NAB
AFL
NATIONAL DRAFT COMBINE – 2010

AT
AUSTRALIAN INSTITUTE OF SPORT
CANBERRA

★ TEST EXPLANATIONS

★ PROTOCOLS

★ CONFIRMATION OF SELECTED TESTS FOR NAB AFL STATE DRAFT COMBINES

K. Sheehan
August 2010

TESTS FOR THE NAB AFL NATIONAL DRAFT COMBINE

Order of Tests:

1) Anthropometry
   a. Height
   b. Body Mass
   c. Sum of seven skinfolds
   d. Handspan
   e. Arm Length

2) Vertical Jump
   Standing
   Running

3) Speed – 20 metre sprint

4) AFL Agility Run

5) 6 x 30 metre repeat sprint

6) Endurance
   a. 20 metre shuttle run
   b. 3km Time Trial

7) Skills Kicking Test

8) Skills Clean Hands Test

ANTHROPOMETRY

1a. HEIGHT

Standing height to the nearest 0.1cm without shoes on, using the Frankfort plane and instructing the player to breathe in when measuring.

Equipment –

- A wall mounted stadiometer with a sliding head piece is preferred.

Test Procedure.

1) Player is instructed to take off shoes and socks.

2) The stretch stature method requires the subject to stand with feet together and the heels, buttocks and upper part of the back touching the scale.

3) The head when placed in the Frankfort plane need not be touching the scale.

4) The Frankfort plane is achieved when the orbitale (lower edge of the eye socket) is in the same horizontal plane as the tragion (the notch superior to the tragus of the ear). When aligned the vertex is the highest point on the skull.

5) The measurer places the hands along the jaw of the subject with the fingers reaching the mastoid processes.

6) The subject is instructed to take and hold a deep breath.

7) Whilst keeping the head in the Frankfort plane the measurer applies a gentle lift throughout the mastoid processes.

8) The recorder places the headboard firmly down on the vertex, crushing the hair as much as possible. Watching also that the subject's feet do not come off the floor, and that the position of the head is maintained in the Frankfort plane.

9) Measurement is taken at the end of a deep inward breath. Record in cm.

1b. BODY MASS

Equipment

- Electronic scales that measure to the nearest 0.05kg

Test Procedure

1) Make sure the scales are used on a hard surface or kept on top of a wooden board.
2) The player is to be dressed in minimal clothing only, with shoes and socks removed.
3) Check that the scale is reading zero before the player steps on the scales.
4) The player stands on the centre of the scales without support and with the weight evenly distributed on both feet.
5) The head is up and their eyes look directly ahead throughout the measurement.
6) Record the measurement when scales have stabilised.

1c. SKINFOLDS

Equipment

- Skinfold calipers calibrated to measure to the nearest 0.1 cm
- Lufkin measuring tape
- Marker pen

Test Procedure

1) ISAK protocols for skinfolds should be followed and only ISAK accredited anthropometrists used to take the measurements.

2) Players should be marked up for skinfolds. Seven sites to be tested: triceps, subscapula, biceps, supraspinale, abdominal, thigh and calf.

3) Single measures can be taken and reported, or if time permits duplicates or triplicates as required.

4) Report the sum of seven skinfolds to the nearest 0.1 cm.

1d. HANDSPAN

Equipment

- Purpose built measuring frame, or
- Metal ruler 30 cm in length with 0.1 cm increments

Test Procedure

1) Position the marking frame and ruler on a table. Fix to the table using clear tape.

2) The right hand is placed on a flat table featuring 90 degree frame with cm scale on the horizontal plane. The right thumb must touch the vertical frame with the hand fully outstretched and lying flat on the table.

3) Measurement on the scale extends from vertical frame where the thumb is touching to the outside tip of little finger of the right hand.

4) Report the maximal handspan to the nearest 0.1 cm.

1e. ARM LENGTH

Equipment

- Marker pen
- Lufkin tape (2.0 m) or segmometer (with 0.1 increments)

Test Procedure

1) Find and mark the acromiale landmark on the right shoulder according to the ISAK 2006 protocol. Definition: The point on the superior aspect of the most lateral part of the acromion border. In practice, this landmark is best located and marked for the skinfold measurements first, then it is a simple matter of measuring the arm length.

2) Player position: The player assumes a relaxed position with the arms hanging down by the sides. The shoulder girdle should be in a mid-position.

