MAY 2010

Summer is fast approaching. Here are some tips on how to prevent heat-related injuries:

HEAT CRAMPS

SYMPTOMS

Cramps in various parts of the body or muscles during or after exercise as a result of salt (electrolyte) and water losses through sweating.

TREATMENT

- Replenish salt and fluids to alleviate cramps. Administer fluids. If possible, give fluids as 1/4 to 1/2 teaspoon of salt dissolved in a quart of cool fruit juice. Commercial sport drinks with a moderate amount of sugar are also acceptable.
- Stretch cramped muscles.

HEAT EXHAUSTION (HEAT PROSTRATION)

SYMPTOMS

- Pale, moist skin.
- Body temperature is normal or only moderately elevated (102°F/38.9°C).
- Damp skin.
- Nausea, weakness, light-headedness, and possibly fainting without prolonged loss of consciousness.
- Very painful cramps may follow strenuous activity.

TREATMENT

- Move the person to a cool, shady, or air-conditioned place and have her lie down with feet elevated.
- Loosen or remove most clothing.
- Apply cool, wet compresses to head and torso.
- Administer fluids as described in the information about heat cramps in the section "Overexposure."

HEAT STROKE

Heat stroke is a medical emergency that occurs most often in hot, very humid weather. This type of heat injury occurs often in healthier people such as athletes and military recruits.

SYMPTOMS

- Person feels hot to the touch and skin is red and dry.
- Body's internal cooling mechanism has ceased to function, so sweating may have stopped and body temperature has climbed to 104°F (40°C) or higher.
- Rapid heartbeat.
- Confusion, and agitation or lethargy, stupor, and loss of consciousness.

TREATMENT

- Summon an ambulance and emergency medical help immediately.

- While waiting for the ambulance, move the person indoors to an air-conditioned area or to a shady place.
- Remove clothing, and cool by spraying the person with cool water. Fan the person to evaporate this water and increase heat loss.
- If a thermometer is available, check the person's temperature and stop cooling measures when it comes down to 102°F (38.9°C).

PREVENTING HEAT STROKE

- Exercise commonsense precautions during hot, humid weather. Wear light clothes, drink plenty of fluids, and avoid overexposure to the sun.
- Take a cool bath or shower once or twice daily.
- Seek air-conditioned places for rest.
- Avoid strenuous activity in very hot and humid weather, particularly during the hottest part of the day.
- Use extreme caution in hot weather if you suffer a chronic disease (cardiovascular disease, neurological problems, or dermatological conditions).
- If you regularly take medication, get your doctor's advice about hot-weather activity.

Time for Yard Work!

As the temperature rises and the grass turns green, people get the itch to begin their spring yard work. Before you grab your rake or fire up your lawn mower, review the following safety tips:
√ Don't overdo it! Begin your spring work gradually in order to keep soreness and fatigue to a minimum.
√ Limit your exposure to the sun and chose a good sunscreen to protect your skin. It's also a good idea to wear a hat when out in the sun.
√ Before beginning any job, inspect your tools and obtain any protective equipment that will be needed.
√ Mowing the lawn?

-Know how to operate the equipment
- Dress properly for the job
- - Close-fitting clothes
- - Sturdy shoes
- - Safety glasses
- Clear the cutting area of debris before you begin
- Keep your hands and feet away from moving parts

Not the Way to Mow the Lawn

How important are your feet to you? Mowing the lawn without the proper footwear or no footwear can be potentially very dangerous. In the case of this barefoot mower, he could have stepped on something sharp and cut his foot, or a projectile could have been thrown from the mower and ricocheted off the wall.

HIKING SAFETY

A day hike in a forest or along a mountain trail is a good provider of exercise and refreshment. Stay safe and healthy by following these guidelines.

1) Before You Leave Plan Your Route.

