



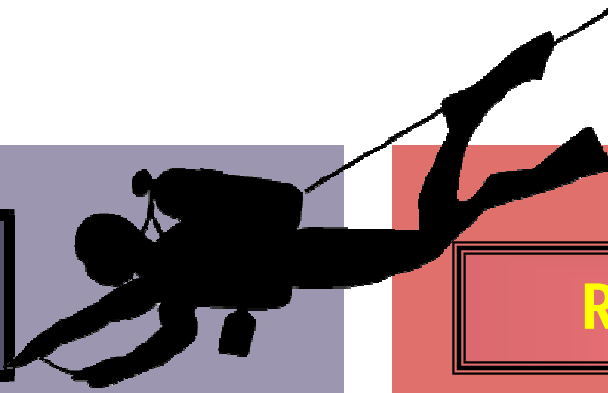
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U.S. Coast Guard Course on Investigating Recreational and Commercial Diving Accidents

Special program taught by Steven M. Barsky, Marine Marketing & Consulting

Steven M. Barsky of Marine Marketing & Consulting recently taught a course for the United States Coast Guard in San Diego on the techniques for investigating recreational and commercial diving accidents. The two-day program was held at the U.S.C.G. Sector Base on July 15 and 16, 2009. Attendees also included diving officers from Scripps Institution of Oceanography as well as members of the Oceanside Harbor Police.

Barsky is a co-author with Dr. Tom Neuman of the book,



In many diving accidents, the body has been recovered, moved, and stripped of gear long before law enforcement arrives on the scene. (© Steven M. Barsky. All rights reserved.)

Investigating Recreational and Commercial Diving Accidents. The book does not deal with underwater crime scene investigation, but takes into account that in most fatal diving accidents, the diver's body has been recovered and stripped of gear, often well before law enforcement arrives on the scene. In many cases, the diver may already have been transported for recompression treatment.

Many dive accident investigations take place well after the accident happened and both the vessel and the people involved have left the scene, particularly in coastal areas. For example, off the coast of California, it's not uncommon to have an accident take place aboard a vessel that is out on a multi-day dive trip

"Different governmental and non-governmental organizations have different motivations and perspectives in their approach to investigating diving accidents,"

notes Barsky. "For example, the Coast Guard's mission differs from that of OSHA (Occupational Safety and Health Administration), although their interests and diving regulations for commercial diving are quite similar. Likewise, law enforcement takes a somewhat different approach to diving accident investigation."

Barsky has performed numerous investigations of recreational diving accidents and has served as an expert witness in both sport and commercial diving accident cases. All of his investigations have been for insurance companies and civil litigation, so his approach is a bit different than the typical law enforcement agency, which usually is trying to determine whether any foul play has occurred.

In the course of investigating diving accidents he has traveled throughout California as well as to Cozumel, the Dominican Republic, Hawaii, Minnesota, Michigan, New Mexico, Oregon, Texas, Utah, and Washington State. Steve has investigated virtually every type of sport and commercial diving accident, including cases of decompression sickness, fatal propeller incidents, high-pressure waterblaster injuries, arterial gas embolisms, and a variety of drowning incidents.

Tools of the Trade

Barsky carries a wide range of tools with him when investigating accidents, including breathing gas analysis kits, 100-foot long fiberglass tapes, a hand-held GPS, digital cameras, and of course, a laptop and smartphone. He also carries items you might not expect, such as chalk for rubbing into the engraved serial numbers on regulators, a magnifying glass for reading very small serial numbers, and both work and latex gloves. The work gloves are for handling commercial diving gear like

umbilicals, and the latex gloves are for handling items like diving helmets which may contain elements such as mold and bodily fluids.

"It's vital to develop a stock list of questions to ask the people involved so that you have someplace to start, but you also have to adapt your questions to the individual incident.

In most cases, I have a good amount of information before I go out into the field, but many times, I won't know everything that happened so I'll have to adapt and add questions on the fly," explains Barsky. "Similarly, I have a stock set of gear inspection checklists, but these are modified for the specific incident, according to the gear that is involved."



If you must handle equipment like a diver's umbilical, you will want to wear a set of work gloves.

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A fiberglass tape is vital for taking the dimensions of a dive site or on a dive boat.

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Diving is such a broad field it's impossible for anyone to know everything about every type of diving.

