

Cold rivers can be help or hazard

Whether in a bathtub full of ice and water, or on the edge of a river filling with recent snowmelt, an ice water soak for the legs can be helpful.

On the other hand, an unintentional plunge into a cold river can be deadly.

With spring temperatures already present and with the vernal equinox occurring today, there will soon be kayakers, canoeists, and inner-tube floaters getting onto the water in increasing numbers. For at least the next two months, the river water temperatures will be hazardous and may be unforgiving. On our larger rivers such as the Colorado, it might be the middle of June before an unplanned submersion will be less than paralyzing.

Control. That can make the difference between a therapeutic soak on the one hand, and a life-threatening event on the other. Even during a cold water accident, control can play a critical role.

Ice bath benefits

In the realm of distance runners, from amateurs to college level and all the way up to the Olympics, ice baths have been utilized with some

good results for more than 20 years.

This is used in attempts to minimize the phenomenon of delayed onset muscle soreness, or DOMS. Research suggests that infrequent use of an ice bath reduces the production of muscle tissue breakdown elements, as well as the development of inflammatory substances in the blood after heavy, intense workouts.

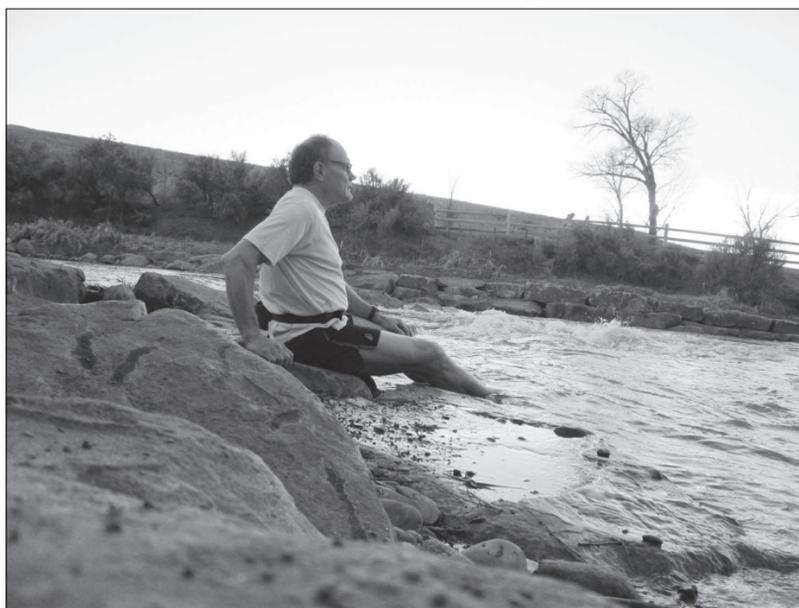
In this way, more strength gains can be made, and can be made sooner, in the days and weeks following such a workout. However, developing scientific studies of cold immersion therapy show that a potential disadvantage may exist.

The presence of inflammatory by-products of exercise seems to be something of a trigger to prompt the body to gradually build stronger muscles. It is believed that regular use of an ice bath after most workouts could interfere with the training effect an athlete is seeking in the first place.

Cold water survival

A slip and fall into the intensely cold snowmelt of a springtime river or creek presents an emergency situation.

Assuming that preventive safety measures



COURTESY PHOTO

The Water Sports Park in Montrose provided John Unger's legs with a cold soak after a long run this week.

have been done, including the wearing of a personal flotation device/PFD/life preserver, what can a victim next do, and how much time is there in which to do it?

"One minute-10 minutes-one hour" is the simple slogan which both children and grown-ups should learn. Simply put, it reminds us that, when suddenly in cold water, we have a single minute to control our breathing and attitude. Then we have about 10 minutes to physically take action. Unconsciousness may occur after one hour.

Have you ever floated or paddled a boat on the

Colorado River in the desert west of Grand Junction before late June? If so, you may have been advised by your group leader to, one by one, wear your PFD, and then ease yourselves into the river. (Easing in, as opposed to jumping in, lessens the risk of a broken leg from an unseen shallow spot.)

