

Pearson Physical Therapy Newsletter

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Physical Therapist's Guide to Running

Part 2 of 4 -Strength Training

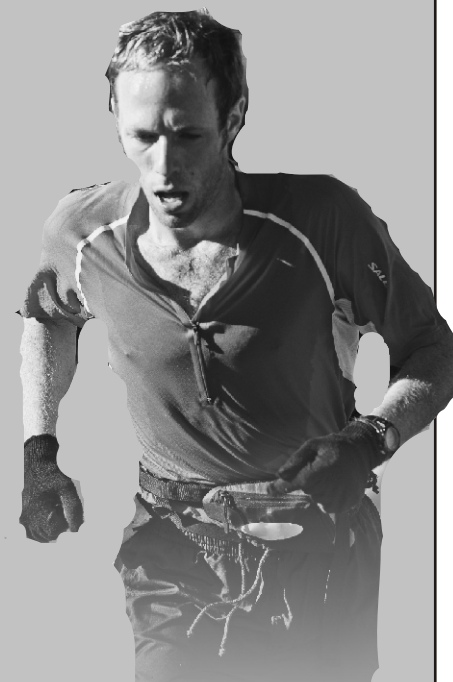
Historically, running and strength training have not gone hand-in-hand, but the trend is changing as successful runners are finding that regular strength training incorporated into their weekly routines helps with performance and injury reduction. A common long time fallacy is an idea that strength training will create unwanted bulk and therefore slow you down. For this to happen you would have to invest a significant amount of time and regularity into training at heavy weight. If you are already a runner, chances are your genetics do not favor bulking up anyway. Most distance runners, even if lifting strenuously on a regular basis do not have the body type (muscle fiber composition and hormone disposition) which lends itself to packing on pounds of muscle.

Many runners feel they sufficiently strength train by simply doing their normal runs. In most cases this is not true. Regular running improves cardiovascular (metabolic) conditioning but not strength. In fact, over time, regular running (especially if there is not much variety and form is lacking) will weaken certain areas in your legs. Running involves repetitive impact and relatively high load forces throughout the feet, legs, and hips. Over time this wears on muscle, connective tissue, joints, and bones. This can lead to a variety of conditions such as Shin Splints, Patella-femoral Syndrome (anterior knee pain), Iliotibial Band Syndrome (lateral knee pain), and on and on. Even for those who never become symptomatic to the point of being diagnosed with a fancy condition, they will still develop overuse muscle tightness and spasms. Because we are bipedal (on two legs), even those who have good technique will suffer breakdown over time. For this reason it is wise to invest some of your training time into strength training. It will allow you increased longevity and improved performance.

When looking at running from the simple standpoint that it is an activity requiring active movement of your body then this requires muscle, and strength training in its simplest form is a training approach to improve muscle performance. The main criteria for building strength is that you challenge a muscle more than it is typically worked, in a way specific to how you want to use it, and regularly enough that your body will adapt over time. Allowing rest is the other key component that many don't realize is necessary for muscles to recovery and build over time. This does not mean sitting on the couch doing nothing. It simply means avoiding doing the same exercises with the same muscle groups day after day. If the muscle is not allowed recovery time it will eventually break down. Strength training day after day is usually not an issue for runners as it is for bodybuilders, but rest allowance should still be an important component in everyone's training schedule.

So what about all the details of what to do, how much, etc... This is where many runners get put off as it can become overwhelming compared to just going out and running which is simple. Here are a few key points to help give you some direction:

- Some of the old standards of squats, lunges, leg press, knee extensions, hamstrings curls, and calf raises are solid starting choices.
- A key variation I would recommend is that you train each leg individually. This helps to minimize any asymmetries in strength from side-to-side which is common for most and is a common injury contributor.
- Another recommendation is performing exercises standing on one leg. Single leg stance strength training helps to recruit key stability muscles in your hips and core that are not sufficiently challenged with other traditional exercises. Using a step, chair, or bench offers many great options for single leg squats.



- Other key areas which warrant added focal attention are the hip abductors (moving the leg out to the side), hip extensors (moving the leg backwards), and quadriceps (knee extension).
- A wide variety of core training is always recommended as a strong core serves as the foundation for quality mechanics of the legs and arms. Yoga is a good option which promotes core stability and flexibility.
- Exercises should be performed in a controlled manner with special attention to balanced posture and leg alignment, particularly with single leg stance training. Using a mirror can be helpful to monitor your technique. One area to watch and minimize as much as able is the knee shifting inward when performing single leg squats or step downs.
- Start with higher repetitions (15-20) at less intensity and gradually reduced reps (8-12) as you build the degree of challenge over the course of weeks, not days.
- Intensity is always a hard area to give recommendations. I usually fall back to the idea of challenge. Exercises should feel challenging but not too difficult that proper technique is compromised. Your muscles should feel worked after. If you feel you could continue to do rep after rep then the exercise needs to be made more challenging. Bodyweight is often sufficient with single leg exercises, especially initially. Hand weights, resistance bands, or medicine balls are good options for increasing exercise intensity.
- Be sure to give yourself 1-2 days in between training initially to allow recovery as mentioned. This allows you to see how your body is going to respond to the new challenge.
- You should begin to see benefit in the first 1-3 weeks. This is typically from improved neuromuscular activation (improved performance of how the nerves and muscles are working together) but true strength gains will take 2-4 months typically. This is because it takes time for your body to adapt and build, and why is it important to stick with your training regularly long term.

A word of caution: Proceed gradually if strength training is new or not a regular part of your training, especially if you have past pain or injury issues. Exercises like squats, step training, and lunges are great options but they can also be stressful to the joints so be sure to monitor for pain and inflammation. Always consult a physical therapist or physician before beginning a new program if you have any history of medical complications, if you feel you need added guidance, or if you are currently having complications.



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