

# Rehabilitation Protocol for Brostrom Lateral Ankle Ligament Repair

This protocol is designed to guide clinicians through the post-operative recovery process following a Brostrom repair. It incorporates a time-based approach, depending on tissue healing, as well as a criterion-based approach. Interventions should be customized according to the patient’s specific needs, taking into account examination findings and clinical judgment. The suggested timelines for recovery in this guideline may vary depending on the surgeon's preferences, any additional procedures, or potential complications. If clinicians need further assistance in advancing a patient's post-operative care, they should consult the referring surgeon.

The exercises and interventions outlined in this protocol are not comprehensive. Therapeutic interventions should be selected and adjusted based on the patient's progress, with clinical discretion.

## Considerations for Post-operative Brostrom Repair

Several factors can impact the success of post-operative rehabilitation following a Brostrom repair. A more cautious approach to range of motion, weight-bearing, and rehabilitation progression may be necessary in cases involving tendon augmentation, peroneal tendon repair, revision surgeries, patients with hyper-ligamentous laxity, or comorbidities such as obesity and advanced age. Close collaboration with the referring physician is advised to understand intra-operative findings and ensure satisfaction with the repair's strength.

### PHASE I: IMMEDIATE POST-OP (WEEKS 0-2 AFTER SURGERY)

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Protect repair</li> <li>• Edema control/reduction</li> <li>• Minimize muscle atrophy in proximal musculature</li> </ul>
<b>Weight Bearing</b>	<ul style="list-style-type: none"> <li>• Non-weight bearing with crutches</li> </ul>
<b>Interventions</b>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> <li>• Supine passive hamstring stretch</li> <li>• Avoid A/PROM into inversion</li> <li>• Avoid A/PROM into plantarflexion</li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Quad sets</li> <li>• Straight leg raises</li> <li>• Hip abduction</li> <li>• Prone hamstring curls</li> </ul>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>• Decreased pain and edema</li> <li>• Independent with transfers with appropriate weight bearing precaution</li> </ul>

### PHASE II: INTERMEDIATE POST-OP (WEEKS 0-2 AFTER SURGERY)

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Continue to protect repair</li> <li>• Edema and pain control</li> <li>• Progress weight bearing using appropriate assistive device</li> <li>• Gradually restore ankle dorsiflexion, eversion and plantar flexion</li> </ul>
<b>Weight Bearing</b>	<ul style="list-style-type: none"> <li>• Weight bearing as tolerated in boot</li> </ul>

**PHASE II: INTERMEDIATE POST-OP**  
(WEEKS 0-2 AFTER SURGERY) CONTINUED

<p><b>Additional Intervention</b> *Continue with Phase I interventions</p>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> <li>• PROM/AAROM/AROM: ankle dorsiflexion, plantar flexion, eversion             <ul style="list-style-type: none"> <li>◦ Avoid ankle inversion</li> </ul> </li> <li>• Gentle long-sitting gastroc stretch</li> </ul> <p><i>Cardio</i></p> <ul style="list-style-type: none"> <li>• Upper body ergometer</li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Submax ankle isometrics all direction except inversion</li> <li>• Lumbopelvic strengthening: sidelying clamshells, plank</li> </ul> <p><i>Balance/proprioception</i></p> <ul style="list-style-type: none"> <li>• Joint position re-training</li> </ul>
<p><b>Criteria to Progress</b></p>	<ul style="list-style-type: none"> <li>• Decreased pain and edema</li> <li>• Full ROM ankle dorsiflexion, plantar flexion, eversion (inversion to neutral)</li> <li>• Independent with home exercise program (HEP)</li> </ul>

