Carleton ACL Performance Screening

Date: 10/2/21

Client B - (Needs Improvement)

DOB:

Surgical Leg Repair: Left

Date of Surgery:

Surgeon:

Referred by:

Physiotherapist:

Brace: No

Plyometrics: Yes

Running Yes

Agility? Yes

RAVENS
HIGH PERFORMANCE CENTRE

Comments:
(Relevent surgical history, sport background, and current activities related to rehabilitation)

FMS (Overhead Squat)

0 = Pain, 1 = Fail, 2 = Pass, 3 = Excellent

Comments:	Score	History	
1. - Tibia and upper torso not aligned; Femur is not below horizontal; Knees not alligned over feet; Overhead dowel is not aligned with feet.	1	Date	
		10-Feb	1

Overhead Squat:
0 = Pain, 1 = Fail, 2 = Pass, requires improvement, 3 = Excellent movement quality.

Drop Test

0 = Pain, 1 = Fail, 2 = Pass, 3 = Excellent

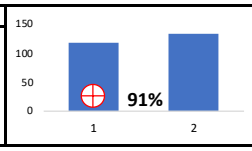
Comments:	Score	History	
1. - Valgus Landing; Asymmetrical force absorbtion; Knee flexion angle less than 30-45 degrees; Poor reaction time for sequential landing.	1	Date	
		10-Feb	1

Drop Jump Test:
0 = Pain, 1 = Fail, 2 = Pass, requires improvement, 3 = Excellent landing mechanics.

Single Leg Hop Test

100-96% = Pass 95-90% = Pass with Caution < 90% = No Pass

Comments:
Comments regarding the amount of asymmetry and observational notes regarding test performance (Confidence, Apprehension, Balance, Number of Attempts, Consistency).



Details	Left (SX)	Right
Max Jump (cm)	127	140
Jumps Avg (cm)	120.2	132.8
Asymmetry %	91%	
Attempts	3/6	3/3

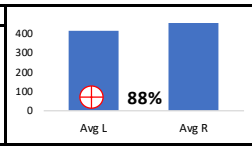
Average Jump Distance , typically:
Females >100cm, Males >120cm, Athletes >130cm
Asymmetry %:
< 90% = Fail, 90-98% = Pass, requires improvement, > 98%+ Pass
Attempts should be ideally 3/3 or 3/4, no more.

Client fits these 3 criteria, that would be a confident pass for this test, see comments for specific considerations.

Single Leg 3 Hop Test

100-96% = Pass 95-90% = Pass with Caution < 90% = No Pass

Comments:
Comments regarding the amount of asymmetry and observational notes regarding test performance (Confidence, Apprehension, Balance, Number of Attempts, Consistency).



Details	Left (SX)	Right
Max Jump (cm)	423	483
Jumps Avg (cm)	411.7	468.0
Asymmetry %	88%	
Attempts	3/6	3/4

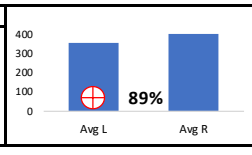
Average Jump Distance , typically:
Females >310cm, Males >350cm, Athletes >400cm
Asymmetry %:
< 90% = Fail, 90-98% = Pass, requires improvement, > 98%+ Pass
Attempts should be ideally 3/3 or 3/4, no more.

Client fits these 3 criteria, that would be a confident pass for this test, see comments for specific considerations.

Cross Over 3 Hop Test

100-96% = Pass 95-90% = Pass with Caution < 90% = No Pass

Comments:
Comments regarding the amount of asymmetry and observational notes regarding test performance (Confidence, Apprehension, Balance, Number of Attempts, Consistency).



Details	Left (SX)	Right
Max Jump (cm)	367	413
Jumps Avg (cm)	356.7	403.0
Asymmetry %	89%	
Attempts	3/5	3/3

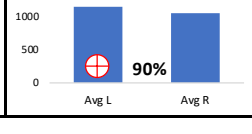
Average Jump Distance , typically:
Females >310cm, Males >350cm, Athletes >400cm
Asymmetry %:
< 90% = Fail, 90-98% = Pass, requires improvement, > 98%+ Pass
Attempts should be ideally 3/3 or 3/4, no more.

Client fits these 3 criteria, that would be a confident pass for this test, see comments for specific considerations.

Isometric Mid Thigh Pull (Force Plate)

100-96% = Pass 95-90% = Pass with Caution < 90% = No Pass

Posterior Chain Force Production Comments:
Comments regarding the amount of asymmetry and observational notes regarding test performance (Confidence, Apprehension, Number of Attempts, Consistency).



Details	Left (SX)	Right
Peak Force (N)	1267.9	1137.4
Avg Force (N)	1144.4	1033.3
Asymmetry %	90%	
Attempts	3/3	

Average Force, typically:
Females >900N, Males >1000N, Athletes >1200N
Asymmetry %:
< 90% = Fail, 90-98% = Pass, requires improvement, > 98%+ Pass
Attempts should be ideally 2/2 or 3/3. (3rd might indicate fatigued asymmetry)
Client fits these 3 criteria, that would be a confident pass for this test, see comments for specific considerations.

