



## ***High Ankle Sprain Rehabilitation Guideline***

---

This rehabilitation program is designed to return the individual to activity as quickly and safely as possible. It is designed for rehabilitation following high ankle sprain. Modifications to this guideline may be necessary depending on physician-specific instructions, specific tissue healing timeline, chronicity of the injury and other contributing impairments that need to be addressed. This evidence-based high ankle sprain guideline is criterion-based. Time frames and visits in each phase will vary depending on many factors, including patient demographics, goals and individual progress. This guideline is designed to progress the individual through rehabilitation to full sport and activity participation. The therapist may modify the program appropriately depending on the individual's goals for activity following high ankle sprain.

This guideline is intended to provide the treating clinician with a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-injury care based on exam and treatment findings, individual progress and/or the presence of concomitant injuries or complications. If the clinician should have questions regarding progressions, they should contact the referring physician.

## General Guidelines/Precautions:

- General healing timeline highly variable is based on the degree of the sprain and if the fracture is present, but 6 to 8 weeks can be expected (average 45-55 days).
- Precautions to certain exercises
  - Avoid forceful ballistic dorsiflexion
  - Avoid external rotation/eversion at ankle

# High Ankle Sprain Rehabilitation Guideline

PHASE	SUGGESTED INTERVENTIONS	GOALS/MILESTONES FOR PROGRESSION
<p><b>Phase I</b> Acute Phase</p> <p>Weeks 0-2</p> <p>Expected Visits: 2-6</p>	<p><b>Discuss:</b> Anatomy, existing pathology, rehab schedule and expected progressions.</p> <p><b>General considerations:</b> Severe injury may require complete immobilization by splinting, casting, or boot-type immobilizer. Less severe injury may utilize lace-up ankle brace, stirrup or taping.</p> <p><b>Weight-bearing:</b> Depends on patients' symptoms and injury severity. Can vary from NWB to FWB. Use of crutches is advised until gait is essentially normal.</p> <p><b>Specific Instructions:</b> External rotation and end range dorsiflexion are avoided</p> <p><b>Suggested Treatments:</b></p> <ul style="list-style-type: none"> <li>• <b>Modalities as indicated:</b> <ul style="list-style-type: none"> <li>- Edema-controlling treatments</li> <li>- Electrical stim for muscle activation</li> </ul> </li> <li>• <b>ROM:</b> <ul style="list-style-type: none"> <li>- PROM, AAROM, AROM within ROM tolerance</li> </ul> </li> <li>• <b>Manual Therapy:</b> <ul style="list-style-type: none"> <li>- Tibiofibular, talocrural and subtalar mobilizations (grade I/II as tolerated)</li> </ul> </li> </ul> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>• <b>ROM</b> <ul style="list-style-type: none"> <li>- Ankle pumps</li> <li>- Arch raise</li> <li>- NWB → WB calf stretch</li> <li>- Stationary Bike</li> <li>- Gentle Mobilizations grade I-II</li> <li>- Seated BAPS → standing with UE assist</li> </ul> </li> <li>• <b>STRENGTHENING</b> <ul style="list-style-type: none"> <li>- Hip/knee strength training</li> <li>- Isometrics for the ankle PF/DF progressing to band exercises, seated calf raise</li> <li>- Pool/aquatic exercises, if available</li> <li>- Alter G if available</li> </ul> </li> <li>• <b>PROPRIOCEPTION/NEUROMUSCULAR</b> <ul style="list-style-type: none"> <li>- Weight shifting in standing as tolerated</li> <li>- Single leg balance (eyes open)</li> <li>- Sidestepping once able to bear full weight</li> </ul> </li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Diminished pain, inflammation, swelling</li> <li>2. Improved flexibility/range of motion</li> <li>3. Reestablished dynamic muscle control, balance and proprioception</li> <li>4. Ability to weight shift onto involved lower extremity</li> <li>5. Ability to ambulate in full weight bearing on level surfaces and stairs with minimal discomfort</li> </ol> <p><b>Criteria to Advance to Next Phase:</b></p> <ol style="list-style-type: none"> <li>1. Normal and pain-free gait pattern on level surfaces and stairs</li> <li>2. Girth measurements within 1 cm</li> <li>3. ROM within 5°</li> <li>4. Pain-free ADLs</li> </ol>