**PHASE III: LATE POST-OP**  
(WEEKS 7-8 AFTER SURGERY)

<p><b>Rehabilitation Goals</b></p>	<ul style="list-style-type: none"> <li>• Continue to protect repair</li> <li>• Normalize gait pattern</li> <li>• Restore full ROM</li> <li>• Begin controlled ankle strengthening</li> </ul>
<p><b>Weight Bearing</b></p>	<ul style="list-style-type: none"> <li>• Weight bearing as tolerated in shoe with active ankle brace</li> </ul>
<p><b>Additional Intervention</b> *Continue with Phase I-II interventions</p>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> <li>• Gentle stretching of proximal lower extremity muscles: prone quad stretch, standing quad stretch, kneeling hip flexor stretch</li> <li>• Gentle standing gastroc stretch and soleus stretch</li> <li>• Ankle/foot mobilizations adhering to identified precautions (avoid stress to CFL and ATFL)</li> </ul> <p><i>Cardio</i></p> <ul style="list-style-type: none"> <li>• Stationary bike, flutter kick swimming, pool jogging if patient has access to pool and fully healed incision</li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• 4 way ankle theraband</li> <li>• Calf raises</li> <li>• Seated calf machine</li> <li>• Lumbopelvic strength progressions: bridges on physioball, bridge on physioball with hamstring curl, bridge on physioball with alternating march</li> <li>• Supplemental gym strengthening: leg press, knee extension machine, hip abductor and adductor machine</li> </ul> <p><i>Balance/proprioception</i></p> <ul style="list-style-type: none"> <li>• Double limb standing on uneven surface (wobble/rocker board)</li> <li>• Single limb balance with progression to uneven surface including perturbation training</li> </ul>
<p><b>Criteria to Progress</b></p>	<ul style="list-style-type: none"> <li>• Normalized gait pattern without assistive device</li> <li>• Ankle ROM equal to uninvolved</li> <li>• Symmetrical joint position sense (within 5 degree error)</li> </ul>

**PHASE IV: TRANSITIONAL**  
(WEEKS 9-12 AFTER SURGERY)

<p><b>Rehabilitation Goals</b></p>	<ul style="list-style-type: none"> <li>• Maintain full ankle ROM</li> <li>• Progress ankle and lower extremity strengthening</li> <li>• Avoid post exercise pain/swelling</li> <li>• Normalize function movements</li> </ul>
<p><b>Additional Intervention</b> *Continue with Phase I-III interventions</p>	<p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Single leg calf raises</li> <li>• Squats</li> <li>• Dead lifts</li> <li>• Resisted stepping</li> </ul> <p><i>Balance/proprioception</i></p> <ul style="list-style-type: none"> <li>• Y-balance/Star balance</li> <li>• Single leg balance with ball toss</li> <li>• Step ups with single leg holds</li> </ul>
<p><b>Criteria to Progress</b></p>	<ul style="list-style-type: none"> <li>• Able to perform 25 single leg heel raises.</li> <li>• 90 percent performance with Y-balance / Star balance test on involved LE compared to uninvolved side.</li> <li>• No pain or swelling after exercises.</li> </ul>

**PHASE V: EARLY RETURN TO SPORT**  
(MONTHS 3-4 AFTER SURGERY)

<p><b>Rehabilitation Goals</b></p>	<ul style="list-style-type: none"> <li>• Safely progress strengthening</li> <li>• Promote proper movement patterns</li> <li>• Avoid post exercise pain/swelling</li> </ul>
<p><b>Additional Intervention</b> *Continue with Phase II-IV interventions</p>	<p><i>Cardio</i></p> <ul style="list-style-type: none"> <li>• Elliptical, stair climber</li> </ul> <p><i>Range of Motion/Mobility</i></p> <ul style="list-style-type: none"> <li>• Standing gastroc stretch and standing soleus stretch</li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Squat to chair</li> <li>• Hip hike</li> <li>• Lateral lunges</li> <li>• Single leg progression: partial weight bearing single leg press, slide board lunges, step up/downs progression, single leg wall slides</li> </ul>
<p><b>Criteria to Progress</b></p>	<ul style="list-style-type: none"> <li>• No swelling/pain after exercise</li> <li>• No swelling/pain with 30 minutes of fast paced walking</li> <li>• 90 percent performance single leg hop test for distance and triple hop for distance</li> <li>• Cumberland Ankle Instability Tool (CAIT) of FAAM</li> </ul>

## PHASE VI: UNRESTRICTED RETURN TO SPORT (MONTHS 5-6+ AFTER SURGERY)

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"><li>• Continue strengthening and proprioceptive exercises</li><li>• Safely initiate sport specific training program</li><li>• Symmetrical performance with sport specific drills</li><li>• Safe progression into full sport</li></ul>
<b>Additional Intervention</b> *Continue with Phase II-V interventions	<ul style="list-style-type: none"><li>• Interval running program</li><li>• Return to Running Program</li><li>• Agility and Plyometric Program</li></ul>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"><li>• Last stage, no additional criteria</li></ul>

For further assistance or to schedule an appointment, please contact **iOrtho - The Orthopedic Institute** at **833-464-6784** or visit our website at **[iorthomd.com](http://iorthomd.com)** to text/email us. Our team is dedicated to providing personalized care and guidance throughout your rehabilitation journey.