3) Location: Standing behind and on the right hand side of the player, palpate along the spine of the scapula to the corner of the acromion. This represents the start of the lateral border which usually runs anteriorly, slightly superiorly and medially. Apply the straight edge of a pen to the lateral and superior margin of the acromion to confirm the location of the most lateral part of the border. Mark this most lateral aspect. The acromion has an associated bone thickness. Palpate superiorly to the top margin of the acromion border in line with the most lateral aspect.

4) In the anatomical position the player fully straightens his right arm and hand with the hand in a slightly pronated position. Measurement is made the Lufkin tape or segmometer from point of shoulder (acromiale) to tip of middle finger on right hand.

5) The arm length is reported to the nearest 0.1 cm.

2. VERTICAL JUMP

Equipment

- Yardstick® jumping device
- Recording Sheets

Test Procedure

Standing Reach Height

1) The player should stand side-on to the Yardstick® jumping device.

2) Keeping the heels on the floor, the player reaches upward with their dominant hand as high as possible, fully elevating the shoulder to displace vanes.

3) Record the Standing Reach as the highest vane displaced.

4) The Standing Reach height may be calculated as the pole setting height (i.e. 160, 170, 180cm etc) plus the highest vane displaced (i.e. vane 24 = 24cm). Record this measure in centimetres.

Jump Height

5) Move several of the lower vanes away before instructing the player to stand close to the Yardstick for their jump.

6) An arm swing and counter movement is used to jump as high as possible with the player displacing the vane at the height of the jump.

7) The take-off must be from two feet with no preliminary steps or shuffling.

8) The player performs three trials but may continue as long as improvements are being made. The best of the trials is recorded.

9) The absolute Jump height may be calculated as the pole setting height (i.e. 160, 170, 180cm etc) plus the highest vane displaced (i.e. vane 80 = 80cm). Record this measure in centimetres.

10) Calculate the difference between Jump Height and Standing Reach height to give the relative vertical jump result (in cm).

RUNNING VERTICAL JUMP

1) The subject stands at a mark 5m from the side of the Vertec (allowing for a straight line approach). The player must commence their run-up from the 5 m mark (Figure 3).

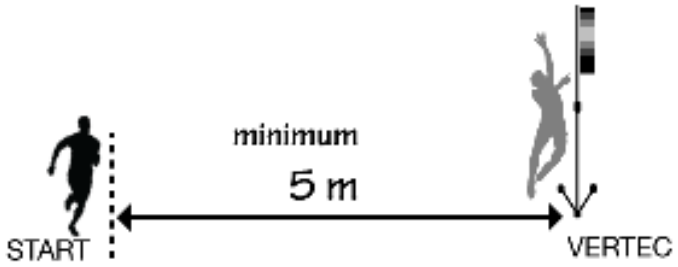
2) Using an approach run up, the subject jumps vertically off the outside leg and reaches as high as possible with the inside hand. The action is similar to a ruck contest. The rotating fingers of the Vertec or Yardstick are tapped to the side with the outstretched hand at the maximum height of the jump.

3) Three trials are taken from each side. The left side is taken as the left leg take off – right hand jump, while the right side is taken as the right leg take off– left hand jump.

4) The standing reach height is recorded as per the standard vertical jump test.

5) Record the height of the jump from the number on the highest vane displaced for both the left side and right side. The criterion score is the difference between the maximal jump height and the standing reach height.

Figure 3.



3. SPEED – 20 metre Sprint

Equipment

- Electronic Timing Gates
- Measuring Tape
- Marking Tape and Cones
- Recording Sheets

Test Procedure

1) Measure out specified distances with measuring tape, checking that there are no twists in the tape when laid out. Where possible, use a lane marker or sideline (straight line) to lay the measuring tape along.

2) Mark each interval (e.g. 0, 5, 10, 20m points) with masking tape including a start line (0 m) and a finishing line.

3) Place two cones approximately four metres after the last set of timing gates.

4) Set timing gates at 0, 5, 10 and 20 m intervals– see Figure 1.

5) Timing lights on the start line should be set at the lowest height to ensure capture of the start. Place each timing gate pair about 1.5 – 2.0m apart.

6) Purge the timing module memory and then set it to the correct number of splits.

7) The starting position is with front foot toe touching the 0m mark (starting line).

8) The player should be encouraged to start the sprint with their body mass over their front foot, shoulders and hips square in a crouch "ready" position, toe up on back foot and no rocking allowed.

9) The player may start when ready thus eliminating reaction time.

10) The players should be instructed to sprint as fast as possible, right through to the cones to ensure they don't decelerate before they reach the final gate and thus increase their total time.

11) Split times (at 5 m and 10 m) and final time (20 m) for three trials are recorded to the nearest 0.01 s.

