

Guidelines for the Leg test for Para-va'a Athletes



Information

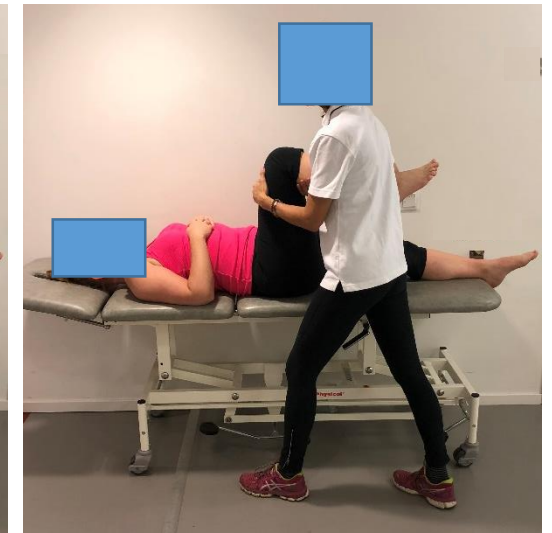
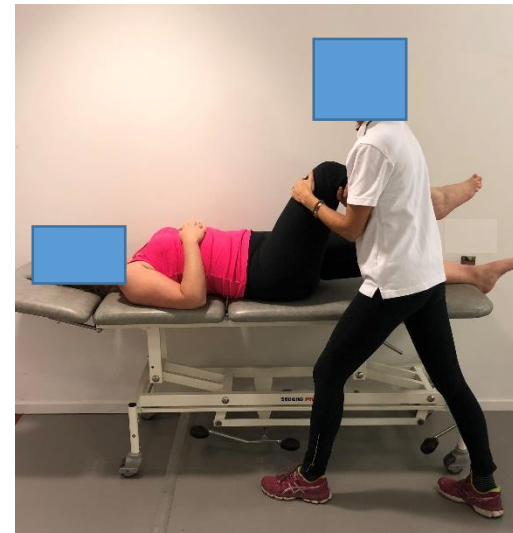
Please note that the purpose of the pictures is to show the position of the athlete and classifier. The classifier's job is to assess function and not position, the scores may therefore be different during a classification even though the position is similar to what is shown in the manual.

Equipment

- Treatment bench with adjustable height
- Goniometer (if athlete has limited range of motion, the range of motion has to be measured and recorded on the scoring sheet)
- Protocol

Hip flexion

- **Position of Athlete:** the athlete lies in supine, with the hip flexed to 60° and lower leg supported by classifier
- **Position of Classifier:** place a hand above the athletes's knee to give resistance. The lower leg can be supported under the calf if needed
- **Test:** the athlete should pull to flex the hip from 60° to 100°
- **Instruction:** “pull your thigh against my hand”
- **Grade 2:** the athlete can overcome resistance and flex the hip
- **Grade 1:** the athlete can flex the hip without resistance. If the athlete cannot perform the test in supine, reposition the athlete into sidelying and repeat the test with gravity eliminated.
- **Grade 0:** the athlete can't perform the movement



Hip extension

- **Position of Athlete:** the athlete lies in supine, with the hip flexed to 100° and lower leg supported by classifier
- **Position of Classifier :** place a hand below the athletes's knee to give resistance and one hand under the calf for support
- **Test:** the athlete should push to extend the hip from 100° to 60°
- **Instruction:** “push your thigh against my hand”
- **Grade 2:** the athlete can overcome resistance and extend the hip
- **Grade 1:** the athlete can extend the hip without resistance. If the athlete cannot perform the test in supine, reposition the athlete into sidelying and repeat the test with gravity eliminated.
- **Grade 0:** the athlete can't perform the movement



Knee flexion

- **Position of Athlete:** the athlete sits with the knee flexed to 20°. The athlete can hold on to the supporting surface to stabilize themselves. Some athletes may need support from a coach to maintain the seated posture
- **Position of Classifier:** position one hand behind the athlete's ankle to give resistance and the athlete's thigh should be supported by the classifier's forearm
- **Test:** the athlete should pull to flex the knee from 20° to 60°
- **Instruction:** "bend your knee"
- **Grade 2:** the athlete can overcome resistance and flex the knee.
- **Grade 1:** to test the function against gravity, reposition the athlete into prone position and ask the athlete to flex the knee. If the athlete cannot perform the test in prone position, reposition the athlete into sidelying and repeat the test with gravity eliminated.
- **Grade 0:** the athlete can't perform the movement



