### **Femoroplasty**

This protocol should be used as a guideline for progression and should be tailored to the needs of the individual patient.

- Allowed full weight bearing, but use crutches for four weeks.
  - \* Avoids risk of fracture through area of recontoured head/neck junction.
  - Protects against unexpected inordinate torsional or twisting forces, while muscle strength and response are regained.
  - \* Bony strength mostly unchanged at four weeks, but muscular function can protect the joint.
- Vigorous impact loading avoided for 12 weeks.
  - · Allows for bone remodeling/healing.
- Aggressive functional progression delayed until 12 weeks.
  - Then progressed to tolerance.
- Resumption of full activities anticipated at 4-6 months.
  - Variable as dictated by hip symptoms.
- Always use pharmacologic prophylaxis against heterotopic ossification (unless contraindicated.)
  - Quiz patient
  - Must initiate and maintain immediately postop

### PHASE 1: WEEK 1

### Initial Exercises (Weeks 1-3)



Weight shifts – sitting, supported, anterior/posterior, lateral



Ankle pumps

## Initial Exercises (Weeks 1-3)



Seated knee extensions



Hamstring sets



Glut sets



Adductor isometrics



Quad sets



Heel slides, active-assisted range of motion

## Initial Exercises (Weeks 1-3)



Log rolling



Double leg bridges



Pelvic tilt



Prone on elbows



Trunk rotation



Prone knee flexion

## Initial Exercises (Weeks 1-3)



Standing abduction without resistance



Standing flexion without resistance



Standing adduction without resistance



Pain dominant hip mobilization - grades I, II



Standing extension without resistance

### Other Exercises Week 1

- Standard stationary bike without resistance at 3 days post-op (10 min. if tolerated)
- Upper body ergometer, upper body strengthening

## In Addition to Previous Exercises (Weeks 1-3)



Supine marching, modified dead bug



Theraband resistance on affected side – Abduction (start very low resistance)



Abduction isometrics



Theraband resistance on affected side – Adduction (start very low resistance)



Superman



Theraband resistance on affected side – Flexion (start very low resistance)

### In Addition to Previous Exercises (Weeks 1-3)



Theraband resistance on affected side – Extension (start very low resistance)

#### Other Exercises Week 2

 Pool exercises (water walking, range of motion, march steps, lateral steps, backward walking, mini-squats, heel raises, hamstring and hip flexor stretches)

PHASE 1: WEEK 3

### In Addition to Previous Exercises (Weeks 1-3)



1/4 Mini squats



Hip flexion, IR/ER in pain-free range



Standing heel lifts



Double leg bridges to single leg bridges

## In Addition to Previous Exercises (Weeks 1-3)



Clamshells (pain-free range)



Quadriped 4 point support, progress 3 point support, progress 2 point



Leg raise – Abduction



Seated physioball progression – hip flexion



Leg raise – Extension



Hip mobilization – inferior glides in flexion

### In Addition to Previous Exercises (Weeks 1-3)



Stiffness dominant hip mobilization – grades III,  ${\rm IV}$ 

# Criteria for progression to Phase 2 ☐ Minimal pain with phase 1 exercises

- $\square$  Minimal range of motion limitations
- ☐ Normalized gait without crutches

Goals of Phase 1

☐ Normalize gait

☐ Restore range of motion

□ Diminish pain and inflammation□ Prevent muscular inhibition

#### Other Exercises Week 3

- Wall mini-squats
- Physioball mini-squats with cocontraction
- Leg raise Adduction
- Kneeling hip flexor stretch (short of pain)
- Active range of motion with gradual end range stretch within tolerance

### PHASE 2: WEEKS 4-5

### Intermediate Exercises (Weeks 4-6)



Crunches



Standing theraband/pulley weight – Abduction

PHASE 2: WEEKS 4-5

## Intermediate Exercises (Weeks 4-6)



Standing theraband/pulley weight – Adduction



Single leg balance – firm to soft surface



Standing theraband/pulley weight – Flexion



Shuttle leg press 90 degree hip flexion with cocontraction of adductors



 $Standing\ the rab and/pulley\ weight-Extension$ 



Clamshells with theraband

PHASE 2: WEEKS 4-5

### Intermediate Exercises (Weeks 4-6)



Forward walking over cups and hurdles (pause on affected limb), add ball toss while walking



Lateral walking over cups and hurdles (pause on affected limb), add ball toss while walking

#### Other Exercises Weeks 4-5

- Wean off crutches after 4 weeks
- Gradually increase resistance with stationary bike
- Single leg sports cord leg press (long sitting) limiting hip flexion
- Pool water exercises flutterkick swimming, 4 way hip with water weights, step-ups
- Initiate elliptical machine

PHASE 2: WEEK 6

## Intermediate Exercises (Weeks 4-6)



Leg press (gradually increasing weight)



Physioball hamstring exercises – hip lift, bent knee hip lift, curls, balance

## Intermediate Exercises (Weeks 4-6)

#### Other Exercises Week 6

- Single leg balance firm to soft surface with external perturbation (ball catch, sports specific/simulated ex.)
- Knee extensions, hamstring curls

#### Goals of Phase 2

- ☐ Restore pain-free range of motion
- ☐ Initiate proprioception exercises
- ☐ Progressively increase muscle strength and endurance

### Criteria for progression to Phase 3

- $\square$  Minimum pain with phase 2 exercises
- $\hfill \square$  Single leg stance with level pelvis

Superman on physioball – 2 point on physioball



Sidestepping with resistance (pause on affected limb), sports cord walking forward and backward (pause on affected limb)



Bosu squats

PHASE 3: WEEKS 7-8

## Advanced Exercises (Weeks 7-8)



Step-ups with eccentric lowering



Side steps over cups/hurdles (with ball toss and external sports cord resistance), increase speed



Lunges progress from single plane to tri-planar, add medicine balls for resistance and rotation



Single leg body weight squats, increase external resistance, stand on soft surface

Theraband walking patterns – forward, sidestepping, carioca, monster steps, backward, ½ circles forward/backward – 25 yds. Start band at knee height and progress to ankle height

#### Other Exercises Weeks 7-8

- Full squats
- Single stability ball bridges

#### Goals for Phase 3

- ☐ Restoration of muscular endurance/strength
- ☐ Restoration of cardiovascular endurance
- ☐ Optimize neuromuscular control/balance/proprioception

PHASE 3: WEEKS 7-8

### Advanced Exercises (Weeks 7-8)

#### Criteria for Progression to Phase 4

- ☐ Single leg mini-squat with level pelvis
- ☐ Cardiovascular fitness equal to preinjury level
- ☐ Demonstration of initial agility drills with proper body mechanics

PHASE 4: WEEKS 9-11

### Sports specific training rehab clinic based progression



Single leg pick-ups, add soft surface

#### Other Exercises Weeks 9-11

- All phase 3 exercises
- Pool running (progress from chest deep to waist deep), treadmill jogging
- Step drills, quick feet step-ups (4-6 inch box) forward, lateral, carioca
- Plyometrics, double leg and single leg shuttle jumps
- Theraband walking patterns 1 rep of six exercises x 50yds, progress to band at knee height and ankle height

PHASE 4: WEEKS 12 & BEYOND

### Sports specific training on field or court

#### Other Exercises Weeks 12 & Beyond

- Running progression
- Sport specific drills
- Traditional weight training

#### Criteria for full return to competition

- ☐ Full range of motion
- ☐ Hip strength equal to uninvolved side, single leg pick-up with level pelvis
- ☐ Ability to perform sport-specific drills at full speed without pain
- ☐ Completion of functional sports test