

## Safety and Emergency Planning

# MODULE 6: SAFETY & EMERGENCY PLANNING

## Risk Management

Risk management is an integral part of any business, especially a dive business. Scuba diving customers learn or dive for pleasure in circumstances that require specialized life-support equipment and training. While the concept of “Risk Management” can carry a number of technical definitions, in practice, it’s the simple concept of operating a business in a manner designed to, 1) improve safety for customers, and 2) reduce the liability or property loss risk for the business.

***To understand this concept, one needs to understand several key issues:***

1. A business has some level of duty of care to its customers.
2. If the business and/or staff cause or contribute to an incident that injures a customer, the business can be held legally responsible and may be forced to pay damages.
3. The business (and its owners, directors, and officers) can and may be sued for *allegedly* causing an accident to a customer, even when it was not at fault.
4. A business can operate in a manner that significantly reduces the safety risks to customers and the liability and property risks to the business.

### **Negligence**

It is concerned with unintentional fault or carelessness resulting in injury. In other words, negligence deals with avoidable accidents that should have been anticipated and prevented by taking reasonable precautions.” A person may act in a manner thought acceptable in a given situation, yet the law may still find negligence if the conduct doesn’t measure up to a minimum standard of reasonable or due care.

### **Liability**

Liability is the risk that the business may be held responsible for damages to some third party (customer, competitor, landlord, etc.). There are many types of liability that a dive center or resort faces every day in the conduct of its business. Some are specific to diving; others are general to most retail businesses.

## Safety and Emergency Planning

### Instructional Liability

Instructional liability is the liability resulting from teaching divers. It is also referred to as professional liability and is based on the general premise that a professional, by nature of his expertise, has a duty of care and a degree of responsibility for the students in his charge. The most common allegations in a lawsuit involving instructional liability will be that the instructor taught improperly (by either giving incorrect or incomplete information), or inadequately supervised during a dive (by allowing a student to become lost). In such a case, typically both the instructor and his employer/contractor will be sued.

### Supervisory Liability

Supervisory Liability, which also falls within the overall context of professional liability, is risk resulting from organizing and leading dive excursions for divers, in a no instructional context. Although the duty of care may be somewhat less than for students, dive leaders may be held responsible for the divers they supervise. Common allegations in suits claiming improper supervision are inadequate briefing, taking divers on dives beyond their qualifications and/or capabilities, failure to maintain adequate contact, and failure to properly respond to an emergency.

### Product Liability

Definition - Product liability is liability that results from the selling of products to customers. In such lawsuits, typical allegations are that the product was inherently defective, that improper or inadequate instructions for use were provided, or that the product was sold for an improper or unintended use.

### Air Fill Liability

Air fill liability is the liability incurred through the filling of tanks to be used by customers. Typical allegations address impurity of the air or that injuries were caused by tank explosions, burst disk ruptures, etc.

### Repaired Products Liability

Repaired products liability is the liability incurred through the repair, assembly and maintenance of customers' equipment. Typical allegations that may be made in a repaired products lawsuit are that improper repair, the use of improper parts, repairs being made by unqualified personnel or an unauthorized repair led to an accident.

## Safety and Emergency Planning

### Rental Products Liability

Rental products liability is the liability incurred from renting or providing dive or other equipment to students and other customers. Typical allegations in a lawsuit resulting from a rental could be that equipment was rented to an unqualified person, that the equipment had been inadequately maintained, that the equipment provided was an incorrect size or that equipment was rented without adequate instruction or for an improper purpose.

### Trips and Events Liability

Liability from trips and events is created by the business organizing travel, dive outings, dive club meetings or other functions for its customers. Typical allegations in a lawsuit regarding these activities may be that the business did not adequately research a provider of dive service to whom it sent customers (and that the provider was improper, dangerous, etc.), that divers were sent to a dangerous location, or that customers were exposed to some specific hazard as a result of the trip or event. Various supervisory allegations may also result from such litigation.

### “Slip & Fall”

Slip and fall is the general term used to describe a range of injuries that may occur to customers while on the business’ property. These may include such occurrences as slipping on a wet or icy step, running into an overhead display, or receiving a cut from a corner of a broken display case.

