

ValleyOrtho Rehabilitation Playbook Series

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Surgical Procedure: Hip Labral Repair / Debridement with or without Micro Fracture **Red Playbook**

The intent of this information is to inform the treating clinician on the evidence-based considerations to be used as a guideline regarding the surgery noted above. This is not a substitute for appropriate clinical decision making, but a supplement to that effect. If at any time a clinician feels uncertain about a given phase discrepancy or patient presentation they are strongly encouraged to discuss this with the referring physician and his/her team.

****It is the responsibility of the therapist to read the operative report before providing care to the patient to improve treatment communication***.*

Therapeutic Activity Progression Disclaimer: Progression to the next phase should be strongly based on meeting clinical criteria (not solely based on the post-operative timeframes) as appropriate and in collaboration with the referring surgeon. Exercise prescription should be clinically directed by pain and performance absent of detrimental movement patterns with respect to proper biomechanics of the spine, hip, knee and ankle.

Communication Recommendations from Therapist to Surgical Team:

When a treating therapist feels the need to reach out to Dr. George, or a member of his team, at any point for any reason they are strongly encouraged to do so. All concerns are not explicitly written and clinical judgement is paramount. Below is a handful of reasons and suggested methods of contact to promote communication:

Urgent Red Flag Communication: the patient is in clinic and an action is required as directed by referring staff office

Uncontrollable and unremitting pain

- Signs of infection at incision or treated limb
- Severe palpation tenderness, swelling, tachycardia (UE or LE DVT)
- Labored breathing (PE)
- After a fall/trauma, or near fall/trauma, resulting in a clinical change

Preferred Contact Method: Immediate phone call to speak with MA or ATC until answer.

Administrative Needs

- Rehabilitation Prescription needed or prescription change requests
- Appointment needed with the physician office, or medication refill

Preferred Contact Method: Phone call to MA/ATC

Other Patient Concerns During Clinic Hours M-TH 9-5pm F 9-3pm

- Abnormal pain, comorbidities or complications that may prevent attainment of established discharge criteria
- Patient is noncompliant with rehabilitation process
- Adverse work or home practices negatively impacting recovery
- Patient expresses discontent or concerns with the current POC established by PT and/or by MD/PA

Preferred Contact Method: Phone call to MD &/or PA

Preferred Updates before checkup visits with MD/PA

During Clinic Hours M-TH 9-5pm F 9-3pm

- Information regarding adherence/participation in rehab process
- Comments on progress and trends of the patient's rehab course

Preferred Contact Method: Phone call to MD &/or PA. Or Fax update



Phase 1: Post-Op Healing and Protection Focus (Weeks 1 to 8)

Goals:

- Protect healing joint tissue via post-operative precautions
- Preserve muscle function in the core and lower kinetic chain

Precautions:

- Gait & Standing: Flat Foot 20# PWB with crutches until week 4 without microfracture^{1-3,7,9,10,18}, until week 6 with microfracture¹⁸
- Pain Free PROM restrictions: until week 4^{1-4,6-8,18}
 - 90° hip flexion
 - 0° hip extension
 - 20°-30° of hip abduction
 - 0° hip internal rotation in 90° of hip flexion
 - 30° hip external rotation in 90° of flexion
- No long lever arm OKC hip flexion and/or hip abduction^{2,3}
- Avoid repetitive short lever arm OKC hip flexion and abduction^{2,3}
- Avoid prolonged sitting^{2,3} greater than 1 hour until week 4.

Phase 1 Therapeutic Activities:

- Joint Mobs: mid-range oscillatory motion in 45° flexion^{2,8,11}
- PROM: within restrictions to patient tolerance
- AROM: gravity reduced positions within restrictions to tolerance
- Stationary bike (no resistance) without anterior hip pain^{2,8,11}
- Progressive pain free submax Isometrics in a hip supported position for: quadriceps, hamstrings, gluteus medius, gluteus maximus, transverse abdominus^{2-4,8,11}
- Patient positioning to stay within ROM restrictions and mobility education for assisting surgical LE during transfers
- Scar mobilizations at week 2
- Slow heel to toe gait progression from bilateral crutches to single crutch to no crutch ≠ limp or pain at week 4 (6 with microfracture)

Criteria for Progression to Phase 2:

- Pain free Hip ROM to 4 week restrictions^{2,4,7,11}
- Gait: Min/No Trendelenberg, 0° hip extension at mid stance absence of pelvic rotation during swing phase^{2,7} (without microfracture)
- Demonstrates involved limb pain free static WB of 75% BW^{1,7,11}

Phase 2: Normalize WB and ROM Recovery (Weeks 8 to 12)

Goals:

- Normalize joint arthrokinematics to gradually restore full ROM
- Regain/improve muscle endurance
- Progression of functional ADLs with minimal discomfort

