



You Look Sick: Rolling Patient Assessment for EMS Bike Teams at Foot Races

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*Ed.'s Note: Hans will be participating in the 18th Annual IPMBA Conference, April 24-26, 2008. He will present a workshop entitled *You Look Sick*, based on this article and additional information drawn from experience. For more information or to register, visit www.ipmba.org or request a conference registration packet via mail or email.*

Trip, slip, stagger or stumble? If you know what you are looking for, the slightest misstep can tell you volumes about how a runner is feeling. So it was at the unseasonably warm Medtronic Twin Cities Marathon (TCM) in October 2006, when the young woman running next to me *staggered* at the 14-mile point. I rolled up next to her and asked how she was doing. She insisted that she was fine, just a bit tired, and could continue. My partner and I monitored her for a while, until we were needed to assist with a heat illness patient. We resumed riding, and a mile later, we discovered the object of our previous concern flat on her back with her feet elevated at the next aid station, where the doctors diagnosed her as being more than “just tired.”

Minnesota's volunteer National Mountain Bike Patrol (NMBP) units have been assisting at special events since 1996, when the newly-created North-Central Mountain Bike Patrol helped save the life of an asthmatic woman who collapsed at the very first mountain bike event the patrol worked. In 2003, the North-Central patrol split into two separate units, the MORC (Minnesota Off-Road Cyclists) Mountain Bike Patrol, and the Backcountry Trail Patrol. The patrols have been part of the TCM medical team since 1998, riding the 26.2-mile course with AEDs and basic first aid equipment. We also work three triathlons, a duathlon, mountain bike races and charity/social bike rides. We have assisted with everything from blisters and sunburn to bee-sting anaphylaxis and a cardiac arrest, and we have developed a “sixth-sense” when it comes to figuring out who is tired, who is exhausted, and who could potentially have more serious problems.

Each year we deploy 10 to 14 NMBP patrollers on the TCM course in teams of two, consisting of a First Responder, OEC (National Ski Patrol Outdoor Emergency Care), or EMT paired with a first aider (or better). Most of the teams enter the course from the five-mile point every five minutes, after the elite-class runners pass that location, while one team does a sweep from the starting line. The teams ride along with the 10,000-plus runners, watching for medical problems and providing assistance. Runners in the 2006 TCM faced much warmer than normal temperatures – 83°F rather than 45-60° — and as a result, we faced more heat-related illnesses than usual. There were two cardiac arrests, one of which was successfully resuscitated, and many heat cramping and heat exhaustion cases, including several who needed to be transported.

It can be difficult to prepare first-time patrollers for some of the things they will see on the course, but we make them aware of some common behaviors and symptoms. Runners prepare for



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marathons in different ways, and the amount of effort they put into training shows up in sometimes alarming ways. In the last few miles of the course, it is not uncommon to see a runner with salt crystals caked on the sides of their face, pale and diaphoretic, but they will wave off offers of assistance, because they are accustomed to running long distances. They have been hydrating adequately with sports beverages, so their electrolytes are good (hence the salt build-up on their face) and their pace is sound, so you just make a mental note and continue. A patroller may also see participants with bladder and bowel incontinence, and vomiting water (symptomatic of early stages of hyponatremia), food, or bile. In the proper context, each of these problems may or may not indicate an emergent situation. The key to knowing what may be an emergency harkens back to the very first thing we learn as medical responders...good patient assessment system (PAS) techniques.

