



## ***Always Remember the Basics: An Introduction to Running Safety***

Robert Berry email: [Articles@ColoradoTrackClub.com](mailto:Articles@ColoradoTrackClub.com) web: [www.ColoradoTrackClub.com](http://www.ColoradoTrackClub.com)

It is imperative to place your desire to run in its proper perspective within your life. **Revisit this article regularly**, and discuss the main points with any athletes you oversee, to ensure you continue to run safely and healthily. This article is a starting point for basic information and recommendations. As with most endeavors worth doing, expand upon these recommendations by conducting your own inquiries and building your runner's "tool box" of knowledge.

**Perspective:** Before and during every Coast Guard operational mission we would observe and discuss the **operational risk factors** that were impacted by:

- The ability / experience of the team leader,
- The team selection,
- The team's current fitness and fatigue level,
- The environment (day, night, stormy, calm, hot, or cold), and
- The complexity of the mission.

The aim was to "win" and our assessment of the situation ensured we always applied the right solution to solve the challenge in front of us at any given time.

The factors listed above would help us paint the operational risk picture and help reduce, when possible, the chance of a failed mission or unnecessary injury. Many of us applied the principles of risk assessment and risk management to decisions on the home front as well.

I often tell my college-aged kids that they are subject to the actions of "the dumbest person at the party," when they are enjoying a night out. That example, would fall under the "Team Selection" operational risk factor above. They will also tell you that I often expressed to them that, "*Accidents* kill people too."

When it comes to running and exercise it is in your best interest to paint an **accurate risk management** picture every day before your workout. Once experienced, it takes less than a minute. Most of those 60 seconds are spent waiting for your phone to load the weather forecast for the day and the rest of the time is loading your pre-workout *Chris Solinsky Beastmode* video on YouTube. Get into the habit of assessing and mitigating weather, traffic, safety, nagging pains, chest pain / breathing issues, and other risk factors that can literally hurt you or derail your training goals.

### Principle 1: **Know Your Body**

- Running, or any athletic endeavor or activity, can test and strengthen your body in many different, positive ways – that is why many of us do it!

- There is great reason school-aged, collegiate, and professional programs require a **medical examination prior** to participation in sports – the athlete's / participant's life may literally depend on it. The recreational athlete should always understand how the stresses they are applying to their body may intersect with any illness or condition and cause a potentially life-threatening injury or event.
- Specifically, medical examinations look for a history or signs of heart, circulatory system, major organ, or brain-function / nervous system impairment or issues.
- Especially with running, there are stories published annually about runners dying on the track or dying during a community race, a training run, or even highly trained athletes dying during competition at the Olympic trials. These conditions impact the 35:00 5K runner as well as the 13:00 5K runner.
- Running places significant stress on the heart and circulatory system, especially if the participant has a genetic or disease-based irregularity that weakens any part of the system. Further, running places significant stress on the lower extremities.

**Nearly all runners** have recurring issues with foot injuries, shin injuries, knee injuries, and occasionally pelvic and / or core injuries. Part of becoming a good runner and long-term running athlete is the self-education and self-interest in **identifying, preventing, and managing** various injuries.

- As a recreational runner, or any type of athlete, it is **necessary** to meet with your medical professional **prior** to engaging in an activity and **regularly follow-up** with your medical professional as well. At the visit, provide a detailed account of the activities you participate in and the intensity level that you pursue these activities with.

Even with an up-to-date physical examination, runners should discontinue activity and seek immediate medical attention with any occurrence of a loss of consciousness, untimely shortness of breath, erratic or unusual heartbeat, dizziness, unusual chest pressure / pain, unusual or severe headaches, vomiting, blood in urine or stool, severe cramping, sharp pain on or near a bone or joint, or other concerning signs or symptoms that cause pain, numbness, or decrease mobility / movement. Read Alberto Salazar's book, *14 Minutes*, to learn from his life-threatening event.

- Discuss the risk factors with your medical professional and make an **informed** decision on the level of risk you are comfortable taking with your body. In nearly all cases, and definitely with the Colorado Track Club, your coach or trainer is **not** the final say regarding health issues. Do not place unwarranted trust in a coach who is not a physician. Coaches are trained to educate and mentor athletes, and prescribe and oversee workouts. Coaches are not capable of, nor qualified to, diagnose and treat life-threatening conditions, injuries, or illnesses.
- Elite coaches and athletes have died while out on a run or race – seek preventative testing and evaluations from qualified healthcare professionals and **make informed decisions for yourself**.

- The more effort and time you invest in any activity, the more you should strive to educate yourself and take ownership in your health and risk factors. Many serious runners, through experience, have a basic idea of the key types of injuries that they are subject to due to the nature of their sporting activities. There are numerous books and articles that can assist in helping you grow your understanding of injuries and health conditions relevant to your sport.
  - I highly suggest the use of a heart rate monitor as **one** of multiple tools to develop your individual cardiac awareness. Most importantly, you should learn to record your own heart rate **manually** and detect an obvious missed beat or erratic beat. You should have access to blood pressure monitoring and a pulse oximeter. All of these practices take time, education, and patience to develop, but they may save your life by detecting a life-threatening condition before it causes irreversible damage. With enough practice and reflection, you'll learn to detect if your heart / "body" is working too hard for a given pace, which may be an indicator of overall fatigue or illness.