12) Allow at least 2 minutes active recovery / rest between sprint trials.

13) The best time for 5, 10 and 20 m is used as the final result even if these times come from different trials.

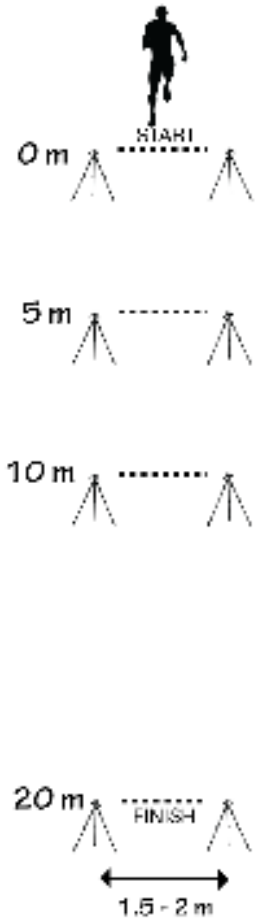


Figure 1. Set-up for the 20 m sprint test showing intermediate timing gates at the 5 and 10 m lines and a finish gate at 20 m.

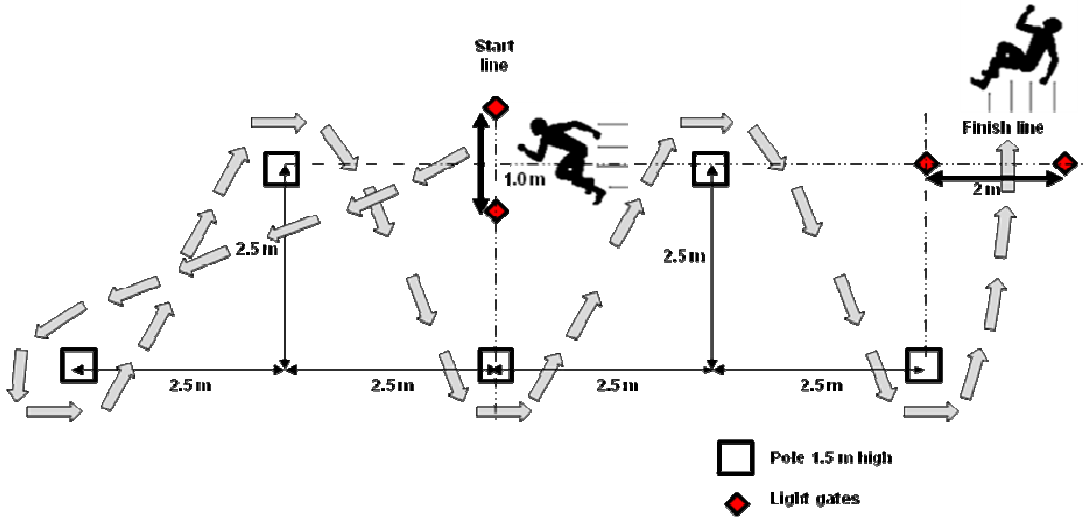
4. AFL AGILITY RUN

- The run is an AFL-specific agility test, used to indicate a player's overall agility and ability to change direction with speed.
- Two sets of electronic light gates are required, one at the start and one at the finish (see Figure 2). The start gate is 1.0 m in width and straddles (i.e. 0.50 m either side) the intersection of the two lines in the figure. The finish gate is anchored on the left side at the intersection of the two lines and is 2.0 m in width.
- The five (5) poles made of PVC piping (10-12 cm diameter) have a 25cm base and are approximately 1.1m high. Obstacles are weighted at the bottom of the piping (internally) to increase stability. Plastic masking tape should be placed on the floor at two corners of the pole so it can be accurately re-positioned if it is knocked over.
- For set-up and operation of the light gate timing system refer to the accompanying instructions provided by the manufacturer.

PROTOCOL:

1) Players start from a stationary, upright position with a front foot on the 0m point, in line with the start gate. Players weave in and out of the poles as per diagram below and should avoid moving them in any way. If this occurs, or a pole is knocked over completely, the test is stopped and then restarted.
2) Players should complete a short warm-up of light running, stretching and some run throughs. After instruction, players should have a practice trial at 50% effort to familiarise themselves with the course.
3) Three 100% maximal effort trials are recorded and the best time (seconds reported to two decimal places) taken as the score. Allow 2-3 mins recovery between trials.

Figure 2. Schematic diagram of the AFL Agility run.



