

# Instructions for AFL Musculoskeletal Screening Protocol

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## INTRODUCTION

Welcome to the AFL musculoskeletal screening DVD. Below is a list of the equipment you will require and written instructions for each test. For queries or more information please email [screening@afl.com.au](mailto:screening@afl.com.au).

## EQUIPMENT

Equipment required:

- 1 metre steel ruler (available from hardware stores)
- rigid tape
- stopwatch
- inclinometer (available from building tool suppliers, know as an “angle finder”) or 1 modified goniometer – with a small spirit level attached with double sided tape (calibrate against a vertical surface)
- sphygmomanometer
- 1 goniometer
- plinth
- stable box 20-30cm high, or access to a step 20-30 cm high

## THE MUSCULOSKELETAL TESTS

The musculoskeletal tests are described below in a suggested order for Level 1 and 2 tests – the “core” set of tests. If lack of time is a factor, we suggest doing Level 1 tests only.

- **Ankle dorsiflexion standing lunge** – Level 1 test  
Tape the steel ruler on floor, perpendicular to a wall. Ask the player to place their big toe and heel on the steel ruler and lunge forward so that their knee touches the wall without the heel leaving the ground. If the heel lifts, ask the player to move their foot forward and re-do the test. Measure the distance (cm) from big toe to wall. Ensure this is the limit of the ankle range. Also make sure the pelvis has not rotated during the test.
- **Single leg stance for balance** – Level 2 test  
Ask the player to stand on one leg with their arms crossed over their chest and with eyes closed. Time for 30 seconds. Count the number of touches to the floor the player makes with the free leg during the 30 seconds. Players are not to shuffle or move their standing foot. If they do, re-start the test. They are allowed one “practice” test if they shuffle their standing foot, or move their trunk excessively. Give feedback, then re-start the test.

- **Single leg squat** – Level 1 test  
 Ask the player to stand on one leg with their arms crossed over their chest. Ask the player to slowly squat as low as possible without lifting the heel. Repeat 5 times. Grade the quality of squat as poor, average or good.
- **Single leg calf raise** – Level 2 test  
 With bare feet, ask the player to stand on one foot on the edge of the small box or step and perform a calf raise through full range of motion. Continue this movement at a rate of 1 repetition per second until the player is unable to move through full range of motion. Record the number of calf raises performed.
- **Prone hip internal rotation passive fallout** – Level 1 test  
 With the player prone on the plinth, bend the knees to 90° and let both lower legs fallout. Measure the angle of the lower leg by holding the modified goniometer or inclinometer along the line of the tibial shaft. Ensure the pelvis remains level throughout the testing and that the knee stays at 90° flexion.
- **Squeeze 60** – Level 1 test  
 With the player supine, ask them to bend one knee, bringing the heel level with the opposite knee and leave the foot there, then bend the other knee and place that foot at the same level as the first foot. Fold the pressure cuff of the sphygmomanometer in thirds and pre-inflate to 10mmHg. Place it between the knees, inline with the shaft of the femur. Ask the player to slowly squeeze the pressure cuff as hard as they can and hold for 5 seconds. Record the maximum pressure, and ask and record whether there was any pain on a scale from 1 to 10. (“What was your pain on a scale of 1 to 10?”) You may also record the location of the pain.
- **Squeeze 0** – Level 1 test  
 Begin the test with the player supine and legs straight (hips and knees at 0 degrees). Fold the pressure cuff of the sphygmomanometer in thirds and pre-inflate to 10mmHg. Place it vertically between the knees. Ask the player to slowly squeeze the pressure cuff as hard as they can and hold for 5 seconds. Record the maximum pressure and ask if there was any pain on a scale from 1 to 10. (“What was your pain on a scale of 1 to 10?”) You may also record the location of the pain.
- **Supine hip internal rotation at 90o.**- Level 1 test  
 With the player in supine, passively take their leg to 90° hip flexion. Internally rotate the leg passively and visually estimate the range of internal rotation into the following categories <20°, 20-45° or >45°. (A goniometer may also be used to measure this range.)

- **Hip quadrant / hip impingement test** – Level 2 test  
With the player in supine, take the leg into full hip flexion, passively internally rotate and adduct the thigh with moderate over-pressure. Record whether the player reports pain in the hip or not.
- **Supine active hip internal rotation** – Level 1 test  
Place the player supine, hip in a neutral position and lower leg over the edge of the plinth. Ask the player to rotate their foot out as far as possible. Record the angle of the lower leg with the modified goniometer or inclinometer along the line of the tibial shaft. Ensure the pelvis stays level throughout the testing.
- **Supine active hip external rotation** – Level 1 test  
Place the player supine, hip in a neutral position and lower leg over the edge of the plinth. Have the opposite leg abducted out of the way. Ask the player to rotate their foot in as far as possible. Record the angle of the lower leg with the inclinometer or modified goniometer along the line of the tibial shaft. Ensure the pelvis stays level throughout the testing.
- **Modified Thomas test for hip flexor** – Level 2 test  
Have the player supine in the Thomas test position, with gluteal fold of the testing leg at the edge of the plinth. Ask the player to pull the opposite leg to their chest. Allow the test leg to hang passively over the edge of the plinth and record whether the line of the femur is above horizontal, horizontal or below horizontal.
- **Modified Thomas test for quadriceps length** – Level 2 test  
Have the player supine in the Thomas test position, with gluteal fold of the testing leg at the edge of the plinth. Ask the player to pull the opposite leg to their chest. Allow the test leg to hang passively over the edge of the plinth and record the flexion angle at the knee with a goniometer.
- **Elevated single leg bridge\*** – Level 2 test  
Have the player lying supine on the floor with one heel on a box or plinth at 60cm high. The knee of the test leg is slightly bent at 20° and opposite leg is bent to 90° hip and knee flexion with their arms crossed over chest. Ask the player to elevate the hips as high as possible and the assessor places a hand at this height. The player repeats this action as many times as possible, and touches the assessors hand each time. The first time the player fails to touch the assessor's hand, a warning is given, the second time the test is stopped and the number of repetitions recorded. The player may also stop the test due to fatigue or hamstring discomfort.

\*The reliability of the elevated single leg bridge is still being investigated.