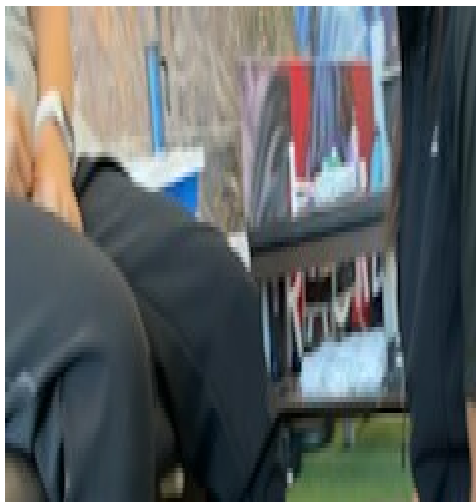


Return to Sport Test: Hip

Isometric Strength via handheld dynamometry (HHD)

- Procedure: Make Test. "Push as hard as you can into my hand. Hold for 3, 2, 1". Record 3 trials and average for each leg.
- Scoring: Limb symmetry index as a ratio of the average score for surgical leg to non surgical leg
- Time Frame: Would expect at least 75% LSI around 12 weeks prior to initiating run program and 90% by 5-6 months
- Muscle groups:
 - Seated Quadricep Strength with knee at 90 degrees
 - Pt positioned in seated position with testing limb parallel to foot of the table. PT positions strap with HHD attached to wrap around leg just above malleoli and foot of table. The strap needs to be tight enough for when the patient kicks into strap, the knee is bent to 90 degrees. Cue for patient to kick straight into strap for 3 seconds. Do not allow the patient to use hands for support on table or elsewhere.
 - * If the patient is in too much pain at 90 degrees, modifications can be made using the leg extension machine for 60 degrees*

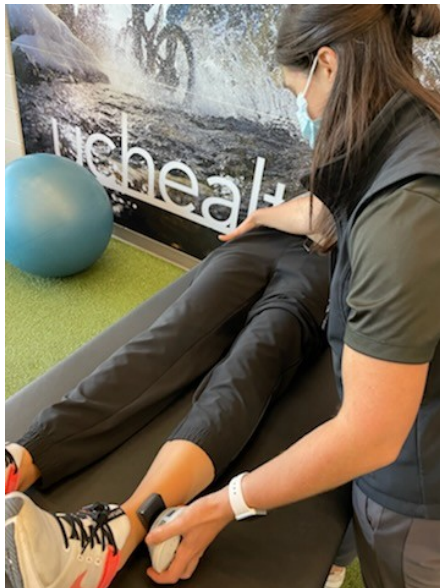


- Hamstring Strength in Prone with knee at 30-60 degrees
 - Pt positioned in prone with knee bent to 30-60 degrees on hi-lo table with ankles hanging off table. HHD placed proximal of insertion of Achilles (above malleoli). PT positioned in the most comfortable position able to produce force against patient, most commonly standing beside table and overtop of patient's legs in a lunge position. Cue patient to kick straight back into HHD, look and cue for any hip flexion, hip extension or back extension compensations.
 - *If patient is too strong for the PT performing testing, can use a strap around the patient's leg that attaches to a heavy weight on the floor, or around the patient's waist with the hi-lo table at a higher height to ensure proper pull. *



o Supine hip abductor strength

- Pt positioned in supine with testing side extended with ankles slightly hanging off the table. Pt allowed to stabilize with contralateral limb, bent at ~90 deg flexion. HHD placed just proximal to lateral malleolus of testing side. PT positioned on same side of testing limb in lunge position with elbow flexed ~90 deg and stabilized into body. May need to further stabilize with other hand under table depending on strength of pt. Cue for patient to kick straight laterally and avoid any lifting from the table/ER of foot to prevent TFL compensation.



o Supine hip adductor strength

- Pt positioned in supine with testing side extended with ankles slightly hanging off the table. Pt allowed to stabilize with contralateral limb, bent at ~90 deg flexion. HHD placed just proximal to medial malleolus of testing side. PT positioned on opposite side of testing limb in lunge position with elbow flexed ~90 deg and stabilized into body. May need to further stabilize with other hand

under table depending on strength of pt. Cue for patient to kick straight medially and avoid any lifting from the table



- o Prone hip extensors with knee at 90deg
 - Pt positioned in prone with knee flexed to 90 deg, using hi-lo table optimally at its lowest position to maximize body mechanics. HHD should be placed just proximal to popliteal fossa with PT positioned directly over patient's thigh with elbows extended, both hands on HHD. Instruct the patient to push their leg upwards towards the ceiling, making note of any hamstring or lumbar compensations.