Knee extension

- **Position of Athlete:** the athlete sits with the knee flexed to 60°. The athlete can hold on to the supporting surface to stabilize themselves. Some athletes may need support from a coach to maintain the seated posture
- **Position of Classifier:** position one hand behind the athlete's ankle to give resistance and the athlete's thigh should be supported by the classifier's forearm
- **Test:** the athlete should push from 60° to 20°
- **Instruction:** "straighten your knee"
- **Grade 2:** the athlete can overcome resistance and extend the knee
- **Grade 1:** the athlete can extend the knee without resistance. If the athlete cannot perform the test in seated position, reposition the athlete into sidelying and repeat the test with gravity eliminated.
- **Grade 0:** the athlete can't perform the movement



Plantarflexion

- **Position of Athlete:** the athlete lies in supine, with the knees and hips extended and with the ankles positioned over the end of the bench. The feet are in plantarflexion (10°)
- **Position of Classifier:** One hand is placed under the sole of the forefoot and the other is placed around the heel
- **Test:** the athlete should push from 10° plantarflexion to 45° plantarflexion. The classifier must take care to observe that the plantarflexion is taking place at the ankle, NOT the forefoot
- **Instruction:** “point your foot down towards me”
- **Grade 2:** the athlete can overcome resistance and plantarflex the foot. If the classifier is unsure whether the athlete scores 2, the classifier can ask the athlete to stand up on one leg and push up to tiptoes
- **Grade 1:** the athlete can plantarflex the foot without resistance. If the athlete cannot perform the test in supine position, reposition the athlete into sidelying and repeat the test with gravity eliminated
- **Grade 0:** the athlete can't perform the movement



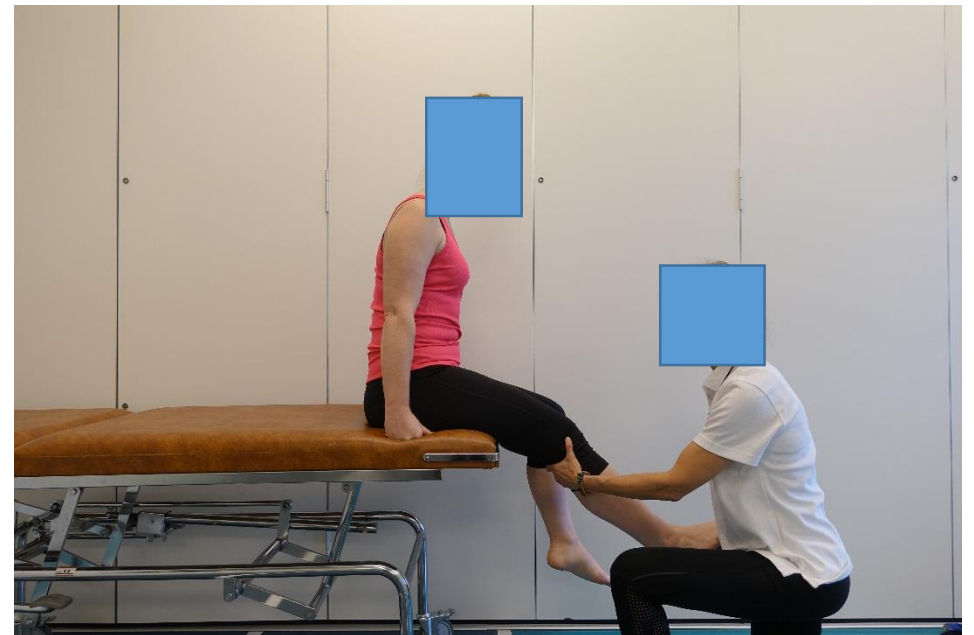
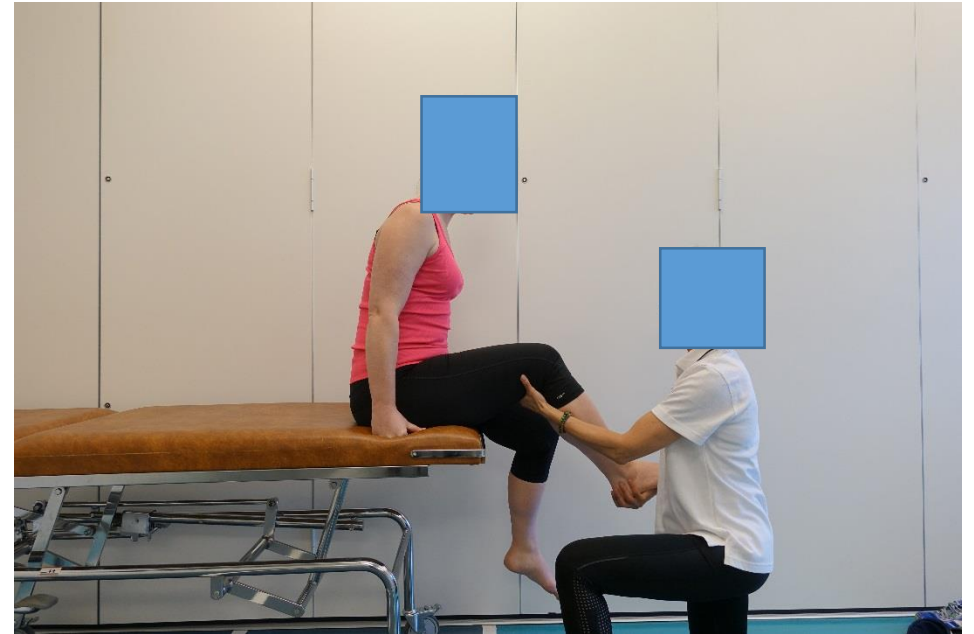
Dorsiflexion