5. 6 x 30-M REPEAT SPRINT

Equipment

- Electronic Timing Gates (4-6 gates)
- Measuring Tape
- Marking Cones
- Stop Watch

Test Procedure

1) The over-ground, repeated-sprint test requires the players to perform 6 maximal 30-m sprints departing every 20 s. The test is a measure of speed-endurance. A short warm-up of light running and stretching should be undertaken prior to the test. If this test is conducted after other tests, then adequate recovery should be provided. The test should be conducted indoors on a sprung polished wooden floor (or indoor synthetic) with sufficient space for the lanes and run-off – in practice at least a 70 m space is required. Record the type of surface used.

2) Set-up the timing gates at the 0-30 m marks for the number of lanes being used (typically one or two or three depending on the number of players to be tested, available equipment and staff). Place a cone marker for the turnaround point at both ends exactly 10 m from the 0 and 30 m timing gates (Figure 5). There should be a minimum of at least 5 more metres run-off area beyond the turnaround cones. At each of each running lane position a starting line exactly 1.0 m behind the zero line of the timing gates.

3) The timing system must be correctly set-up prior to the commencement of the test according to the manufacturer's specifications. The player(s) get a 10 second warning, a 5 second warning and then a verbal command of 'ready' at 0.5 second before a starting signal (beep). The player commences their maximal effort at the starting beep.

4) All players should be given appropriate warm-up and instruction. It is suggested that two submaximal repetitions of the repeated-sprint test are undertaken to re-familiarise the players to the test procedures (especially the jog intensity for the active recovery component). A recovery period of approximately 5 min should be given before commencing the test.

5) The start position for each sprint in both directions is at the line marked 1.0 metres from each timing gate.

6) The test starts with a 30 m sprint. The player gradually decelerates through to a jog / walk by the 10-m cone, turn and commences return journey back to the 1.0 m starting line. Constant verbal feedback is required from a designed testing official during the jogging component to ensure adequate pacing. As 5 second warning is given; the player should be at the starting line in a relaxed position, and only assumes the ready position immediately before the 'go' command to commence the next sprint. A common mistake is the player adopting the crouched starting position too early and losing balance.

7) The total time (seconds) is used as the criterion score. Other possible outcome measures to include the comparison of the fastest time against the primary 20-m sprint test time, and the % decrement in velocity (time) over the test.

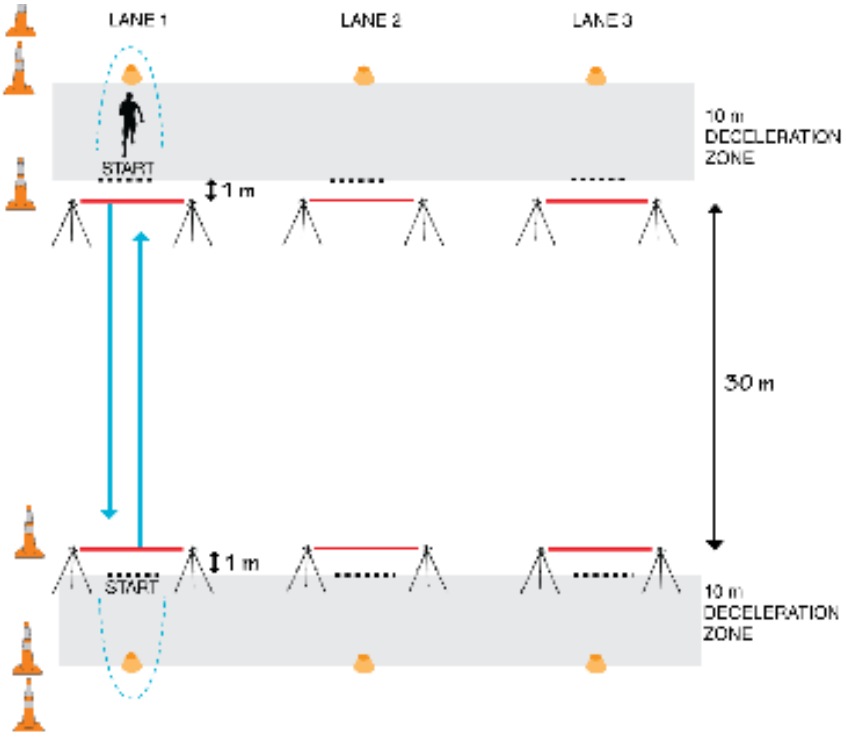


Figure 5. Schematic diagram (not to scale) of the course set-up for the 6 x 30 m repeat sprint test.

