

ADDRESSING ANKLE MOBILITY

to Decrease the Risk of Injury to the Lower Extremities

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In recent years, an increasing amount of focus has been placed on avoiding valgus collapse of the knees. Knee valgus, also known as valgus collapse, medial knee displacement or commonly known as “knee caving” often occurs during squatting, stair work, lunging movements, jumping and landing. While athletes are quick to ignore a caving knee, knee valgus can be the first sign of a bigger issue leading to iliotibial band syndrome, patellofemoral pain syndrome, and ACL tears. Much of the injury prevention work has focused on strengthening the hip muscles to better stabilize the leg. While hip stability is incredibly important, addressing the mobility needs of the ankles may prove just as important in keeping athletes injury free.



RECENT STUDIES

Several studies have examined the effects of decreased dorsiflexion on movement patterns during lower extremity movements such as squats, step downs, and jump landings. During all these tasks, decreased ankle mobility was associated with knee valgus collapse. Research suggests that ground reaction forces were increased by 10% when participants had decreased dorsiflexion while landing from a jump. This suggests that decreased ankle mobility may increase an athlete's risk of injuries including ankle sprains, pes anserine strains, ACL tears, patellofemoral pain syndrome, and overuse injuries to the Achilles tendon. Further down the kinetic chain, a dorsiflexion limitation may also result in compensations in the mid-tarsal resulting in excessive pronation of the foot. Plantar fascia, knee valgus, posterior tibialis tendonitis, and shin splints are all collateral damage from these flexibility issues.



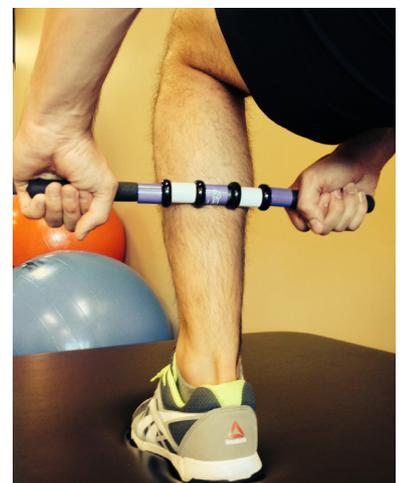
Flexibility of the gastroc-soleus complex is the most frequent cause of decreased dorsiflexion, especially in athletes whose sports involve high volumes of running and jumping. Considering the thousands of landing and running repetitions an athlete performs in one season, addressing this restriction is important for helping to keep the athlete in top shape.

One of the most valuable tools for improving the flexibility of the calves is the ProStretch Plus. This device is one of the most effective ways to stretch the muscles of the lower leg. One advantage of the ProStretch Plus is that it allows an athlete to use their bodyweight as added pressure for stretching. The attachable toe lift is also great as it helps improve mobility of the first toe. Restrictions of this toe motion can greatly impact running speed, technique, and ability to quickly change direction. For best results, stretch with the knee both flexed and extended.



More advanced stretching designed to improve glide motion and dorsiflexion can be achieved by combining standard training room tools such as the StretchRite and ProStretch Plus. Using the StretchRite along with the ProStretch helps restore the natural gliding motion of the ankle joint in those with talocrural joint restrictions. The ProStretch is used to stretch the calves while the StretchRite strap produces an anterior pull on the tibia and fibula, thus helping to restore the natural motion of this joint. To perform this stretch, attach the StretchRite to a secure anchor on one end and place the athlete's foot in the handle of the other end. Have the athlete place his or her foot on the ProStretch Plus and stretch as usual.

Due to the high volume of work the calves are subjected to in athletes, adhesions and restrictions within the soft tissues of the lower leg are quite common. Including rolling, in addition to stretching, offer a safe way to break down soft tissue adhesions and scar tissue formed from previous injuries. The dual levels of the RangeRoller's rollers and the triggerpoint-attacking design of the handles make this tool a great for addressing tightness in the calves. This benefits not only the calf muscle but also the surrounding connective tissue allowing for more fluid and efficient movement.



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