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Dear Therapist,

Thank you for caring for our patient following their recent hip surgery. Our goal is support you in this process and to provide *guidelines* for progression of rehabilitation. This protocol is meant to provide the basic exercises and techniques you will need to guide your patient to their return to normal function. Progression through this protocol is very patient specific in terms of return to normal functional ability based on patient goals.

Utilize this protocol and exercise description as a guide for treatment. Please utilize your clinical decision making to adjust treatments if needed within protocol precautions

- Progression through each phase is based on clinical criteria/goal achievement versus time lines. Please allow patient progress and their hip to dictate the rehab, **not solely rehab timelines! Do not progress the patient if pt has pain.**

- Please tailor this program for each individual based on their ability to progress and respond to treatment. Advancement per protocol involves an accurate assessment of joint function, strength, mobility, and progressive overload. Do not hesitate to reach out to our team with any questions!

- Primary goals at **8 weeks post scope and glute med repair** are normalized gait and good gluteal recruitment.
    - We expect ROM restrictions at this time, especially with external rotation, internal rotation, and extension
    - Do not push through pain to achieve greater range, these specific motions will improve naturally with a return to functional activity and not with overly aggressive stretching!

- *We have provided suggested patient handouts for weight bearing progression, partner assisted PROM, and a basic pool program in the appendix section of this protocol.*

- *The appendix section of this protocol also includes pictures of therapeutic exercises and self-mobilizations suggested as progressions within the protocol*

If you have **any questions** regarding your patient or this rehabilitation protocol, please feel free to contact Dr. Ellman or our Physical Therapy team lead as listed below.

Best,

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Post-Operative Hip Arthroscopy Rehabilitation Protocol

Labral Repair/Reconstruction with Glute Med Repair

Phase 1- Protection Phase (Post-Op Weeks 1-4)

Initial Precautions	• **No stretching of the anterior capsule. This has to heal appropriately! No hip flexor stretching, no prone press ups. Prone lying will be our primary anterior "stretch" in this phase.**
	• **NO active IR/ABD x 6 weeks**
	• Weight Bearing
	  ○ Foot flat weight bearing (20 lb) x4 weeks
	  ○ If reconstruction or more extensive glute repair delay to 6 weeks Refer to op-note
	• Range of motion (ROM) restrictions *(first 2 weeks)*
	  ○ Flexion to 90 ^{o}
	  ○ Extension to 0^{o}
	  ○ No IR/ER at this time!
	  ○ Abduction to 20^{o}
	  ○ **After 14 days, ROM may progress as tolerated for flexion**
	• Hip brace x4 weeks for 0-90^{o} x4 weeks (6 weeks for reconstruction)
	  ○ After 4 weeks patient may discontinue brace (no weaning required)
	• CPM
	  ○ To be used 4-6 hours daily for 4 weeks
	  ○ Microfracture: use 6-8 weeks for 6-8 hours
	• Avoid hip flexor irritation in early phases of protocol due to interaction with capsule/surgical repair. See Phase II for initial hip flexor progression if patient has no history of hip flexor tendinitis!
	• Avoid feelings of impingement with flexion

Goals	• Educate patient regarding partner assisted ROM, post-op precautions • Reduce pain and swelling (PRICE 5x/day for 20 minute sessions) • Begin passive range of motion partner assisted PROM • Initiate muscle activation and appropriate motor control/proprioception • Begin weight bearing progression when appropriate

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Manual Therapy/Range of Motion	• STM: light retrograde massage beginning distally
	• Scar massage x5 minutes (portal incisions begin post op day 2 through week 3
	• PROM: 15-20 minutes/session (continue through week 5-6 post op)
	  ○ Flexion 0-90^{o} x2 weeks, then progress as tolerated
	  ○ Circumduction at 10^{o} flexion
	  ○ Abduction 0-20^{o} x3 weeks, then progress to 45^{o}
	  ○ **IR/ER (therapist only) after 4 weeks in 20^{o} arc completed at 90 ^{o} flexion**
	  ▪ **Beginning at week 4, ER in a 20 arc at 45^{o} flexion. Only with therapist, and only patients with a Beighton scale score of <6!**
	  ▪ **IR can be bolstered in slight hip flexion if needed**
	• Prone femoral nerve glides in neutral hip extension only
	• Thoracolumbar CPAs, UPAs in prone as determined by therapist
	• *Please emphasize partner assisted passive range of motion as an essential part of post-operative rehab for the first 4 weeks after surgery; see patient handouts section in appendix or patient videos on the Panorama website.*

