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## REHABILITATION GUIDELINES FOR MCL REPAIR WITH INTERNAL BRACE: IPILATERAL HAMSTRING AUTOGRAFT AUGMENTATION

PHASE I (WEEK 0-6 WEEKS)

DATES:

Appointments	<p>MD appointment at 2 weeks for suture removal, 6 weeks for follow up</p> <p>Physical therapy 2 x week beginning 2-5 days post op; can drop to 1 x week once 0-90 ROM is achieved and patient has improved quad set</p>
Rehabilitation Goals	<ul style="list-style-type: none"> <li>• Pain and effusion management</li> <li>• Full extension symmetrical to contralateral knee before first post op visit at 2 weeks</li> <li>• SLR without quad lag by 6 weeks</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• PROM 0-90 x 2 weeks, then slow progression to full ROM by 6 weeks</li> <li>• Toe touch weight bearing with brace locked at 0 degrees for 2 weeks, then WBAT with brace on and locked at 0 degrees</li> <li>• No hamstring contraction x 6 weeks</li> <li>• Avoid valgus loads</li> <li>• Progressive exercises should be performed with the tibia in IR to decrease stress to the MCL</li> </ul>
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> <li>• Prolonged extension- prone hang, supine with towel roll under ankle</li> <li>• Ankle pumps</li> <li>• Heel slide, wall slide progressing to full ROM after 2 weeks</li> <li>• Quad sets with NMES</li> <li>• Isometric quad sets, then SLR/3 way hip with brace- NO ADDUCTION until 4 weeks</li> <li>• Patellar mobilizations</li> </ul>
Cardiovascular Exercises	<ul style="list-style-type: none"> <li>• Stationary bike starting with short crank after 2 weeks</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• Good quad control/SLR without lag</li> <li>• PROM 0-130</li> </ul>

## PHASE II (WEEK 6-12 WEEKS)

DATES:

Appointments	MD follow up at 6 weeks and 12 weeks Continue physical therapy 2 x week
Rehabilitation Goals	<ul style="list-style-type: none"> <li>• Progress to full ROM</li> <li>• Normal gait pattern without assistive device or brace</li> <li>• No extensor lag</li> <li>• Good quad control</li> <li>• Core integration</li> </ul>
Precautions	<ul style="list-style-type: none"> <li>• Wean out of brace and off of A.D. when patient has good quad control</li> <li>• No planting or twisting of the leg</li> <li>• Avoid valgus loads</li> <li>• Progressive exercises should be performed with the tibia in IR to decrease stress to the MCL</li> </ul>
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> <li>• HEP 5 x week</li> <li>• Strengthening: begin closed kinetic chain exercises with knee flexion</li> <li>• Total gym, mini squats, mini lunges, bridges, wall squats 0-45 deg, step up/down, leg press 0-60 with resistance up to ½ body weight</li> <li>• Progress neuromuscular proprioceptive/balance exercises including single leg balance progression-varying surfaces</li> <li>• Core exercises: plank, side plank</li> <li>• Pool: begin 4 way hip, lateral movement, deep water walking/jogging in place, progress to freestyle strokes but avoid breaststroke kick</li> </ul>
Cardiovascular Exercises	<ul style="list-style-type: none"> <li>• Stationary bike with minimal resistance, progress to road biking outdoor on flat roads only</li> <li>• Treadmill walking, elliptical trainer, stair master</li> <li>• Return to running x 8 weeks</li> </ul>
Progression Criteria	<ul style="list-style-type: none"> <li>• Full ROM</li> <li>• Normalized gait pattern</li> <li>• Neuromuscular exercise without difficulty</li> <li>• No dynamic valgus with exercises</li> </ul>

## PHASE III (3-5 MONTHS)

DATES:

Appointments	Continue PT 1-2 x week
Rehabilitation Goals	<ul style="list-style-type: none"> <li>• Hop drills without difficulty</li> <li>• Good jumping mechanics with no dynamic valgus</li> <li>• Begin return to sport activities</li> </ul>
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> <li>• HEP 5 x week</li> <li>• Strengthening: closed chain exercises including leg press, lateral step downs, squats, hamstring curls with light weight, high repetition</li> <li>• Agility drills: shuffling, hopping, running patterns</li> </ul> <p>Sport specific drills</p>

Cardiovascular Exercises	<ul style="list-style-type: none"> <li>• May start freestyle swimming (avoid frog/breaststroke)</li> <li>• Jogging on treadmill or even ground</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> <li>• Quad strength within 90% of uninjured leg</li> <li>• Return to sport testing for repair at 5 months, reconstruction at 6 months</li> </ul>

References: Current Concepts of Physical Therapy 2016 edition, Cincinnati Sports Medicine and Orthopedic Center

PT name and date: Ariel Duvall PT, DPT

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