If you have done even this simple maneuver, you will easily remember how the cool water can suddenly take away your breath. Even water as warm as 60 degrees Fahrenheit can lead to cold shock, and of course the shock is worse in colder water,

especially in recent snowmelt.

This cold shock triggers several large gasps, and hyperventilation can quickly follow that. If a person's head has gone underwater also, these gasps may result in aspirating water and nearly immediate drowning.

For someone who has not had the benefit of a practice dunk as noted above, the next event may be emotional stress and panic. Here, of course, is where "control" comes into play.

That first minute needs to be purposefully spent on both getting one's breathing under control and on avoiding

panic. Next in the slogan of "One minute-10 minutes-one hour" is the second phase.

Ten minutes is about how long it takes for cold incapacitation to occur. It may take even fewer minutes in water near freezing, and somewhat longer in less cold water.

What is it that incapacitates a person? It is muscular failure.

This muscular failure is caused by the sudden severe cooling of the muscles and of the nerves that operate them. After having allowed the first minute for controlling breathing and avoiding panic, it is that next 10-minute window that may be one's only chance to get to shore or climb up onto a boat or get into a PFD or signal for help. After that time, the arms and legs may be as useless as those of a statue.

As to that "one hour" component of the slogan, that is about how long it may take for hypothermia to cause unconsciousness, depending again on water temperature.

Control. Use it when around cold water, even on a hot day and within the city limits, where the Uncompahgre River offers great beauty and opportunity.

John T. Unger is a Diplomate of the American Chiropractic Board of Sports Physicians, with more than 25 years of practice in Montrose. He sort of tolerates the occasional ice bath. Ideas for future columns are welcomed at sportsdocunger.com.

Don't forget to put fuel in the tank

In the past few columns, we have discussed various ways to dress and stay warm in the outdoors. One thing we do not want to overlook is how to get the proper food in your body to make it function at peak performance. At my age I spend most of my time trying to watch my weight, which means not eating. Well, there are times when a person must eat, and being outside in the cold is one of them. A person must have fuel to make their internal engine work properly outdoors.

Being out in the cold increases the calories you burn. If you are cold and shivering, you can take encouragement from the fact that you are burning extra calories while trying to stay warm. The more you shiver, the more you burn.

According to the American Council On Exercise, you may burn about 400 calories an hour from shivering, depending on the temperature and the heaviness of your clothing. This does not mean that if you strip down to your skivvies, and stand outside in the cold, that it can take the place of your normal workout. Believe me, if that would work, I would do it myself.

Shivering is your body's warming mechanism. Calories burned due to being cold, are based on the energy that you burn up during the warming process. Exercising or strenuous activity in cold weather does not promote extra caloric expenditure, because an increase in your activity raises your body temperature. The truth is that you actually burn more calories exercising in the heat, as your body struggles to cool down, than you do exercising in the cold.

Extra calories are required to keep your body warm, fuel your activity and humidify the air

that you breathe. Besides the heavier clothing and footwear you are using in the cold, you also have your pack and any other equipment you may be carrying. If you are trekking through the snow, additional demands are

made on your body. Winter backpacking can require an additional 500 to 1,000 calories a day. Studies show that an average man burns 4,500 calories backpacking for a day in the winter while a woman burns an average of 3,500 per day. Keeping the fuel tank full for demands like that is very

important.

The most important element in your activity is water. Even though you may not be thirsty, drink it anyway. In winter, it is common to experience dehydration because there is less humidity. The lower humidity has a drying effect on your body. You must replace those fluids lost from respiration, evaporation and perspiration by drinking water. As a general rule this means you must drink between 2 and 4 quarts of water a day. Don't drink cold water as it can promote shivering and lower your core temperature, which is in contradiction to what you are trying to accomplish. If possible, warm soups; cider and hot cocoa can go a long way. If space permits, a small thermos will do the trick.