ENDURANCE

6a. 20 METRE SHUTTLE RUN

Equipment

- Measuring Tape
- Marking Tape and Cones
- CD or MP3 Player
- Test CD
- Recording Sheets

Test Procedure

1) Measure the '20 m' distance (from a permanent line such as a baseline where possible) and mark it clearly with marking tape (if possible) and cones set at approximately 1.5m intervals.

2) Allow the players to warm-up by running and stretching.

3) Have players line up along one of the lines, ready to start.

4) Start the CD and ensure the players listen carefully to the instructions. The commentary will provide a brief explanation of the test leading to a five second countdown before the start of the test itself. Begin the test at Level 1.

5) The CD emits a single 'beep' at various intervals. A player must try to be at the opposite end of the 20 m track by the time the following beep sounds. After approximately each minute, the time interval between beeps decreases and running speed has to increase correspondingly.

6) The first running speed is referred to as "Level 1" and so on until the final speed at Level 21.

7) The player must place one foot on or over the 20 m mark at the sound of each 'beep'.

8) If the player arrives at the line before the beep sounds, they should turn (by pivoting) and wait for the beep before continuing to the next line.

9) If a player fails to reach the line at the sound of the 'beep' the player must receive a warning that they will be eliminated if they are not at the opposite end of the 20 m track at the sound of the next 'beep'. The line monitor will raise their right hand and yell out the player's number to alert the other line monitor at the 20 metre mark.

10) When near exhaustion, players falling short of the 20 m line twice in succession (one warning and a subsequent missed line) have their test terminated and their score recorded) – see Figure 4. The score will be recorded manually by a staff member whom will give it to the test supervisor for data entry.

11) The test score is the level and number of shuttles **for the lap (shuttle) immediately previous** to the 'beep' on which they were **eliminated**.

12) After completing the test players should cool down by a minimum of 5 min walking followed by a range of lower body stretches.

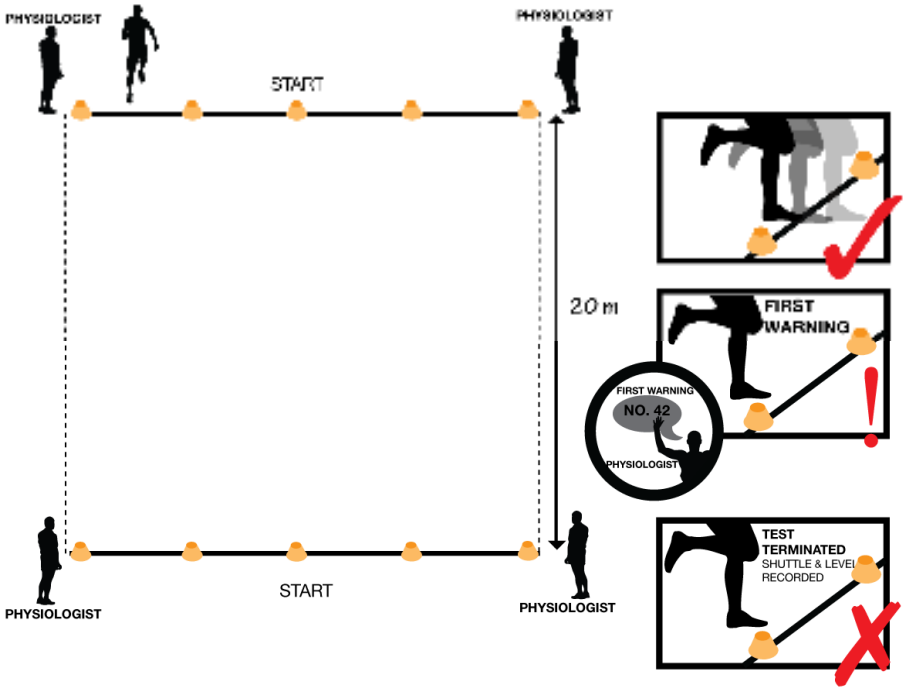


Figure 4 – schematic diagram showing the exclusion criteria for the 20 metre shuttle run test.

6b. 3km TIM TRIAL

Equipment

- 400 m athletics track
- Stop watch
- Recording sheets
- Observers, spotters and recorders

Test Procedure

1) A marked 400 m athletics track is used for the 3km time trial (7.5 laps x 400 m). A synthetic surface is preferred although well-cut and maintained grass track could be a suitable alternative. The ambient temperature, relative humidity and wind speed should be recorded.

2) The test protocol is a single maximal effort 3km time trial. Players should be given a short warm-up of light running, stretching and basic instructions.