- **Position of Athlete:** the athlete lies in supine, with the knee and hip extended and with the ankles positioned over the end of the bench. The feet are in a plantarflexed position (45°)
- **Position of Classifier:** the classifier's hand is placed over the front of the foot
- **Test:** the athlete should pull the foot from 45° plantarflexion to 10° plantarflexion. Make sure that the movement is performed without supination or pronation
- **Instruction:** "pull your foot up"
- **Grade 2:** the athlete can overcome resistance to dorsiflex the foot
- **Grade 1:** the athlete can dorsiflex the foot without resistance. If the athlete cannot perform the test in supine position, reposition the athlete into sidelying and repeat the test with gravity eliminated
- **Grade 0:** the athlete can't perform the movement



Leg press

- **Position of Athlete:** athlete sits over the edge of the bench with one leg with hip and knee flexed supported by the classifier. The athlete can hold on to the supporting surface to stabilize themselves. Some athletes may need support from a coach to maintain the seated posture
- **Position of Classifier:** the classifier half kneels in front of the athlete to resist and control direction of movement. The classifier supports the athlete's foot around the heel and under the knee
- **Test:** the athlete should push to extend the hip from 100° and the knee from 60° downwards
- **Instruction:** "push down against my hands to straighten your leg"
- **Grade 2:** the athlete can overcome resistance and extend the hip and knee
- **Grade 1:** the athlete can extend the hip and knee without resistance
- **Grade 0:** the athlete cannot perform the movement



When range of motion is the limiting factor

- Score 2: If strength is 2 and range of motion is more than 50 % of the sport specific range.
- Score 1: If strength is 2 or 1 and range of motion is less than 50 % of the sport specific range.
- Score 0: If strength is 2 or 1 and range of motion is outside the sport specific range.

Leg amputation

Hip flexion/extension:

Score 0: the athlete has a hip disarticulation or hemipelvectomy.

Score 1 and 2: use the same scoring system as for the hip flexion/extension tests if the athlete has an above knee amputation regardless of the length of the residual limb

Knee flexion/extension:

Score 0: the athlete has a through knee amputation or there is no active movement in the residual limb.

Score 1 and 2: if the athlete has a below knee amputation and have an intact tibial tubercle, the knee flexion/extension can be scored 1 or 2 depending on the function. If the amputation affects the tibial tubercle, but the extensor muscle is inserted to some point on the remaining residual limb, the function can be scored 1.

Plantar flexion/ dorsiflexion

Score 0: the athlete has a tarsal level amputation.

Score 1 and 2: the athlete has a metatarsal amputation or below.

Leg press:

Score 0: the athlete has an above knee amputation, regardless of wearing a prosthesis or not.

Score 1: the athlete has a through or below knee amputation and can perform the movement without resistance

Score 2: the athlete has a below knee amputation, regardless of wearing the prosthesis or not.