorded will be the distance from the take off mark to the first point of contact (back heel);</li> <li>2. Measurement should be recorded to the nearest centimetre (cm);</li> <li>3. Only record the best of 2 attempts.</li> </ol>
<p><b>Agility: T Test</b></p> <p>Gaelic games demands that players have the ability to change body direction rapidly, stopping quickly and moving off quickly in a different direction.</p>	<ul style="list-style-type: none"> <li>• Measuring Tape (10m +);</li> <li>• Scotch Tape;</li> <li>• Marker cones (hats)</li> <li>• Stopwatch;</li> <li>• For diagram, see appendix 1.</li> </ul>	<ol style="list-style-type: none"> <li>1. Mark out the test course as per the diagram to the left;</li> <li>2. Place scotch tape under each cone to allow for cones to be reset if moved;</li> <li>3. Players run forwards throughout the test, turning at each point indicated;</li> <li>4. Player begins on command of the timer (Shout 'GO')</li> <li>5. Player starts at cone A, runs to cone B where they must touch the cone with the hand;</li> <li>6. Then run to D / C (touch with hand), rotate and run to D / C (touch with hand), return to cone B (touch with hand) and then return at max speed through cone A;</li> <li>7. The player can complete 2 attempts, but tester must ensure that the player has adequate recovery time between throws (2-3 minutes).</li> </ol>	<ol style="list-style-type: none"> <li>1. Timer starts watch on command ('GO');</li> <li>2. The watch is stopped when player breaks the line at cone A upon return.</li> <li>3. Timer should stand looking directly across the start / finish line;</li> <li>4. Time is measured to the nearest one hundredth of a second (0.01)</li> <li>5. Best time from 2 attempts is recorded.</li> </ol>



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<p><b>Repeat Sprint Ability; 60m Shuttle</b></p> <p>During Gaelic games a player will spend little time sprinting, however, there is a need to maintain high intensity efforts over repeated short bursts during a game.</p>	<ul style="list-style-type: none"> <li>• Measuring Tape (20m +);</li> <li>• Marker cones;</li> <li>• Stopwatch;</li> <li>• For diagram see appendix 2</li> </ul>	<ol style="list-style-type: none"> <li>1. Measure out a course with a start line, a 5m line, a 10m line and a 15m line;</li> <li>2. Instruct players to pair up to facilitate measurement of results;</li> <li>3. Each player will repeat 3 runs at high intensity lasting 20 seconds each;</li> <li>4. They will be given 20 seconds recovery time in between runs;</li> <li>5. During each bout, the player will sprint from the start point to each cone and back in turn (5m, 10m, 15m);</li> <li>6. Having completed a run to each cone they will continue to run to the 15m cone and back until the 20 seconds is complete;</li> <li>7. The player is aiming to cover as much distance as possible during each 20 second bout.</li> </ol>	<ol style="list-style-type: none"> <li>1. It is essential that players are instructed to stop immediately when the whistle sounds to indicate that 20 seconds is complete.</li> <li>2. Measurement is then recorded to the nearest 5m, and will be taken at the last 5m mark passed by the player.</li> <li>3. The distance for each of the 3 runs is recorded.</li> </ol>
<p><b>Aerobic Endurance: Bleep Test</b></p> <p>The multistage fitness test is used as an accurate estimate of aerobic power, with the requirements similar to those of Gaelic games in terms of running, stopping and changing direction.</p>	<ul style="list-style-type: none"> <li>• Australian Sports Commission Bleep Test Audio (CD / MP3);</li> <li>• CD/MP3 Player;</li> <li>• Speakers;</li> <li>• Measuring Tape (20m +);</li> <li>• Marker Cones.</li> </ul>	<ol style="list-style-type: none"> <li>1. Players line up along the start line;</li> <li>2. They will then cover the 20m course in time to the audio signal of the recording;</li> <li>3. The time between the audio beeps decreases thus meaning the player must run progressively quicker throughout the test;</li> <li>4. A player is stopped when they can no longer keep pace with 2 consecutive audio beeps;</li> <li>5. At the end of each 20m shuttle the player must contact the line with his / her foot;</li> <li>6. Players should be encouraged to continue running until instructed to stop by the tester.</li> </ol>	<ol style="list-style-type: none"> <li>1. The level and shuttle completed by the player are recorded;</li> <li>2. Players should be encouraged to listen for their own result and ensure the accurate result has been recorded by the tester.</li> </ol>







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- 2) **Template 2:** An individual result sheet can be provided to each player and will allow each player to record their results as they complete each test. The big advantage of this method is that this can save time and will allow players to take responsibility for their own results. However, experience has shown that this system will usually result in several inaccurate results / some results not recorded and can allow players to manipulate results.