Strength and Motor Control	• *See appendix for pictures or email our hip team with questions at PTHipTeam@panoramaortho.com*
	• **Weeks 0-2**
	  ○ Stationary biking for ROM, no resistance. Beginning at visit 2, 5-15 minutes per session per patient tolerance
	  ○ Gluteal, quadriceps, TrA isometrics
	  ○ Prone 10% max voluntary isometric contraction (MVIC) manual isometrics, increasing MVIC with appropriate activation
	  ▪ Quad
	  ▪ Hamstring
	• **Weeks 2-4**
	  ○ Gluteal progression
	  ▪ Double leg mini bridges in increasing range of motion ~ 3 weeks
	  ▪ Prone gluteal progression
	  • Gluteal isometric with pillow under hips
	  • Prone isometric with reciprocal knee extension
	  ▪ Quadruped exercise progression
	  • Quadruped rocking, cat/camels
	  • Quadruped rhythmic stabilization
	  • Low quadruped donkey kicks on operative side only
	• Blood flow restriction training
	  ○ BFR may begin on non-operative limb on first visit post-op with trained practitioner.
	  ○ May begin on operative limb per BFR parameters when incisions are fully healed
	  ○ Please contact us with any questions about suggested exercises, or for specific literature regarding the benefits of BFR!

Criteria for progression	• Range of motion
	  ○ Flexion 120^{o}
	  ○ Extension to neutral
	  ▪ Our goal is to avoid hip flexor contractures, if this occurs please remain in phase 1
	• Mild deviations in gait may occur with mild discomfort only
	  ○ The most common compensation is due to decreased hip extension and a subsequent increase in pelvic rotation/lumbar extension

Phase 2- Initial Strengthening and Advanced Movement Control (Post-Op Weeks 4-10)

Precautions	• Continue to avoid soft tissue irritation and flare ups that could delay progression • Strength and movement control should increase simultaneously with increases in activity to prevent compensation due to fatigue • Appropriate self-mobility should also increase with activity level (see Beighton scale) • Do not push through pain! • Monitor for signs/symptoms consistent with pelvic floor dysfunction ○ *Increased urinary frequency (>once/2 hours daily), stress or urge incontinence, buttock/coccygeal/ischial tuberosity pain that does not improve with standard orthopedic physical therapy approach*
Goals	• Full, pain free active and passive range of motion • Normalized gait pattern- the most common compensation is due to decreased hip extension and a subsequent increase in pelvic rotation/lumbar extension

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Phase 2- Initial Strengthening and Advanced Movement Control (Post-Op Weeks 4-10)

Manual Therapy/Range of Motion	*One of the main goals of this phase is to achieve appropriate lumbopelvic ROM and joint mobility. It is essential that your patients continue to receive manual therapy!*
	• Patients may wean from partner assisted range of motion at weeks 5-6
	• Neurodynamics
	  ○ Femoral nerve glides as deemed necessary by treating therapist
	• Joint Mobilizations
	  ○ Week 3:
	  ▪ With hypomobile patients begin grade II-III caudal
	  ▪ Thoracolumbar prone mobilizations at needed
	  ○ Week 4:
	  ▪ Begin grade II-III posterior/inferior glides
	  ▪ Include belted mobilizations in supine or side-lying as needed
	  ▪ Side-lying rotational lumbar mobilizations with operative limb up
	  ○ Week 6+:
	  ▪ Lumbosacral and thoracolumbar mobilizations as deemed appropriate by the therapist
	  ▪ If necessary, in significantly hypomobile begin posterior to anterior hip mobilizations to improve hip extension
	  ▪ **DO NOT begin mobilizations that stress the anterior hip capsule prior to this point**
	  ○ Weeks 6-8:
	  ▪ Inclusion of mobilizations to increase FABER mobility
	  ▪ This may include medial glides in FABER position in cases of adductor irritation
	• Soft tissue mobilization
	  ○ As indicated to promote a continued, gradual return to PROM
	  ○ Scar tissue mobilization as indicated
	• Dry Needling
	  ○ Dry needling may begin at Week 6, as long as your patient is appropriate for it and your state practice act allows this treatment strategy!
	  ○ Dry needling ***should not*** be the only manual therapy that your patient receives. It is a good complement to care, please address joint mobility as well!