The smart investigator will get help when confronted with an accident involving equipment or a type of diving with which you may not be familiar. For example, if you have not used an Inspiration rebreather, it would be vital to enlist the assistance of an instructor who is knowledgeable in this type of gear. Similarly, if you have never been involved in commercial diving, it's unreasonable to expect to be able to examine a commercial diving helmet and know if there is something wrong with it. "I'll be the first to admit that I don't know everything about every type of diving," says Barsky.

Although people frequently assume that the equipment is usually at fault, this is rarely the case in most of the accidents Barsky has investigated. Rarely is equipment defective, but it is not uncommon to see gear that has been poorly maintained. In most cases, human error or a lack of training is at the heart of the incident.

Keep in mind that when it comes to regulators and diving helmets, the most testing that average dive shop can perform is to test the regulator using a magnehelic gauge. This is nowhere near as accurate as testing with a breathing simulator such as those used by the Navy. Unfortunately, at this time there are no private labs that are willing to test civilian dive gear following a diving accident.



O2 Quickstick
You'll need a nitrox analyzer for checking the contents of a nitrox cylinder. (Photo courtesy Nuvair)

Vital Traits

There are several talents that are essential to conducting a good diving accident investigation, and these include the ability to establish rapport with the people, tenaciousness, talent as a photographer, and the ability to write a narrative report. Without this combination of skills, it's difficult to produce a good report.

You must be able to identify who you need to interview and why. In a sport diving instructional accident, you're going to want to interview the instructor, any assistants, the divemaster, the boat captain (if the dive took place from a vessel), and the other divers aboard the boat. In a commercial diving accident, you'll normally want to interview the diving supervisor, the tender, the standby diver, other members of the diving crew, and any members of the ship's crew who may have been involved with the diving, if that's where the dive took place.

Developing rapport with the people you interview is usually more productive than going in with a hostile or demanding attitude. Most people tend to clam up during a confrontation or get nervous and forget vital information. Similarly, if you need technical information regarding a particular type of diving equipment from a manufacturer, you'll usually get far more cooperation by establishing rapport than by being demanding.

Good investigators don't quit until they have collected all of the information they need to put together a good report. This often means going the extra mile and sometimes interviewing people who you may not think will have any substantial new information. It's not unusual to find that the person who you thought might not have anything significant to add to your investigation

has new or different information to add to the scope of your work.

Remember that as an investigator your job is to present the facts and remain objective. If you do a thorough job, anyone reading your report will discover all the available facts with no ambiguities. However, you should also realize there may be times where you will not be able to discover exactly what happened without extensive testing, something that most law enforcement agencies



***This commercial diving helmet was worn by a diver who suffered a fatal accident. As an investigator, you must get people to help you if the equipment you are called upon to inspect exceeds your expertise.
(© Steven M. Barsky. All rights reserved.)***

aren't equipped to handle.

Ideally, someone with no diving background could read your investigation report and they would still be able to understand what happened. This means that you cannot use jargon and you must write at a level that is easily understood. If you expect to create a good diving accident report by merely ticking off checkboxes on a form, you are sadly mistaken.

Investigating with Compassion

In any diving accident, you're always dealing with people, frequently people who are very emotional. No diving instructor wants to see a student get hurt. No commercial diving supervisor wants to see a diver he is responsible for die. Even if you feel the person in charge made mistakes, put yourself in their place and try to understand how they are feeling. Conducting a post-dive accident interview with someone who was in charge when an accident occurred is never a pleasant scenario.

Your Written Report is Your Product

You can be the best diving accident investigator in the world, but if you can't produce a written report with top quality photographs and an intelligible narrative, then the time you have spent in the field will not have much value. You've got to be able to sit down and write a report that explains in clear language what happened to whom, when it happened, where it happened, and why it happened.

A good report will have a table of contents, a list of the people who were involved in the incident and how to contact them, a summary narrative that has been pulled together from the individual interviews of the people involved, a chronology of the events (timeline), individual

interviews, charts, drawings, photographs of the gear, the autopsy, and logs from any emergency responders. An index is always a nice addition, if you have the software to create one.

Creating a meaningful report on a diving accident is hard work. If you've done a good job investigating, and have all the information you need, your job will be easier, but you've still got to take the time to write a good account. Make your report something you can point to with pride.

About the author...

As the author (or co-author) of 18 diving texts and the director of 7 diving videos, Steven M. Barsky is known for his ability to take complex topics and simplify them for easy understanding. First and foremost, he has always considered himself an advocate for divers and their safety. He has also written and produced numerous equipment manuals as well

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