

# Ankle Fracture ORIF Rehab

| <b><u>PHASE I: IMMEDIATE POST-OP (0-6 WEEKS AFTER SURGERY)</u></b> |  |
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| Rehabilitation Goals   | <ul style="list-style-type: none"> <li>• Demonstrate safe ambulation with prescribed weight bearing precautions</li> <li>• Able to maintain weight bearing status per surgeon with transfers and stairs</li> <li>• Manage swelling</li> <li>• Perform ADLs in a modified independent manner or with minimal assistance</li> <li>• Increase range of motion of foot and ankle</li> <li>• Minimize the loss of strength in the core, hips, knees, and upper extremities</li> <li>• Patient Education: Modifications for ADLs</li> </ul>  |
| Precautions  | <ul style="list-style-type: none"> <li>• No joint mobilizations near fracture site or that require stabilizing over the fracture site</li> <li>• NO instrument assisted soft tissue mobilization (IASTM) over fracture sites until at least 6 weeks post-op</li> </ul>   |
| Weight Bearing   | <ul style="list-style-type: none"> <li>• NWB</li> <li>• Boot/cast at all times</li> </ul>  |
| Swelling Management  | Ice, compression, elevation Retrograde massage (avoid pressure on healing fracture sites)  |
| Gait Training  | Gait training on level surfaces and stairs with emphasis on weight bearing precautions   |
| Range of motion/Mobility   | <ul style="list-style-type: none"> <li>• Initiate ankle passive range of motion (PROM), active assisted range of motion (AAROM) and active range of motion (AROM)</li> <li>• Ankle pumps</li> <li>• Ankle circles</li> <li>• Ankle inversion</li> <li>• Ankle eversion</li> <li>• Seated heel-slides for ankle DF ROM</li> <li>• If stiff from boot immobilization, initiate toe stretching (by patient or by therapist)</li> <li>• Foot joint mobilizations may be performed if indicated during this time per therapist discretion -AVOID pressure on healing fracture sites or hardware.</li> <li>• May begin gentle scar mobilization once incisions are healed</li> </ul> |
| Cardio   | <ul style="list-style-type: none"> <li>• Upper body ergometer</li> </ul>   |
| Strengthening (in boot/splint)                                     | <ul style="list-style-type: none"> <li>• May perform upper body strengthening with weights if modified for weight bearing precautions</li> <li>• Lower extremity gym equipment (Ex: hip abductor and adductor machine, hip extension machine, roman chair)</li> <li>• Proximal/core strengthening (maintain precautions) o               <ul style="list-style-type: none"> <li>○ Quad sets</li> <li>○ Straight leg raise</li> <li>○ Abdominal bracing</li> <li>○ Hip abduction</li> </ul> </li> </ul>   |

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|                      | <ul style="list-style-type: none"> <li>○ Clamshells</li> <li>○ Prone hip extension</li> <li>○ Prone hamstring curls</li> <li>● Ankle: <ul style="list-style-type: none"> <li>○ Seated heel raises</li> <li>○ Seated toe raises</li> <li>○ Seated arch doming</li> <li>○ Exercises for foot intrinsic muscles to minimize atrophy while in boot</li> </ul> </li> <li>● Proprioception</li> <li>● Joint position re-training</li> </ul>   |
| Criteria to Progress | <ul style="list-style-type: none"> <li>● Pain &lt;3/10</li> <li>● Minimal swelling (recommend water displacement volumetry or circumference measures such as Figure 8).</li> <li>● Increased ankle ROM</li> <li>● Cleared by surgeon to progress to weight bearing as tolerated (WBAT) or full weight bearing (FWB) in boot</li> <li>● Independence with daily home exercise program</li> <li>● 6 weeks or more from surgery</li> </ul> |

| <b><u>PHASE II: INTERMEDIATE POST-OP (7-12 WEEKS AFTER SURGERY)</u></b>   |  |
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| Rehabilitation Goals  | <ul style="list-style-type: none"> <li>● Manage swelling</li> <li>● Full range of motion of foot and ankle</li> <li>● Safely progress strengthening</li> <li>● A normalized gait pattern on all surfaces (wean from boot/brace when healing is adequate)</li> <li>● Minimize the loss of strength in the upper extremities, core, hips, and knees</li> <li>● Gradually return to regular activities if ROM, strength, and gait pattern are sufficient</li> </ul>   |
| Precautions   | <ul style="list-style-type: none"> <li>● No joint mobilizations near fracture site or that require stabilizing over the fracture site</li> </ul>   |
| Weight Bearing  | <ul style="list-style-type: none"> <li>● Progress to FWB per surgeon in boot until week 10.</li> <li>● Wean boot between week 10-12 w goals of FWB w/o boot at 12</li> </ul>   |
| Additional Interventions<br><i>*Continue with Phase I interventions as indicated<br/>Range of motion/Mobility</i> | <ul style="list-style-type: none"> <li>● Range of motion/Mobility <ul style="list-style-type: none"> <li>○ Continue ankle AROM/PROM exercises and toe stretching as needed</li> <li>○ Progress to standing ankle dorsiflexion stretch on step</li> <li>○ Gentle stretching of proximal muscle groups as indicated: (Ex: standing quad stretch, standing hamstrings stretch, Thomas hip flexor stretch, piriformis stretch)</li> <li>○ Standing gastrocnemius and standing soleus stretching once weaned from boot and talocrural joint mobility is normalized</li> </ul> </li> </ul> |

