

Biomechanics

Running form and shoe selection are two big factors that can lead to running injuries. We covered shoes earlier in the book; now we are focusing on how the foot works and how that relates to the rest of our body.

For some, running injuries are either minor or nonexistent; for others, it seems like we're constantly battling one nagging pain after another. As with everything, the key to recovering from injury is to always remember that any injury has a cause (wrong shoes, sudden change in training volume or intensity, etc.) and until that cause is corrected, treatment (rest, drugs, etc.) will not be effective.

Here are some very straightforward lessons on the importance of biomechanics. Remember to keep these suggestions in mind:

1. Lead with your hips.
 2. Keep your body tall, with your head up, and avoid leaning forward.
 3. Strike down with your heel and roll off your toes in a flowing motion.
 4. Don't clench. Clenching (hands, arms, eyes) transfers stress to other parts of the body and makes running in comfort difficult.
 5. Avoid swinging your arms excessively, lifting your knees upward, etc. These types of movements waste energy and make running a challenge.
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Injury Prevention Tips

1. Watch for early signs of overtraining, pay close attention to fast running, down hill running, curved or uneven surfaces.
2. Days of high intensity should be followed by low intensity days. This hard/easy system is applied to both the days of the week and month of training. Much like we have hard/ easy days, after a period of 4 weeks of increased intensity, we need a cut back of one week to moderate intensity.
3. You will note in my recommendations for speed we have you running at about 85 to 90% Running at 100% carry's with it a great risk of injury. Speed training sessions spark your running performance but be cautious.
4. Build in a warm up and cool down portion into all high intensity work works. High intensity work outs include hills, speed sessions, tempo and fartlek runs.

5. Warming up prior to your run acclimatizes your body to the rigors of the run by increasing the blood flow to your working muscles. Your warm up should be at about 40 to 50 % of you max heart rate.

6. A cool down of at least 10 minutes helps flush our lactic acid from your muscles, slowly lowers your heart rate to its resting state, and restores your bodies resting equilibrium.

7. Having flexible muscles and tendons is crucial to injury prevention and to running your best times. A stretch should never hurt, be gentle work on your flexibility and range of movement.

8. Be patient in your training, improvement in performance comes with time. Injury interrupts one of the key aspects of your program, frequency.

9. With any severe pain, seek medical attention.

10. Keep you training challenging and enjoyable by pushing beyond your current comfort level. You will discover an improved performance and stay injury free, if you balance the high intensity sessions with rest.