3) Players should be encouraged to adopt an even pacing strategy. A player expecting to run ~11 min for 3 km should lap at ~88 seconds per lap, or ~92 and ~96 s per lap for 11:30 and 12 min respectively. A common mistake is to go out too fast on the first lap.

4) Players should be tested in small groups of 10-20 players. Staff members should be assigned to the following roles: starter, lap counter, spotter(s) for finishing order of players, a spotter for stragglers who are lapped, time keeper(s) and a recorder.

5) Players should be given verbal instructions during the 3 km time trial including the numbers of laps completed or remaining, the elapsed time and general encouragement on effort and performance.

6) The total time in minutes and seconds for the 3 km for each player is reported.

7. SKILLS KICKING TEST

Setting Up The Test

- The test should be conducted on a grassed oval and in boots.
- Record the ambient temperature, humidity, wind speed and direction in relation to the kick test.
- The Receive and Kick line is 2m across the front and two lines extend a further 2m at 45 degrees (as shown)
- The Kicker starts at a cone 2m from the Kick line
- The Turn Cone is 2m from the Kick line
- The Caller/Feeder, who feeds and calls the kicks, is a further 2m from the turn cone.
- The distances should be measured from the corner of the Kick line
    - 20m is measured at a 45 degree angle from corner to cone
    - 30m is measured from corner to cone and
    - 40m is measured from corner to cone
    - The 30 and 40 m cones should line up as shown in the diagram.
- The target circles are 4m in diameter
- The Scorer should stand at 35m to best assess the result of each kick.

Running The Test

- The test comprises 6 kicks per player
- Each player kicks to each of the respective targets to complete the test
- The Caller feeds the ball with the aim of the player **receiving the ball on the Kick line**
- The 6 calls are Short Left or Right(20m), Middle Left or Right (30m) & Long Left or Right (40m)
- Each kick is called randomly **as they receive** the football
- The kicker must receive the ball, hear the call, circle the Turn cone & kick to the appropriate target
- Each kick is timed from the moment the player leaves the starting cone to the point of contact for the kick. Each kick to be executed under 3 seconds.
- There is little need for rest and each test should take around 90 seconds.