### ***The most important reasons for employing good risk management practices include:***

1. Striving to keep divers safe – this is the primary and most important goal of risk management.
2. Providing liability protection – risk management plays the important role of helping to protect you legally in case something goes wrong, despite your best efforts. By following a proven standard of practice and by documenting your actions, you maintain an improved level of liability protection.
3. Maintaining the availability of insurance – dive professionals need the protection of reliable insurance coverage. The continued availability of adequate insurance is directly related to the effectiveness of managing diving’s risks. The first, most important step is to reduce claims by preventing accidents. The second is to reduce claims losses through successful defense when litigation does occur.
4. Maintaining public relations and image control – diving’s continued viability as an industry is directly related to its continued image as a responsible, professionally practiced activity with a reasonable safety record.

## Safety and Emergency Planning

### ***Your Personal Health and Safety***

Part of assuring the safety of your student divers is assuring your own safety as a professional.

Because you dive frequently as a professional, you have more opportunities to have a decompression illness or other incident than someone who dives less frequently. However, statistics show that the accident risk for dive professionals at work is extremely low.

#### ***Take steps to manage your risk and maintain safety by:***

1. Maintaining an ascent rate of not more than 18 metres/60 feet per minute, or slower if mandated by your dive computer. Since training often includes multiple ascents for the instructor, conservatism is prudent.
2. Conduct repetitive dives so each dive is to a shallower depth.
3. Team teach with another dive professional Member.
4. Dive conservatively, well within dive table or computer limits, as well as your personal limits.
5. Use common sense, caution and good judgment regarding your health. Do not dive when you are not in the proper health to do so.
6. Maintain diver accident insurance for yourself.

Risk is inevitable in any endeavor or profession, but exercising good judgment and conservatism will help you minimize and manage risk.

### **The Role of Standards and Instructional Systems**

Standards and instructional systems help dive educators organize and conduct effective courses and programs. They also assist in reducing legal risk.

#### **Standards**

Educational and professional standards establish much of the conduct or *code of practice* expected of a reasonably prudent dive professional. Responsibility for creating those standards falls on diving organizations and the dive industry at large, not on the individual. Adhering to accepted standards makes your teaching practices much easier to defend because you are following proven, defensible practices. Deviating from standards makes defending a dive educator's teaching practices much more difficult because the burden shifts to the more difficult task of proving that the individual's personal actions were prudent.

#### **Instructional Systems**

An instructional system relieves the dive educator of responsibility for *instructional design*.

The responsibility for course or program content and sequencing falls on diving organizations. When an instructional system is used it proves definitively what was taught. It shows that the dive educator presented necessary, appropriate material as outlined in diver manuals, videos, cue cards, instructor guides, etc.

An instructional system also shows how many times a topic, particularly safety related information, is presented. Quizzes, exams and Knowledge Reviews provide further documentation that student

## Safety and Emergency Planning

divers mastered the material. When the validity of the instructional system is combined with the structure provided by standards, it not only improves educational consistency and risk protection for student divers, but it becomes easier to prove that a dive professional's conduct is that of a reasonably prudent educator.

The failure to follow a valid, established instructional system or the use of a self-designed program, even when standards are followed, makes it harder to defend a dive professional's teaching practices. The professional's credentials to act as a qualified "instructional designer" may be challenged.

Only a bona fide instructional system will tie together and clearly establish the material's presentation, repetition and multiple proof of student diver mastery.

### The Role of Paperwork (Documentation)

Forms, files and log book pages document that the dive professional followed standards and used the instructional system. Paperwork also provides the documentation needed in many legal systems to show that the dive professional acted appropriately.

Paperwork must be retained for each student diver in accordance with local law, or seven years, whichever is longer. Failure to properly use all required forms, besides leading to Quality Assurance interactions can make it difficult to defend a dive educator's teaching practices.

### The Role of Insurance in Risk Management

Teaching status Instructors are required to have professional liability insurance in some regions, but it is recommended everywhere. Likewise, level 1 Instructors and dive leaders are required to have insurance to conduct Experience programs and Skin Diver courses in most regions. It's recommended that all level 1 Instructors and dive leaders carry insurance even if only acting as certified assistants or engaging in supervisory activities.

An Instructor's professional liability insurance does not cover certified assistants.

Professional members, at any level, who are involved in diver training or supervision, should maintain coverage for themselves. Members should also consider carrying insurance for several years after retiring from teaching or supervising to protect themselves against claims filed by former students or customers.

Although the type of insurance coverage available varies from region to region, having liability insurance provides many benefits. Liability insurance typically provides for legal defense costs, which can be expensive even if you win a case, and coverage for judgments up to the designated policy limit.