Hot foods are a favorite choice for foods in the winter but preparing those meals can be difficult. Extra equipment, such as stoves, pots and pans might need to be carried with you and there might not be a practical way to carry them. You don't want to consume too much sugar. Getting an overload of sugar into your bloodstream will cause

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a crash later in the day. This means staying away from drink mixes, energy bars, candy bars, cookies and the like, as they are all high in sugar. Gorp, mixed nuts, dried fruit, granola, cheeses, bagels, hard crackers and similar foods make a good snack. I generally snack every hour or so, trying to keep a little something in me while outside.

For your lunches or dinners, consider foods high in protein like lunchmeats, tuna, cheese and hard-boiled eggs. Eating light and more often is best. Packable and lightweight is the key so that it can be carried with you easily. When you stop for your lunch break remember to sit on something to insulate you from the cold ground or snow. It is also a good time to put an extra layer of clothes on to stay warm while you are enjoying your rest period. The idea is to prevent your body from becoming cold. It is usually easier to stay warm rather than to get warm. And while you are enjoying your lunch, be sure to pick a place with a great view of the mountains, as winter is one of the prettiest times of year to be outdoors. See you on the trail.

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Various licenses on sale through Colorado Parks and Wildlife

Colorado Parks and Wildlife licenses, permits and registrations are on sale now for the 2015-16 season at license agents, CPW offices and online (<http://cpw.state.co.us/>).

• Big game

The big game application deadline is 11:59 p.m., April 7. Check out <http://cpw.state.co.us/learn/Pages/PlanYourHunt.aspx> to find all the resources CPW has to offer hunters to complete their applications now.

• Fishing

Anglers are reminded that they must purchase a 2015 fishing license in order to fish on or after April 1.

A resident annual fishing license costs \$26. People 15 and younger are not required to purchase an annual license; however, if they plan to fish with a second line, they must buy a second-rod stamp for \$5.

Resident senior annual licenses for those 64 or older cost just \$1. A resident combination fishing-small game license is available for \$41. A resident small-game license costs \$21, but only \$1.75 for those under 18.

Anglers should pick up a 2015 fishing brochure to check regulations and to see what's new, as they are responsible for knowing the regulations that apply where they are fishing. Brochures are available at license agents or any Parks and Wildlife office, and online at <http://bit.ly/coloradofishing>.

• Habitat Stamp

License buyers between the ages of 18 and 64 also must buy a \$10 Colorado Habitat Stamp. Money collected from stamp purchases is used to preserve and protect wildlife habitat throughout the state. Learn more at <http://cpw.state.co.us/buyapply/Pages/HabitatStamp.aspx>.

• Mountain lion

Mountain lion hunters also now have an extra month — through April — for hunting, but they must buy a new license for the season starting April 1. That license will be valid for all mountain lion seasons through March 31, 2016. Learn more at <http://cpw.state.co.us/thingstodo/Pages/MountainLion.aspx>.

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• Off highway vehicle and boat registration

The annual registration fee is \$25.25. Registrations are valid from April 1 through March 31 each year. This is a flat administrative transaction fee — it cannot be prorated for a partial year's registration, and will not be subject to refund if the vehicle is sold or stolen. Learn more at <http://cpw.state.co.us/buyapply/Pages/RegistrationsOHV.aspx>.

• Turkey

Turkey season starts April 13. A resident license is \$21 and just \$11 for anyone under 18. Over the counter licenses went on sale March 11. Go to <http://bit.ly/coloradoturkey> for details. Resources for turkey hunting is available at <http://cpw.state.co.us/thingstodo/Pages/Turkey.aspx>.

• Boats

Any boat with a motor or sail operated in Colorado on any public waters must be registered with CPW. Fill out the boat registration form and return it to: Colorado Parks and Wildlife-Registration Unit, 13787 S Highway 85, Littleton, CO 80125 or stop in at any CPW location. CPW conducts mandatory boat inspections and decontaminations at 27 state parks and 58 other locations around the state.

• Parks Pass

Now is also a good time to buy a Colorado State Parks pass. A pass, good for entry at 42 state parks, costs \$70 and is good for a year from the date of purchase. Buy one at a Parks and Wildlife office or online at <https://parksstore.state.co.us>.