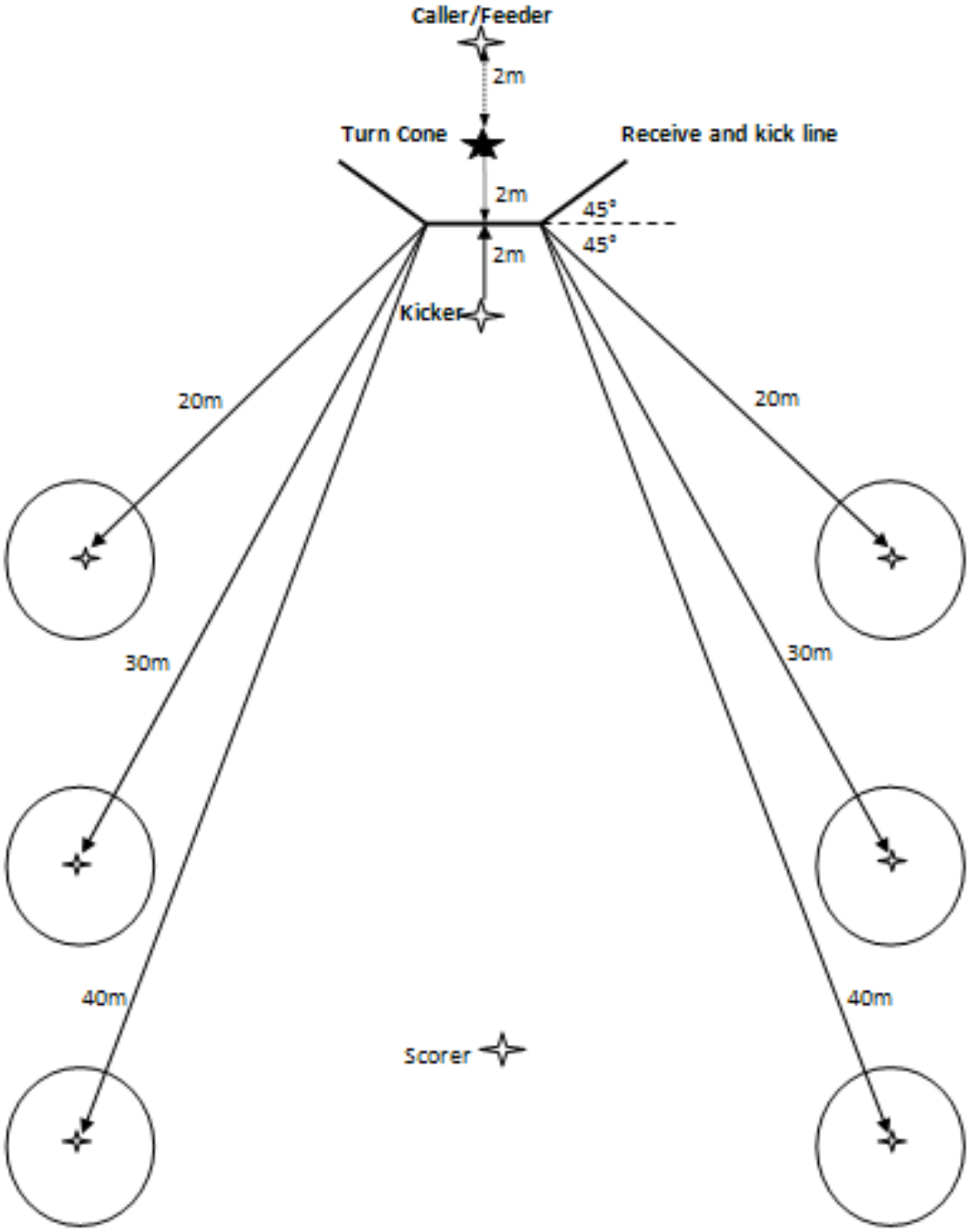
Scoring The Test

- A target player stands in the centre of each of the target areas
- Each kick will be judged on the following criteria

5 Points……Excellent……..Target didn't move & ball travelled quickly with low trajectory & perfect spin.
4 Points……Very good……Target receives within one step of the cone, low trajectory & good spin.
3 Points……Effective……..Target receives with a foot inside circle, good trajectory & spin.
2 Points……Ineffective…..Target had to leave circle to mark ball, good trajectory & spin.
1 Point……..Poor……..Target unable to mark football, poor trajectory & spin.

- Any kick executed beyond the 3 sec timeframe will incur a 1 point penalty
- A floater that hits the mark should be docked 1 point
- The Scorer will be the sole judge of the ranking of each kick.
- The recorder of the scores will assist the caller as the test takes place

TESTING PROTOCOLS



8. SKILLS CLEAN HANDS TEST

Setting Up The Test

- The test should be conducted on a grass oval and in boots.
- The receive line for the take is 2 m across the front.
- The release line is a further 3 m in front of the receive line.
- The turn cone in between handballs is 3 m back from the receive line.
- The Caller/Feeder, who feeds and calls where the handballs need to be executed is 8 m from the receive line for ground balls and 10m for balls kicked.
- The distances should be measured from the release line.
    - : 6 m handball is measured at a 45 degree angle from corner to cone
    - : 8 m handball is measured from corner to cone
    - : 10 m handball is measured from corner to cone
- The player must release the ball and execute the handball by the release line, which is 3 m from the receive line.
- The target player will be on a cone at 6 m, 8 m and 10 m from the receive line
- The scorer should stand at around 5 m behind the Feeder/Caller, to best assess the result of each take and handball.

Running the Test

1. The test comprises of 6 takes and 6 handballs
2. Each player receives the ball and handballs to any of the respective targets at the call of the Feeder, to complete the test.
3. Every distance must be covered in the test.
4. The Caller/ Feeder, feeds the ball in with the aim of the player taking the ball cleanly, whether it be below his knees or at chest level at the receive line.
5. The six calls will comprise of Short Left or Right (6 m) Middle left or Right(8 m) and Long Left or Right(10 m)
6. Each take and handball is called randomly by the feeder/caller as the ball is released from the feeder/caller.
7. The player must concentrate on the call, take it cleanly and release the ball in the release zone, to the appropriate target with the appropriate hand.
8. Once the handball is executed, the player will jog back to the initial starting cone, 5 m back from the receive line.
9. There is little need for rest and each test should take around 90 seconds.

