WESTERN ORTHOPAEDICS

Excellence in Motion

Hip Protocol Following Acetabular Labral Repair

Specific for the Dancing Population

Phase Six can be used with FAI patient population and elements can be used for Ischiofemoral Impingment

Please limit extension, adduction and ER

See Link to PowerPoint for Exercise and Technique Descriptions

Designed by Dr. Emily Becker, PT
Approved for use by Dr. Brian White, MD

Please Contact Dr. Emily Becker, PT with questions
Not liable for misuse of the protocol or if misinterpreted
804-221-1273
Emshreve@yahoo.com

WESTERN ORTHOPAEDICS
Excellence in Motion

PHASE ONE
WEEKS 1-4

PRECAUTIONS

No resisted hip flexion

Ask your surgeon as some desire no resisted hip flexion during the entire rehabilitation process

Weight bearing

General guidelines are NWB or TTWB for the first 3-6 weeks with assistive device.

Range of Motion

Flexion:	Limit to 90° for 10 - 14 days
Extension:	Limit to 10° for 10 - 14 days
Abduction:	Limit to 25° for 10 - 14 days
External Rotation:	Gentle progression per patient tolerance for first 3 weeks
Internal Rotation:	Gentle progression per patient tolerance for first 3 weeks

GOALS

General

Minimize pain and inflammation
Protect the surgically repaired tissue
Initiate early motion exercises

Gait

"Maintain a symmetrical gait pattern to prevent concomitant stress throughout the lower extremity and spine. If this gait pattern is not established, a muscular imbalance of tight hip flexors and erector spinae with inhibition of the gluteals and abdominals (lower crossed syndrome) could develop. The potential ramifications include increased weight-bearing through the acetabulum with labral tissue stresses secondary to hip flexor tightness." Garrison, C. N Am J Sports Phys Ther. 2007 November; 2(4): 241–250.

Posture

Typically the adolescent population presents with anteversion. Anteversion is negatively correlated with femoral external rotation so appropriate LE alignment must be achieved and turnout may not be forced throughout the recovery process and with return to dance. The increased anterior pull of the muscles can create traction injuries to the labrum by the iliopsoas. Muscular imbalances are also present due to the inhibition of the posterior muscles and abdominals with over firing the anterior muscles and the erector spinae. Becker, PAMA Presentation; July 2013

SUGGESTED PHYSICAL THERAPY INTERVENTIONS

Manual Therapy

PROM (within surgeon's instructions or those listed above)

Grade I-II Joint Mobilizations of the hip. Be sure to include prone lying. Long Axis traction is **not** recommended for the first two weeks. Be sure to assess the lumbar spine, sacrum, knee, foot and ankle for appropriate mechanics and mobility

Stretching of ER/IR, Hamstrings, Quads. Limit Hip Flexor to prone lying and gentle manual stretching

Exercise

Cardio

Begin biking with a high seat and no resistance. Recumbent bikes are **not** advised. Start with 5 minutes and progress 30 seconds each day until 10 minutes are completed on the bike in this first phase. At the end of phase one you may use light resistance if no signs of hip flexor overuse are present and you maintain less than 90° of hip flexion

Table/HEP

Ankle pumps

Isometric Hip Abduction, Hamstring sets, Glute sets, Quad sets, Transversus Abdominis

Heel Slides

During weeks 3-4 you may begin abduction, and extension SLR. Do **not** begin flexion SLR at this time, and use your best judgment with adduction

Pool

At 3 weeks post op and with appropriate scar healing start water walking with a flotation device to assist with gait mechanics and increasing weight bearing

Modalities

E-Stim

Begin with Russian Stim (or other noxious stim to tolerance) to the posterior glute to avoid inhibition. Have patient perform isometric glute sets in prone to assist with contraction. Watch for substitutions from low back.