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|                      | <ul style="list-style-type: none"> <li>○ May begin gentle ankle mobilizations at the discretion of the therapist once fracture is radiographically healed or clearance is given by surgeon.</li> <li>● Cardio <ul style="list-style-type: none"> <li>○ Stationary bicycle (in boot if not yet weaned)</li> <li>○ Treadmill walking once boot is weaned and gait normalized</li> </ul> </li> <li>● Strengthening</li> <li>● Continue Phase I exercises</li> <li>● Isometrics for ankle planes that are not near full active range of motion (AROM).</li> <li>● Ankle exercise with resistance bands once near full ankle AROM: <ul style="list-style-type: none"> <li>○ Ankle dorsiflexion with resistance</li> <li>○ Ankle plantar flexion with resistance</li> <li>○ Ankle eversion with resistance</li> <li>○ Ankle inversion with resistance</li> </ul> </li> <li>● Once boot is weaned begin standing calf raise progression: <ul style="list-style-type: none"> <li>○ Bilateral standing heel raises (25% body weight thru involved leg)</li> <li>○ Bilateral standing heel raises (50% equal weight through both legs)</li> <li>○ Bilateral standing heel raises (75% body weight thru the involved leg)</li> </ul> </li> <li>● Knee Exercises for additional exercises and descriptions</li> <li>● Gym equipment (ex: seated hamstring curl machine and hamstring curl machine, leg press machine, hip abductor and adductor machine, hip extension machine, roman chair )</li> <li>● Lumbopelvic strengthening: (ex: bridges on physioball, bridge on physioball with roll-in, bridge on physioball alternating)</li> <li>● Progress intensity (strength) and duration (endurance) of exercises</li> <li>● Balance/proprioception</li> <li>● Double limb standing balance utilizing uneven surface (wobble board)</li> <li>● Single limb balance - progress to uneven surface as able</li> </ul> |
| Criteria to Progress | <ul style="list-style-type: none"> <li>● No swelling/pain after exercise</li> <li>● Normalized gait in supportive sneaker</li> <li>● AROM equal to contralateral side</li> <li>● Progressing strength of lower extremities</li> <li>● Return to all activities (except sports)</li> <li>● Joint position sense symmetrical (&lt;5 degree margin of error).</li> </ul>  |

| <b><u>PHASE III: LATE POST-OP (13-16 WEEKS AFTER SURGERY)</u></b> |  |
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| Rehabilitation Goals  | <ul style="list-style-type: none"> <li>● Good balance and control on the involved leg in all planes</li> <li>● Safely progress strengthening</li> <li>● Promote proper movement patterns</li> <li>● Avoid post exercise pain/swelling</li> </ul> |
| Weight Bearing/<br>Precautions                                    | <ul style="list-style-type: none"> <li>● None if healing is complete</li> </ul>  |

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| <p><b>Additional Interventions</b><br/><i>*Continue with Phase I-II Interventions as indicated</i></p> | <ul style="list-style-type: none"> <li>• Range of motion/Mobility</li> <li>• Joint mobilizations as indicated</li> <li>• Cardio <ul style="list-style-type: none"> <li>◦ Stationary bicycle, treadmill walking</li> </ul> </li> <li>• Strengthening Seated calf machine or wall sit with bilateral calf raises</li> <li>• Unilateral heel raises (once heel raise progression in Phase II completed)</li> <li>• **The following exercises are to focus on proper pelvis and lower extremity control with emphasis on good proximal stability: <ul style="list-style-type: none"> <li>◦ Hip hike</li> <li>◦ Forward lunges</li> <li>◦ Bilateral squats progressing to single leg progression (below)</li> <li>◦ Single leg progression: partial weight bearing single leg press, slide board lunges: retro and lateral, step ups and step ups with march, lateral step-ups, step downs, single leg squats, single leg wall slides</li> </ul> </li> <li>• Balance/proprioception <ul style="list-style-type: none"> <li>◦ Single limb balance on uneven surfaces (ex: balance disc, Bosu, ½ foam roll)</li> </ul> </li> </ul> |
| <p><b>Criteria to Progress</b></p>   | <ul style="list-style-type: none"> <li>• Good balance and control of the involved leg in all planes with single and double leg exercises</li> </ul>   |

**PHASE V: EARLY to UNRESTRICTED RETURN TO SPORT (5+ MONTHS AFTER SURGERY)**

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| <p><b>Rehabilitation Goals</b></p>   | <ul style="list-style-type: none"> <li>• Gradual return to higher impact activities (jogging, running, jumping)</li> <li>• Gradual return to activities with multi-planar on uneven surfaces (hiking)</li> <li>• Safely initiate sport specific training program</li> <li>• Symmetrical performance with sport specific drills</li> <li>• Good lower extremity mechanics with plyometrics, agility, and running gait</li> <li>• Safely progress to full sport</li> </ul>   |
| <p><b>Additional Interventions</b><br/><i>*Continue with Phase II-IV interventions</i></p> | <ul style="list-style-type: none"> <li>• Running</li> <li>• Interval walk/jog program - Return to Running Program (Phase 1)</li> <li>• Return to Running Program (Phase 2) Plyometrics and Agility</li> <li>• Criteria to progress to the Agility and Plyometrics Program: <ul style="list-style-type: none"> <li>◦ Good tolerance/performance of Beginner Level Plyometrics in Phase VI above</li> <li>◦ Completion of Phase 1 Return to Running Program (walk/jog intervals) with good tolerance.</li> </ul> </li> </ul> |
| <p><b>Criteria to Progress</b></p>   | <ul style="list-style-type: none"> <li>• Clearance from MD and ALL milestone criteria below have been met</li> <li>• Completion of the Return to Running Program without pain/swelling.</li> <li>• Functional Assessment</li> <li>• Lower Extremity Functional Tests should be ≥90% compared to contralateral side for unilateral tests.</li> </ul>  |