2) Prepare a first aid kit that has these items:

Topical antiseptic towelettes, antibiotic ointment, bandage strips, sterile gauze pads, adhesive tape, "Ace" bandages, moleskin tape squares to prevent and treat blisters, safety pins to hold compresses or splints in place or to make an arm sling from shirt sleeve, tweezers to remove splinters and ticks, small scissors, chemical ice pack, sunscreen, chap stick, insect repellent, pain and anti-inflammatory medication, decongestant, backpack medical guide

Take along at least two quarts of water per person. Pack high-energy snack food (fresh fruit, dried fruit, high protein candy bars, nuts and seeds) in addition to food you intend to eat for meals.

What to Wear: Wear the proper clothes. The following items are considered vital for a successful outing: **Boots/Shoes:** Of solid construction, they should fit comfortably snug with free room for toes and with little or no slippage in the heel. **Socks:** Either wear specially made hiking socks or a set of one pair of wool socks over one lightweight nylon pair.. **Pants:** Wear pants constructed to be loose, warm, comfortable and quick drying. **Shirt:** Light synthetic fiber, such as polypropylene, bunting or nylon pile, is recommended because it is quick drying and moisture wicking. **Jacket:** A jacket that is both wind proofed and waterproofed, has a hood and is sized large enough to cover more insulating clothes worn under it is suitable. **Head Covering:** A hat or hood should be styled to retain body heat or provide shade as changing weather dictates. **Rain Gear:** Take a lightweight poncho, or rain pants and a hooded parka.

Ten Essentials:

Skilled hikers have dubbed these items the "ten essentials." Take the experts' advice and take these items with you.

Map, Compass, Pocket Knife, Flashlight/headlamp, Matches, Extra food, Extra clothing, Sunglasses, First aid supplies, Fire starter

Purposes of Stretching: Improve flexibility

The purpose of any flexibility exercise program is to develop a strong, but flexible tissue to minimize injury and enhance performance. Muscles and tendons possess both elastic and plastic-like properties. Similar to elastic rubber bands, muscles contract and relax, returning to their original length. When placed on a slight stretch, muscles have the ability to absorb more energy, thus they can release more energy, which translates into greater force production. Like plastic, musculotendinous tissue can be molded and adapt to a new length over time. This combination of properties may ultimately improve the contractile ability of the musculotendinous unit and allow it to withstand greater forces and strain, thus enhancing performance while minimizing injuries.

Reduce injuries to muscles and tendons:

How does stretching accomplish this?

Muscle strains and overuse injuries affect a great number of military trainees. In 1998, 38% of musculoskeletal injuries reported were diagnosed as sprains or strains. These injuries are preventable and flexibility has been cited as an effective tool to help combat these injuries. It has been speculated that sport/activity specific stretching may further reduce injuries. Flexibility varies from person to person and may also vary from joint to joint within the same person. In other words, everyone displays his/her own "flexibility pattern". This being the case, it is not unreasonable to conceptualize how individual flexibility patterns might predispose people to injuries in one activity, but may not do so in another activity, since the demands of each event vary from on another. (This hypothesis has not been investigated to date and would be an area for further research.)

Flexibility factors implicated in musculotendinous injuries (strains):

Extremes in Flexibility:

Military trainees exhibiting extremes in flexibility, (either high or low), as compared to other soldiers, were at a greater risk for injury.

Muscle fiber type:

Muscles predominantly composed of fast twitch muscle fibers are strained more often than muscles primarily composed of slow twitch muscle fibers. This includes the majority of muscles in the leg.

Muscles that cross more than one joint:

Muscles that cross more than one joint are at greater risk for injury. Examples include the quadriceps, hamstring (front and back thigh muscles, respectively), and gastroenemius (calf) muscles.

