

## HEIGHT & WEIGHT

The athlete's height and body weight are needed to classify him relative to his peers.

Weight is part of the SPARQ Rating as it's used along with Vertical Jump height to derive a peak leg power result. Height is needed to profile the athlete relative to other players, especially those in his/her positional group.

Anaerobic energy expressed in the powerful movements of sport is closely related to lean body mass of athletes. Body weight reflects in part the lean (muscle + bone) mass of an athlete. SPARQ combines body weight with vertical jump height to calculate Peak Power, which is factored into the SPARQ Rating.

### TESTING PROTOCOL [WEIGHT]

Zero out scale and check to make sure it is calibrated for accuracy.

Remove footwear (shoes/spikes) and any bulky outer clothing.

Record weight to the nearest pound, e.g. 158 lbs. If scale has metric reading, record weight to the nearest tenth of a kilogram, e.g. 71.6 kg.

Kilogram reading is preferred to pounds if available (simplifies rating calculation).

If wearing bulky clothing, subtract 2-3 lbs and record corrected weight.

### TESTING PROTOCOL [HEIGHT]

Remove shoes and stand flat-footed on a level surface. Heels should be firmly planted on floor and torso should be erect while head kept flat.

If using measuring tape, measure from base of heel to crown of head.

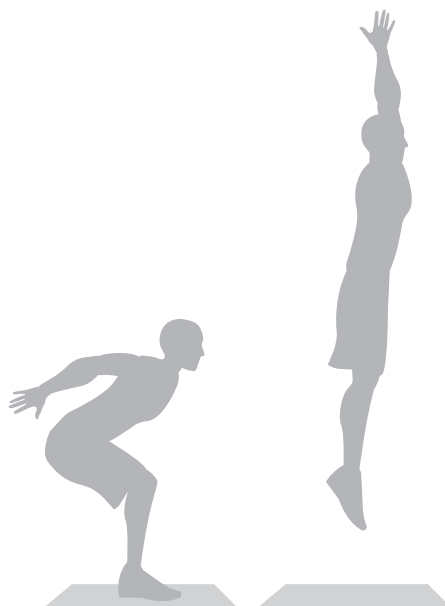
Measure height to the nearest inch, e.g. 6' 3".

## VERTICAL JUMP [FOR MALES]

The standing Vertical Jump reveals the development of your lower-body peak power, a true difference maker to every athlete, from high-school to professional sports.

SPARQ combines body weight and Vertical Jump height to calculate Peak Power. Peak Power is the athletic attribute plugged into the SPARQ Rating. Your vertical jumping ability - in other words, your Peak Power - has a direct correlation to your ability to accelerate and burn, in practice and at game-time.

### DIAGRAM



### TESTING PROTOCOL

Stand on the mat in a jumping stance with both feet planted.

Use your arms and a countermovement to aid in jump. Jump when you're ready.

Your test administrator will use a handheld device accompanying the mat to measure your flight time. This is automatically converted into your Vertical Jump results.

Your test administrator will record the highest of the two measured jumps.

### DISQUALIFICATION Your vertical jump height will not counted if:

You bend, lift or tuck your legs in flight to extend your flight time.

You step into the jump.

You land on one foot, or if one of your feet lands off the jump mat.