Ice/Heat PRN

PHASE TWO

WEEKS 5-7

PRECAUTIONS

No resisted hip flexion

Ask your surgeon as some desire no resisted hip flexion during the entire rehabilitation process

Weight bearing

General guidelines are NWB or TTWB for the first 3-6 weeks with assistive device.

Range of Motion

To individual patient tolerance. Recommended to have 25-50% or greater AROM as compared to uninvolved side to progress to Phase Two

Technique

No grande plies
Legs in neutral for any derriere exercises
Only work in first and second position with all turnout less than 30°
No legs over 45°
No Centre work
Watch for increased anterior pelvic tilt and correct to neutral spine
Watch for appropriate LE mechanics and placement

GOALS

General

Continue progressing ROM and soft tissue flexibility
Transition the emphasis to strengthening while watching LE/Pelvic Alignment

SUGGESTED PHYSICAL THERAPY INTERVENTIONS

Manual Therapy

Grade II-III Joint Mobilizations of the hip. Avoid going into hypermobility if thought to be a contributing factor to pathomechanics. Be sure to assess the lumbar spine, sacrum, knee, foot and ankle for appropriate mechanics and mobility

Continue with more aggressive **PROM/ Stretching** for ER/IR as needed and within pain tolerance of patient. May benefit from hip flexor and QL release.

Exercise

Cardio

Increase biking duration and intensity (resistance, speed) to tolerance

Table/HEP

Hip Flexor stretch in kneeling
Prone Glute lift with knee flexion (watch for isolation of the glute with no lumbar compensations)
Double leg Bridging with Abd/Add focus by maintaining bridge and actively bringing knees together and apart
Glute Three Ways
Heel/Toe Raises on ½ Foam Roller
Weeks 6-7 Progress to SL bridging
Weeks 6-7 Start Seated ER/IR with gentle resistance
Weeks 6-7 Start BOSU bridges

Pool

Freestyle swimming-gentle with no kicking so use buoy between legs
Pool Barre with same precautions- noodle to avoid resisted hip flexion

Technique Work- Barre

Plies (CKC squats) with equal weight between feet and minimal ER- No more than 30°. Can be done in first and second, but **no** Grande Plies

Tendus En Croix from first position but maintain neutral alignment with derriere- no ER. No more than 10 each way, or to tolerance or failure of correct mechanics. Encourage lots of brushing to decrease overuse of hip flexor and increased quad use.

Rond De Jambe- Halves- front to side, side to neutral back, neutral back to side, side to front

Fondue En Croix from first position with neutral back and no more than two sets en croix. Watch for anterior pelvic tilt, and encourage increased quad use to assist with lengthening the leg and decreasing the pull on the hip flexor

Modalities

Ice/Heat PRN

PHASE THREE

WEEKS 8-12

PRECAUTIONS

No resisted hip flexion

Ask your surgeon as some desire no resisted hip flexion during the entire rehabilitation process.

Technique

Complete Barre without releve by 12 weeks. **No** Grande Plie, Rond de Jambe en l'air or Adagio
Legs start to turn out gradually for any derriere exercises
No legs over 45°
No Jumping, Turning, Pointe Work
Watch for increased anterior pelvic tilt and correct to neutral spine
Watch for appropriate LE mechanics and placement
Limit Reps to no more than 15 of any direction
Start Centre work by week 12 but limit to tendus, degages, fondues, rond de jambes

GOALS

General

Symmetrical ROM
Integrated functional strengthening

SUGGESTED PHYSICAL THERAPY INTERVENTIONS

Manual Therapy

Grade II-III Joint Mobilizations of the hip, lumbar spine PRN

Continue with more aggressive **PROM/ Stretching** for all motions PRN and within pain tolerance of patient.