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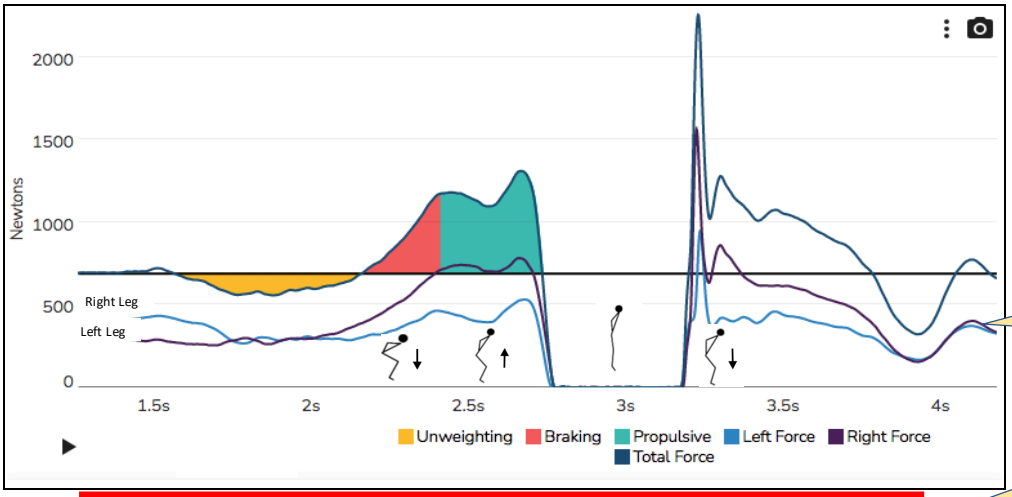
Carleton ACL Performance Screening

Countermovement Jump Analysis



Visual Representation, typically:
Smooth lines represent consistent force production and absorbtion during each phase of the jump.

Blue and Purple lines indicate left and right legs and how they produce force indipendently during a bilateral countermovement jump.

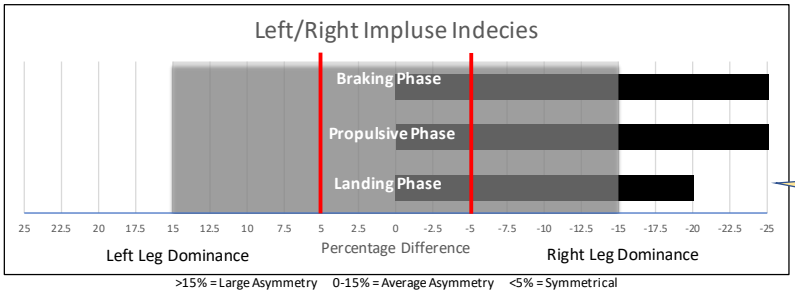
Date	Jump Height (m)	mRSI	Peak Propulsive Force (N)	Peak Velocity (m/s)
(blank)	0.20	0.180	1345.75	2.19

Performance Metrics

Jump Height:
Females >20cm, Males >20cm, Athletes >25cm
Reactive Strength Index Modified (mRSI):
Higher is better, but typically over 0.250 is good.
Peak Propulsive Force:
Higher is better, but typically:
Females >1500N, Males >1700N
Peak Velocity:
Higher is better, but typically over 2.0 m/s is good.

These are highly individual and specific to each client based on age, training history, and plyometric exposure. Difficult to establish pass/fails for these, but help paint a picture.

Assessing the metrics of a countermovement jump are useful in determining an athlete's lower body strength and power performance. When dissecting the metrics, three phases standout as import areas for identifying asymmetries between the left and right legs. The braking phase (initial eccentric deceleration towards the ground), the propulsive phase (rapid concentric acceleration driving off the ground), and the landing phase (the secondary eccentric deceleration controlling the return to the ground). The average value over the jumps is broken down between the left and right legs respectively and a percentage is calculated. If the value is negative there is a right leg dominance, if the value is positive there is a left leg dominance. An asymmetry of less than 15% will appear in the grey shaded area, an asymmetry of less than 5% will appear within the red lines.



>15% = Large Asymmetry 0-15% = Average Asymmetry <5% = Symmetrical

Braking Phase (Bilateral **Eccentric** Strength):
>15% = Large asymmetry, 0-15% = Avg asymmetry, <5% = Symmetrical.
Propulsive Phase (Bilateral **Concentric** Strength):
>15% = Large asymmetry, 0-15% = Avg asymmetry, <5% = Symmetrical.
Landing Phase (Bilateral Eccentric Strength - Landing):
Decreased emphasis on symmetry. However if significantly different from the braking and propulsive phases this may point to issues with landing strategies and increased injury risk.

Asymmetry Comments:
Comments regarding the amount of symmetrical force production and observational notes regarding testing data and then use that to reccommend specific training strategies to help guide clients success. Taking into account observations from previous jumping tests, the client is presented with our reccommended areas for enhancing thier ACL-R Assessment performance.

Overall Analysis:
Provide a summary of the entire assessment. Aim is to isolate and provide tailored training recommendations to reduce weakness' and enhance future assessments

Testing Summary

Functional Movement Screen	Not Pass
Drop Jump Test	Not Pass
Single Leg Hop Test	Pass Caution
Single Leg 3 Hop Test	Not Pass
Cross Over 3 Hop Test	Not Pass
Posterior Chain Force Production (IMTP Asymm.)	Pass Caution
CMJ Asymmetry Index	Not Pass

Overall Impressions for Readiness to Return to Sport:
✓ - Requires continued/improved strength and conditioning programming.
Hold progressing to sport specific training
X - NOT Able to perform modified controlled sport specific training on own. Individual basic movement patterns acceleration/deceleration with change in direction.
X - NOT Able to perform controlled sport specific training non-contact.
X - NOT Able to perform return to sport without restrictions.

Recomendation:
Test results represent current ability in a controlled environment. Test results provide information to help assist in return to play decisions. All return to play decisions should be considered on a case by case bases according to the many individual factors (training regime, age, sport, etc). The test design and scoring is difficult as 100% is our goal.

Return to sport test results need to be correlated with the clinical findings from your physician's follow-up appointment.

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