

## REHABILITATION GUIDELINES FOR FEMORAL OSTEOTOMY, ACL RECONSTRUCTION WITH PERONEUS LONGUS ALLOGRAFT, OPEN ALLOGRAFT OATS, LATERAL MENISCUS ALLOGRAFT TRANSPLANTATION, MICROFRACTURE

*PHASE I (0-6 WEEKS POST OP)*

DATES:

Appointments	<ul style="list-style-type: none"> <li>• MD follow up at 2 weeks for wound check, X-ray, stitch removal</li> <li>• MD follow up at 6 weeks for X-ray and progress assessment</li> <li>• Begin physical therapy 2-3 x/week within 2-4 days of hospital discharge</li> </ul>
Rehabilitation Goals	<ul style="list-style-type: none"> <li>• Full extension symmetrical to contralateral knee before the first post-op visit at 2 weeks</li> <li>• PROM 0-90°</li> <li>• 20° SLR without quad lag</li> <li>• Maintain WB precautions</li> <li>• Edema control</li> <li>• Monitor for s/s of DVT/infection</li> </ul>
Precautions	<p><b>x 6 weeks for all:</b></p> <p><b>WB:</b></p> <ul style="list-style-type: none"> <li>• NWB with crutches</li> </ul> <p><b>Brace:</b></p> <ul style="list-style-type: none"> <li>• locked 0° for ambulation, brace open 0-90° at rest in sitting</li> <li>• sleep with brace locked at 0, unlock 0-90 when becomes intolerable</li> </ul> <p><b>ROM:</b></p> <ul style="list-style-type: none"> <li>• AROM/PROM 0-90 degrees</li> <li>• Avoid putting a pillow under the knee</li> </ul>
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> <li>• Prolonged extension: prone hang, supine with roll under ankle</li> <li>• Heel slide, wall slide to 90 degrees</li> <li>• Isometric quad set, then SLR</li> <li>• Hamstring isometrics</li> <li>• 4-way hip and ankle exercises</li> <li>• Patellar mobilizations</li> </ul>
Cardiovascular Exercises	<ul style="list-style-type: none"> <li>• Seated arm bike</li> </ul>

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Progression Criteria	<ul style="list-style-type: none"> <li>• ROM 0-90 degrees, full ankle ROM</li> <li>• MD clears patient to discharge brace and begin next phase via X-ray</li> <li>• Good quad set</li> <li>• Able to straight leg raise without lag</li> </ul>
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**PHASE II (6-12 WEEKS POST OP)**

**DATES:**

Appointments	<ul style="list-style-type: none"> <li>• Continue physical therapy 2 x week, progress to 1 x week when PT deems appropriate</li> <li>• MD appointment for X-ray and progress assessment at 6 and 12 weeks</li> </ul>
Rehabilitation Goals	<ul style="list-style-type: none"> <li>• Increase weight bearing progression per MD specifications</li> <li>• DC crutches after 10 weeks when quad control returns, full extension achieved, stable with low fall risk</li> <li>• Full knee and ankle ROM</li> <li>• Increase functional weight bearing strength as able</li> <li>• Core integration</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• WB progression:             <ul style="list-style-type: none"> <li>- at 6 weeks to 25%, go up 25% per week until full WB at 10 weeks (get cleared by MD and X-ray prior to starting progression)</li> </ul> </li> </ul>
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> <li>• If cleared for full WB:</li> <li>• HEP 5x/week</li> <li>• Begin closed kinetic chain exercises with knee flexion:             <ul style="list-style-type: none"> <li>- Mini squat, lunges, bridges, sport cord, wall squats, step up/down</li> </ul> </li> <li>• Progress neuromuscular proprioceptive/balance exercises including single leg balance progression- varying surfaces</li> <li>• Pool available: begin 4 way hip, lateral movement, deep water jogging in place (no freestyle or frog/breaststroke kick)</li> </ul>
Cardiovascular Exercises	<ul style="list-style-type: none"> <li>• Stationary bike</li> <li>• Arm bike</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• Neuromuscular exercises without difficulty</li> <li>• No dynamic valgus with exercises</li> </ul>

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**PHASE III (3-5 MONTHS POST OP)**

**DATES:**

Appointments	Continue physical therapy 1-2 x/week
Rehabilitation Goals	<ul style="list-style-type: none"> <li>• Running patterns at 75% speed</li> <li>• Good jumping mechanics- NO DYNAMIC VALGUS</li> <li>• Hop drills without difficulty</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• No downhill walking/running, downhill skiing, downhill biking until 4.5 months</li> </ul>
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> <li>• HEP 5x per week</li> <li>• Agility drills:             <ul style="list-style-type: none"> <li>- Shuffling</li> <li>- Hopping</li> <li>- Running patterns (Ex: figure 8)</li> </ul> </li> <li>• Sport specific closed-chain exercises:             <ul style="list-style-type: none"> <li>- leg press (0-60°)</li> <li>- step ups</li> <li>- mini squats (0-60°)</li> <li>- short arc quad (30-90°)</li> <li>- hamstring curls</li> </ul> </li> <li>• light weight/high repetitions</li> </ul>
Cardiovascular Exercises	<ul style="list-style-type: none"> <li>• Begin endurance closed-chain exercises 3-4x/week             <ul style="list-style-type: none"> <li>- Stairmaster, stationary bike, elliptical, NordicTrack (short stride)</li> <li>- Focus on increasing endurance.</li> </ul> </li> <li>• Gait training</li> <li>• Jogging on treadmill or even ground at 12 weeks, progress to running patterns at 75%</li> <li>• Pool available: may start freestyle swimming (avoid frog/breaststroke kick), progress to shallow water jogging</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• Running without knee pain or effusion</li> <li>• Hopping/agility drills without knee pain or effusion</li> </ul>

**PHASE IV (: 5-8 MONTHS POST OP)**

**DATES**

Appointments	Continue physical therapy 2 visits per month to review HEP
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Rehabilitation Goals (Phase IV continued)	<ul style="list-style-type: none"> <li>• Slow progression from jogging on even ground or treadmill to running patterns, hill work, cutting, jumping, pivoting</li> <li>• May begin plyometric program: jump rope exercises</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• Earliest return to sport = 9 months</li> <li>• Must pass return to sport test</li> </ul>
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> <li>• HEP 4-5x per week</li> <li>• Return to sport testing at 9 months post-op, prior to MD visit</li> <li>• Agility drills: shuffling, hopping, running patterns (Ex: figure 8)</li> <li>• Sport Specific: plyometric program, fast straight running, backward running, cutting, cross-overs, carioca, etc. in controlled environment</li> </ul>
Cardiovascular Exercises	<ul style="list-style-type: none"> <li>• Pool available: may advance swimming (avoid frog/breaststroke kick)</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• Quadriceps and hamstring strength at least 90% of opposite leg</li> <li>• Single leg hop test and vertical jump at least 90% of opposite leg</li> <li>• Jog, full speed run, shuttle run, and figure of 8 running without a limp</li> <li>• Full controlled acceleration and deceleration</li> <li>• Squat and rise from a full squat</li> <li>• No effusion or quadriceps atrophy</li> </ul>

References:

PT name and date: Ariel Duvall 1/24/17

MD name and date: January 2017

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