<b>Name</b>				<b>Notes:</b>
<b>Height (cm)</b>				
<b>Weight (kg)</b>				
<b>Balance (Number of Touches)</b>	<b>Left</b>	<b>Right</b>		
<b>Medicine Ball Throw (m)</b>				
<b>Standing Broad Jump (cm)</b>				
<b>T Test (sec)</b>				
<b>60m Shuttle (m)</b>	<b>1</b>	<b>2</b>	<b>3</b>	
<b>Bleep Test (ASC Version)</b>	<b>Level</b>		<b>Lap</b>	



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### **Presentation & Feedback of Results**

Results should be collated by a member of the coaching team as soon as possible following the completion of a fitness testing session. The easiest method to collate and present results for presentation to players / other coaching team members is through a Microsoft Spreadsheet. A spreadsheet has been compiled to allow for the entry of results in order to generate coach outputs and player outputs and is available through the following link;

<http://ulster.gaa.ie/coaching/articles/cdp-courses/>

A coach can input all results to the 'overview' sheet and this will populate the remaining sheets available in the spreadsheet. These sheets include a coach overview for each test which will allow the coach to compare all player results for that particular test. It will also include a specific player feedback sheet for each player. This sheet will include results and graphs of each test carried out, and will allow the player to see their own results, the player average and the target set for this test by the coaching team.

### **Application of Results**

A key aspect of fitness testing is the ability to analyse and utilise the findings in a positive and productive manner. Results should be provided to players within 7 days (ideally at the next collective session). If time allows each player should be given individual guided feedback, where the coach has identified key fitness areas that need to be improved to enhance playing performance. The player should be guided through specific training recommendations that will allow them to improve upon the aspects identified.

Alternatively, the players could be provided with general training tips for each aspect of fitness as a group. A further attachment to the results could be provided and players advised to approach coaching staff with any queries. While this method is less likely to yield positive results it may be the case that time available will only allow for this level of feedback.



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### Session Structure

A typical testing session for a squad of 30-40 players should take approximately 2 hours. The following table is a typical outline of how a session should be planned and undertaken. The example below is for a group of 40 players starting at 10am.

Start Time	End Time	Test	Players Per Test	Coaching Requirements	Notes
10:00	10:15	Height	13 (5 Pairs, 1 Group x 3)	1 Coach (Measure & Record)	<ul style="list-style-type: none"> <li>Split into 3 even groups;</li> <li>1 Coach per test;</li> <li>Rotate the groups around 3 tests</li> </ul>
		Weight	13 (5 Pairs, 1 Group x 3)	1 Coach (Measure & Record)	
		Balance	14 (7 Pairs)	1 Coach (Time & Record)	
10:15	10:30	Medicine Ball Throw	20	2 Coaches (1 Measuring, 1 Recording)	<ul style="list-style-type: none"> <li>Split into 2 even groups;</li> <li>2 Coaches per test, if available;</li> <li>Rotate groups to both tests.</li> </ul>
		Standing Long Jump	20	2 Coaches (1 Measuring, 1 Recording)	
10:30	10:50	Agility T-Test	40 (One Group)	4 Coaches (2 observing markers, 1 timing & recording, 1 other)	<ul style="list-style-type: none"> <li>Warm Group up together;</li> <li>One coach designated to ensure those waiting continue to warm up;</li> </ul>
10:50	11:20	60m Shuttle	2 Groups x 20 (10 pairs per group)	All Available Coaches (2 Recording, remaining coaches helping measurements)	<ul style="list-style-type: none"> <li>Take time to explain to the group how the test will be measured;</li> <li>No more than 10 players running per test.</li> </ul>
11:20	12:00	Bleep Test	2 Groups x 13 1 Group x 14	All available coaches (1 recording, remaining coaches monitoring)	<ul style="list-style-type: none"> <li>Try to run test a maximum of 3 times, but avoid overcrowding each test;</li> <li>Each test will take approximately 10-16 minutes).</li> </ul>



