

# **Run Better & Run More**

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Running is a linear activity. Any motion that is not directly moving forward or causing you to move forward is wasteful and creates excess wear and tear on your joints and muscles leading to injury. To run better you need to change your running mechanics so you can run more efficiently. Yes, it is that simple, if you run better you can run more.

The first step to running better is to retrain your muscles and joints to move properly. Next, you can work on running technique such as knee lift or heel strike. Remember, without the ability to move properly in the first place, (or proper mechanics), you cannot change or adapt your technique.

Returning to the fact that running is a linear activity; you need to be aware of the following check points to evaluate your running mechanics. Everything done in running should promote going forward at these points: feet, knees, hips, pelvis, core, shoulders, elbows, hands and head.

Starting from the bottom, we'll begin with the feet: they need to be straight ahead. As little as a 25 degree foot flare can reduce your stride length by 1"! So let's keep those feet straight ahead.

Next, are the knees: they need to be directly over the feet, and again straight. No turning in, knock knees, or bowing out like a cowboy! If your knees are not straight they will decay faster as well as reduce your ability to train. This is a common cause of runner's knee and patello-femoral imbalances. Both of these common knee conditions respond well to corrective exercise techniques.

Of course, next in the kinetic chain for running is the hips and pelvis. The hips need to be level when you run. Dipping of the hips is a common problem for runners and is a sign of significant weakness in the hip stabilizer muscles groups. This will affect hip motion as well as health of the hip joints. Not only do you need to be concerned about your hips remaining level, you need to be aware if they are twisting or rotating in an uneven pattern. This is an indicator of an imbalance in your sacroiliac joints and frequently leads to over – under striding.

Moving up from the hips and pelvis is your core: from your hips to your shoulders. Numerous dysfunctional movement patterns are common relating to weakness in the core including balance. The goal is to keep your midsection stable so that the energy transfer between your legs and arms is efficient. If you are not strong in the core region, you will lose energy, run slower and ultimately develop an overuse injury. Also part of the core, is your upper back and diaphragm. You need to be able to breathe as deeply as you can from the diaphragm and ribs while maintaining the upper back relaxed and "quiet." Tension in your upper back will lead to shallow breathing, tightness in the shoulders and a labored arm swing. Core stability is frequently overlooked in running and essential to run better.

As for your shoulders, keep them level and relaxed. Carrying anything in your hands while running will increase tension in your shoulders as well as your hands: once again limiting your breathing and affecting your arm swing. If you want to get an upper body workout, then do it with weights as a separate exercise. Running with weights will negatively affect your form and not tone your upper body nor burn significantly more calories.

We're not done yet: remember that your elbows need to be close to your body and swing directly forward. Take a moment to make sure both sides are level.

Next are your hands. Keep them relaxed and swinging directly forward like your elbows. Take note of the height of each hand as it swings forward and be sure to make sure each raises the same amount.

The final check point is your head. It needs to be level and "in line" with your spine on those relaxed shoulders. "In-line" with your spine means the earlobe should be over the center of your shoulder joint. Not way out front like a chicken or pulled all the way back in a military posture.

Yes, running is that simple: feet straight ahead: knees also straight ahead and over your feet: hips level with a relaxed and even rotation in the pelvis: mid-section tight, yet "quiet:" shoulders relaxed: elbows close to the body and swinging directly forward: hands relaxed and swinging evenly forward: head level and in line with your spine.

Another area where runners lose efficiency is landing or heel strike. If you hit the ground hard, you lose energy into the ground as opposed to propelling yourself forward. This creates excess impact into your knees, hips and spine. Not a good choice. Remedy this by running quietly. Take all the force of landing and use it to propel you forward, not into making a foot print!

To self assess your running mechanics, I recommend the single leg quarter squat. Simply stand on one leg in front a full length mirror with your hands on your hips. Next, slightly bend the support knee several times and watch your check points: feet, knees, hips core, shoulders. Keep an eye on the non support leg, too. That also needs to maintain a neutral, straight alignment. Anything that does not stay in neutral alignment is a weak point and needs to be corrected. This includes balance, as well.

The single leg quarter squat is essentially the running motion. After you do your quarter squat assessment have someone video your running or at least watch you run and compare the information. It will be quite revealing.

As for correcting any imbalances, you will need to retrain your muscles to work better as well as correct any imbalances in joint motion. Muscles move bones: if the joints are freely moveable then the muscles can work properly. If the joints are not moving correctly (called pathomechanics), then the muscles will attempt to compensate, creating abnormal movement patterns.

While this may appear daunting, you can improve your running mechanics. It takes a functional movement assessment and corrective exercise prescription along with Chiropractic manipulative adjustments to remove any regions of pathomechanics. The results with corrective therapy prescriptions and chiropractic adjustments for feet, knees, hips, spine, shoulders and arms are impressive. That is how to run better so you can run more.

### **Dr. D's Five Injury Prevention Tips for Runners:**

1. Hydrate properly. Research has shown that as little as 2% dehydration significantly diminishes athletic performance. Hydration is an everyday training tool: not just for race day!

2. Dynamic warm-up. Static stretching actually decreases athletic performance. Learn dynamic warm-up exercises to get right into your race pace.
3. Learn good mechanics. With good running mechanics you can run more efficiently and therefore put in more miles without getting injured.
4. Learn self myofascial release to keep your muscles healthy. This prevents overuse injuries from becoming chronic.
5. If you do get injured, get it checked right away. It is easier to correct a small problem and continue to train as opposed to fixing a chronic injury that may require a break from running.

**For additional information on improving your running mechanics contact the office and ask about our Running Boot Camp. It is a 2 hour intensive class that covers all of these points plus agility, balance, core stability, sports nutrition along with a personalized movement assessment and exercise prescription. Want to avoid injuries and drop you PR? Then come to camp! Dr. DeFabio**

**For Additional Information Contact  
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