

# Be one step ahead

## Strengthen the all-important foot muscles



By Rob Williams, Special to The Province October 28, 2009

When I use the term "bag of bones" it's understandable that you might think I'm referring to something from a Halloween costume, but I'm not. I'm talking about the complex structure at the bottom of your leg known as your foot. Unfortunately, many people's feet are no longer functioning the way they should. For a variety of reasons, muscle atrophy and weakness have left them like a bag of bones.

Podiatrist Dr. Roy Mathews of Vancouver's Performance Posture points out that "the foot and ankle contain 28 bones, 33 joints and over 100 muscles, tendons and ligaments. At least 20 of these muscles act to hold the foot bones in place and create movement throughout the joints of the foot."

An over-emphasis on extra-supportive footwear and orthotics can lead to foot musculature becoming incapable of supporting body weight during movement, which contributes to endless alignment issues and painful problems.

Even the elite athletes that I've worked with are subject to this condition. One 300-pound professional football player, who is obviously very powerful, saw how his performance and physical health were compromised, in part, because his feet were dysfunctional. His foot musculature was so weak that he was unable to transition the power from his hips and legs to the ground, resulting in changes in his sport-specific technique. Recently, he's been using a product known as the AFX, which has been shown to produce impressive results for high-performance athletes.

The AFX (Ankle Foot MaXimizer) is one of my favourite training tools ([www.afx-online.com](http://www.afx-online.com)) because it's the first product that can be used to specifically strengthen the intrinsic muscles of the feet through movement patterns and ranges of motion that are safe and effective. This allows for rapid progression of strength and function.

### AFX dorsi-flexion

For most of my training career I've recommended that people balance the strength of the muscles in their calves and shins by performing some sort of toe-raise exercise against resistance or in standing.

Although my clients have seen improvement in a variety of conditions like Achilles tendinitis, plantar fasciitis and shin splints, the exercises themselves have been pretty basic in that they target the lower leg muscles but don't activate the important muscles of the feet. With the help of the AFX, dorsi-flexion exercises can now activate the muscles of the lower leg and foot at the same time, offering graduated resistance at the different parts of the foot to match the strength differences between the muscles.

Try 2 sets of 15-20 repetitions on each leg, through a full range of motion.



## AFX plantar flexion

Many people do calf raises as part of their regular fitness program, and most of us are on our feet many hours each day, so our calves are usually quite strong and tight. Because most of this work is done in supportive (or fashionable) footwear, the muscles and bones of the feet don't get to work optimally during the activities. This affects the balance between the calf muscles and foot muscles, which can result in problems of the foot, ankle or lower leg. Because the AFX allows the foot to flex and bend during the movement, the weak muscles will quickly fatigue. This stimulus will make them stronger. To perform this exercise, position the AFX foot support properly on your forefoot and hold the handles while sitting in a solid chair. Extend the working leg and create sufficient tension with your arms. Allow your toes to stretch up toward your shin as far as possible before extending your ankle joint and pointing your toes forward while fully flexing through the forefoot, keeping your foot and ankle in linear alignment throughout the range. Perform 2 sets of 15-20 repetitions on each leg.



I believe it won't be long before the AFX starts to show up in most gyms, studios and fitness stores, but if you don't have access to one yet, and still want to work your foot muscles, I find the stability disc to be a good start.

I even use the stability disc as an adjunct to AFX programs with clients, because the functionality of the standing, weight-bearing position is beneficial. Start by standing on a stability disc with bare feet or in your socks. Work to achieve a neutral standing posture, with your feet as controlled and level as possible. Once you've mastered standing still, begin challenging your feet by performing movements such as squats or ball tosses without losing control of your foot position.

If you make sure the disc is more than half full of air, you'll be able to progress to movements where you stand on one foot without worrying about sinking through to the floor. Always work in an open area that is free of hazards in case you have to jump clear.

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