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Strength, Flexibility, and Movement Control Training	*Please note that this is not an exhaustive list of exercises! Please email our hip team with questions at PTHipTeam@panoramaortho.com*
	• **Weeks 4-6**
	  ○ Strength
	  ▪ Gluteal progression:
	  • Continued bridges, adduction bridges (no abd)
	  • Quadruped hip extension progressing to standing hip extension on non-operative limb
	  • Birddogs as tolerated
	  ▪ Quadriceps: LAQ, prone TKE
	  ○ Flexibility
	  ▪ Kneeling hip flexor stretch to neutral weeks 4, focus on posterior pelvic tilt
	  ▪ Hamstring stretching week 4
	  ▪ Light standing hip flexor/quad stretching at week 4-5
	  ○ Movement Control
	  ▪ Light rhythmic stabilization for glute med activation
	  ▪ *Week 5-6, begin light hip flexor activation if appropriate!*
	  • *Not appropriate if patient has a history of hip flexor tendinitis pre-surgery, or if they are currently presenting with internal snapping hip/tendinitis*
	  • Begin with supine, gravity eliminated hip flexor rollouts
	  • Supine 1" marching
	  • Deadbugs (week 6)
	• **Weeks 6-8**
	  ○ Strength
	  ▪ Quadriceps progression
	  • Leg press or TRX double leg squats being with 1/4 range and progress over course of 2-3 weeks
	  ▪ Gluteal progression
	  • Double leg hip hinge, progressing to kickstand RDL
	  • Continue bridge
	  • Glute med Isometrics starting at 10% MVC. Must be Pain free to progress to 50% MVC as tolerated.
	  • Hooklying Clams progressing to clams against gravity in sidelying position
	  • Reverse clams
	  ▪ Hamstring curl variations as indicated/tolerated
	  ○ Flexibility
	  ▪ Foam rolling of quadriceps, ITB
	  ▪ Supported butterfly slides, BKFO for improved FABER mobility
	  ○ Movement Control
	  ▪ Continue rhythmic stabilization throughout this time
	  ▪ Week 6: kneeling front planks
	  • progressing to full as tolerated without anterior hip aggravation/compensation

	▪ Week 8: • Adductor walkouts on operative only if pain-free in patients without a history of osteitis pubis • Continue dead bugs with increasing range of motion • Begin banded dead bugs as tolerated • Weeks 8-10 ○ Strength ▪ Step up progression • Lateral step ups at 10+ weeks ▪ Week 10 initiate single leg bridges ○ Flexibility ▪ Continued stretching, self-mobilization as indicated ▪ Adductor foam rolling ▪ Begin banded self-mobilizations as indicated (appendix) ○ Movement Control ▪ Marching progression: low march and stick, increasing height per patient tolerance
Cardiovascular Training	• Weeks 4-6: Biking with light resistance for 20-30 minutes • Weeks 4+ experienced swimmers may return to swimming with LE buoy and no flip turns until week 8 • Week 4: water walking as tolerated
Criteria for progression	• Full, multiplanar range of motion without pain, including FABER and FADIR mobility • Able to ascend/descend stairs and walk 1 mile on level surface without pain or compensation

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Phase 3- Advanced Strengthening (Week 10+)

Patients who do not participate in higher-level activities may not need to advance to phase 3 if they are able to complete ADLS without compensation or pain..

Precautions	• Do not push through pain! • Monitor for signs/symptoms consistent with pelvic floor dysfunction ○ *Increased urinary frequency (>once/2 hours daily), stress or urge incontinence, buttock/coccygeal/ischial tuberosity pain that does not improve with standard orthopedic physical therapy approach* • Monitor for onset of hip flexor or adductor tendinitis and adjust treatment accordingly
Goals	• Restore multi-direction strength without compensation • Restore ability to absorb impact, run on operative limb as needed • Prepare to initiate plyometric strength • Pass run readiness and y-balance assessments
Manual Therapy/Range of Motion	Continue as indicated based on patient presentation with the goal of achieving normalized lumbopelvic joint mobility and range of motion.