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**Contact Details**

For any queries on fitness testing please contact Kevin McGuigan using the following details;

**Kevin McGuigan**

**Ulster GAA Sport Science Support Officer**

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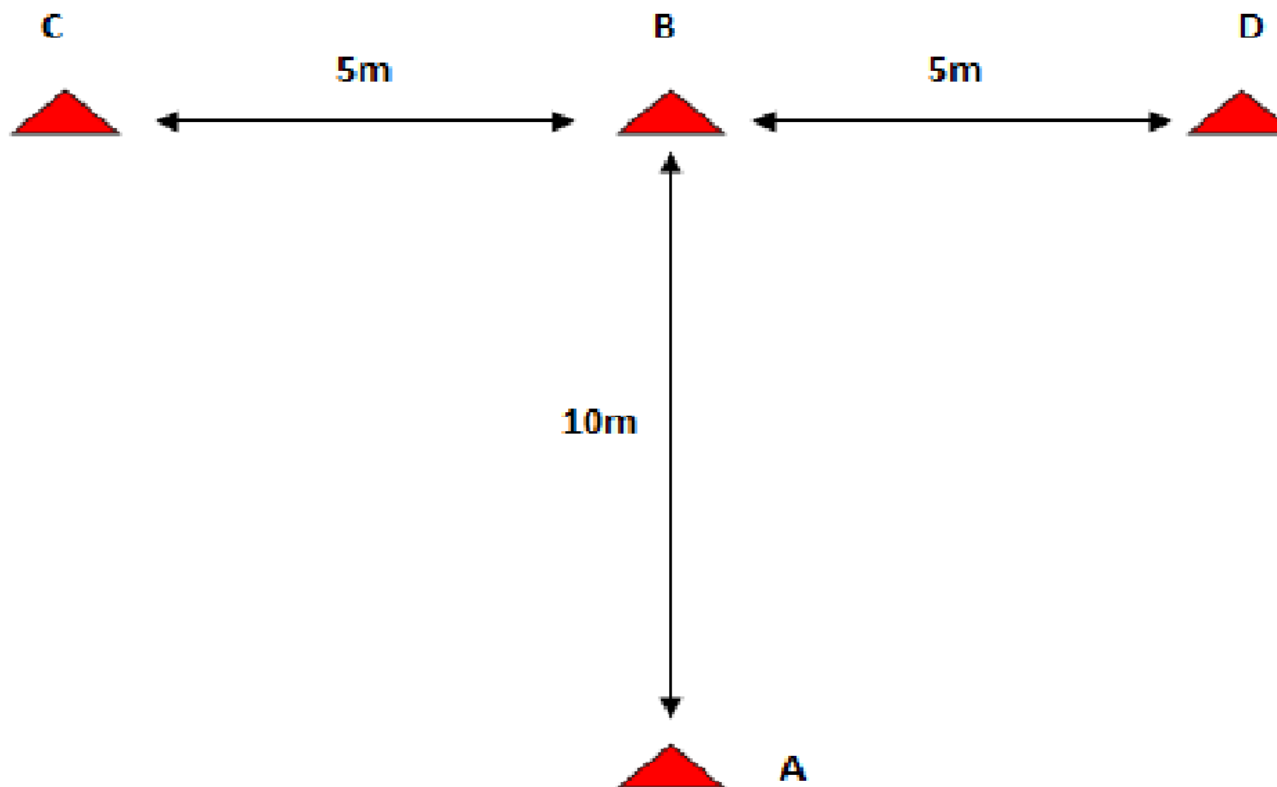
**Website: [www.ulstergaa.ie](http://www.ulstergaa.ie)**



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Appendix 1

Agility T Test





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**Appendix 2**

**60m Shuttle**