Obviously, the runner is up and running, so the ABCs are covered, but you can't jump to conclusions. As you ride up behind a runner, observe their behavior. What is your first impression? What do their pace and their gait look like? You can tell a lot about a runner's overall condition just by observing their movements. Are they lifting their feet with each step? Is their pace even? Are they moving forward at a steady pace, or is it varying, and by how much? If they are shuffling, is the leg movement steady or erratic? Often amateur runners, particularly those new to marathons, will slow to a shuffling gait in the last five to ten miles, but their progress is steady and, other than looking tired, they look OK. Are they limping, or is their gait uneven or irregular? Some runners may, for benign reasons, favor one leg, but their favoring (or limp) will be consistent, whereas somebody with blisters, cramping or musculo-skeletal problems will instinctively attempt to run normally, which results in an erratic limping action. Are they stumbling or staggering? Stumbling is often indicative of exhaustion, but can also be caused by irregularities in the running surface, failure to lift the foot high enough for the sole or toe of the shoe to clear the ground, or other mechanical reasons. Staggering, on the other hand, may also indicate the onset of a more serious medical problem, as was the case with the abovementioned woman. When a person staggers while running, their whole countenance changes, and this is pretty obvious from the rear. Their feet stumble, and it may be mistaken for just that, but along with the stumble, the runner seems to drop or shrink perceptively. Their shoulder posture sags, the head may tilt forward, almost to the chest, and the arms lower or drop completely. Usually, the runner recovers and presses on, but this is a person worth watching. If the staggering repeats, the runner may actually fall and sustain traumatic injuries. Staggering may also be a symptom of a serious medical issues, such as hyponatremia, cardiogenic or hypovolemic shock, or heat-related illness.

How are they carrying their shoulders and arms? Normally, a runner will hold their arms bent 90 degrees at the elbow, with normal, natural movement from the shoulder as the runner strides. Arms down at the sides may or may not be much of a concern, but if they are stationary while the rest of the body is in motion, or the fists are clenched, with the arms either up or down, the runner may be responding to pain, cramping or other physical discomfort. Arms flopping loosely at the sides and/or slumping shoulders may signify exhaustion. An abnormally high shoulder position, with the neck tight and head drawn down, may indicate muscle spasms in the back or shoulders.



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Facial appearance and interviewing are the last two parts of assessing a runner while on the roll. If any of the previously mentioned indicators has given you cause for concern, pull alongside the person for a look. Since these symptoms usually manifest themselves around the midway point, where the runners are pretty well spread out, riding next to the runner is usually not a problem, but remember to keep a wary eye out for other runners, spectators, your partner, etc., and put those IPMBA slow speed riding skills to the test. What is their facial appearance? Are they sweating freely? Pale or red-faced? Is there salt along the sides of the face or in the hair? Are they bleeding from the nose or mouth?

You really only have a second or two to determine these things. Then, without interrupting their pace, simply ask a non-threatening question, such as “How’re you doing?” or “Are you okay, runner?” Listen to their response very carefully, noting its *quality* as well as the words. Are they breathless beyond what should be normally expected? Runners in good condition, even non-elite classes, often carry on conversations with their co-runners right up to the finish line. Does their pace alter perceptively while they answer you? This may indicate all their effort is going into making progress. Do they just nod, or fail to answer or acknowledge you? These are runners to be concerned about. Does the runner “look sick”?

As first responders at the TCM, we cannot pull racers off the course except in a bona-fide emergency, but if the overall condition of a runner concerns us, we note their bib number and pass it on to the next couple aid stations, so they can be watching for the person. Often, our concerns are valid, and the runner will stop at an aid station because they don’t “feel right”. However, if you are ever confronted with a set of symptoms that indicate the runner should be a patient, don’t hesitate to either pull them over if you can, or at least shadow them to the next aid station.

The Medtronic Twin Cities Marathon has an excellent reputation for providing the highest quality medical support to its 10,500 runners. Under the direction of Dr. Bill Roberts, one of the most highly regarded marathon medical experts in the country, the event staff of doctors, nurses, physical therapists, paramedics, EMTs, Ski Patrol OEC Techs, First Responders and first aiders has historically provided one of the safest marathon events in the world. The volunteers of the National Mountain Bike Patrol have been part of that response for nine years. Once again, on the first Sunday in October in 2007 the red jerseys of the NMBP were seen working their way through the runners on the course of “the most beautiful urban marathon in America.”

Hans Erdman has been part of the National Mountain Bike Patrol (NMBP) since it started in 1995, and was one of the original Instructor-Trainers named by NORBA to build the program in 1996. He is patrol director of the Backcountry Trail Patrol in Minnesota and western Wisconsin, IMBA-NMBP Regional Representative for MN, ND, SD and WI, and a past member of NMBP’s National Advisory Committee. Hans has been an EMT since 1973, Wilderness EMT certified since 1979, and is a former paramedic. He also uses a bike at his job as a State Park Ranger at Sand Dunes State Forest Recreation Area, in Orrock, MN. He can be reached at erdman@trailpatrol.org.

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