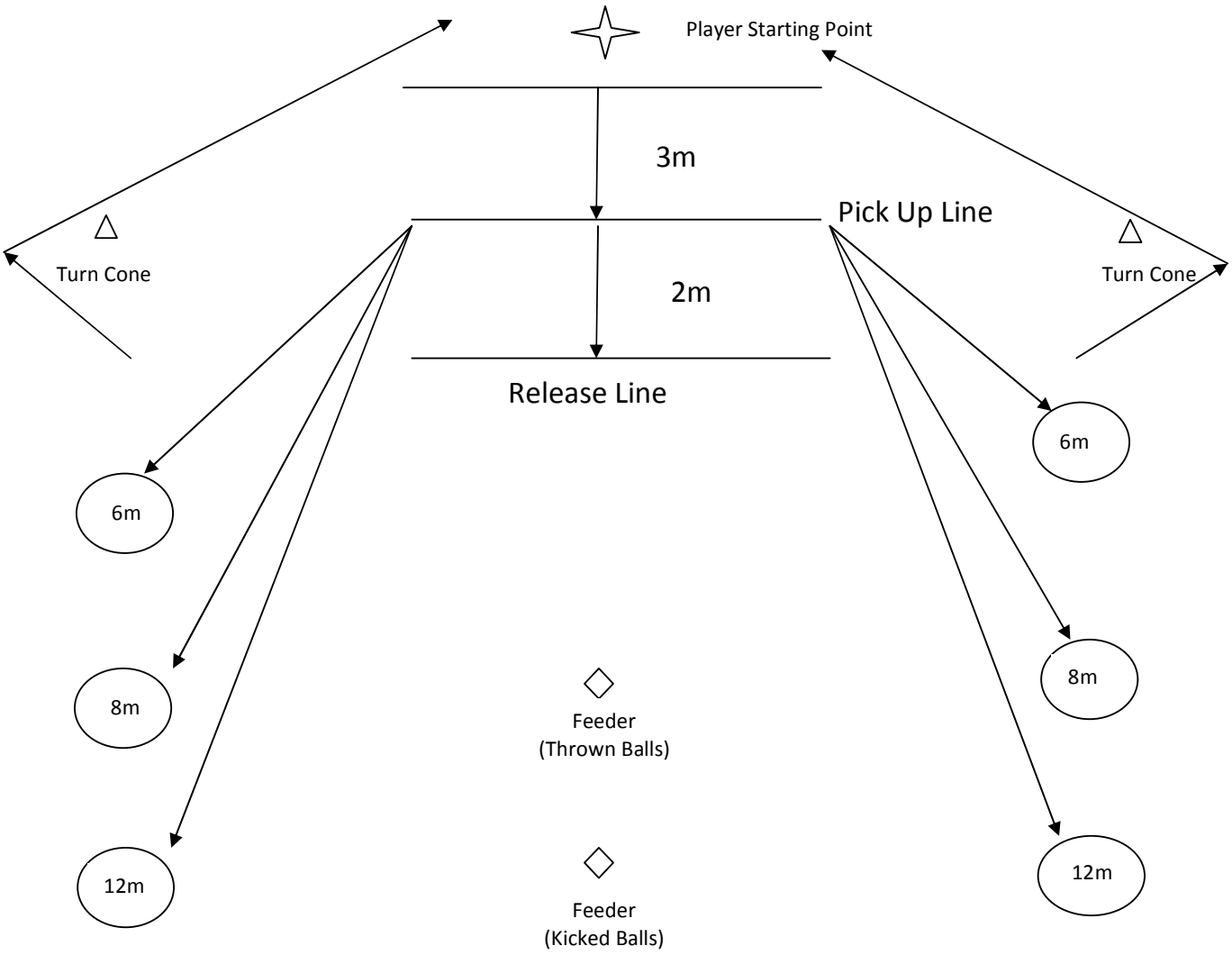
Scoring the Test

1. A target player stands on each cone at 6 m, 8 m and 10 m
2. Each take and handball will be judged on the following criteria :

5 Points	Excellent	Clean take, quick execution with perfect spin & target not moving receiving ball at chest height.
4 Points	Very Good	Clean take, quick execution and good spin with target moving slightly to receive.
3 Points	Good	Clean take, satisfactory execution with target able to take the ball after moving.
2 Points	Marginal	Fumble but recovers to reach target with good technique.
1 Point	Poor	Fumbles and gets ball to target with poor technique.
0 Points	Fail	Fumbles and misses target completely.

TESTING PROTOCOLS

SKILLS CLEAN HANDS TEST



TESTS FOR NAB AFL STATE DRAFT COMBINES

Order of Tests:

1) Anthropometry
   - Height
   - Mass
   - Sum of seven skinfolds
   - Handspan
   - Arm Length

2) Vertical Jump
   - Standing
   - Running

3) 20m sprint

4) AFL Agility Run

5-10 min recovery break

5) 6 x 30 metre repeat sprint

10-15 min recovery break

6) 20-m shuttle run