Rehabilitation of Hip Labral Tears
K. Reneé Thiebaud, PhD, PT
The Orthopedic Store Physical Therapy

Anatomy of the Hip & Pelvis

Skeletal Anatomy of the Hip & Pelvis

Anatomy of the Labrum

- Acetabular labrum
  - Fibrous rim of cartilage around the hip socket
  - Function
    - Provides stability to the joint
    - Management of the flow of vital joint fluids
      - Nourishment
      - Lubrication

Zones of the Labrum

- Extra-articular zone has good blood supply
- Intra-articular zone has poor blood supply

This presentation is the intellectual property of the author. Contact them for permission to reprint and/or distribute.
Symptoms

- Onset of symptoms typically insidious
  - Hip or groin pain, often radiates
  - Intra-articular snapping hip syndrome (~ 80% of the time)
  - Clicking
  - Giving way
  - Locking/catching
  - Trendelenburg gait

- Onset of symptoms (cont.)
  - Stiffness
  - Limited ROM
  - Pain with increased sitting
  - Pain with twisting/cutting/explosive outbursts

Causes/Mechanism of Injury

- Primary cause: femoral acetabular impingement (FAI) – anterior superior labrum is pinched
- Repetitive twisting, cutting, pivoting & hip flexion

- Capsular laxity/joint hypermobility
- Hip dysplasia
- Degenerative changes
- Anatomical/Structural
  - Abnormal shape/structure of the acetabulum, labrum, femoral head
- Muscle weakness

This presentation is the intellectual property of the author. Contact them for permission to reprint and/or distribute.
**Diagnosis**

- **Orthoscopic Exam**
  - Most reliable
  - 100% accurate

- **MRI**

- **Magnetic Resonance Arthrography (MRA)**
  - Provides in-vivo image of the hip joint which is often difficult to visualize secondary to depth of articulation
  - Now the “**GOLD STANDARD**”

---

**MR Arthrogram (MRA)**

Oblique axial (a) and sagittal (b) MR arthrogram of the right hip showing a detached tear of the anterior labrum (arrows).

---

**Conservative Therapy**

- **Goal:**
  - Relieve pain
  - Improve function
  - Correct muscle instability

---

This presentation is the intellectual property of the author. Contact them for permission to reprint and/or distribute.
## Conservative Therapy
- Activity modification
  - Avoid pivoting/cutting
  - Avoid prolonged weight bearing activities
- Physical Therapy
  - Stretching and flexibility exercises
  - Strengthening hip muscles
  - Restore neuromuscular control
  - Improve posture
- Intra-articular injection

## Non-surgical Rehabilitation
- Strengthening exercises
  - Standing hip flexion/extension/ABD/ADD with progressive loading (resistance bands)
  - Lunges
  - Leg press/total gym
- Stabilization exercises
  - Lumbopelvic stabilization
    - Bridges, Mini-squats

## Non-surgical Rehabilitation
- Balance/Proprioception
  - Single leg stand
  - Balance board

## Surgical Intervention
- Signs or Symptoms > 4 weeks
- MRI or MRA
- Acetabular labral lesion – debridement or repair
- Dr. Wolff repair video
Surgical Intervention

Surgical Rehabilitation

- Primary goals following surgery:
  - Minimize pain and inflammation
  - Protect surgically repaired tissue
  - Initiate early motion

Surgical Rehabilitation

- Stretching/Flexibility
  - Piriformis, psoas, quadriceps, hamstrings
- Strengthen hip ABDuctors, ADDuctors, & extensors
  - Begin with isometrics with lower extremity in neutral
  - Progress to include isotonics and core strength
- Gait training
- Balance/Proprioception exercises

Surgical Rehabilitation

- Proaxis Therapy
  - Labral debridement and labral repair
  - See patient checklist in Garrison, et al. reference
**Dr. Muller's Protocol**

### Phase I

**Time frame**: Post-OP days 1 – 14

**Goals**
- Protect healing tissue
- Normalize gait pattern

**Precautions**
- Crutches, 25% WB
- Minimize scarring/swelling
- Caution with stairs/prolonged ambulation

**Exercises**
- Pain control/Cryotherapy
- Scar mob/STM/Stretching – piriformis/HS
- Progress PROM
  - Week 1 – flexion 0 to 100°, Week 2 – flexion 120°
  - ABD, ADD as tolerated
  - Avoid forced hip external rotation,
  - Avoid hip rotation with hip flexed > 90°
  - Standing internal rotation, prone rotations, circumduction
  - Prone extensions & hamstring curls after week 2
  - Isometrics – gluts, quads, HS, abdominals, ABD, ADD (avoid flexors)
  - Stationary bike – low resistance after week 1, 20 minutes BID as tolerated

### Phase II

**Time frame**: Post-OP day14 to week 4

**Goals**
- Progress hip ROM

**Precautions**
- Avoid hip flexor tendonitis and trochanteric bursitis

**Exercises**
- Continue therapeutic exercises
- Progress PROM as tolerated
- Progress strengthening and isotonics
  - Isotonics all hip muscle groups except hip flexor
  - Sidelying clams, bridging, sidelying leg raise
  - Modalities prn – E-stim, US
  - Begin pool therapy when portal sites well healed
  - CV – stationary bike low resistance – advance time, add elliptical

### Phase III

**Time frame**: Weeks 4 – 10

**Goals**
- Progress hip strengthening
- Early restoration of balance/proprioception

**Precautions**
- Avoid hip flexor tendonitis and trochanteric bursitis

**Exercises**
- Continue therapeutic exercise
- Full PROM – hip flexor & ITB stretching
- Progress strengthening
  - Add hip flexor isotonics, begin short-lever hip flex
  - Add leg press, begin bilateral, then unilateral
  - Side stepping with theraband
  - Core strengthening – frontal and side planks
  - Begin proprioception – bilateral, then unilateral, advance as tolerated
  - Advance elliptical
  - Add stair stepper

### Phase IV

**Time frame**: Weeks 10 – 14

**Goals**
- Increase functional activity

**Precautions**
- Do not start Phase IV until full ROM, good core/hip strength and acceptable balance

**Exercises**
- Continue therapeutic exercise
- Progressive core & bilateral LE strengthening
- Outdoor bike and jog, then light running
- Improve endurance

---

This presentation is the intellectual property of the author. Contact them for permission to reprint and/or distribute.
Dr. Mueller’s Protocol

<table>
<thead>
<tr>
<th>Phase</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time frame</td>
<td>Weeks 14 – 18</td>
<td>Beyond week 18 – Return to sport</td>
</tr>
<tr>
<td>Exercises</td>
<td>• Lunges, single leg squats, plyometrics</td>
<td>• Advance functional exercises</td>
</tr>
<tr>
<td></td>
<td>• Agility drills – lateral, diagonal</td>
<td>• Sport specific agility drills</td>
</tr>
<tr>
<td></td>
<td>• Begin functional exercises</td>
<td>• Training</td>
</tr>
<tr>
<td></td>
<td>• Progress running program – sprinting, cutting</td>
<td></td>
</tr>
</tbody>
</table>

References:


This presentation is the intellectual property of the author. Contact them for permission to reprint and/or distribute.