

that he had to wait for the advance to be returned from the hotel before he could process her refund. Yet after a few weeks he went incommunicado, failing to respond to the travel agent's polite but firm phone messages, letters and faxes.

After months of frustration, Brown finally contacted the hotel directly. They told her that they had received her cancellation from Dream Voyages, but had never received money. Armed with that information, the travel agent was finally able to get Dream Voyages to cut a refund check in early September — ten months after Susan's original booking, and six months after

her cancellation. Persistence eventually paid off.

There's always the option of taking your dispute to small claims court. But what if the hotel is in a foreign country, and the booking office, wholesaler or travel agent are in different states? Anolik recommends that you send the following notice along with your advance payment, preferably on the back of your check: "Any dispute shall be settled in [your hometown]." If the resort cashes your check, that stipulation becomes part of your contract with them. You can then file in your local small claims court, requiring the defendant to appear there or to default on the

judgment.

Of course, even if you win you still have the problem of collecting what's due you. But Anolik suggests that you can send evidence of the judgment to dive and travel industry groups such as PADI, the American Society of Travel Agents, and *Undercurrent*, to let others know of problems with a specific resort.

If you think there is any possibility you may need to cancel, avoid a ton of headaches first by getting the most current policies in writing, and then deciding whether you can live with them. Finally, look into trip cancellation insurance for an extra level of protection.

Upwellings and Downwellings

Riding along in a current is a great diving thrill, but when it suddenly yanks you upward or downward, the thrill can become frightening and sometimes tragic. In the summer of 1998, dangerous currents near Columbia's Malpelo Island trapped many divers in a blow hole for several days, with injuries ranging from broken ribs to an eyeball torn from its socket. Seven recreational divers off New Zealand's coast were unexpectedly pulled to nearly 300 feet last March. Three died. Last September we reported about six divers in Cozumel who required treatment for both Type I and Type II DCS after being tossed about by violent vertical currents on the Santa Rosa Wall. How you react is a matter of life or death.

Oceans move constantly, with currents coursing through them like giant rivers. Currents are the result of winds, tides and thermally unstable water columns, which

enter rivers and seismic events, often in various combinations. Most currents run horizontally to the earth's surface, but especially dangerous ones run vertically, toward the bottom or toward the surface.

"Currents ranged from nothing to three or four knots. Sometimes your bubbles would leave you traveling up at a ten-degree angle; sometimes you'd watch as your bubbles travel down into the depths."

Such currents are often found when a horizontal current strikes the face of a wall and then moves down, up, or both. Downcurrents can also appear when a horizontal current runs perpendicular to

how to get out of trouble

a drop off, or where two opposing currents run into or over each other. Marked differences in water temperature and salinity in the water column can also produce vertical currents, but these are generally sluggish and pose no threat to divers.

A downwelling can unexpectedly pull a diver deeper than his dive plan. It may happen so gradually, he may not notice it. Sometimes, however, the current will rapidly drive the diver deeper, occasionally much deeper. In Tobago several years ago, the current yanked a nearby diver from 20 feet to 85 feet in the blink of an eye.

While most divers fear downcurrents more than upcurrents, keep in mind that a downcurrent will eventually release you, sometimes surprisingly quickly, without taking you below recreational limits. If you have air, equalize quickly enough and don't panic, you can probably ride it out uneventfully. A violent

Those biting octopuses

In September, we noted that a bite from the South Pacific's Blue Ring Octopus is deadly. That prompted reader Samuel Johnson to ask, "Do the octopuses that I encounter in the Caribbean bite, if given the opportunity? I've had friends report allowing octopuses to wander over and sit on and explore their bare hands. Is there any reason not to do this, either for my own health and safety or that of the octopus?"

Yes, indeed there is. All octopuses are equipped with a beak-like mouth and powerful jaw muscles. They seize prey with their arms, and use the beak to bite while injecting a venom to paralyze the victim. So, just about any octopus large enough to be noticed by a diver is also capable of biting. How severe that bite might be depends on the size of the octopus and where it bites you. A large octopus biting with full force on lightly or unprotected flesh could inflict some real damage.

Five species of octopus live in the Caribbean at depths frequented by divers; the largest approaches 7 feet in armspread. While there is no indication of anything comparable to the danger posed by the Indo-Pacific blue-ringed octopus (whose bite can be fatal within 20 minutes), one cannot rule out the possibility of a bad reaction in some individuals, given injection of sufficient quantities of these poisons in their blood.

