

About Safety Considerations for Senior Runners and Walkers

This article addresses safety issues particular to senior runners and walkers. All runners and walkers, especially seniors, need to be cognizant of the usual dangerous situations, such as running around cars, jumping over obstacles, going too fast over rough terrain, etc. However, as we age up over 60, ordinary falls become more frequent and are more likely to have serious consequences, resulting in bone breaks, muscle and ligament tears, and lacerations. This article addresses the age-related factors from the perspective of an 85-year-old runner who took up running at 46 and who has completed over 500 road-races from 5Ks, 8Ks, 10Ks, etc., and up to 50-mile ultra-marathons. I have had dozens of falls over the years, and especially during the last 15 years, while running races or during training runs with injuries ranging from bruises and scratches up to cracked ribs and a broken hip.

Falls are very common for folks over about 60, especially for runners and fast walkers because they are more likely to trip or miss-step. And, the risks increase exponentially as we age. This is primarily because our reaction times materially increase with age. e.g., young folks can jump from rock to rock over a stream far easier than old folks. Typically, runners and walkers, over 70 or so, don't remember tripping and the actual fall, just that they were suddenly on the ground and something hurts.

Research on this subject generally suggests runners/walkers should learn to control the mechanics of the fall to minimize injury. This is all well and good for football players, etc, who are young and practice and experience falling hundreds of times. They naturally develop good instincts for mitigating fall injuries. e.g, You rarely see football players extending an arm or two out in front to absorb falls since this can cause a dislocated or broken shoulder or wrists.

In general, our brain deals with falls either instinctively or cognitively. Instinctive reaction is extremely fast; but, it requires saving stored responses to limited, specific situations. e.g., football players in the above paragraph. Football players deal extremely well with ordinary tripping and falling; but, are not any better than ordinary folks in the event a bear attacks. Cognitive response to a fall involves placing the threat in space and time and then developing a strategy to deal with it. This takes time, generally well over a second or so. Bottom line: Most falls happen so quickly seniors can only respond instinctively.

Sports physiologists often recommend purposely running/walking over grass and sand to improve one's proprioception [self-movement and body position]. This recommendation is very beneficial for young runners, in particular, as it can help improve their running speed. However, for seniors, the risk of falling doing this far outweighs any possible benefit this recommendation can provide.

In general, seniors are best advised to improve their general mobility strength and fast-twitch muscle response time to reduce the chance of falling. This article [Mobility Specific Strength Training For Seniors \[1\]](#) is a good example. In particular, work on your core muscles, and leg adductors and abductors. Emphasize training your fast-twitch adductors and abductors muscles to react quickly to save you from sideways falls. Had mine been faster, I may not have broken my hip. Incidentally, in general, runners do not work on training their adductors and abductors, this is a mistake since it can also materially help to improve their race speed.

Another factor to consider is that most senior runners/walkers have a propensity to run and walk with their center of gravity ahead of their feet. It is most noticeable when they bend forward at the waist. This is particularly dangerous when going downhill as it can exacerbate the likelihood of a fall. Seniors are advised to do this simple test: Stand relaxed, up straight, with your arms as you normally carry them when you run or walk, and your feet just below your shoulders. Then lean forward only by your changing the angle at your ankles until your heels just barely come off the ground. Then lean backwards until your toes just barely come off the ground. Now rock back and forth between heels and toes just barely coming off the ground a few times to get a feel where your body is forward and backward. Finally, position yourself halfway between these points. This is the point where your center of gravity is over your feet. All your runs and walks should be centered. Practice doing this drill before all walks and runs until it becomes your normal way to carry your body centered over your feet.

Falls can result in broken bones and/or torn tendons and/or ligaments. A major concern for broken bones and tears is that the runner/walker may become immobilized at the fall location. This can be extremely serious when they are alone/isolated or in the winter when the runner/walker can become hypothermic and die.

Falls often cause lacerations. Bleeding is more likely as we age because our skin becomes thinner and a relatively large percentage of seniors take a blood thinner, e.g., low dose aspirin, Eliquis, Pradaxa, Xarelto, etc. See this article for additional information: [The Truth About Blood Thinners](#) [2] If the fall causes a head impact, brain hemorrhaging (Intracranial Hemorrhage) can result. This is extremely dangerous, especially if one is taking a blood thinner.

If the fall occurs during a run or fast walk the amount of bleeding will likely be exacerbated. One: Our heart rate dramatically increases, typically from about 45/50 bpm for experienced runners to about 130bpm for a typical 10mile race pace. This is almost x3 bpm. Two: Our blood pressure increases from about 120/70 to about 160/95; this is about a 30% increase in pressure. Combining the two factors results in about 3x the blood flow rate per minute.

Note: The goal is to prevent falls by being extra careful and not needing to deal with them since senior's reaction times are generally too long to be helpful.

Bottom line: Never run or walk, long and/or fast by yourself. If this is not possible, then at least run/walk where there are people who can assist you if necessary. Also, carry a simple large band-aid in case of a fall that causes serious bleeding.

Notes: The underlined, blue items above are hyperlinks that point to website articles. Just below are the URL addresses if needed.

Note 1: Mobility Specific Strength Training For Seniors = <https://www.ridersite.org/Articles/Seniors.php>

Note 2: The Truth About Blood Thinners = <https://www.consumerreports.org/blood-thinners/truth-about-blood-thinners/>

For those who are currently taking blood thinners or contemplating taking them, here are two articles you may find worthwhile.

[Long-Term Anticoagulation in the Extreme Elderly with the Newer Antithrombotics](#)

[Delayed intracranial hemorrhage in elderly anticoagulated patients sustaining a minor fall](#)

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I would appreciate hearing from you, questions and comments either good or critical.

This article is posted on my website as a PDF document. www.RiderSite.org Look for "About Safety Considerations for Senior Runners and Walkers"

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