**Beep Test Aerobic Fitness Assessment for Soccer**

A variety of popular fitness tests are generically called "Beep Tests" because an audio tape is used to control timed runs over a measured course, and an audio tone communicates timing information the test subjects (runners). The tests are run continuously until the subjects can no longer continue or start to miss (arrive late at gates). The highest running pace and number of repetitions that the runner can accomplish successfully is then the players rating. The rating is translated, by some biometric wizardry, into an estimate of VO2Max, the amount of Oxygen that the athlete can consume per unit of body mass.

Beep tests are very popular for pre-season and in-season fitness assessments for soccer players and athletes in other sports. The minimal equipment and space requirements make them attractive. The interval runs that are part of a beep test prove very challenging for even elite soccer players in top condition. Better still, the tests provide a very good spread in results, separating athletes into many levels of fitness, providing the soccer coach with a realistic, quantitative, assessment of individual and team fitness.

In the standard Beep Test (also known as the Leger Test), the runner covers a 20 meter interval at steadily increasing pace, with several iterations to be completed at each pace before moving on to the next.   In the Birtwell Test, a 40 meter course is used.  There are also tests for which the running pace varies randomly, in an attempt to more closely match game conditions.   There are also variations that allow some recovery time between running intervals.

### Warm-Up

* Before the Endurance Test begins, the players must be warmed up and thoroughly stretched out.

### Setup



* A 20 meter lane is defined for each player.  The lane is set up on flat ground or turf, with two cones on the ground at each end of the lane to define a shoulder width gate at each end of the lane.
* There should be one lane for every two players to be tested.
* One player, the recorder, holds an Endurance Test Record form and a pen at an end of the lane.
* The other player, the runner, stands with at least one foot on the line between the two cones that define a gate at the end of the lane.  The runner faces the far end of the lane.  Unlike the illustration, no ball is required.

### Procedure

* After the warm-up and set-up are both completed, the coach should carefully explain the simple beep test to the players, and, using the audio tape, allow the players to run a few repetitions at the lowest speed so that they become accustomed to the two sounds on the tape.
* A single beep is used to indicate the start and completion of each interval.  The first beep starts the runner, the next one signals the end of the first interval and the start of the next.

### Runner Instructions

* The runner is to start at one end of the lane, facing the other end.
* At the start, the player must have one foot between the two cones that define the gate.
* At each beep from the audio tape, the player must run to the gate at the opposite end, and get a foot between the cones at that opposite end gate before the next beep sounds.
* If the runner does not arrive early enough to place a foot in the cone gate, that is, on the imaginary line connecting the two cones, a miss will be recorded.
* Two misses in a row retire the runner from the test.

### Recorder Instructions

* The recorder must line through the number corresponding to the repetition number at each speed as the runner completes the interval successfully.
* The recorder marks along each row, from left to right, until all repetitions at the speed are completed.
* When all repetitions for a running speed are completed, the recorder moves down to the next row.
* If the runner arrives late, the recorder must circle the repetition failed and warn the runner ("warning!")
* If the runner misses two gates in a row, the runner is to retire, as the recorder circles the second failed repetition.  Note that two gates missed does not force the runner to retire, it is two consecutive gates.

### Soccer Coach Instructions

* Ensure that the course is accurately measured and that the beep test audio tape is running at the right speed - Bangs Bo recommends timing the tape to within 1 second.   This ensures the value and comparability of the results.
* The coach must ensure that the recorders understand the instructions, particularly that each successfully completed interval must be lined through, and also that two misses in a row are required to retire a runner, not just two misses.
* The coach must ensure that the runners who arrive early at the end gate wait until the beep to return to the other end.
* Note that, at the lower speeds, players might be laughing or complaining about the ease of the test.  However, things get quiet at about Speed 9, and by Speed 11 to 13, people are dropping out.