Adductor to Abductor Strength Ratio

- Procedure/Scoring: divide average adductor score from HHD testing by average abductor score from HHD testing x 100
- Cut off: 90% ratio

Single leg hamstring bridge

- Procedure: The test leg is positioned in approximately 20° knee flexion on approximately 60 cm or 24" box. Patient will cross arms over the chest and push down through the heel to lift off the ground and perform reps to form failure or patient terminates test. Patient may receive only 1 verbal cue/reminder for form throughout before terminating test for form failure.
- Scoring: Limb symmetry index as a ratio of the score for surgical leg to non surgical leg
- Cut off: 90% LSI
- Competitive sport cut off: 90% LSI **AND** at least 30 reps bilaterally



Copenhagen plank

- Procedure: Patient is positioned on their side with their legs extended and top foot (not calf) resting on box or bench. Patient will push themselves up onto their forearm to lift their hips off the ground into a side plank position. Test begins when the patient lifts bottom leg up from the ground. Instructions to patient are to "hold this position as long as you can." Test ends upon form failure or patient terminates. Patient may receive only 1 verbal cue/reminder for form throughout before terminating test for form failure. Collect a pain score out of 10 post test.
- Scoring: Length of time held in seconds. Limb symmetry index as a ratio of the score for surgical leg to non surgical leg
- Cut off: 90% LSI, pain <2/10
- Competitive sport cut off: 90% LSI, pain <2/10 **AND** at least 40 seconds bilaterally



Anterior Powerline Bunkie

- Procedure: Patient positions themselves in a plank on their forearms with their feet elevated on a 30 cm or 12" box/step. Patient lifts one leg off the box and is instructed to "hold as long as you can" until form failure or patient terminates test. Patient may receive only 1 verbal cue/reminder for form throughout before terminating test for form failure.
- Scoring: Length of time held in seconds. Limb symmetry index as a ratio of the score for surgical leg to non surgical leg
- Cut off: 90% LSI
- Competitive sport cut off: 90% LSI AND at least 40 seconds bilaterally



Y Balance Test

- Procedure: The patient is to be barefoot during this test. The patient will perform a single limb stance on the extremity being tested, with their hands on their hips, while reaching their contralateral foot outside their base of support as far as they can (pushing the indicator box if using the Y-balance kit) in 3 directions: anterior, posterolateral and posteromedial. The elevation of their heel, toe or loss of balance is recorded as trial error, this should be repeated. The patient gets 3 attempts, all of which are recorded and averaged.
- Scoring: Measure the distance between the stationary foot and the advancing foot. Record 3 trials and average scores for each leg.
- Cut off: <4 cm difference between average scores for each side



Single leg squat test

- Procedure: Position patient seated at edge of table or box with foot flat on ground. Adjust height of table/box so that patient has knee flexion measured to 45 degrees. Instruct the patient to perform a single leg squat to the surface as a practice repetition so they feel comfortable with their positioning. Begin the test from a standing position and instruct the patient to perform repeated single leg squats with their hips tapping the surface of the table or box. Instruct patient to perform as many repetitions as they can in 3 minutes, but as well as they can. Large deviations in form (dynamic valgus, contralateral foot support, etc) will not count as a repetition.
- Scoring: Number of repetitions in 3 minutes performed. Limb symmetry index as a ratio of the score for surgical leg to non surgical leg
- Cut off: 90% LSI



Medial and Lateral Triple Hop:

- Procedure: A maximum of five trials will be performed for each leg, the best of 3 will be averaged. This includes all warm-ups and “redos”.
 - o The patient is to jump as far laterally for three consecutive jumps off one leg and land on the same leg. The patient will begin the jump with their great toe aligned with the edge of the measuring tape. The patient will alternate one series per side. The measure will be from the take-off toe to the landing heel (of final landing).
 - o Criteria: **1)** Able to perform repetitions without dynamic knee valgus **2)** Able to maintain upright trunk during knee flexion **3)** The final landing must be held for three seconds without touching other extremities to ground or using additional hop for balance
- Scoring: Distance from 3 best trials is averaged. Limb symmetry index as a ratio of the average score for surgical leg to non surgical leg for medial and lateral directions
- Cut off: 90% LSI