



## EXPERT TRAINING TIPS: A Four Part Series

### Hit the Ground, Running or Walking: A Ground-Up Approach to Maximizing your Running and Walking Programs

#### Part 2: The Knee Joint

*For runners and walkers, your knee joint is the middle “check point” of your lower extremity during forward movement. While actions above and below the knee will slightly differ for runners and walkers, having good knee stability and mechanics will help you keep your training moving forward.*

As discussed in last month’s article, taking good care of your feet and ankles can help your training program go the distance. As you work your way up the leg from your feet and ankles, it is no secret that your knees are an indispensable part of performance. While the range of motion that your knee moves through during running and walking differs, the role of the knee in keeping stable for supporting your body is critically important in both cases. Having good knee stability means that your leg can stay strong in a neutral position while coming into contact with the ground to support your body weight. Without good knee stability, there will be excessive movement in the knee joint and an increased chance of pain and injury for some runners or walkers.

While knee stability for the leg in contact with the ground is important, the opposite leg’s knee mechanics are important as well. For runners, the knee joint itself lifts higher in the air as you drive yourself forward. Because of this, your knee needs to flex or bend more. That said, while joggers will naturally have more knee drive upwards during their run, and thus more flexing or bending of the knee, lifting the knees too high while jogging can contribute to inefficient movements. This excessive knee drive can result in joggers bouncing up and down during their run, which detracts from forward movements. On the other hand, because walkers are moving slower and covering slightly less ground with each stride, the knee doesn’t have to lift in the air or bend itself as much.

For runners and walkers, it is important to remember that keeping your knees in line with your toes as you propel yourself forward is important. The way that your knee is structured, it is optimal to have the knee move forward in line with your toes in order to help limit side to side or rotational movement of the joint. Excessive rotation of the knee joint during running or walking may cause pain, or even injury for some.

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Aligning your knees and toes during running and walking is also important for helping the muscles in your legs work optimally to help propel you forward. The musculature in your hips, thighs, and calves are designed to contract optimally to produce force when your body and legs are in specific positions. Too much or too little movement at the knee, paired with a poor alignment of your knees and toes, means you are not getting all you can out of the work your muscles are doing for you.

Runners and walkers can help maintain or increase knee stability in several ways. First, it is important to address flexing and extending your knee during your dynamic warm up. Making sure your thigh muscles allow your knee to flex and extend itself will pair well with the ankle mobility movements you are performing as part of a thorough dynamic warm up. Additionally, it is important for runners and walkers to strengthen their leg muscles and knee joints through resistance training. When done with proper technique, squatting, lunging, and deadlift variations will not only help enhance knee health and stability, but they can also help improve your running and walking performance. Strong, stable knees paired with mobile and resilient ankles and feet are part of the foundation of performance for runners and walkers alike!

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