### Steps for Reducing Your Legal Risk

1. Follow an established, valid instructional system.
2. Don't deviate from standards or the instructional system. This minimizes the chance of an accident in the first place, which is the best risk management practice there is.
3. Use good judgment; when conditions are marginal, make conservative decisions by reducing ratios, going to an alternate site, cancelling the dive, etc.
4. Use all paperwork/documentation as

### Safety and Emergency Planning

5. Do not alter, or allow your student divers to alter, the language on any of the forms or releases.
6. Consult an expert on local law for additional steps that you may need to take to protect yourself legally.

### Safety necessary equipment and use.

All the diving facility & boat must be covered by requirement necessary safety equipment:

#### Facilities:

Diving center must include:

1. First aid medical box
2. Oxygen tank & mask
3. Fire extinguishers
4. Communication radio or phone
5. AED (option)

Wherever you operate your boat you will be required to carry certain items of safety equipment. These include:

- Anchors
- Bailers
- Bilge pumps
- Distress flares
- Electronic position indicating radio beacons (EPIRBs) optional
- Fire extinguishers
- Lifejackets
- Personal locator beacons (PLBs) optional
- Radios
- Emergency lighting
- Binocular
- AED (option)
- First aid medical box
- oxygen tank & mask

The exact quantity and type of equipment required will depend on how far offshore you travel, and what kind of vessel you are operating.

## Safety and Emergency Planning

### Rescue, CPR and first aid skills periodic training

Examples of some rescue skills:

- Assist a tired (rational) responsive diver at the surface
- Rescue a panicked (irrational) diver
- Assist a responsive diver in distress
- Distressed Diver Underwater
- Missing Diver
- Surfacing the Unresponsive Diver
- Unresponsive Diver at the Surface
- Exiting the Unresponsive Diver
- First Aid for Pressure-Related Injuries and Oxygen Administration
- Response from Shore/Boat to Unresponsive (non-breathing) Diver at the Surface

#### Which kind of accident?

- Surface accident (heat stork, heat shock, unresponsive person on surface, injury, sea sick,.est.
- Water accident (DCI, near drowning, cramp, separation, tired, aquatic injury ....etc.
- Unresponsive person at the Surface (Breathing / non-Breathing)
- Unresponsive person under water
- After you rescue Non-Breathing person provide direct in clear ground area EFR, CPR & Administer Oxygen.

#### Administer Oxygen to breathing, Unresponsive Diver

Remind the rescuer that a breathing injured diver can get 100 percent oxygen through a no resuscitator demand valve unit. If not available, a free-flow mask is acceptable.

Start by opening the oxygen kit and assembling the unit, if necessary. Procedures – slowly open the valve and test the unit by inhaling from the mask, but not exhaling into the mask; secure the oxygen unit to prevent movement and say to the injured person “This is oxygen. It will help you. May I give it to you?” if no answer, assume agreement; place the mask on the diver’s face; use the head strap and be sure to monitor the oxygen pressure gauge.

#### Administer Oxygen to a Non-breathing Diver

Using a pocket mask with oxygen inlet valve and continuous flow oxygen is beneficial. Begin CPR on non-breathing person while using a pocket mask for rescue breathing.

Open the oxygen kit and attach the oxygen tube from the continuous flow outlet to the pocket mask without interfering with rescue breathing/CPR. Procedures – slowly turn open the valve and set the flow rate for 15 liters per minute; secure the oxygen unit to prevent movement and monitor the oxygen pressure gauge.

#### What are the primary care (CPR) skills?

- 1 - Scene Assessment
- 2 - Barrier Use
- 3 - Primary Assessment
- 4 - CPR: Chest Compressions
- 5 - CPR: Chest Compressions Combined With Rescue Breathing

### Safety and Emergency Planning

- 6 - Optional Skill – Automated External Defibrillator Use
- 7 - Serious Bleeding Management
- 8 - Shock Management
- 9 - Spinal Injury Management
- 10 - Conscious/Unconscious Choking Adult
- 11 - Emergency Oxygen Use Orientation

### What are the secondary care skills?

- 1- Injury Assessment
- 2- Illness Assessment
- 3- Bandaging
- 4- Splinting for Dislocations and Fractures

## Emergency plan information and procedures

### Emergency Assistance Plan (EAP)

Recreational dive operators must be prepared to manage the numerous potential hazards, both inherent (e.g. decompression illness) and incidental (e.g. sprains and cuts) to scuba diving.