(continued on next page)

<p><b>Phase II</b> Intermediate Phase</p> <p>Weeks 2-5</p> <p>Expected visits: 6-8</p>	<p><b>Specific Instructions:</b> Continue to avoid forceful external rotation and dorsiflexion.</p> <p><b>Suggested Treatments:</b></p> <ul style="list-style-type: none"> <li>• <b>Modalities as indicated:</b> <ul style="list-style-type: none"> <li>- Edema-controlling treatments</li> </ul> </li> <li>• <b>ROM:</b> Passive range of motion progressions to end range, standing gastroc and soleus stretch as pain allows (avoid “pinch” felt in anterior ankle), half kneeling dorsiflexion ROM</li> <li>• <b>Manual Therapy:</b> Tibiofibular, talocrual and subtalar mobilizations for improvement of plantarflexion, dorsiflexion, inversion and eversion as needed</li> </ul> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>• <b>ROM</b> <ul style="list-style-type: none"> <li>- Low- load, long duration as well as repetitive motion through range of motion, standing gastrocnemius stretch</li> </ul> </li> </ul> <p><b>Other Activities:</b> May start to utilize elliptical equipment as tolerated.</p> <ul style="list-style-type: none"> <li>- Aquatic therapy and/or Alter G, treadmill walking up to 20 minutes, no incline</li> </ul> <ul style="list-style-type: none"> <li>• <b>STRENGTHENING</b> <ul style="list-style-type: none"> <li>- Hip/knee strengthening</li> <li>- Heel raises – start with foot flat and progress to over edge of step (unweighted to weighted)</li> <li>- Step up/step down-adding heel raise as able, weighted seated calf raise</li> <li>- Begin with lower intensity, high repetition sets, progressing to higher intensity, low repetition sets</li> </ul> </li> <li>• <b>PROPRIOCEPTION/NEUROMUSCULAR</b> <ul style="list-style-type: none"> <li>- Progressive balance activities with ankle strategy, utilizing various surfaces, visual challenges, dual tasks</li> <li>- Begin line jumps, pogo jumps, jump rope</li> </ul> </li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Progress to full active and passive ROM, normalize joint mobility</li> <li>2. Improve muscular strength and endurance</li> <li>3. Improve total body proprioception and neuromuscular control</li> <li>4. Return to basic function in activities of daily living</li> </ol> <p><b>Criteria to Advance to Next Phase:</b></p> <ol style="list-style-type: none"> <li>1. Full PROM/AROM</li> <li>2. LE Y balance assessment within 10% side to side</li> <li>3. No increased swelling with increased activity level</li> <li>4. Complete 25 single leg heel raises</li> <li>5. Tolerate pogo jumping/ jump rope</li> </ol>
<p><b>Phase III</b> Advanced Strengthening/ Movement Retraining</p> <p>Weeks 4-8</p> <p>Expected visits: 4-10</p>	<p><b>Specific Instructions:</b></p> <ul style="list-style-type: none"> <li>• Continue with previous exercise program</li> <li>• Use of lace-up brace should be used to support the joint</li> <li>• Continue to monitor for quality of movement and symptoms of pain or instability</li> </ul> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>• <b>ROM:</b> <ul style="list-style-type: none"> <li>- Gastroc-soleus stretching as needed</li> <li>- Closed chain knee over toe ankle DF mobilization (avoid pinch/pain)</li> </ul> </li> <li>• <b>STRENGTHENING</b> <ul style="list-style-type: none"> <li>- Continue with previous exercises and progressions increasing resistance</li> <li>- Advanced neuromuscular training with exercises beginning slowly in single direction and progressively become more quick, intense, and dynamic.</li> </ul> </li> <li>• <b>Plyometrics/Change of Direction Training:</b> <ul style="list-style-type: none"> <li>- Progressing from 2 → 2, 1 → 2, 2 → 1, 1 → 1 opposite foot, 1 → 1 same foot, split jumps <ul style="list-style-type: none"> <li>• Step 1: Jump up to box</li> <li>• Step 2: Squat jump</li> <li>• Step 3: Jumping down from box</li> <li>• Step 4: Progress to multiplanar movements. (Double leg broad jumps, depth jumps, single leg lateral hops, skater lateral jumps, bounding, drop jumps to jumps over hurdles forward or lateral)</li> </ul> </li> <li>- Ladder drills, deceleration cuts, 45/90-degree cuts, jumping rope, T test, star agility test</li> <li>- Emphasize good form/technique</li> </ul> </li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Prepare ankle and leg for return to practice and eventual game situation</li> <li>2. Straight line jogging</li> <li>3. Gaining confidence with change of direction</li> <li>4. Return to strength training, regular routine</li> <li>5. Improve muscular power, speed and agility</li> <li>6. Satisfactory Ready to Run assessment (see Interval Return to Running Guideline)</li> </ol> <p><b>Criteria to Advance to Next Phase:</b></p> <ol style="list-style-type: none"> <li>1. Perform straight-line activities pain-free</li> <li>2. No pain and no compensation with jumping or change of direction drills.</li> </ol>