### Principle 2: **Know Your Surroundings**

- Similar to driving, biking, hiking, or any other activity, safe running requires that you understand the dangers or risks associated with where you participate in your activities.
- Be mindful of road crowning (camber). This effective road design is used to successfully remove water from roads. However, an athlete that runs 4-8 miles per day on the same side of a curved road, for example, may be more susceptible to injury and disproportionate stressors and asymmetrical muscular development. Many coaches advocate, at a minimum, some availability of soft-surface non-cambered running (dirt trails, some grass, etc.).
- Specifically, be aware of the dangers associated with traffic, animals, other people, or natural hazards associated with the area where you exercise.
  - Heavy traffic means increased dangers both with accident related injuries and increased air pollution.
    - I used to train and commute on the Schuylkill River trail in Philadelphia. Many of our college athletes ran there as well. What a great trail - set completely apart from the streets - so I thought. On two separate occasions there were vehicle collisions on the street that spilled over onto the trail. I was 50 meters away from being struck by a spinning car that jumped the curb after a head-on collision. The car landed on the biking / running path. The other car jumped the curb as well and was only stopped from hitting the person in front of me because it wrapped its front end around a tree, five feet off our path.
    - Be aware of all traffic. A lightly travelled road may be more subject to speeding cars. Always be on the lookout.

- Have a plan for evading a swerving car. Occasionally, cars may be swerving from animals that were first startled by you on your run. Always have a reactionary / immediate evasion plan.
- The use of headphones may delay your ability to identify a hazard and react appropriately. That is one reason some races actually forbid the use of headphones.
- Are there dogs, coyotes, or other animals where you normally run? If so, ask questions, research, and take precautions that reduce your risk of injury.
  - In Colorado, we have an abundance of moose, bear, coyotes, mountain lions, porcupine, elk, etc.. in our town. In San Diego, we had rattlesnakes and large packs of coyotes all around the trails outside the Olympic Training Center. Locals are used to these animals and are more prepared to confront them. Educate yourself on your specific risks and take precautions.
- Do your family or closest friends know your normal running trails, roads, or courses? It is helpful to have a plan so people know where to look for you if you encounter problems and are delayed.
- Can you outline a loop that gives you access to a friend's home, or a familiar store, every 10-15 minutes?
- An out-and-back course, or star-shaped course, allows you stay near help or your own car while you are out on your runs.
- Ask local running clubs, coaches, runners, or running stores for suggestions on the best and safest places to run in your community.
- Start by learning your streets and parks in small chunks. As you become familiar and comfortable with an area, expand your run if the new territory is worth the risk.
- If you don't have a reliable running partner consider having a friend or relative ride a bike in your general vicinity while you are running. Even if they can't keep up, they can be close and carry a bag with any needed items. Maybe a friend is in grad school, or is just an avid reader, and can simply park their car and read somewhere along your route.

Principle 3: **Know Your X-Factors**

- The "X-Factors" include risk factors that **change daily** and increase or decrease risk in a designated area. Common "X-Factors" are weather, daylight, hydration, nutrition, fatigue, etc..
- Running in low visibility times normally increases the risk of injury or accidents.

- Wear reflective gear and consider the use of lights, both on the backs of your shoe(s) / hat as well as lights used to illuminate the path in front of you.
- What **weather** hazards are common in your town or the place where you are running? I've trained in El Paso, TX and Granby, CO. Temperature extremes ranged from 110 degrees to negative 40 degrees, respectively. One place had sand storms; the other was a winter wonderland.
  - Whatever the case, you must research the hazards associated with weather extremes and implement precautions that best protect you from that inevitable day where everything goes wrong (sprained ankle, hazardous weather, poor visibility, etc..).
  - **Research and understand** the risks / signs / symptoms of heat stroke (**deadly**), heat exhaustion, sunburn, skin cancer, frostbite, frost nip, hypothermia, and other weather-related injuries or conditions. People are hospitalized and / or die annually from weather related "accidents" that could have been prevented. Know when to call off a workout and live to fight another day.
  - Arrange for access to a treadmill, swimming pool, or another indoor exercise activity for the number of hot or cold days each year that may lead to harm. If practical, plan your extended rest periods / transition periods around the most extreme weather periods where you live and train.
  - Anecdotally, I've experienced and suspect that people alter their running form in extreme cold which can lead to unhelpful outcomes. This alteration of form can easily contribute to injury or a less efficient workout. On very cold days I didn't always feel smooth or fast, either. Again, I suspect that at some point it is more beneficial to simply run on a treadmill or complete a cross-training workout to protect the body from foolish risks with little reward.
  - Is there a high occurrence of thunder and lightning on a regular basis in your town? What is the forecast for the time during your run? Should you regularly schedule your long run for the mornings to increase the likelihood of good weather? In our town / state, for example, it is highly advised to be off the mountains by early afternoon due to sporadic lightning storms that are not always on the daily forecast.
- Understand the issues that surround proper hydration and nutrition. Many running related illnesses / emergent events occur due to the lack of proper hydration or nutrition.
  - Drinking half a gallon of water throughout the day should be the low-mark for an athlete. Some athletes aim for  $\frac{3}{4}$  - 1 gallon of water daily. This simple practice, must be considered **while simultaneously maintaining a healthy and balanced eating plan / nutrient intake**. This recommendation is only effective for basic living. When one adds in ultra-distance or intensive workouts, one must gain a greater understanding of the details (such as body weight loss during a run) influencing nutrition and performance in their event. Further, understand the environmental factors that impact you. For example, a mason or landscaper in a hot, humid New