Strength, Power, and Movement Control Training	• Strength
	  ○ Week 10+ multi angle clams. Begin 60 deg flex and progress to more neutral hip position
	  ○ Reverse lunge with operative limb trailing and progress to operative limb forward
	  ○ Week 14-16 weeks+:
	  • Single leg deadlift
	  • Side lunges and progressing curtsy lunges week 16+
	  • Side hip abd
	  ○ Week 16: Add single leg squat or pistol squat
	  ○ Week 16: add lateral stepping, progressing to resisted and forward/ backwards monster walks
	• Movement control
	  ○ Week 12+ Side Plank with operative limb raised and week 14 operative limb down

Cardiovascular Training	Week 12: begin elliptical trainer, starting at 10 minutes and progressing 5 min/week Week 14: begin combination elliptical/stationary bike program
Criteria for progression	• 5-6 month post op progress to higher level activities • Please Reference Labral Repair Protocol for return to higher level activities including running, plyometrics, skiing etc

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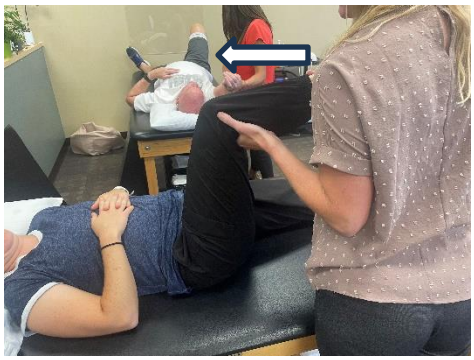
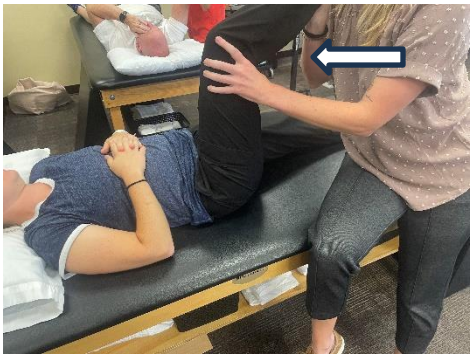
Partner Assisted Passive Range of Motion (PROM)

- PROM is an essential part of your post-operative protocol, and we suggest including this in your rehab for the first 4 weeks after surgery
    - It is important that your hip continues to move as normally as possible, in order to meet protocol guidelines for advancement
- This includes 3 directions of range of motion as listed below: flexion, abduction, circumduction
- **Please complete 2 sessions daily, 5 minutes in each direction (20 minute sessions)**
- In each range of motion, avoid fallout at the knee. Keep the kneecap pointing straight up towards the ceiling!

Flexion

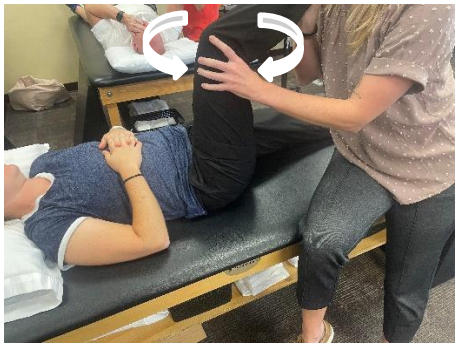
This is best completed on the edge of a table or high surface. 1.) Stand beside the patient and make sure they are well supported. While supporting your patient's leg, move until the knee is directly in front of the hip, or a right angle/90°. If the patient notes the onset of anterior pain, do not move quite so high. 2.) You can also place ankle onto shoulder and support at knee while moving leg into flexion.

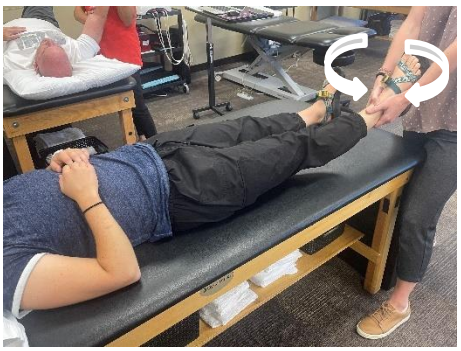




Circumduction

1.) Stand facing the patient at the edge of the table, and lift their leg/ankle 10° up off of the table. Make small circles (about the size of large coffee mug) in clockwise and counterclockwise directions. 2.) Place patient ankle on shoulder and grab knee with both hands and make small circles in clockwise and counterclockwise directions.





