On-Site Neuro Assessment

Approximately two-thirds of divers with decompression illness have evidence of an injury to the nervous system. These signs are often vague and can go unrecognized by the diver. This can cause such signs to be dismissed as insignificant or unrelated to diving.

To help divers determine whether an injury is simply caused by carrying tanks (see related article on back pain, EAD 2-10) or is dive-related, DAN has created the On-site Neurological Assessment for Divers program.

A thorough, effective, but simple neurological assessment will aid the treatment of divers in three ways:

- Medical professionals and DAN Medics will have a reliable system to judge the urgency of a dive emergency, depending on the symptoms reported to them by the divers on the scene.
- Training for clinical staff in remote locations, where divers dive, is often difficult to come by and is often unreliable.
- Often, according to DAN Research, divers delay beginning an emergency plan, oxygen first aid and definitive care by denying their symptoms exist. By having a simple exam that will demonstrate to an injured diver that there is a problem, injured divers may gain on-site treatment (i.e. field oxygen) quicker, aiding in the resolution of symptoms.

Only medical professionals should diagnose medical conditions. The information gathered while performing an on-site neurological assessment will be useful in helping the dive physician understand the extent of the injury and how it has changed in the time it took to get the diver from the dive site to definitive care.

The five areas evaluated as part of an on-site neurological assessment include:

- Mental function;
- Facial function;
- Motor function;
- Sensory function;
- Coordination and Balance.

Other Options

Field neurological assessment programs have been around for years and several different versions are in print, including those available for the U.S. Navy and NOAA. However, after reviewing those programs, DAN decided many of the examinations in those programs weren’t practical for the average diver in a recreational dive setting. They are intended for use by divers in highly supported environments, not divers in dive boats.

DAN America Medical Director Dr. Richard Moon, with the assistance of Dr. Wayne Massey, a Duke University Medical Center neurologist with experience treating injured divers, reviewed existing programs and determined what they felt was truly necessary and practical in a field examination.

Find Out What Is Really Going On

The DAN Report on Decompression Illness, Diving Fatalities and Project Dive Exploration is filled with case histories of divers exhibiting signs of neurological complications after dives; those symptoms often go unrecognized for hours, or days, because no one thought to look any deeper. In the most recent report, the

average delay of treatment to symptom onset was 19 hours.

By contrast, the largest percentage of initial symptom onset was within one hour of surfacing after a dive. Another significant number of divers began exhibiting symptoms of decompression illness (DCI), but still returned to the water to make another dive.

The three most common symptoms, by far, of decompression illness are numbness and tingling, pain and muscular weakness. All three of these symptoms are indications of neurological problems and decompression illness.

The point is often made that divers wait so long to seek treatment following symptom onset because they deny a problem exists. Or they realize that they have a problem, but make excuses for it. When the problems don't go away, they finally call for help.

In one case history, a diver felt disconnected upon surfacing and couldn't remember the names of other divers on the boat for about a half an hour. In the medical world, this is called "altered mental status" and initiates an immediate response. In this particular case, nothing was done and the diver continued to dive. He was treated a few days later for DCI.

By completing the history portion of the assessment, you begin to determine whether there is a dive injury or whether a pre-existing condition could be causing the symptoms. The On-Site Neuro Exam is basically an interview: the actual assessment helps narrow the possibilities and gives you information to report to the treating physician.

Making a quick assessment of the situation and persuading the injured diver that a problem might exist is an important first step. Reducing delays to symptom recognition and treatment is a key component of first aid.