Honest, I Didn't See Him…He Just Came Out of "Nowhere"

How many times has this tired epitaph been uttered following a collision? It would seem that "nowhere" is everywhere, just waiting to send forth all manner of calamity upon the unsuspecting motorist. This month, let's see if we can find this "nowhere" place, and shed some light into its abyss. If two objects traveling in a straight line are on a collision course, there will be no relative angular speed between them. Pilots are acutely aware of this phenomenon, as it causes another aircraft on a collision course to appear to hang motionless in their canopy. The only movement is that the other aircraft is growing larger. The insidious thing about this is that the motionless aircraft is much harder to spot than one that is moving across the pilot's field of view. A couple quick factoids about this phenomenon:

a) The collision bound objects need not be "head on" towards each other, any two intersecting vectors will do.

b) If the two collision bound object's respective speeds happen to be the same and their paths happen to be perpendicular, they will appear at 45 degrees off each other's headings. Bear in mind the speeds need not be the same, nor the paths perpendicular…I only use these two qualifiers as a lead-in to the next section, where we will look at…

Relevance?!… (Thanks, thought you'd never ask). We drive on a network of roads which is literally infested with intersections…and, controlled or not, every single one of them is perfectly capable of hosting the phenomenon described above. But why stop with intersections! How about your average Wal-Mart parking lot, where paths can intersect at every conceivable angle? Walk through a couple of scenarios with me: You're cruising through a residential neighborhood approaching an uncontrolled intersection. Fate (working in collusion with Mr. Murphy) has put another vehicle headed for the same point in space and time, approaching from a side street on the left. Both you and the other driver are observing the posted speed limit of 25mph. This puts the other vehicle at 45 degrees off to your left…hanging motionless in your periphery, where your side view mirror or your roof pillar perhaps obscures it. You fail to notice each other until it's too late to avoid a collision. Your classic fender bender…the other guy came out of nowhere…or so it seems.

Now look at the same scenario again, except substitute a blind drunk lush driving the other vehicle, which is now steaming along, at 90mph. Because of the other vehicle's much greater speed, it's going to be sitting further off to the side in your periphery (and further away from the intersection, but closing much more rapidly). You, in the slower vehicle, will be much more central in our lush's field of view, but that's of little consequence (he's *blind* drunk, remember). You now have a recipe for the kind of deadly high-speed collision that occurs with alarming regularity in this country.

The variations on the above two scenarios can be endless, as you can well imagine. And, if you think I've staged the setups to the point that such a collision is unlikely "in the wild", think again. There's always somebody out there who has driven all night just to come out of "nowhere" and collide with you. So, what's a person to do? Driving is a full time job, folks…be aware, look around, don't drive with tunnel vision. **If it's not going to move across your field of view, you've got to move your field of view across it.** (How's that for a jingle). Hopefully, this article has gone nowhere (after all, that *was* our objective). In the end, I think, nowhere is but a state of mind…one, which can largely be avoided, by **driving smart!**

Swimming at local Water Falls:

Swimming is a wonderful summer pastime; however, much too often people swim in areas which are posted ‘No Swimming’. One such location is Ryutosen Falls, located between Sasebo and Nagasaki. This area is well posted with signs that expressly prohibit swimming. When signs say ‘no swimming’ it usually indicates that evaluations and inspection have determined the presence of hazards and these warnings should be taken seriously. It is best to be prudent in the wake of having fun. In the past 10 years, 5 people have drowned at this location; two of these were fellow sailors. If you’re senior, take charge and always do the right thing; stop others from making the wrong choices. Encourage them to make the right choices and choose safety first. Drinking and swimming NEVER mix.

Some points about the falls:

Complete falls area is signed saying ‘No Swimming’; the writing is small and in four different languages
Cliff has a jungle rope hanging, which people use to climb up the rocks to jump off; the rocks are very slippery with mold.
This is also known as a suicide location for Japanese nationals; the local officials do not want swimming because people’s feet get caught in the rocks after they jump in.
Climbing up and down is a chore, however a very beautiful place, just not a safe place to swim, especially when the area is posted no swimming.

Rope used to climb up the falls. Note the moss-covered rocks.