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Post-operative Rehabilitation Protocol

Hip Arthroscopy

General guidelines:

- despite the minimally invasive nature of hip arthroscopy, significant work was performed inside the hip joint and time is required for the repaired structures to heal
- systematic approach to rehabilitation (generally under the guidance of a physical therapist with experience in hip rehab) is critical to ensuring optimal outcome
- each patient's recovery highly individual and therapy protocol should be customized to the patient
- patient should meet with physical therapist prior to surgery for a functional assessment and to review the protocol
- formal physical therapy should start within 1 to 3 days after surgery
- progression through therapy phases is pain- and function-dependent, not time-dependent
- pushing the rehabilitation too quickly may aggravate the hip and delay recovery
- precautions:
 - crutches and partial weight-bearing to protect repair for 4 to 8 weeks depending on procedure
 - avoid excessive external rotation and flexion (stresses repair)
 - avoid early active hip flexion that can lead to hip flexor tendonitis
 - avoid advancing too rapidly through therapy protocol to prevent flare-ups
 - no driving until permission from surgeon (usually around 4 weeks)
 - medications help reduce risk of abnormal bone formation (heterotopic ossification) and blood clot (DVT or deep venous thrombosis)
- early post-operative goals include reducing post-operative pain, swelling and inflammation while avoiding stiffness and improving motion
- late post-operative goals include restoring motion and strength, normalizing gait, and conditioning
- ultimate goal is to return to prior or desired level of activity after eradicating the structural or mechanical problem responsible for symptoms
- the degree of hip damage may require careful consideration of modifying activities to reduce stress on the joint and prevent further problems

Phase I (weeks 0 to 3)

- goals:
 - recover from surgery
 - protect repair
 - reduce post-operative pain, swelling, and inflammation
 - crutch training to unload hip while normalizing gait
 - prevent muscular inhibition
 - encourage mobility
 - promote wound healing (sutures out 10 to 14 days)
- protected weight-bearing (50% of body weight)
 - use two crutches to limit weight while stepping on the operative leg

- maintain foot flat on the ground (reduces force in the hip joint)
- hip joint mobilization
- manual therapy
- scar massage
- modalities to reduce swelling and inflammation
- hip passive range of motion within post-op restrictions
 - no external rotation > neutral
 - no hip flexion > 90 degrees
 - other precautions depend on the procedure performed
- muscle activation
 - hip isometrics (glut, quad, and hamstring sets, abductor and adductor isometrics)
 - heel slides (active-assisted range of motion)
 - pelvic tilts
 - double legged supine bridge
 - seated knee extension
 - prone knee flexion
- standing exercises (keep knee straight)
 - abduction and adduction without resistance
 - flexion and extension without resistance
 - double heel rises
- standard stationary bike with high seat (to prevent hip flexion >90) with no resistance
- criteria to progress to phase II
 - minimal pain with phase I exercises
 - minimal limitations in range of motion (90 degrees of hip flexion with minimal pain)
 - normalized heel to toe gait with two crutches and partial weightbearing

Phase II (weeks 4 to 6)

- goals:
 - protect repair
 - increase range of motion
 - transition from crutches
 - normalize gait
 - progressively increase muscle strength
- transition from crutches at the 4 week mark
 - start with single crutch on opposite side from surgery, unload the operative hip during gait
 - may transition to no crutches once comfortable and no significant gait deviations
 - may continue to need crutches when planning to walk a distance or be on your feet for a longer time
- progress with hip range of motion
 - no external rotation > 20 degrees
 - no hip flexion > 105 degrees
 - prone hip rotations
- manual therapy
 - massage portal sites
 - hip joint mobilizations
 - deep tissue mobilization
 - pelvic and lumbar spine joint mobilizations

- desensitize irritable nerve distributions
- muscle activation
 - progress core strengthening
 - hip strengthening
 - hip flexor activation (careful with active / resisted hip flexion to prevent inflammation)
 - clam shells
 - single-leg bridges
 - leg presses (minimal resistance)
 - weight-shifting
 - ¼ mini squats
 - quadruped superman
 - standing exercises
 - abduction and adduction with low resistance
 - flexion and extension with low resistance
- standard stationary bike – increase duration and resistance as tolerated
- pool therapy recommended after portals healed
 - decrease depth with each successive week (start at chest deep and progress to waist deep)
 - 4-direction walking
 - step-ups
- criteria to progress to phase III
 - minimal pain with phase II exercises
 - 105 degrees of hip flexion, 20 degrees of external rotation with minimal pain
 - pain free / normal gait pattern
 - hip flexion strength >60% of opposite side
 - hip abduction/adduction strength, internal/external rotation strength >70% opposite side

Phase III (weeks 7 to 10)

- goals:
 - protect repair
 - normalize motion and strength
 - normalize gait
 - improve endurance and conditioning
 - improve neuromuscular control, balance, and proprioception
- normalize hip range of motion
 - no restrictions
 - symmetry with unaffected side
- manual therapy
 - massage portal sites
 - hip joint mobilizations
 - deep tissue mobilization
- hip strengthening
 - increase resistance with active exercises
 - clamshells with theraband
 - sidelying planks
 - physioball hamstring
 - side-stepping with resistance
 - lunges

- neuromuscular training
 - core stabilization
 - single leg balance
 - side steps over cups
 - step-ups with eccentric lowering
 - Bosu squats
- standard stationary bike – continue to increase duration and resistance, lower seat to allow increasing hip flexion
- elliptical machine with minimal resistance
- may use treadmill walking program
- continue pool therapy, increase speed and duration, decrease depth
- criteria to progress to phase IV
 - symmetrical range of motion
 - hip flexion strength >70% of opposite side
 - hip abduction/adduction strength, internal/external rotation strength >80% opposite side
 - cardiovascular fitness returning to pre-operative level

Phase IV (weeks 11 to 14)

- goals:
 - normalize function
 - sports specific training
 - prepare return to activity
- continue phase III exercises with progressive increase in intensity
- manual therapy as indicated
- core strengthening
- advance proprioceptive training
- start introducing low-impact plyometrics
- increase resistance and duration on bike and elliptical
- pool running
- swimming as tolerated
- sport-specific agility drills

Final phase (14 weeks & beyond)

- traditional weight-training
- increased intensity of plyometrics
- start running progression
- sport specific drills without pain
- cardiovascular fitness at or better than pre-operative level

Return to sports / activities

- full pain-free range of motion symmetrical to opposite side
- symmetrical hip strength
- stable pelvis
- ability to perform sport-specific drills at full speed without pain