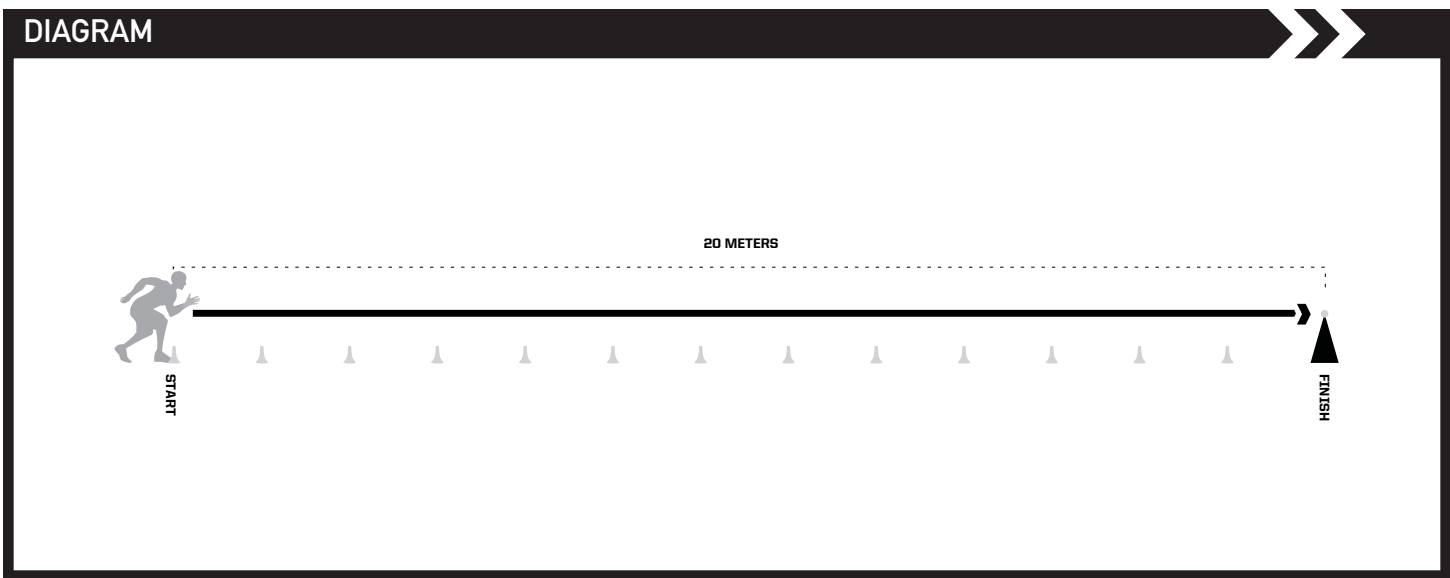
There are any equipment malfunctions that have clearly impaired your jump.

# 20-METER SPRINT

The 20-meter sprint measures an athlete's rate of linear acceleration from a standing start and his/her ability to transition into top-speed running.

Although sprint and high-speed running account for maybe a tenth of the total distance covered in a game by a player in the field (or on the court), high-intensity running performance is a proven discriminator among athletes of different playing levels. In ball sports, especially, 'off the mark' speed and sprints to the ball (or play) typically dictate possession and the outcomes of decisive situations in a game.

Technical analysis of field sports shows that most young athletes will execute straight-line sprints for an average of 3 seconds (up to a maximum of 5 sec.) before encountering an obstacle or altering direction to gain tactical advantage. For this reason the 20-meter (65.6 feet) sprint is more revealing than longer sprints of the short-track speed and acceleration common to most sports.



**TESTING PROTOCOL**

Start in a 2-foot stance that is most familiar to you and that you think will yield the best time. Counter movements are not permitted. You may step on or touch the starting line. You may lean across the starting line. Hold starting stance for 3 seconds prior to start.
As you accelerate, keep your head down, maintain a fast stride frequency, and drive your arms and legs.
Make sure you run through the finish line. The clock stops when your chest crosses the finish line.
Measure 20 yards (60 feet) on a field or other surface. For the most accurate time, we recommend using a digital timing system, but a stopwatch will work. If you are using a stopwatch, the timing starts with the first movement after the set position. Stop the clock when the athlete's chest crosses the finish line. The athlete runs the 60-yard dash twice, and his or her best time is recorded to the nearest two decimals (for example, a time of 4.453 should be recorded as 4.45).