Precautions:

- Avoid hip flexor/anterior joint inflammation with therapeutic progressions^{2-4,11}

Phase 2 Therapeutic Activities:

- Continue heel to toe gait progression from bilateral crutches to single crutch to no crutch ≠ limp or pain
- Stair training
- Aquatics training^{4,11}
- Target PROM, manual work, Joint mobs and self-stretching for mild tissue deformation only
- Continue Scar mobilizations as needed
- CKC gluteus medius and gluteus maximus strengthening^{2,11,12}
- Stationary bike with resistance^{11,12}
- Open and closed chain core stability^{8,11}
- Restore appropriate eccentric motor control of iliopsoas (with ↓ recruitment of Rectus Femoris, TFL and Sartorius) via trunk extension, see Appendix A for full description²
- Restore proper gluteus medius and gluteus maximus activity^{2,3,11} emphasizing hip ranges of initial contact to mid-stance phases of gait with a neutral pelvis

Criteria for Progression to Phase 3:

- Reciprocal gait up and down stairs
- Independence with daily home exercise program
- Gait: Min/No Trendelenberg, 0° hip extension at mid stance absence of pelvic rotation during swing phase^{2,7} (with microfracture)
- Absence of anterior hip pain while ambulating community distances without AD
- Demonstrates involved limb pain free static and dynamic WB of 100% BW



Phase 3: ROM and Early Strengthening (weeks 12 to 16)

Goals:

- Restore cardiovascular fitness
- Progress strength and endurance

Precautions:

- Avoid high impact activities^{9,13}
- If full range of motion is not achieved at 12 weeks post-operative, initiate terminal stretching with moderate tissue deformation target

Phase 3 Therapeutic Activities:

- Integrate core activation during all strengthening activities¹¹
- Strengthening activities should incorporate multi-planar movements²
- Continue proprioception exercises and advance single leg challenges with proper mechanics to patient tolerance⁴
- Begin sport specific training drills, agility and rapid movements through a reduced range of motion^{8,11} within patient's BOS
- Monitor range of motion periodically as strength increases²

Criteria for Discharge of Low Activity Patient (LAP)

- Ambulate extended distances without hip pain or antalgia
- Hip strength and neuromuscular control to perform all ADL's and IADL's without compensation or faulty movement patterns
- Confidence to progress home exercise program independently

Progression Note:

- Progression to phase 4 and desired activity level must be evaluated on an individual basis with careful consideration of the time frame of healing for tissues affected by the surgery³

High Activity Patient (HAP) Criteria for Progression to Phase 4:

- Symmetrical flexibility in the iliopsoas via Modified Thomas Test⁴
- Absence of Trendelenburg during higher level activities⁴
- 75% LSI for: SL leg press (Appendix B), 2 minute timed single leg squat (Appendix C), and Side lying hip ABD dynamometer testing

Phase 4: AROM and Intermediate Strengthening (weeks 16+)

Goals:

- Return to sport specific drills at full speed without pain
- Return to competition
- Achieve optimal balance of hip rehab program, skills practice, strength and conditioning as well as rest.

Precautions:

- None

Phase 4 Therapeutic Activities:

- Progress power and strengthening by altering variables related to velocity and loading; manipulate one variable at a time^{2,8} (See Appendix F for example)
- Set appropriate schedule that incorporates rehab program, practice schedule, strength and conditioning and rest²
- Monitor closely for acute inflammatory response, over training and loss of hip mobility^{2,4}

Criteria for Return to Competition for HAP:

- Clearance from physician¹¹
- Completion of functional sports tests^{4,11}
 - SL leg press $\geq 90\%$ LSI^{16,17} (Appendix B)
 - 2 minute timed single leg squat $\geq 90\%$ LSI (Appendix C)
 - Side lying hip ABD dynamometer testing $\geq 90\%$ LSI
 - Single Leg hop test for distance¹⁶ (Appendix D)
 - Males 90% patient height^{16,17}
 - Females 80% patient height^{16,17}
 - Modified Tuck Jump Assessment¹⁶ (Appendix E)
 - Ages ≤ 14 : Normative score ≤ 12 ¹⁴
 - Ages ≥ 15 : Normative score ≤ 9 ¹⁴ without any 2's



Abbreviation List:

AAROM: Active assisted range of motion
ABD: Abduction
AD: Assistive device
ADD: Adduction
ADL: Activity of daily Living
AROM: Active range of motion
BOS: Base of support
BW: Body Weight
CKC: Closed kinetic chain
DVT: Deep vein thrombosis
D/C: Discharge
ER: External rotation
EXT: Extension
FWB: Full weight bearing
HAP: High activity patient
HEP: Home exercise program
IR: Internal rotation
LAP: Low activity patient
LE: Lower extremity

