

Rehabilitation Following Hip Microfracture Arthroscopy

Precautions:

- Control weight bearing forces for 8-10 weeks
- Protect against excessive forces onto hip joint
- Promote articular cartilage healing
- Limit aggressive functional activities until advised by Physician

I. **Phase I – Immediate Postoperative Phase Protective Phase (Day 1 to Week 6)**

Goals: Control weight bearing forces immediate post-operative
Gradually restore ROM & Flexibility
Promote articular cartilage healing
Diminish pain and inflammation
Restore muscular strength
Restore normal pain-free gait

Week 1:

- Crutches to control weight bearing forces (**toe touch WB with 2 crutches**)
- Perform knee to chest stretch (easy & painfree- 5x hourly)
- Ankle pumps
- Gluteal sets
- Quad sets
- Hip adduction isometrics (pillow squeezes)
- Heel slides,
- AAROM Hip, PROM Hip & Knee
- Pelvic tilts
- Straight leg raises (flexion)
- Seated knee extensions
- UBE & upper body strengthening

Week 2:

- Stationary bicycle (high seat & minimal resistance)
Low intensity bicycle for articular stimulation 10 min
- Supine alternating knee to chest
- Isometric add/abduction
- Standing Hip abduction & adduction (no resistance)
- Ankle pumps
- Double leg bridges
- Supine knee bent trunk rotations
- Joint mobilizations (Grades I & II)
- Pool walking (water up to axillia region)

Week 3:

- Continue all exercises listed above
- Continue to perform AAROM & PROM exercises
- Begin stretching program
- Joint mobilizations for pain (oscillations grades I & II)
- Initiate Straight leg raises (no weights)
- Seated on stability ball (knee extensions, pelvic control exercises)
- Progress strengthening program (painfree)
- Pool Program

Weeks 4-6:

- Progress weight bearing with 2 crutches to **25% BW Weight Bearing**
- Gradually improve ROM through AAROM, PROM & stretching
- If hip develops stiffness – initiate hip mobilizations (grades III & IV)
- Continue selected exercises listed above
- Initiate standing light resistance 4 way hip (painfree)
- Abdominal exercises
- Progress pool exercises

II. Phase II – Intermediate Phase: Moderate Protection Phase (Weeks 7-12)

Goals: Gradually increase weight bearing forces
Restore full painfree motion
Normalize muscular strength of lower extremity & core
Gradually increase functional activities

Weeks 7-8:

- Progress weight bearing **with 2 crutches to 50%- 75% then Full WB**
- Continue to progress isotonic strengthening program
- Continue all ROM, flexibility & stretching exercises
- May initiate multi-planar stretches (if appropriate)
- Gradually increase time & resistance on stationary bicycle
- Emphasize hip strengthening (4 way isotonic hip machine)

Week 8-10:

- Gradually **wean off crutches at end of week 8**
- Continue all exercises above
- Initiate therband ER/IR seated
- Initiate side-lying clams
- Initiate more functional drills-
 - Mini-squats (0-50 deg flexion)
 - Leg press
 - Wall squats (0-50)
- Initiate tilt board squats
- Initiate elliptical machine (light resistance)
- Walking for time/exercise (gradually increase) **painfree**
- Continue with functional pool drills

Weeks 10-12:

- Continue all exercises listed above
- Gradually increase time on bicycle
- Initiate standing & prone hamstring curls
- 4 way hip machine
- Step over cones (forward, backward, side)
- Lateral lunges with sportcord
- Bosu squats
- Continue pool program

III. Phase III – Advanced Exercise Phase (Weeks 12-16)

Goals: Establish and maintain full ROM
Improve muscular strength, power and endurance

Gradually initiate functional activities

Criteria to enter Phase III:

- 1) Full non-painful ROM
- 2) Satisfactory stability
- 3) Muscular strength (good grade or better)
- 4) No pain or tenderness on previous functional exercises or drills

Weeks 12-16:

- Continue all stretching & flexibility exercises
- If stiff or tight – perform joint mobilization (grades III & IV)
- Leg Press (0-90 degrees)
- Vertical squats (0-60)
- 4 way isotonic hip machine
- Hip ER/IR theraband resistance
- Sidelying clams
- Forward lunges onto box
- Step downs, step ups lateral
- Hamstring curls
- Lateral lunges with sportcord
- Step overs
- Core & Hip drills:
 - Double & single leg bridges
 - Bridging on physioball
 - Partial sit-ups on physioball
- Progress bicycle, walking & elliptical machines
- Initiate stair stepping if desired
- Initiate tubing lifts with rotation w/ cable on 1 knee
- Initiate Pool running (faster speed)
- Initiate functional dry land drills (balance, movements, etc..)
- May initiate light running program with Physician approval

IV. **Phase IV – Return to Activity Phase (Weeks 16 >)**

Goals: Enhanced muscular strength, power and endurance
Progress functional activities
Maintain hip mobility & articular surface integrity
Gradually increase demands on hip

Criteria to enter Phase IV:

- 1) Full non-painful ROM
- 2) Satisfactory clinical exam
- 3) Muscular strength 75-80% of contralateral side
- 4) No pain or tenderness with functional drills &/or activities

Weeks 16>:

- Continue all exercises listed in previous phase
- Pool running
- Treadmill (walk/run intervals)
- Functional agility drills
 - Backward running
 - Side slides
 - Fast feet drills

- Cone step overs
- May initiate interval golf program
- May initiate interval sport programs
- Continue proprioception & neuromuscular control drills
- Stability ball rollout with 2 legged
- Continue all exercises and drills listed above
- Progress running program
- Progress agility drills
- Initiate Sport Specific drills
- Continue isotonic strengthening
- Continue stretching & flexibility program

Criteria to Return to Competition:

- Full painfree ROM & flexibility
- Hip strength equal to opposite side
- Ability to perform sport specific drills at satisfactory level & without pain
- Satisfactory Clinical Exam
- Approval by Physician