**DISQUALIFICATION** Your 20-meter dash will be disqualified and not counted if:

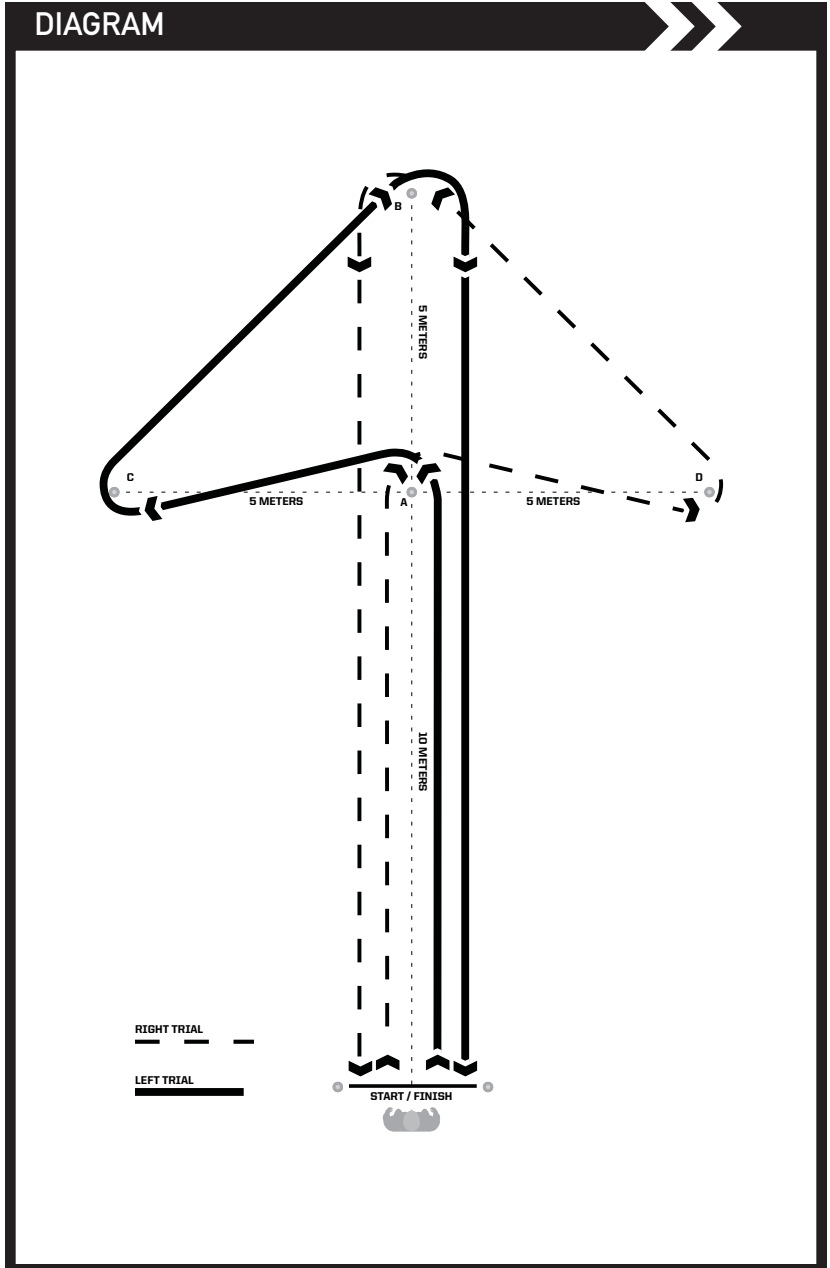
You use Digital Cones, and starts timer prior to starting dash. (If using Digital Cones please allow athlete to become familiar with vertical plane created by infra-red beam emitted from Digital Cone.)
You false start, ie. starts without being set for 3 seconds and/or uses a rolling/running start.
You start sprint with down hand across the starting line at take-off .
You start the dash and don't complete the dash.
Note: You will be warned after your first disqualification and allowed to redo dash. Any additional dashes in which the athlete does not complete dash as instructed by the protocol, will result in a disqualified dash with no redo.

# ARROWHEAD AGILITY

The Arrowhead Agility test measures the agility of an athlete, especially body control and change of direction.

The game demands frequent momentary changes of direction and speed. Athletes with superior agility are able to make the most of their physical attributes (and overcome some limitations) and quickly coordinate movements to gain advantage in match situations. Studies have shown that agility is one of the most powerful discriminators and a potential predictor of talent among otherwise equal players.

TESTING PROTOCOL
If Hand Timing is used, athletes assume an athletic stance on the ENTRY LINE.
If Digital Timing is used, athletes assume an athletic stance 50 centimeters behind the entrance to the agility course (STARTING LINE for Digital Timing).
Put one foot forward on the starting line.
Remain "set" for 2-3 seconds before beginning the test to minimize rocking or countermovement.
A complete test on the Arrowhead Agility Course consists of two trials – one right and one left.
Right Trial: Sprint to 'A' (see diagram). Round the left side of 'A' and sprint to 'D'. Round the right side of 'D' and sprint to 'B'. Round the right side of 'B' and sprint back across the starting line.
Left Trial: Sprint to 'A' (see diagram). Round the right side of 'A' and sprint to 'C'. Round the left side of 'C' and sprint to 'B'. Round the left side of 'B' and sprint back across the starting line.



DISQUALIFICATION
Arrowhead times are disqualified and not counted if:
You false starts, i.e. does not remain in a set position for 2-3 seconds or uses a rolling or running start.
You step over any cone instead of going around it.
You run through the cones or flags in the improper order.
Note: You will be warned after your first disqualification and allowed to redo your test. Any additional throws in which you do not execute the throw as instructed by Test Administrator, will result in a DQ with NO opportunity to redo.