(continued on next page)

<p><b>Phase IV</b>  <i>Return to Performance Phase/  Return to Full Activity</i></p> <p><i>Weeks 6-10</i></p> <p><i>Expected Visits: 4-10</i></p>	<p><b>Specific Instructions:</b></p> <ul style="list-style-type: none"> <li>• Continue progression with previous exercise program and monitoring</li> <li>• Development of individualized maintenance program based on timing of season and needs of the patient</li> <li>• Recommendations on return to sport</li> <li>• Communication with ATC, coaches, and/or parents as needed</li> </ul> <p><b>Suggested Treatments:</b></p> <ul style="list-style-type: none"> <li>• Return to Performance Program if available</li> <li>• Sport-specific drills (dribbling, running specific routes, skating stops and starts using inside and outside edges, crossovers, jumping/hopping and landing)</li> </ul> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>• Progression of total body strength training program</li> <li>• Progression of Interval Throwing Program</li> <li>• Sport-specific/position-specific drills or appropriate sport-specific interval program</li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Return to sport with the ability to perform sporting tasks at game speed with quality movement and control</li> <li>2. Development of individualized maintenance program in preparation for discontinuation of formal rehabilitation</li> </ol> <p><b>Criteria for Return to Sport/Discharge:</b></p> <ol style="list-style-type: none"> <li>1. Ankle Return to Sport – goal to be at 90% of the opposite side</li> </ol>
---	--	---

**REFERENCES:**

1. Glenn N. Williams and Eric J. Allen Rehabilitation of Syndesmotic (High) Ankle Sprains Sports Health: A Multidisciplinary Approach November 2010;2(6):460-470; doi:10.1177/1941738110384573
2. Amendola A, Williams G, Foster D. Evidence-based approach to treatment of acute traumatic syndesmosis (high ankle) sprains. Sports Med Arthrosc. 2006; 14(4): 232-236.
3. Williams GN, Jones MH, Amendola A. Syndesmotic ankle sprains in athletes. Am J Sports Med. 2007;35(7):1107-1207.
4. Fong DT, Chan YY, Mok KM, Yung PSh, Chan KM. Understanding acute ankle ligamentous sprain injury in sports. Sports Med Arthrosc Rehabil Ther Technol. 2009;1:14.
5. Hunt KJ, Phisitkul P, PiroloJ, Amendola A. High Ankle Sprains and Syndesmotic Injuries in Athletes. J Am Acad Orthop Surg. 2015;23(11):661-673.
6. Lin CF, Gross ML, Weinhold P. Ankle syndesmosis injuries: anatomy, biomechanics, mechanism of injury and clinical guidelines for diagnosis and intervention. J Orthop Sports Phys Ther. 2006;36(6):460-470.
7. Polzer H, Kanz KG, Prall WC, et al. Diagnosis and treatment of acute ankle injuries: development of an evidence-based algorithm. Orthop Rev (Pavia). 2012;4(1):e5.
8. Vancolen et al (2019). Return to Sport After Syndesmotic Ankle Injury: A Systematic Review. Sports Health, 11(2), 116–122.

Last updated 9/26/2016, 7/2021, 11/2024