Abduction

Stand to the side of the patient and lift the patient's leg 10° off of the table. With the patient's ankle secure to your side, shift your weight sideways 20°, and then return to the starting position.

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Hip Labral Repair

Weight Bearing Progression

Initial Weight Bearing Restrictions

- You will be partial weight bearing for 4 weeks using bilateral crutches
- You will use the brace for 4 weeks
- During that time you will be Foot Flat Weight Bearing, meaning that you will place approximately 20 lbs of your weight through your foot during walking!
    - This is very important to prevent hip flexor irritation in early healing phases

Weaning from crutches

- **This make take 1-2 weeks total!** This handout does not mean that you should wean from crutches without therapist guidance, it is meant to better explain the process!

Progression for weaning from crutches

- Option 1: Beginning at 4 weeks post op with labral repair and glute med repair
    - Day 1-4
        - Single crutch at home only
        - Two crutches in public or for longer distances
    - Day 5-8
        - No crutches at home only
        - 1 crutch in public or for longer distances
    - Day 9-10
        - Completely wean from crutches
- Option 2: This progression is to be completed with MD or PT approval!
    - Day 1-4
        - WBAT with crutches, focused on appropriate weight bearing mechanics to be reviewed with your PT
    - Day 5-8
        - No crutches at home
        - WBAT with crutches in public
    - Day 9-10
        - Completely wean from crutches
- If you have any onset of hip pain or significant anterior tightness, return to level below current progression
    - Example: if you have pain on day 5 of your progression, return to single crutch at home, 2 in public and follow up with your physical therapist for instruction

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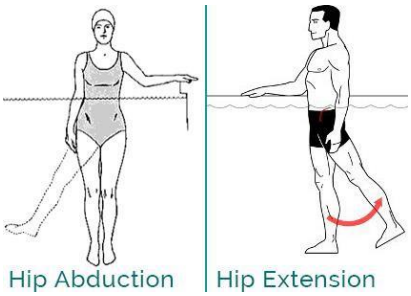
Pool Program

The primary goal of our pool program is to facilitate normalized gait and introduce light strengthening while you are weaning from crutches. You should have no pain during this program, and it can begin as soon as your incisions are closed! Begin this program in chest height water.

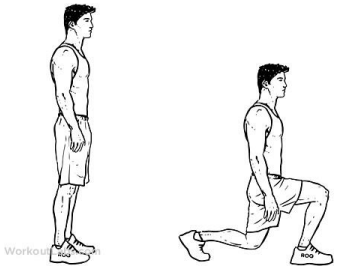
Weeks 4-6

1. Forward and backward walking: 5 minutes
2. Double leg squats; ¼ depth 3x10
3. Standing hip extension



Week 6-8

1. Forward and backward walking: 5 minutes
2. Double leg squats; 1/2 depth 3x10
3. Forward and backward walking: 5 minutes



Week 8-10

1. Forward and backward walking: 5 minutes
2. Side steps: 2 minutes
3. Double leg squats: normal depth 3x10
4. Forward lunges 2x10 bilaterally
5. Standing hip extension and abduction
6. Forward and backward walking: 5 minutes

For additional questions and progressions please contact your physical therapist!

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Beighton's Scale

Joint	Finding	Points
left little (fifth) finger	passive dorsiflexion beyond 90°	1
	passive dorsiflexion <= 90°	0
right little (fifth) finger	passive dorsiflexion beyond 90°	1
	passive dorsiflexion <= 90°	0
left thumb	passive dorsiflexion to the flexor aspect of the forearm	1
	cannot passively dorsiflex thumb to flexor aspect of the forearm	0
right thumb	passive dorsiflexion to the flexor aspect of the forearm	1
	cannot passively dorsiflex thumb to flexor aspect of the forearm	0
left elbow	hyperextends beyonds 10°	1
	extends <= 10	0
right elbow	hyperextends beyonds 10°	1
	extends <= 10	0
left knee	hyperextends beyonds 10°	1
	extends <= 10	0
right knee	hyperextends beyonds 10°	1
	extends <= 10	0
forward flexion of trunk with knees full extended	palms and hands can rest flat on the floor	1
	palms and hands cannot rest flat on the floor	0

- A Beighton score of 5/9 or greater is considered significant. [6]