Exercise

Cardio

Increase biking duration and intensity (resistance, speed) to tolerance

Table/HEP

Prone Glute lift with knee flexion (watch for isolation of the glute with no lumbar compensations) On Ball Also
SL bridging
Glute Three Ways
BOSU Bridges
Supermans
Frogs
Standing Stool ER/IR
SLS on Foam
HS Ball Pull-In's
Timbers or Prone Ab Slides
Planks Front and Side

Reformer Work

(Light Resistance) Watch Pelvic Alignment and over-recruitment of anterior musculature- HS Slides(quadruped), Leg Circles, SL Pull Down, Standing Plank slide, DL Bridges, Standing Slides front/side/back with and without plie, Bicycles

Pool

Freestyle swimming only kicking every fourth lap otherwise with buoy between knees
Pool Barre with same Precautions

Technique Work- Barre

Plies (CKC squats) with equal weight between feet and minimal ER- No more than 60°. Can be done in 1st and 2nd positions but no grande plie

Tendus En Croix from first position – start adding turnout with derriere. No more than 15 each way or to tolerance. Encourage lots of brushing the foot along the floor to decrease overuse of hip flexor

Rond De Jambe- Complete motion

Fondu En Croix from first position -No more than two sets en croix. Watch for anterior pelvic tilt, and encourage increased quad use to assist with lengthening the leg and decreasing the pull on the hip flexor

Frappe En Croix from first position-No more than two sets en croix. Watch for increased pelvic motion to compensate for lack of hip flexion strength on surgical side

Grande Battement En Croix from first position- No more than two sets en croix. Legs remain in the 45° range all directions

Technique Work- Centre with same precautions

Plies
Tendus
Degages
Rond de Jambes
Fondus

Modalities

Ice/Heat PRN

PHASE FOUR

WEEKS 12-18

PRECAUTIONS

No resisted hip flexion

Ask your surgeon as some desire no resisted hip flexion during the entire rehabilitation process.

Technique

Complete Barre (if no valgus alignment – no grande plies in 4^{th} or 5^{th}). No releve except for first position; noted below). **No** Rond de Jambe en l'air or Adagio
Legs start to turn out for any derriere exercises
No legs over 60°
No Jumping, Turning, Pointe Work
Watch for increased anterior pelvic tilt and correct to neutral spine
Watch for appropriate LE mechanics and placement
Limit Reps to no more than 15 of any direction
Centre work but limit to tendus, degages, fondues, rond de jambes, Across the Floor without jumping or releve

GOALS

General

Safe, gradual, and effective return to 50-75% of previous activity level

SUGGESTED PHYSICAL THERAPY INTERVENTIONS

Manual Therapy

Grade II-III Joint Mobilizations of the hip, lumbar spine PRN

Continue with more aggressive **PROM/ Stretching** for all motions PRN and within pain tolerance of patient.

Exercise

Cardio

Increase biking duration and intensity (resistance, speed) to tolerance

Table/HEP

Prone Glute lift with knee flexion (watch for isolation of the glute with no lumbar compensations) On Ball Also
SL bridging
Glute Three Ways
BOSU Bridges
Frogs
Supermans
Standing Stool ER/IR
SLS on Foam
HS Ball Pull-In's
Timbers or Prone Ab Slides
Planks Front and Side

Basic Pilates mat classes

Leg Circles
Bicycles
Hot Potatoes
Swimming
Swan Dive

Reformer Work

(Light Resistance) Watch Pelvic Alignment and over-recruitment of anterior musculature- HS Slides(quadruped), Leg Circles, SL Pull Down, Standing Plank slide, DL Bridges, Standing Slides front/side/back with and without plie, Bicycles

Pool

Freestyle swimming only kicking every fourth lap
Pool Barre with same Precautions

Technique Work- Barre

Plies (CKC squats) with equal weight between feet and minimal ER- No more than 60°. No grande plies.

