Add A Measure of Thought

In DAN Training, we have often heard from participants involved in an incident that they wished they had taken the extra few minutes to check their safety equipment beforehand.
Don't wait to check your safety equipment and first aid units before a dive outing: you need to check it regularly. Keep a log of expiration dates and when equipment has been serviced. By spending a short time every other week – even monthly – and creating a simple checklist of all disposable and nondisposable items, you can help prevent problems that come from oversights or lack of preparedness.

In the accompanying Incident Insight, a DAN medic discussed procedures for taking care of common marine life injuries such as lacerations and abrasions. In DAN Training courses, we teach by both knowledge development and hands-on practice. Both are needed to tackle many adverse situations and to help prevent a critical or potentially life-threatening injury going from bad to worse.

Tool Time – The Diving First Aid Kit
So what are some of the items you need? And how can you best take care of them so all components are readily available and in good condition when you need them?
Let's start by talking about a basic diving first aid kit. The items listed in the accompanying table are those basic items found in the DAN First Aid Kit.

Wound Dressings
Notice how items are divided into modules, or packets, so you can go right for what is needed. For example, the Stop Bleeding module contains items necessary to control bleeding: gloves for body substance isolation, 4-inch by 4-inch and 2-inch by 2-inch (10×10 cm or 5×5 cm) gauze, roller gauze and other items for simple direct pressure.
Did you know sterile gauze and other sterile bandaging materials have expiration dates? The manufacturer cannot guarantee the sterility of items in enclosed packages after the expiration dates. It's important to use clean and sterile dressings to avoid infection, so regular inspection of these items is critical.

Medications & Irrigating Solutions
Keep a medications bag and any additional supplies such as hydrogen peroxide or saline solution. The bag should contain the following: over-the-counter analgesics such as ibuprofen and acetaminophen; antibiotic creams; loperamide for diarrhea; and antacids.
Regularly inventory these items in case something has been used or is approaching its expiration date. Be sure your first aid kit also has an adequate supply of acetic acid (common household vinegar) for neutralizing many marine envenomations and sterile saline or sterile water for irrigating and cleaning wounds.

Disinfect After Use
Some items can be cleaned and reused. Those might include a flexible splint, a 20ml. syringe with catheter tip (for irrigation) and the DAN oronasal resuscitation mask. Make sure you understand how to properly disinfect these items before you use them.
Of the many available disinfecting solutions, some are better than others. Many times people will use a 10 percent bleach-to-water solution. Soak items for five minutes and rinse with fresh water. Then allow to air dry. Do not try to disinfect and reuse disposable items.

The 'Heavy' Equipment
Not only is a good first aid kit essential, so are oxygen equipment and automated external defibrillators

(AEDs). In DAN training courses, we always advise that you check your equipment before going on a dive.

Oxygen Units

Often, the nonrebreather mask in an oxygen unit has been opened and unceremoniously replaced in the case in an ungainly wad.

Oxygen tubing or regulators can be missing and the oxygen bottle empty or nearly empty. Too often it is obvious that the regulator and demand inhalator valve have either never been serviced or not serviced in many years.

The manufacturer of the DAN Oxygen Units recommends that equipment be serviced every two years. You'll find a list of Allied Healthcare Products Authorized Service Centers on DAN America website in the Oxygen Resources section (http://www.diversalertnetwork.org/training/oxygen/repair.asp),. Simply go to the DAN website, click on "Training & Education" and then click "Oxygen Resources."

Remember to have your cylinders filled by a proper medical gas supplier. In the United States, the Food and Drug Administration has certain requirements for filling medical gas cylinders. For example, oxygen cylinders earmarked for medical use can be filled only with medical-grade oxygen. Additionally, gas suppliers have to perform a cylinder inspection before filling them.

Once ready for fill, the oxygen is generally manufactured in lots and tested. Each cylinder will be stamped with the lot number and expiration date of the gas. Most medical gas suppliers exchange empty cylinders for full ones because of the time required to fill them.

Since DAN oxygen units do not use standard size cylinders, be prepared to drop off your cylinder and pick them up later. Typically, gas suppliers do not complete oxygen fills while you wait.

Automated External Defibrillators

Throughout the world, AEDs are becoming more commonplace. Your AED unit should be checked regularly to ensure it is in operational order and all equipment is present. Check the expiration dates of pads and ensure you have accessory items such as shears for cutting clothes or wetsuits and drying cloth for cleaning the area where pads are attached. Most AEDs are programmed for daily checks; however, you should also regularly perform a more extensive check, such as a battery insertion test, if the AED has that capability.

People Power

Not only is safety equipment essential for every dive, but so are people properly trained in its use. You should be current in CPR and basic first aid. Additionally, DAN offers a range of training courses that supplement basic first aid with dive-specific first aid training. A perfect course for all divers – and especially dive staff – is the DAN Diving Emergency Management Provider (DEMP) course, which offers training in Oxygen First Aid for Scuba Diving Injuries, First Aid for Hazardous Marine Life Injuries, Automated External Defibrillators (AEDs) for Scuba Diving and an optional Advanced Oxygen First Aid for Scuba Diving Injuries section for those who may benefit from the additional training.

Conduct regular training scenarios and drills for a variety of emergencies so that everyone is well rehearsed in emergency preparedness. Ensure everyone knows the locations of emergency signaling equipment and marine radio operations on boats. For nondivers working on boats or with divers, the DAN Dive Accident First Aid for Nondivers course offers ideal training.

Develop a good emergency assistance plan and plan training drills regularly. DAN Training is here to assist you with courses and online seminars and helpful advice when you need it.

The Basics

For suspected diving injuries, DAN suggests the following:

- Remove the injured person from danger;
- Ensure scene safety;
- Monitor the ABCs (Airway, Breathing, Circulation);
- Place the injured diver in a comfortable recumbent position (Note: if the injured person is nauseated, unconscious or semiconscious, place him/her on his/her side, with head supported (known as the recovery or lateral recumbent position);
- If the injured diver is fully conscious and having no difficulty breathing, you can provide nonalcoholic, noncarbonated, noncaffeinated fluids such as water or fruit juice;
- Provide the highest concentration of inspired oxygen by tight-fitting oronasal resuscitation mask;
- Activate the local emergency medical protocol for your area;
- Contact DAN to make sure the injured diver is being managed properly and for referral to the nearest available hyperbaric facility, if needed. This service is available to everyone, regardless of membership or insurance status.