- **A patient with a Beighton Scale score that is considered significant will not be appropriate for aggressive joint mobilizations. They will do better with consistent strength and motor control training**

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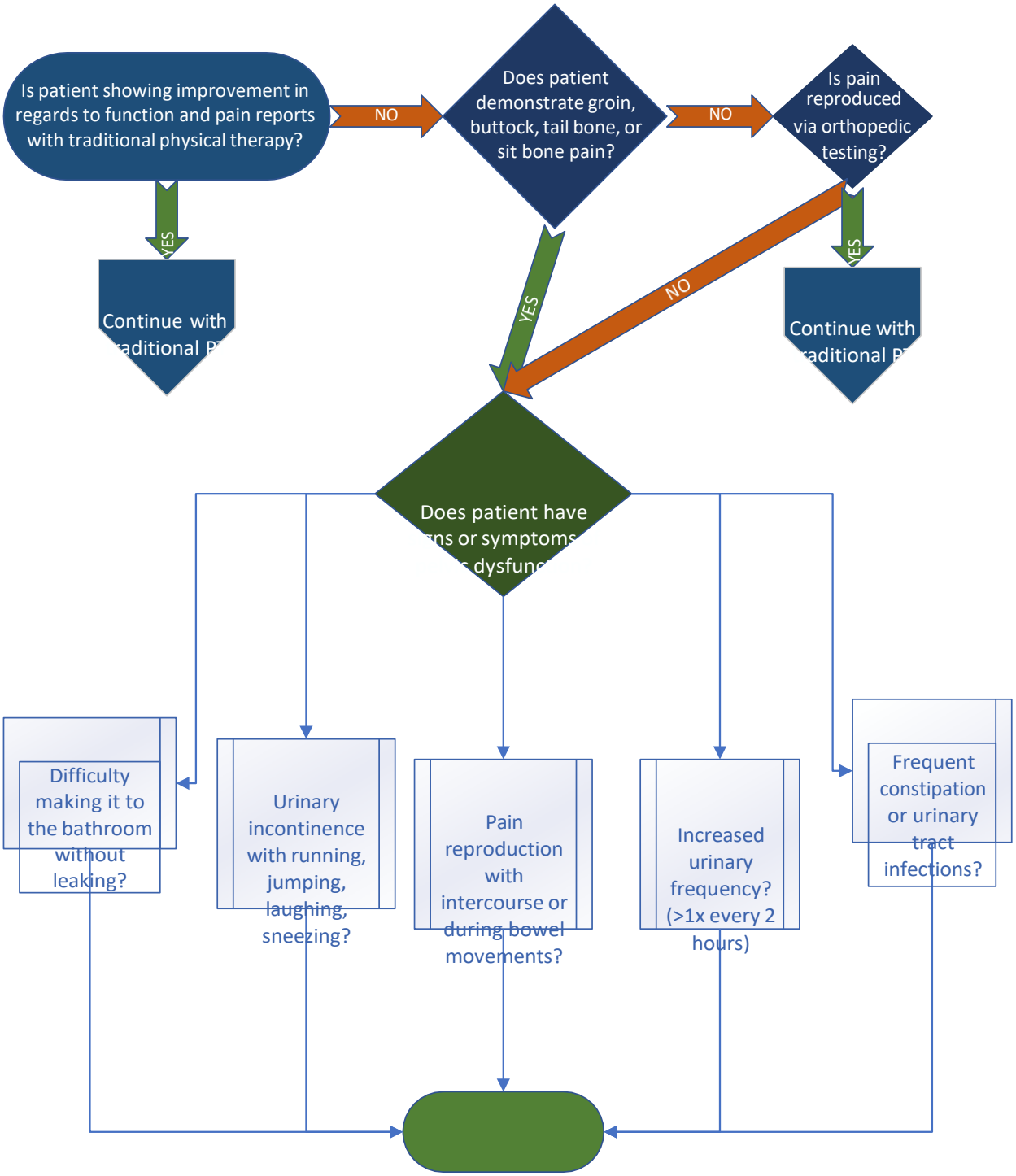
Trouble-shooting: When to refer to Pelvic Physical Therapy