Tendus En Croix from first position and fifth position – start adding turnout with derriere. No more than 15 each way or to tolerance. Encourage lots of brushing the foot along the floor to decrease overuse of hip flexor

Rond De Jambe- Complete motion

Fondue En Croix from fifth position-No more than two sets en croix. Watch for anterior pelvic tilt, and encourage increased quad use to assist with lengthening the leg and decreasing the pull on the hip flexor

Frappe En Croix from fifth position-No more than two sets en croix. Watch for increased pelvic motion to compensate for lack of hip flexion strength on surgical side and decreased hip extension moment that they may use lumbar spine to compensate for

Grande Battement En Croix from fifth position- No more than two sets en croix. Legs remain in the 60° range all directions

Releves – No more than 20 in first position with equal weight distribution and correct alignment

Technique Work- Centre with same precautions

Plies
Tendus
Degages
Rond de Jambes
Fondus

Modalities

Ice/Heat PRN

PHASE FIVE

4-5 Months Post Op

PRECAUTIONS

No resisted hip flexion

Ask your surgeon as some desire no resisted hip flexion during the entire rehabilitation process.

Technique

Complete Barre (if no valgus alignment – no grande plies in 4th or 5th). Start gentle Rond de Jambe en l'air. **No** Adagio
Legs turn out for any derriere exercises
May begin releve in combination as long as it is not fast
No legs over 60°
No Jumping, No Repetitive Turning, No Pointe Work
Watch for increased anterior pelvic tilt and correct to neutral spine
Watch for appropriate LE mechanics and placement
Limit Reps to no more than 20 of any direction
Centre work but limit to tendus, degages, fondues, rond de jambs, Across the Floor, Pirouettes in combination (no more than 8 reps)

GOALS

General

Safe, gradual, and effective return to previous activity level

SUGGESTED PHYSICAL THERAPY INTERVENTIONS

Manual Therapy

Grade II-III Joint Mobilizations of the hip, lumbar spine PRN
Continue with more aggressive **PROM/ Stretching** for all motions PRN and within pain tolerance of patient.

Exercise

Cardio
- Increase biking duration and intensity (resistance, speed) to tolerance

Table/HEP
- Hip Flexor stretch in kneeling
- Prone Glute lift with knee flexion (watch for isolation of the glute with no lumbar compensations) On Ball Also
- SL bridging
- BOSU Bridges
- Glute Three Ways
- Frogs
- Supermans
- Standing Stool ER/IR
- SLS on Foam
- HS Ball Pull-In's
- Timbers or Prone Ab Slides
- Planks Front and Side

Basic Pilates mat classes
- Leg Circles
- Bicycles
- Hot Potatoes
- Side Leg Lifts and Adductor Lift
- Swimming

Swan Dive
Hundred with Knees Flexed and high with no hip flexor use
Plank-Front and Side

Reformer Work

(Light Resistance) Watch Pelvic Alignment and over-recruitment of anterior musculature- HS Slides(quadruped), Leg Circles, SL Pull Down, Standing Plank slide, DL Bridges, Standing Slides front/side/back with and without plie, Bicycles

Pool

Freestyle swimming
Pool Barre with same Precautions

Technique Work- Barre

Plies (CKC squats) All positions and with grande plie only in 1st and 2nd

Tendus En Croix from first position and fifth position –Turnout with derriere. No more than 15 each way or to tolerance. Encourage lots of brushing the foot along the floor to decrease overuse of hip flexor

Rond De Jambe- Complete motion. May start Rond de Jambe en l'air

Fondu En Croix from fifth position-No more than two sets en croix. Watch for anterior pelvic tilt, and encourage increased quad use to assist with lengthening the leg and decreasing the pull on the hip flexor

Frappe En Croix from fifth position-No more than two sets en croix. Watch for increased pelvic motion to compensate for lack of hip flexion strength on surgical side

Grande Battement En Croix from fifth position- No more than two sets en croix. Legs remain in the 60° range all directions

Releves – No more than 20 in first position with equal weight distribution and correct alignment. May add these into combination as long as they are not fast

Technique Work- Centre with same precautions

Plies
Tendues
Degages
Rond de Jambes
Fondues

Across the Floor

Pirouettes in Combination (tombe pas de bourree)
Chaine Turns
Pique Turns

Modalities

Ice/Heat PRN

PHASE SIX

5-7 Months Post Op

PRECAUTIONS

No resisted hip flexion

Ask your surgeon as some desire no resisted hip flexion during the entire rehabilitation process.