An effective EAP helps:

- Dive supervisors manage an emergency scene;
- To delegate duties to staff, bystanders and guests;
- To make proper first aid decisions; and
- To summon appropriate assistance under often stressful circumstances.

### The Diving Safety Partners EAP Worksheet prompts you to include:

#### 1) Contact Information:

##### Initial Contact Information

. You should have information for initial notification of the person responsible for managing an emergency. This information should be immediately available. This person should be a person or facility (such as an office reception or registration desk) that is available 24 hours a day and who can provide assistance at the scene and direct initial assistance efforts.

##### Emergency Medical Assistance Contacts

. This information includes any local emergency medical assistance (ambulance / rescue squad) or group who can respond to the accident location and provide either advanced life support or transport to a medical facility. Also included is contact information for local medical facilities or medical personnel capable of managing the medical aspects of injuries or emergency. Directions to the local medical facility (along with maps) may also be included if the transport must be done by individuals unfamiliar with the local area.

## Safety and Emergency Planning

### Diving Medical Information Resources

Other information should be listed which would facilitate contact with local experts in diving medicine (i.e., DAN USA,). The DAN Hotline number is listed to provide direct assistance in case of emergency medical evacuation for DAN members. Non-DAN members can call this number for assistance, but costs for any services incurred would be the responsibility of the caller or injured person.

### Recompression Chamber Information.

In general, DAN does not provide chamber location information for emergency planning. Call DAN in an emergency and DAN will act as the liaison in the diving emergency. The best option is to use the existing local emergency services for an injured diver. With any suspected case of decompression illness or dive-related injury, the emphasis is to get divers into hospital care first. DAN can help determine the nearest appropriate facility for treatment of the injury if the injury is found to be decompression-related. Chamber contact information can have a short “shelf-life”. Divers will record the contact information (location and phone number) for a hyperbaric facility and this information will remain part of their Emergency Plan indefinitely, despite the fact that the facility listed may have closed entirely or stopped treating divers.

Many chambers aren't open on a 24-hour basis and need advance notice, from a doctor or DAN, so they can be adequately staffed and ready. DAN has learned from experience that actual chamber locations, availability and the contact information change frequently. On occasion, some divers have been driven past excellent healthcare facilities just to get to a recompression chamber when hyperbaric care was not really necessary or the chamber did not treat divers.

Injured divers should only be taken to a local chamber when it has been verified that:

1. The diver is actually in need of recompression (i.e., suffering from decompression illness);
2. The chamber is properly staffed, fully operational; and ready to accept the injured diver.

### **2) Injury and Lost Diver prevention plan**

This information is general in nature and is included to provide reminders, not instructions, on how to manage the most common emergencies. Emergency First Aid Procedures are also included in this plan.

**Injury Information Form:** When diving injury occurs, you need to have the most complete information possible available for the attending physicians and emergency medical personnel. This includes the diver's name, address, and a description of the injury, significant medical history and dive profiles.

As an example DAN has provided the Dive Accident Information Slate and DAN On-Site Neurological Assessment for Divers slate so that you can copy and use as needed when working with dive injuries.

### **3) Staff preparedness**

An emergency plan can only work if all staff members are trained how to respond to an emergency, are familiar with the plan and use the existing procedures. Keeping track of expiry dates of certificates of staff members and having them sign the emergency plan should be a part of the procedures.

## Safety and Emergency Planning

### **4) Emergency Equipment.**

Availability and good maintenance of emergency equipment is crucial in emergencies. Make sure you have and in good working conditions) all needed emergency materials available and that everybody knows where to find them.

### **5) Dive Operations.**

Orientations, briefings and post dive activity are an important part of any emergency plan. Make sure your clients know what to expect and what to do in certain situations. This includes the use of entry/exit procedures, safety stop procedures, lost diver procedures.

**Remember, an emergency assistance plan is only of value if guests and employees know where to find the information and are well-versed in its use. The EAP must be included in the initial guest (or client) orientation and must be posted prominently so that if an emergency were to occur, the EAP would be accessed easily.**

**[https://www.daneurope.org/c/document\\_library/get\\_file?uuid=29b38df8-63e9-4edc-bdb6-3b4ccbf16e60&groupId=10103](https://www.daneurope.org/c/document_library/get_file?uuid=29b38df8-63e9-4edc-bdb6-3b4ccbf16e60&groupId=10103)**

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