LSI: Limb Symmetry Index = (Average score of the involved leg divided by the average score of the uninvolved leg for a specific test)
MA: Medical assistant
MD: Medical doctor
NWB: Non weight bearing
OKC: Open Kinetic Chain
PA: Physician assistant
PE: Pulmonary embolism
PROM: Passive range of motion
ROM: Range of motion
RP: Resting position
RROM: Resisted range of motion
SL: Single leg
SLR: Straight leg raise
UE: Upper extremity
WB: Weight bearing
WBAT: Weight bearing as tolerated
≠: Absent/Without
≈: Approximately
#: Pounds

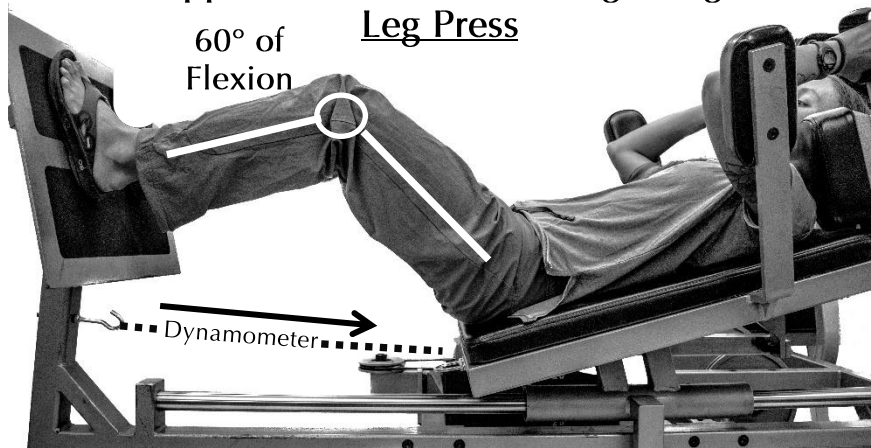
Appendix A: Seated Eccentric Psoas Controlled Trunk Extension



- Patient is seated at the edge of a chair with involved knee extended.
- Therapist palpates to ensure rectus femoris and adductors at proximal hip are inactive during eccentric trunk extension control.
- The patient is asked to hinge their trunk backwards at the hip.
- The therapist guides the trunk extension motion with one hand while continuing to palpate at the hip with the other.
- The therapist assists the patient return to neutral sitting.
- Perform reps/sets as the patient tolerates without firing palpated musculature.
- Monitor for proper response to treatment with pre/post testing of standing hip flexion.

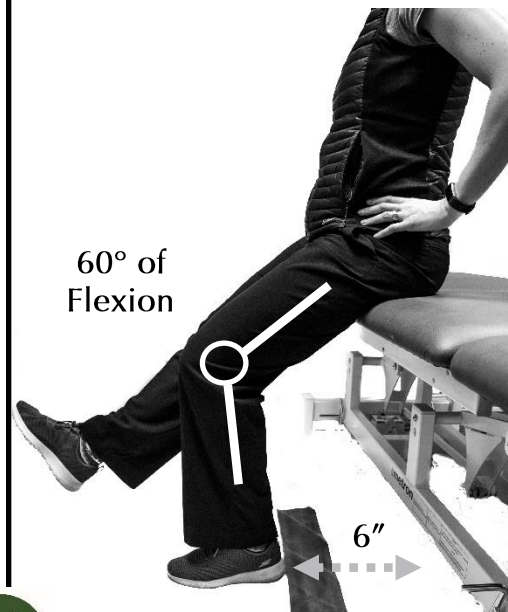


Appendix B: Isometric Single Leg Leg Press



- Adjust foot and leg press position so that the knee is in 60 degrees of knee flexion when there is no slack in the dynamometer attachment.
- Perform 3 maximal effort isometric tests per leg.
- Average of Involved ÷ average uninvolved x 100 = LSI

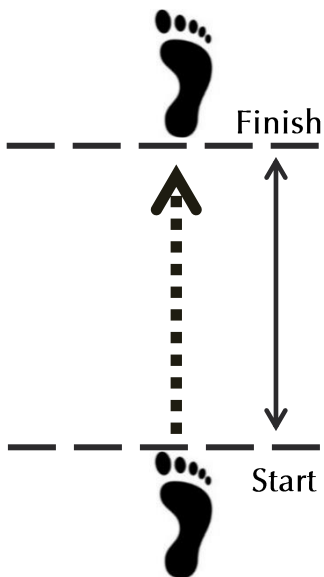
Appendix C: Timed Single Leg Squat Test



- Mark heel line 6 inches forward of seated surface. Sit on edge of seat, heels on heel line, adjust knee to 60° flexion by adjusting seat height.
- Patient performs single leg squats from 0° extension to tapping surface at 60° flexion.
- Count the number of completed squats in 2 minutes.
- Involved total ÷ uninvolved total x 100 = LSI



Appendix D: Single Leg Hop Test



- Measure patient's standing height in cm for pass/fail.
- Hands clasped behind the back to prevent arm swing momentum.
 - Arms can release for landing assistance after leaving ground.
- 4 progressive warm up jumps ≈ 25%, 50%, 75% and 100% intensity.
- Patient must "stick" the landing
- Use the average of 3 maximum effort jump tests.
- Distance is measured from toe of start line to shortest distanced heel.

