



## The Runner's Abs

By Jae Gruenke, GCFP

Much has been said in recent years about the importance of core training for runners and about how having strong abs improves your performance and prevents injury. Not enough has been said about *how* your abs should be strong, though, and what abs actually do for a runner. Your performance may be suffering as a result.

If you think that your abs should act like a girdle to hold your pelvis still, it's because that's the picture drawn by most articles on the subject, as well as by many Pilates teachers, physical therapists, and other professionals you may have consulted. Abs can do that, but that action interferes with your running.

The true picture of what happens is one you've doubtless seen: a bare-waisted elite runner, abs twisted like a washcloth being wrung, navel stretched diagonally.

This is what it looks like when your abs, like every other part of your body, contribute to the most fundamental action of running: advancing each leg in turn. To understand how it works, try this experiment:

Lie on your left side on the floor facing a wall, with your torso parallel to the wall and your knees and hips flexed to 90 degrees, as if you were sitting in a chair. Position yourself so your knees are about an inch from the wall (this means your toes might be touching the wall). Now to approximate what you must do when you run, try to move your top (right) knee forward as if to touch the wall. Do it gently, and under no circumstances should you force it.

What parts of yourself do you have to move in order to advance your knee towards the wall? Your thighbone can't grow longer by itself to do the job, and moving your foot or lower leg doesn't bring your kneecap any nearer the wall. Nor does moving your whole leg towards your head – that brings your knee closer to your chin and actually moves it away from the wall.

Try moving your right hip (which is to say, the right side of your pelvis) forward towards the wall, as if you wanted to roll towards the wall. Do you see how this movement can push your right knee forward? If you relax you'll find it can actually be quite easy to do. And it is absolutely the only way to move your knee forward.

This is how you move your leg forward when you run – by moving your pelvis. If you don't move your pelvis, your only options are to lift your knee – this is great for running

in place but by itself it doesn't move you forward at all – or reach forward with your foot to pull the ground towards you – in other words, overstriding.

Your abs are of course connected to your pelvis, and they participate in controlling the movement of your pelvis. So if you contract them and hold them, they indeed can act like a girdle and inhibit movement of your pelvis, and if you are 100% successful at doing this you will be completely unable to run. No runner succeeds at it 100%, but the better you are at it, the more effort your running requires, the more artificially shortened your stride length becomes, and the more work the muscles of your legs have to do, making up in thrust for the lack of smooth pelvic rotation. This extra thrust is inefficient, causing too much bouncing up and down, and it also increases the impact on your joints with each step, leaving you more vulnerable to injury and draining the enjoyment from your running.

Allowing the natural rotation of your pelvis makes your running feel more fluid and easier, and if you're not looking at your watch you might think you're not running as fast as usual because you don't feel like you're working as hard. But if you are looking at your watch you'll see that you're actually running as fast or faster, even though you feel you're putting out less effort. This is a major reason why runners who attend my workshops or have private sessions with me and learn to properly do this movement usually PR in races shortly afterwards and also feel better than before.

So how can your abs actually contribute to this movement? They can work through a range of motion instead of isometrically (in the girdle-like action). Your obliques, which are responsible for generating and controlling twisting and side-bending movements, work powerfully in running to drive the necessary pelvic movement along with the coordinated counter-rotation of your upper body. Use your abs to help generate movement, not to try to hold still, and all the effort you spend when you run will go into your running instead of being wasted in fighting yourself.

Other abdominal muscles perform other actions when you run, but this is the most important one, and the easiest to interfere with, so it's the one I talk about most. That diagonal pulling of the abdominal muscles, the powerful twist created in the waists of strong runners, has been hiding in plain sight for too long – obviously occurring but rarely discussed or even acknowledged.

So should you be *trying* to rotate your pelvis when you run? No. This movement is subtle and needs to happen in exact coordination with the rest of your body. It can be overdone, resulting in a movement more like salsa dancing than running, and you'll end up wasting energy. Trying to prevent people from overdoing it is probably what prompted the emphasis on "pelvic stability" to begin with. Your pelvis needs to transfer force clearly and directly between your lower body and your upper body, requiring it to always be in the right place at the right time rather than flapping around wildly.

The most important thing you can do is not to *prevent* your pelvis from moving by tightening your abs. Allow your pelvis to move. Expect movement around your waist.

You can support your ability to do this with the core strengthening exercises you choose. Don't overdo the planks or the crunches – planks are of some use to a runner and crunches virtually no use at all, but neither gives you the oblique strength you need.

Good exercises include lying on your back with your hands behind your head, alternately bringing each elbow and the opposite knee together while you stretch the other leg out (a classic exercise), balancing on your butt and moving a medicine ball from side to side in your hands, doing side crunches, working your abs rotationally standing up using a cable, and also strengthening your back along diagonal pathways, from shoulder to opposite hip. The hallmark of a good core exercise for a runner is that it makes your pelvis move through space.

Your core training can either help or hinder your performance, either protect you from or predispose you to injury. What makes the difference is whether that training, and the images of your ab function you carry in your head, actually fit the demands of running or work counter to them. Move your abs to help drive your running and see how much better you get.

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