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## Strength Training For Runners

(adapted and excerpted from “RunSmart: A Comprehensive Approach To Injury-Free Running” by Allan Besselink)

If there is one aspect that is typically left out of many training programs, for new and experienced runners, it is strength training. There have been so many times in my career as a physical therapist that I have made mention of strength training to a runner only to get that sheepish grin that says “yeah, I know I know I know”. Why are people so averse to strength training? Well, it's simply 'not running'! It's oftentimes inconvenient. Many think that it requires a lot of time that subtracts from their run training, especially when they are training for a marathon. But it is also critical to their success as a runner – for performance, injury prevention, and injury recovery.

I constantly remind athletes to have a specific intent or goal for each and every workout – and strength training is no different. In my eyes, strength training serves two purposes. It is both a means of facilitating recovery and building “capacity” - and it is not “just another workout”! The primary goal is to simply load the muscles and tissues – to give them a stimulus unto which they will adapt. Tissues will remodel dependent upon the demands imposed upon them. Just like remodeling your living room, the final result does take some time but is fantastic when you're finished!

There are a number of questions that I get regularly when it comes to strength training:

*Do I need to do a lot of sets and repetitions because I am working on my endurance?* The answer is a resounding “no”. You build your endurance with your run training. The intent of the strength training is muscle recruitment (to build power) and tissue remodeling (to enhance the integrity of the tissues so that they can withstand increased training demands). The only way this is accomplished is via resistance.

*How many sets and repetitions DO I need?* If the intent is to alter the structure of the tissues, then they need resistance – enough such that you're only doing one set of 8 to 10 repetitions, but feel like you could do 1 or 2 more repetitions. Research indicates that strength gains are similar between one and multiple sets – but more sets require a greater recovery (which is not the goal of the workout).

*If I lift heavy weights, am I at risk of injury?* As long as you have a proper warm-up, maybe 5 to 10 minutes on a bike, you will raise your core temperature sufficiently to be able to lift safely. The resistance is based on what YOU feel like you can do – there is no hard and fast

rule for how many pounds any given person should lift. If you're 80 or 20, the body still responds to loading.

*Won't I get bigger? I don't want more bulk.* As long as you maintain one set, you may note some mild changes in muscular definition, but you certainly won't build mass. You'd need to do multiple sets to accomplish this, along with consuming a specific diet over time.

*I've tried strength training before, but it always leaves me sore the next day and unable to run. What do I do?* This is typically a result of doing many sets or many repetitions (or both). If you're doing one set of 8 to 10 repetitions, you are providing the body with the intended stimulus, yet not creating a situation in which your body has to recover from a full "workout". You may even find that your runs after a strength training session are better simply because you have given your central nervous system a stimulus that gets it "fired up" to work effectively.

*What exercises do I need to do?* There is a value to upper body and lower body strengthening for runners. The primary lower body muscles that you want to strengthen are the gluteals, quadriceps, hamstrings, calf musculature, and the hip stabilizers. Your program doesn't have to be developed by a rocket scientist – some good, basic exercises work very well. In some light-hearted discussions with some strength-training-averse runners, I have said that if you only had time for one exercise, the best option would be quarter squats/leg presses as they utilize a number of these muscles simultaneously. Photos and brief descriptions of more specific exercise options are shown in "RunSmart: A Comprehensive Approach To Injury-Free Running".

A strength training program should be performed twice a week as part of your weekly training program. By doing so, the tissues will have a consistent stimulus to remodel and improve their architecture and integrity. Strength training will not only help to provide a solid foundation for your run training, but it will also improve your performance, help to keep you injury-free, and will foster an environment for injury recovery should the need arise.

For further information on RunSmart, training-related articles and discussion forums, please refer to the author's website: <http://www.smartsport.info>.