Technique

Complete Barre with Grande Plie in all positions. Begin **gentle** adagio with legs to 45° **only**. Start with releves en pointe no more than 20 in first position
Legs turn out for any derriere exercises
Releve in combination is okay
No legs over 60°
Limited Jumping **at 7 months**, No Repetitive Turning, Limited Pointe Work **after 6 months**
Watch for increased anterior pelvic tilt and correct to neutral spine
Watch for appropriate LE mechanics and placement
Limit Reps to no more than 20 of any direction
Centre work but limit to tendus, degages, fondues, rond de jambes, Across the Floor, Pirouettes in combination (no more than 8 reps)
Look at Petite Allegro but watch landings so there is no valgus present with all landing mechanics. Start in the pool if able; otherwise at the barre to assist with appropriate landing mechanics. Valgus increases shear on the labrum Becker, PAMA presentation 2013.

GOALS

General

Safe, gradual, and effective return to 80- 90% of previous activity level

SUGGESTED PHYSICAL THERAPY INTERVENTIONS

Manual Therapy

Grade II-III Joint Mobilizations of the hip, lumbar spine PRN

Continue with more aggressive **PROM/ Stretching** for all motions PRN and within pain tolerance of patient

Exercise

Cardio

Increase biking duration and intensity (resistance, speed) to tolerance

Table/HEP

Hip Flexor stretch in kneeling
Start Splits to tolerance
Prone Glute lift with knee flexion (watch for isolation of the glute with no lumbar compensations) On Ball Also
SL bridging
Glute Three Ways
Supermans
BOSU Bridges
Frogs
Standing Stool ER/IR
SLS on Foam
HS Ball Pull-In's
Timbers or Prone Ab Slides and Planks front and side

Basic Pilates mat classes

Leg Circles
Bicycles
Hot Potatoes
Side Leg Lifts and Adductor Lift
Swimming
Swan Dive
Hundred with Knees Flexed and high with no hip flexor use
Plank-Front and Side

Reformer Work

(Increased Resistance) Watch Pelvic Alignment and over-recruitment of anterior musculature- HS Slides(quadruped), Leg Circles, SL Pull Down, Standing Plank slide, DL Bridges, Standing Slides front/side/back with and without plie, Bicycles

Rotation Discs

Technique work to stabilize pelvis and look for valgus

Wunda Chair Pilates

Single leg squat push down

Pool

Freestyle swimming
Pool Barre with same Precautions

Technique Work- Barre

Plies (CKC squats) All positions including grande plie in all positions.

Tendus En Croix from first position and fifth position –Turnout with derriere. No more than 15 each way or to tolerance. Encourage lots of brushing the foot along the floor to decrease overuse of hip flexor

Rond De Jambe- Complete motion. May start Rond de Jambe en l'air at 45°.

Fondu En Croix from fifth position-No more than two sets en croix. Watch for anterior pelvic tilt, and encourage increased quad use to assist with lengthening the leg and decreasing the pull on the hip flexor

Frappe En Croix from fifth position-No more than two sets en croix. Watch for increased pelvic motion to compensate for lack of hip flexion strength on surgical side

Adagio En Croix from fifth-No higher than 45° and limit to one rep en croix

Grande Battement En Croix from fifth position- No more than two sets en croix. Legs remain in the 60° range all directions

Releves – No more than 40 in first position with equal weight distribution and correct alignment. May add these into combination as long as they are not fast

Jumping in first, second at the Barre-Limit to no more than 8 each position. **At 7 months**