# YO-YO INTERMITTENT RECOVERY TEST LEVEL 2

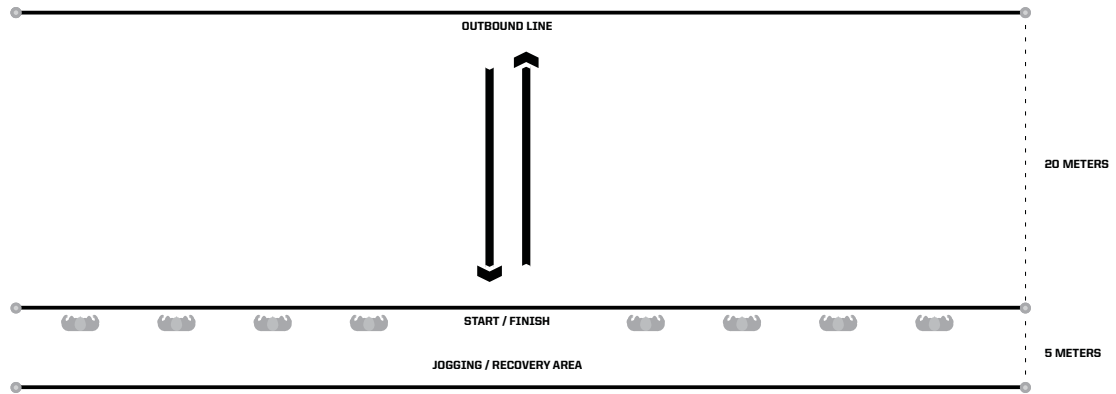
The YIRT is a great indicator of a player's capacity to recover and execute subsequent bouts of intensity.

The Yo-Yo Intermittent Recovery Test (YIRT) is a 20 meter shuttle test with progressively increasing pace as dictated by audio beeps from the test CD. Athletes start out shuttling from one end to the other at a relatively slow pace and then quickly ramp their speed according to the pace set by the beeps. Each bout of intense running (2x20m shuttle) is followed by 10 seconds of recovery prior to the athlete resuming a sprint.

The intermittent nature of the test taxes the energy system, both aerobic and anaerobic, in a way that relates to the intermittent nature of football.

The YIRT is a great indicator of a player's capacity to recover and execute subsequent bouts of intensity. Research has shown that distance covered on the YIRT (as measured by the speed-level and stage attained) relates more closely than VO2max to key performance variables like competitive classification (elite, sub-elite, recreational). The YIRT is also a great positional discriminator, sensitive to differences in the average recovery capacity of various playing positions such as forward, defense and goalkeeper.

## DIAGRAM



## TESTING PROTOCOL

- Athletes complete pairs of 20-meter sprints paced by audible cues (beeps); One pair of sprints = one 40-meter shuttle.
- Beeps come in sets of three called Speed Levels. Each Speed Level consists of two 20-meter sprints followed by a 10-second recovery.
- There are 67 Speed Levels in all. It is highly unlikely that any athlete can complete all levels.
- Athletes stand with one foot on the Start/Finish Line.
- At the first beep from the CD, they sprint 20 meters to the 20-meter marker. The athlete must reach the 20-meter marker before the second beep. Each subject waits at the 20-meter marker for the second beep.
- At the second beep from the CD, subjects sprint 20 meters back to the Start/Finish line.
- Each subject must reach the Start/Finish line before the third beep.
- At the third beep, each subject must have broken the plane of the starting line.
- Each then has 10 seconds to jog from the Start/Finish line to and back from the 5-meter marker line of cones or flags (this 10-meter jog represents their active recovery).
- Once they return to the Start/Finish line, subjects wait for the next beep and the start of the next Speed Level.
- This pattern continues for each subject until each receives his second warning. On the second warning for each subject, the test ends.

## DISQUALIFICATION Individuals receive a warning if:

- You fail to reach the 20-Meter Marker before the second beep of a Speed Level.
- You fail to reach the Start/Finish line before the third beep of a Speed Level.
- You false start by crossing the Start/Finish line or 20-meter marker before cued by the CD.
- Note: This is a maximal test and subjects should be given benefit of the administrator's doubt in administering warnings, dismissals or disqualifications provided the subject is clearly making every effort to advance as far as he can go.