Jersey town will have different risks for dehydration than a desk-sitter in an air conditioned building.

- Understand the proper use of “sports drinks” to replace not only water, but **necessary** electrolytes such as sodium, potassium, and calcium as well.
- Understand the dangers of hyponatremia. Hyponatremia is a sometimes-deadly condition caused by chemical imbalances within the body, often associated with **drinking too much water**. The water dilutes the blood to a dangerous point. Basically remember that your body has regulated amounts of sodium, potassium, sugars, water, etc.. When these proportions are out of whack, bad things can happen (including death). Educate yourself and control your risk factors.
- Understand the importance of rest and readiness for the upcoming workout. If the body is already exhausted, ill, or unprepared the participant may be better suited to cancel or alter the planned activity.
- Marathon or ultramarathon training are often treated as “different” running sports when it comes to nutrition, training, and safety issues. If you participate in these events you must educate yourself on the specific demands of the sport and prepare accordingly – your health and performance is dependent on your choices.
- Understand the issues associated with clothing selection. The 2018 Boston Marathon is a good example to research as you start to understand the importance of clothing. The conditions were so challenging that elite, well prepared, and well-funded runners struggled to complete the race without hypothermia related symptoms. Another race to research is the Badwater 135 Ultramarathon. In this race athletes must prepare for, and mitigate risk associated with intense heat and exhaustion. These examples are extreme, but your town will surely have a day where it is simply too dangerous not to make adjustments to your normal training plan.
  - Your body temperature often increases when you run. An old estimate was to add 20 degrees to the current temperature to get an idea for what it will feel like when you are out on your run.
  - Does your clothing provide for necessary sun exposure protection? Do you need sunscreen? Can you use light clothing as sunscreen?
  - Should you wear a hat? If so, what kind of hat?
  - Do you need to protect your ears, fingers, or nose from the cold?
  - Are those skimpy running shorts going to protect you from the cold and wind for the next 45 minutes? What if they get soaked five minutes into your run? Think and plan ahead.
  - Should you wear a running coat or running pants? How would your decision change on a given day if you sustain a significant injury 30 minutes into your run?

Principle 4: **Know Your History**

- A **proper workout / race log or journal** proves helpful quite often for numerous reasons. Recording extreme weather conditions, your clothing, and your reaction to the training or racing event can prove beneficial in future situations – it’s called **EXPERIENCE**. I had a boss who was an accomplished helicopter pilot – he often remarked, “I didn’t get this old and good looking by being stupid.”
  - People in all sorts of job situations - from a financial analyst, to a chemist, to a real estate agent - record challenging events in a journal or other type of log. It helps the professional reflect on the event and **make adjustments that improve the odds of future success**.
- If you try running a 20-minute cross country race in 30-degree temperatures, with a 10-mph wind, while wearing a tank top – record how you responded. The next time you are in a race with 25 degree temperatures and no wind, you may be able to recall the previous experience and make a better decision. Soon, you’ll develop your own guidelines for individual safety, tolerance, and success.

Principle 5: **Weight Training, Core Work, Stretching, and Drills**

- Most of the information above applies toward running concerns. Much of it applies to weight training, core work, stretching, and drills as well. These activities may exploit a weakness in blood vessel walls, causing life-threatening issues with ruptures.
- Various joint injuries, muscle tears, and back injuries are also a possibility, even with experienced athletes who have been trained in the use of proper form.
- As with all physical activity, consult a qualified medical professional before commencing an exercise plan and comply with periodic follow-ups to help manage your risk of injury.
- Many athletes experience varying levels of injuries, including athletic-career limiting or ending injuries. At CTC, we encourage coaches, athletes, and parent / guardians to take an active role in ensuring the safety of all athletes. Follow the common sense procedures and warnings within this article and continually study the sports and activities you are involved with to ensure you can mitigate risks to the best of your ability.

Principle 6: **Disclaimer** – The Colorado Track Club, its’ volunteers, contractors, coaches, content writers, athletes, staff, ownership, leadership, and demonstrators assume no responsibility for our readers’ / customers’ / followers’ health and well-being.

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