Pointe Work at the Barre- No more than 20 releves in first**. After 6 months**

Technique Work- Centre with same precautions

Plies
Tendus
Degages
Rond de Jambes
Fondues

Across the Floor

Pirouettes in Combination
Chaine Turns
Pique Turns
Petite Allegro- first, second position jumps. Sautes across the floor, glissades, assembles, jetes- only if proper mechanics and at the end of 7 months

Modalities

Ice/Heat PRN

PHASE SEVEN

8-12 Months Post-Op

PRECAUTIONS

No resisted hip flexion

Ask your surgeon as some desire no resisted hip flexion during the entire rehabilitation process.

Technique

Complete Barre including Grande Plie. Pointe work at barre, progressing to centre by a year as technique allows
Legs may begin to go past 60°
Jumping, Repetitive Turning, Pointe Work may progress per technical ability
Watch for increased anterior pelvic tilt and correct to neutral spine
Watch for appropriate LE mechanics and placement
Centre work full as long as pain tolerance and technique permit. Keep legs out of valgus and allow for jumps- pas de chat, tour jete, jumped fouette, c- jumps, calypso, etc; less than full extension until 11 months. Gradual progression to full extension by 12 months.
Tours, Fouettes should be limited to 12 reps and gradually increased over the year mark

GOALS

General

Safe, gradual, and effective return to 100% of previous activity level

SUGGESTED PHYSICAL THERAPY INTERVENTIONS

Periodic Visits may be needed to assess for tissue response to extreme end ranges of motion and technical progression. Labrum approximates with flexion and end ranges of motion. Watch for pain with progression

Exercise

Cardio

- Increase biking duration and intensity (resistance, speed) to tolerance

Table/HEP

- Hip Flexor stretch in kneeling
- Splits to tolerance
- Prone Glute lift with knee flexion (watch for isolation of the glute with no lumbar compensations) On Ball Also
- SL bridging
- BOSU Bridges
- Glute Three Ways
- Frogs
- Supermans
- Standing Stool ER/IR
- SLS on Foam
- HS Ball Pull-In's
- Timbers or Prone Ab Slides and Planks front and side

Basic Pilates mat classes

Leg Circles
Bicycles
Hot Potatoes
Side Leg Lifts and Adductor Lift
Swimming
Swan Dive
Hundred with Knees Flexed and high with no hip flexor use

Reformer Work

(Increased Resistance) Watch Pelvic Alignment and over-recruitment of anterior musculature- HS Slides(quadruped), Leg Circles, SL Pull Down, Standing Plank slide, DL Bridges, Standing Slides front/side/back with and without plie, Bicycles

Rotation Discs

Technique work to stabilize pelvis and look for valgus

Wunda Chair Pilates

Single leg squat push down

Pool

Freestyle swimming
Pool Barre with same Precautions

Technique Work- Barre

Plies (CKC squats) All positions including grande plie in all positions.

Tendus En Croix from first position and fifth position –Turnout with derriere.

Rond De Jambe- Complete motion. Rond de Jambe en l'air at 60-90°

Fondue En Croix from fifth position- Watch for anterior pelvic tilt, and encourage increased quad use to assist with lengthening the leg and decreasing the pull on the hip flexor

Frappe En Croix from fifth position- Watch for increased pelvic motion to compensate for lack of hip flexion strength on surgical side

Adagio En Croix from fifth-As Tolerated as long as there is no complaint of anterior hip pain

Grande Battement En Croix from fifth position-As Tolerated as long as there is no complaint of anterior hip pain

Releves -With equal weight distribution and correct alignment. May add these into combination

Jumping- As tolerated but with correct mechanics and no LE Valgus

Pointe Work at the Barre- As technique allows

Technique Work- Centre with same precautions

Gradual progression of all jumps to full extension by 12 months.

Tours, Fouettes should be resumed to full completion by 12 months

Modalities

Ice/Heat PRN