



## A 7-Step Plan for Running Injury-Free

Here, taken from Joe Ellis' book *Running Injury-Free*, are seven ways to avoid injuries from the start

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Too many runners repeatedly make the same mistakes in their training, following the same pattern of training, injury, and recovery, secure in the fact that they can always "fix it" afterwards. Here, taken from Joe Ellis' book *Running Injury-Free*, are seven ways to avoid injuries from the start.

### 1. Find a Friendly Surface

The best surfaces for running are firm (not mushy or slippery), relatively flat (without camber), smooth (without ruts or holes), and provide some degree of shock absorption. The more angled the surface, the steeper the incline, the harder the surface, the greater are the chances of an injury.

Grassy areas such as golf courses make relatively poor running surfaces. This may surprise some people who choose grass because it's soft. But grassy surfaces are also uneven. And many of us--more than half the population--have some biomechanical abnormality. So running on grass makes the muscles and tendons in your feet and legs work harder and leaves you more susceptible to injury.

Roads are also notoriously poor surfaces, not only because of traffic hazards but because they are canted so that water will run off the center of the road. This slant causes the "upward" foot to pronate more and the "downward" foot to supinate more.

Provided you wear good shock-absorbing shoes, sidewalks tend to make better training surfaces than roads because they are flat. The problem, of course, is that cement surfaces are significantly harder than asphalt or other man-made surfaces.

Here, ranked in order from most desirable to least desirable, are various running surfaces:

1. Soft, smooth cinder track, unbanked
2. Artificially surfaced track, unbanked
3. Soft, smooth dirt trail
4. Flat, smooth grass
5. Asphalt street or path
6. Hard dirt track or trail
7. Concrete sidewalk or road
8. Banked or cambered surface
9. Hard-sand beach
10. Rough, pot-holed dirt trail or grass



### 2. Warm Up and Cool Down

The chances of having an injury are greater when their muscles are cold. There is a simple physiological reason for this: When you first get up in the morning, your muscles and soft tissues are tight. In fact, your muscles are generally about 10 percent shorter than their normal resting length.

As you start moving around, your muscles stretch to their normal resting length. When you start to exercise the muscles, they stretch to about 10 percent more than normal resting length. This means that from the time you get out of bed until the muscle is warmed up the muscle stretches as much as 20 percent.

A longer muscle is much less likely to become injured than a short, tight muscle. Further, muscles are designed to move bones on either side of a joint. Through basic laws of physics, a muscle is more efficient and much less likely to become injured when it is longer, since it can exert more force with less effort.

Likewise, it is disastrous to finish a training run and just stop. Many runners try to get the most out of their runs by sprinting the last couple hundred yards or so. Then they stand and try to catch their breath. This is asking for injury. It is also the time when susceptible individuals are most at risk of having a heart attack. Almost all exercise-related heart attacks occur just after runners stop running, not while they're actually running. This is because when you exercise, your body relies on your muscles to help pump or push the blood from your legs to your heart and brain. When you stop running, that muscle action stops and your heart and brain suddenly get less blood and oxygen. (This is an excellent reason for a cooldown period of slow jogging or walking.)

The cooldown helps keep the blood flowing to the muscles and allows your body to work its way down from a state of high exertion to the eventual resting condition. Keep walking for a few minutes, at the very least, after every run until you have cooled down.

### **3. Stretch Firmly but Gently**

The best time to stretch your muscles is not before you exercise but after a run when your muscles are already warmed-up and elongated. Flexibility exercises always stretch the muscles slowly and gradually.

Stretching movements should never be jerky, stiff or hard. The proper way to stretch is to stretch the muscle gradually for 30 seconds at a time to allow it to lengthen. Do this three or four times per area, daily.

If you stretch or pull hard on a muscle, it sets up a reflex where the muscle pulls back, shortening and tightening. This is not what you want. It will give you a stronger muscle, but not a looser, longer, more forgiving muscle.

### **4. Keep Your Training Schedule Flexible**

The easiest way to avoid injuries is never to train hard on a day when you feel any pain when you roll out of bed. As easy and simple as this advice sounds, you'd be amazed how many people ignore it.

Let's say that you are training for a certain race and your training schedule calls for a 10 percent increase in mileage this week. Yet you're feeling a little twinge in your hamstring.

Do you go ahead and follow the schedule? Or do you alter it based on listening to your body?

You know the right answer. Yet many runners insist on adhering to the printed training schedule as if it were gospel. They refuse to deviate by a single mile from that written program, believing any modification of it would ruin their chances of running a good race. In fact, the reverse is true. They're far more likely to miss the race by slavishly following a predetermined schedule than by adapting it to current needs.

All good training schedules assume that you aren't experiencing any unusual pains before, during or after the run. If any of these pains occur, don't hesitate to modify the scheduled workouts.

### **5. Alternate "Hard" and "Easy" Training**

If you try to improve to your maximum potential, some pains are inevitable. These can occur several hours after a hard workout or race--or one or two days later.

All this really means is that you need some recovery time. Then you will be off and running again.

This is why most experts recommend never performing hard workouts two days in a row. Give yourself at least one day of easy running or rest between hard workouts. This is known as the "hard-easy" method of training. If you run fast one day, train slowly the next. If you run long one day, go short the following day.

Never run long two days in a row or fast two days in a row, and don't run long one day and fast the next. You'll simply cancel out the gains of the long or fast workout, because your body is desperately trying to recover. You're stressing weakened tissues that the body is trying to repair.

### **6. Pace and Space Your Races**

You can and must push your limits sometimes in order to progress. But you can't do this too often or by too much.

In other words, you must pace yourself. This is true both for individual runs and over periods of weeks, months and years.

The most important time to pay attention to proper pacing is while racing. At races, you can easily get caught up in the emotion of the crowd and be drawn into starting too fast.

Pacing also has longer-term applications. Racing is very hard and potentially damaging work and you put your future at risk if you race too often. So you must "pace" your races in terms of frequency. Give yourself plenty of time to recover after any race.

The general rule: Take one easy day or rest day for each mile of the race. And certainly don't race again until that period has passed. For example, allow an entire easy week following a 10-K race and an easy month after completing a marathon. Top marathoners believe they can only run two or three good marathons a year; this grueling event takes that great a toll.

## **7. Keep Records of Your Running**

Runners have long been teased about being compulsive. After all, you don't normally see tennis players and basketball players logging their playing time, courts played on, weight and pulse, feelings and injuries.

But it makes perfect sense for runners to keep logs. Charting your distance, pace, type of course, running weather, choice of shoes and other key factors gives you a much-needed perspective. With a running log, you can objectively trace your progress and detect errors.

Your log can also help you determine if you're training too little or too much. Review it weekly with an objective eye. Pretend it is someone else's training program you're reviewing and you're checking its effectiveness and safety.

Ultimately, the most important "book" you'll ever read is your own personal training diary. It can tell how you were injured, how you recovered and how you can keep this part of your history from repeating itself.