ORTHOPEDIC AND SPORTS MEDICINE CENTER

SPORTS MEDICINE DIVISION

COMBINED REHAB PROTOCOLS

Cartilage Repair/Reconstruction

Rehab Protocol

Edited: May, 2015

AAHS OUTPATIENT PHYSICAL THERAPY

Rehab Protocol

Edited: May, 2015

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### Timeline

**Early Post-op**

- Day 1 - Week 6

### Goals

| Extension | -Protect site of repair  
- Restore normal Quadriceps function  
- Restore normal Patellar mobility  
- Decrease swelling |
|-----------|--------------------------------------------------|
| Flexion  | -Superior patellar mobs  
- Quad sets  
- SLRs - 4 ways  
- Hamstring stretch  
- Gastroc/Soleus stretch  
- **Condylar lesions only**: Initiate open chain knee extension: 90-45° |
| CPM      | -Inferior patellar mobs  
- Heel slides  
- Prone quad stretch  
- Seated knee flexion  
- Wall slides  
- Bike (no resistance at 1-2 wks)  
- Hamstring sets  
- Clams |
| Heel slides  | -Core stability |

### Milestones to reach by end of week 6

- Full knee extension
- Knee flexion > 120
- Discontinue AD (FWB)

**Microfracture**: WBAT progress to FWB

### Exercises/Methods

| Extension  | -Protect site of repair  
- Restore normal Quadriceps function  
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### Bracing

- Immobilizer until SLR without sag 10x10
- Then IROM 0-90 for 6 weeks.
- ***Brace flexion may be limited if lesion requires it.***

### ROM Restrictions

- 0-90 for 6 weeks

### Weight Bearing

- NWB for 4 weeks
- 25-50% Week 5
- 50-75% week 6
- 100% after 6 weeks

### Other Restrictions and Key Considerations

| CPM  | 6-8 hours every day  
May use while sleeping  
Start 0-40 week 1  
Add 10 degrees / week  
Max Condylar lesion: 0-90  
Max PF Lesion 0-45 |

### Core Stabilization

- Bike (with resistance)
- Calf raises
- Bridges
- 4 Way Hip PREs
- TKEs
- Wall sits
- Front/lateral step ups
- Initiate Mini squats:  
  - condylar Lesion 0-60  
  - trochlear Lesion 0-45
- Initiate Leg press:  
  - condylar Lesion 0-60  
  - trochlear Lesion 0-45
- Light Hamstring curls
- Sidestepping
- Backward walking
- Balance progression
- Core stability
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<td>-Progressive strengthening</td>
<td>-<strong>Trochlear Lesion</strong> Initiate Open chain knee extension: 45-0</td>
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<td>-Progress cardiovascular endurance</td>
<td>-Unilateral step ups</td>
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<td>-Leg press single leg</td>
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<td>-Squats to 90</td>
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<tr>
<td>Weeks 16+</td>
<td>-Progressive strengthening</td>
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<td>-Begin Progression at 4-6 months</td>
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**SHOWERING**

1. May Shower day 1 after surgery
2. Must “waterproof” surgical site for 5 days after surgery
3. No submerging wounds for 4 weeks

**WOUND CARE**

1. Remove everything except steri strips the day after surgery
2. Place clean gauze or op-site on wounds daily for 5 days

**MEDICATIONS**

1. Pain medicine only as needed. Wean off as soon as possible
2. Don’t over-use NSAIDS
3. Aspirin 325mg daily for 1 month for DVT prophylaxis
## Return to Play Criteria

**Pre-RTP Criteria before testing can commence**
- Full AROM
- Resolution of pain
- No/Trace joint effusion present
- MMT grossly 5/5 strength in LE
- LEFS: ≥ 75/80 (95%)
- Lysholm Knee Rating: ≥ 95%
- 1RM SL Leg Press ≥ 90% contralateral side
- 1RM SL Hamstring Curl ≥ 90% contralateral side

**Lower Limb Symmetry Index (LSI):** LSI % (mean score of 3 trials on injured limb/ mean score of 3 trials on uninjured limb) x 100
- SL Hop: ≥ 90%
- SL Triple Hop: ≥ 90%
- SL 6 meter Timed Hop: ≥ 90%
- SL Cross-over Hop: ≥ 90%
- Overall Score: ≥ 90%

**Vail Sports Tests:**
- Passing Score ≥ 46/54 (85%)

**Tuck Jump Assessment (TJA):**
- Perfect score on the TJA or improvement of 20 percentage points from the initial score

**Single Leg Squat: No Errors in Form (Errors listed right)**
- Arm strategy: removal of hand off the waist
- Trunk alignment: leaning in any direction
- Pelvis plane: loss of horizontal plane
- Knee position: tibial tuberosity medial to second toe or tibial tuberosity medial to medial border of foot
- Steady stance: subject stepped down on non-tested limb, or foot wavered from side-to-side

**Modified Star Balance Excursion Test (Y Balance Test):**
- SEBT % = ((mean score of 3 trials in anterior distance + mean score of 3 trials in posterior lateral distance + mean score of 3 trials in posterior medial distance)/ leg length of stance limb) x 100. Passing Score ≥ 94%

**Core Testing: (ongoing research):** ≥ 90% of all standard timed tests:
- Right Single Leg Bridge: Men 95 seconds; Females 75 seconds
- Left Single Leg Bridge: Men 99 seconds; Females 78 seconds
- Flexor Endurance Test: Men 136 seconds; Females 134 seconds
- Extensor Endurance Test: Males 160 seconds; Females 185 seconds
- Lower Abdominal Muscle Testing: Males 5/5; Females ≥ 4/5
  - (75°=3/5, 60°=3+/5, 45°=4-/5, 30°=4/5, 15°=4+/5, 0°=5/5)

## RTP Instructions

RTP evaluation can progress throughout treatment as appropriate.

**Pre-RTP**
- Complete all testing in Pre-RTP section. Only Continue on when able to pass

**Session 1**
- LSI, Vail Sports, TJA

**Session 2**
- Single leg squat, Y Balance, Core Testing