Appendix E: Modified Tuck Jump Assessment



- Patient is instructed to jump, bringing femurs parallel to the floor, landing in the same place (35cm width x 41cm Length box), as many times as possible for 10 seconds keeping good knee alignment with jumping and landing quietly.
- Allow 2 rounds of practice jumps and patient clarifying questions.
- View/record 2 test periods: one from the front, and one from the side.
- Cumulative score of 10 areas: See following chart for criteria descriptions.
- Helpful to record on patient's phone or clinic iPad for scoring playback.

Appendix E Continued: Modified Tuck Jump Assessment Scoring Criteria

Phase of jump	#	Criterion	View	0 No Error	1 Small Error	2 Large Error
Knee and Thigh motion	1	Lower Extremity valgus at landing	Front	No valgus	Slight Valgus	Obvious valgus: Both knees touch
	2	Thighs do not reach parallel (peak of jump)	Side	The knees are higher or at the same level as the hips	The middle of the knees are at a lower level than the middle of the hips	The whole knees are under the entire hips
	3	Thighs not equal side-to-side during flight	Front	Thighs equal side-to-side	Thighs slightly unequal side-to-side	Thighs completely unequal side-to-side (one knee is over the other)
Foot Position During Landing	4	Foot placement not shoulder width apart	Front	Foot placement exactly shoulder width apart	Foot placement mostly shoulder width apart	Both feet fully together and touch at landing
	5	Foot placement not parallel (front to back)	Side	Foot (the end of the feet) placement parallel	Foot placement mostly parallel	Foot placement obviously unparallel (one foot is over half the distance of the other foot/leg)
	6	Foot contact timing not equal (Asymmetrical landing)	Front	Foot contact timing equal side-to-side	Foot contact timing slightly unequal	Foot contact timing completely unequal
	7	Excessive landing contact noise	Either	Subtle noise at landing (landing on the balls of their feet)	Audible noise at landing (heels almost touch the ground at landing)	Loud and pronounced noise at landing (contact of the entire foot and heel on the ground between)
Plyometric Technique	8	Pause between jumps	Either	Reactive and reflex jumps	Small pause between jumps	Large pause between jumps (or double contact between jumps)
	9	Technique declines prior to 10 seconds	Either	No decline in technique	Technique declines after five seconds	Technique declines before five seconds
	10	Does not land in same foot print (Consistent point of landing)	Either	Lands in same footprint	Does not land in same footprint, but inside the shape	Lands outside the shape

Appendix F:

RETURN TO SPORT TRAINING: VVH Guiding Principles

<i>Variable Category</i>	<i>Activity & Knee Control Difficulty Points</i>			
Intensity/Speed	25% Max Effort 1	50% Max Effort 5	75% Max Effort 15	100% Max Effort 20
Fatigued State	No Fatigue 1	Mildly Fatigued 5	Moderately Fatigued 15	Severely Fatigued 20
Running Pattern	Straight Forward/Back 1	Wide Arcing Turns 5	Tight Arcing Turns 10	Lateral Shuffling 15
Jumping & Changing Direction	Wide Angle 5	Tight Angle 10	180 Degree Turn 15	Jump, Land & Pivot 20
Training Surface	Predictable & Firm 1	Predictable & Soft 5	Unpredictable & Firm 10	Unpredictable & Soft 15
Manipulating an Object (catch/throw/pass/kick)	Planned and/or Predictable Task 10		Reactional and/or Unpredictable Task 20	
Moving Around Objects (cones, players)	Planned and/or Predictable Adjustments Required 10		Reactional and/or Unpredictable Adjustments Required 20	

Example 1: Patient dribbled a soccer ball (10) around cones(10) in a wide arcing pattern(5) at 75% max effort(15) when mildly tired(5) on a new soft grass field(5). Total score for this activity is 50.

Example 2: During a 75% intensity(15) basketball scrimmage against defenders(20), requiring lateral shuffling for defensive guarding(15), often dribbling the ball around defenders(20), and jumped for rebounds(20) on an old cracked concrete basketball court(10) when moderately fatigued(15). Total score for this activity is 115.

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 VALLEY VIEW