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Exercise Appendix

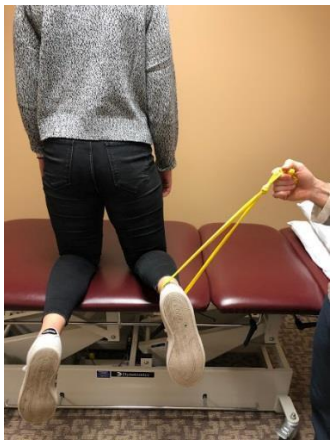
Please note that this is NOT a comprehensive list of all suggested exercises within our rehab protocol. We have included exercise progressions and ideas that may be unique to this protocol to make sure we are all on the same page! We assume that all practitioners are award of the standard exercises and form such as bridges, clams, etc. Again, if you have questions about cuing please reach out to us!

Rhythmic Stabilization Progression

Prone Rhythmic Stabilization (beginning manually vs CLX in week 6, both into IR and ER)

Quadruped Rhythmic Stab Progression, (Wk 6+, Both into IR and ER, progressing to hip ext bias)


Tall Kneeling Rhythmic Stabilization (Wk 8, bias into IR/ER, no anterior/groin pain)



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Glute progression exercises

Prone glut isometric, transition to glut iso + TKE for gait (Wk 2-4)

Bird-dog row (unilateral hip extension, alt donkey kicks/fire hydrants not pictured) Weeks 4-8 progressions

Standing hip hinge with support

Hip thrusters edge of table (standard bridge not pictured)

Reverse clams (Standard clam not pictured)

Kickstand RDL (Wk 8+), progressing to full or rotational RDL as motor control allows

X-walks (Week 16+)

<u>Quad Strength Progression</u>

Not pictured: early step up and lunge progressions. We have only chosen slider progressions here for now. **Slider Reverse lunge** Wk 12+, **Lateral lunge and Curtsy lunges** wks 16+

Motor Control and Core Progression

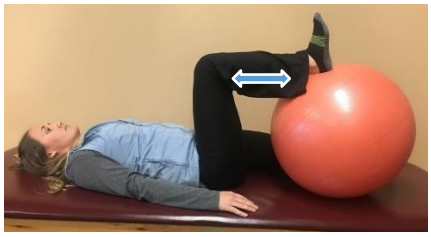
Side Plank variations (Wk 14+, not pictured: front plank progressions)

Standard side plank

Side plank with a hip tap

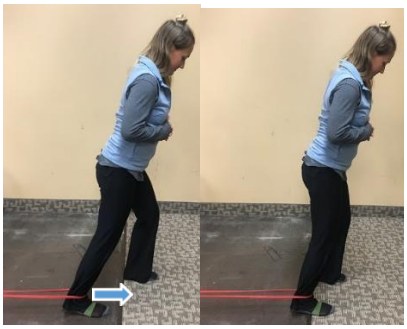
Rotational Side plank (Wk 16-18+)

Hip Flexor rollouts (Week 5-6 in patients without evidence of internal snapping hip, tendinitis ONLY). Progress to supine march, then standing marching for functional progression



Banded Dead Bugs (Week 8)

Hip Flexor Walkouts (Wk 9-10, NOT appropriate if patient has a history of tendinitis)



Adductor Walkouts (Wk 10) on operative limb only

Single leg RDL/divers, progressing to single leg airplanes (Wks 14-16)

Single leg airplanes: rotational control of the SL RDL position prior to loading, sports based power week 16-18+

Chop and Kick Progression (Wks 16-18+)

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Self-Mobilizations

We have chosen not to include foam rolling, although this is an important part of the rehab process. We focus instead on other important self-mobilizations for your patients.

Please keep in mind that superband self-mobilizations may not be appropriate for all patients, especially those with high scores on the Beighton Scale (see appendix). These are for your tighter patients!

FABER butterfly slides (Wk 6); leg supported on wall or foam roller, relax groin and slide up and down for stretch

Banded self-mob: lateral glide with child's pose (Wk 6)

Banded self-mob: caudal glides (Wk 6, 2 variations based on patient comfort)

Hip tap self-mob (posterior glide biased self-mob in NEUTRAL hip flexor stretch, Wk 8)

Hip tap self-mob 2 (anterior biased self-mob in NEUTRAL hip flexor stretch, add glut iso to deepen stretch, Wk 9-10 in appropriate patients only)

Squatting with lateral or medial bias (Wk 10-12+ in appropriate patients)