



Casey D. Taber, M.D.
Total Joint Replacement & Sports Medicine

Metropolitan Methodist Plaza 1200 Brooklyn Ave., #320 San Antonio, Texas 78212 210.804.5460	Westover Hills Medical Plaza I 11212 Hwy 151, #150 San Antonio, Texas 78251 210.804.5461
www.tsaog.com	

Ankle Sprain Rehabilitation Protocol

The intent of this protocol is to provide guidelines for progression of rehabilitation. It is not intended to serve as a substitute for clinical decision making. Progression through each phase of rehabilitation is based on clinical criteria and time frames as appropriate. Immediate supervised physical therapy will help with pain and swelling reduction and provide you with the proper guidance to rehabilitate your injury and resume normal activity as quickly and safely as possible.

Phase I – Acute Phase

Goals:

- Diminish pain/inflammation
- Full pain-free range of motion
- Prevent muscular inhibition/re-educate inhibited muscles
- Resume normal gait pattern

Precautions:

- Avoid full weight bearing until ambulation can be accomplished using a normal gait pattern with little to no pain.

Treatment:

- RICE: rest, ice, compression, and elevation to reduce pain and inflammation
- Modalities (ultrasound, electrical stimulation) to reduce pain and inflammation
- Manual therapy as indicated for pain, inflammation and mobility
- Compression wrap to reduce swelling
- Ankle bracing
- Crutch use until a normal gait pattern is achieved
- Active range of motion in all planes as tolerated (alphabet exercises)
- Foot intrinsic strengthening as tolerated (towel scrunch or marble pick up)
- Gentle isometric strengthening exercises in all planes as tolerated

Criteria for progression to phase II:

- Minimal swelling/pain
- Full or near full pain-free active range of motion
- Normal gait pattern without crutches

Phase II – Early Strengthening:

Goals:

- Full pain-free range of motion
- Resume normal gait pattern at varying speeds and on uneven surfaces
- Pain-free strengthening

Precautions:

- Avoid activity that causes pain rated greater than 3/10

Treatment:

- Modalities to reduce pain and inflammation as needed
- Manual therapy as indicated for pain, inflammation, and mobility
- Continue bracing for activity
- Continue active range of motion with light terminal stretching
- 4-plane theraband strengthening
- Continue foot intrinsic strengthening
- Initiate balance and proprioception exercises as tolerated (single limb stance, rocker board)
- Stationary biking and aqua-jogging in a pool as tolerated

Criteria for progression to phase III:

- Minimal swelling/pain with light activity
- Full pain-free active range of motion
- Normal pain-free gait pattern at varying speeds and on uneven surfaces

Phase III – Advanced Strengthening:

Goals:

- Initiate intermediate and advance strengthening
- Pain-free weight-bearing strengthening

Precautions:

- Avoid activity that causes pain rated greater than 3/10

Treatment:

- Continue bracing for activity
- Begin double leg squats, calf raises, and toe raises
- Progress to single leg squats, calf raises, and toe raises as tolerated
- Advance balance and proprioception exercises as tolerated – single leg stance, single leg balance drills, dyna disc, 5 point star
- Initiate elliptical trainer and treadmill walking as tolerated
- Initiate shallow pool jogging
- Progress to initial agility and absorption exercises in pool, progress to dry land as tolerated
- Begin straight plane dry land jogging
- Begin controlled lateral agility work

Criteria for progression to phase IV:

- Minimal swelling/pain with advanced activity
- Passing score on a functional return to sport test

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- Minimal swelling/pain with advanced activity
- Passing score on a functional return to sport test

Phase IV Return to Sports:

Goals:

- Full functional strength, range of motion, balance, and proprioception
- Prevention of future injury
- Pain-free return to sports

Treatment:

- Advanced single leg balance and proprioception exercises (dyna disc 5 point star, single leg squats on a dynadisc, BOSU)
- Lateral agility exercises and advanced agility drills
- Consider bracing for activity/sports
- Resume sports activity as tolerated starting with controlled low intensity activity and progressing to high intensity activity as tolerated

Criteria for discharge:

- Full unrestricted return to sports/competition with no pain, inflammation, or limitations

References

Green T, et al. A randomized controlled trial of a passive accessory joint mobilization on acute ankle inversion sprains. *Physical Therapy*. 2001;81; 984-994.

Uh B; et al. The benefits of a single-leg strength training program for the muscles around the untrained ankle. *American Journal of Sports Medicine*. 200;28(4); 568-573.

Rozzi SL, et al. Balance training for persons with functionally unstable ankles. *Journal of Orthopedic and Sports Physical Therapy*. 999;29(8); 478-486.

Osborne M, et al. The effect of ankle disk training on muscle reaction time in subjects with a history of ankle sprain. *American J of Sports Medicine*. 2001;29(5); 627-632.

Mickel TJ, et al. Prophylactic Bracing Versus Taping for the Prevention of Ankle Sprains in High School Athletes; A Prospective, Randomized Trial. *Journal of Foot and Ankle Surgery*. 2006;46(3); 360-365.

Johnson MR, Stoneman PD. Comparison of a Lateral Hop Test Versus a Forward Hop Test for functional Evaluation of Lateral Ankle Sprains. *Journal of Foot and Ankle Surgery*.2007;46(3)' 162-174.

Faraj AA, Alcelik I. Recurrent ankle sprains secondary to nonunion of a lateral malleolus fracture *Journal of foot and Ankle Surgery* 2003;42(1); 45-47.