As to the possible negative effects on the octopus' health from being handled by divers, such encounters, no matter how benign the activity may appear, have the capacity to cause stress, alter behavior, disorient animals, and possibly cause infections. Wild marine animals deserve the same respect as do their wild terrestrial cousins. Look, but don't touch.

upcurrent, however, causes a diver to ascend far too rapidly, perhaps missing a safety stop if not planned, and precipitating DCS. Additionally, if surprise at the sudden ride upward results in breath-holding, an embolism is possible.

Unless you are properly trained, physically fit, and intentionally seeking out the challenges of strong vertical currents, it is best to avoid areas where they are known to be fierce. Divemasters and guides should be aware of problem sites, and will avoid or at least advise the diver about them. Of course, vertical currents aren't always predictable. There may be surface manifestations, like circumscribed areas of water showing varying patterns of wave frequency, height and direction interspersed with eerie mirror smooth areas, but don't count on this. Often surface conditions tell the diver nothing about currents at depth.

If caught in a vertical current,

what should you do? One strategy is to swim out from the wall immediately, drop off or any other apparent source of the current. Vigorously fin away, but do not exhaust yourself. It's helpful to orient yourself to bubbles or the direction and angle of any fish you observe. As reader Barry Lipman (Brookfield, CT) observed last year aboard the *Galapagos Aggressor*, "currents ranged from nothing to three or four knots. Sometimes your bubbles would leave you traveling up at a ten-degree angle; sometimes you'd watch as your bubbles travel down into the depths." Many divers, however, do not have time to appreciate such details.

If you're caught in an upcurrent, swim away and down. For a downcurrent, swim away and upwards. It is best if you can make adequate upward progress without BC inflation, as this both provides more surface area for the current to push against and raises the risk of a poorly con-

trolled ascent once you are released. However, you may choose to inflate if rapidly descending or lacking adequate gas to ride out a downwelling that does not show rapid signs of weakening.

Do monitor depth and keep a hand on the deflator valve as you must avoid shooting to the surface when the current relents. Consequently, it is also best not to release your weights if possible, but again this may be necessary. In any vertical current, remember to breathe normally.

Reader Josef D. Prall (Carrollton, TX), aboard the *Baruna Adventurer* in Indonesia last year, says, "I was swept off a reef down and into the blue for a few minutes before I decided to end the dive at 95 feet after eight minutes including five minutes hang time. A beginner could easily panic when he finds himself being swept down in a current and drop weights when the appropriate response is to add air to the BC first, and then dump judiciously to control the ascent. Or maybe even drop weights one-at-a-time."

An alternate strategy if you're near something graspable, is to fin to it, grab on and pull yourself in the desired direction until you are free. (We get reports of autocratic divemasters grounding divers for grabbing coral in stiff currents — don't let them intimidate you.)

Whichever method you employ, use surge to your advantage. When it propels you in the desired direction, go with it; conserve your energy when it is working against you. While sudden vertical currents are anxiety provoking, you can frequently negotiate them. As in other stressful scuba situations, remain calm and take rational problem solving action.

One final note: Cozumel is notorious for its vertical currents. While the diving there is exciting, it can often be intimidating for beginners

or those who lack confidence in their skills. Reader Pat Wikstrom (Warne, N.C.), in Cozumel last year, wrote: "On a dive at La Francesca Wall, we jumped into a ripping current that quickly

broke our group into three separate pieces. Weird downcurrents caused my wife and me to abort the dive. Nevertheless, the poor DM chased the other two sections of our party all over the wall,

brought up half the others after ten minutes, and went back down to find the last few folks and get them back safely. He really earned his tip that day."

Be forewarned.

Arm Wrestling, Whalesharks, Ghostly Visions

Events behind DCS

DAN recently analyzed one thousand DCS cases that occurred between 1987 and 1997. Compared with 1987, divers injured in 1997 were older, dived more frequently, were more often female, used dive computers more often, and were more likely to dive in locations remote to the US. Delays to treatment were shorter. Diving injury severity decreased as evidenced by less reported paralysis, unconsciousness, bladder problems, embolism, and residual symptoms.

Of 427 divers who successfully achieved complete relief of their symptoms, 71 percent of those who received oxygen before recompression had complete relief; of those who did not receive oxygen before recompression, 64 percent had complete relief.

The British also studied DCS cases. They found that in 69 percent, the divers were less than 100 feet. Twenty-nine percent of the cases involved rapid ascents. 21 percent miscalculated repeat diving, and 14 percent missed decompression stops. While the British found that the number of incidents resulting in DCS were down, uncontrolled ascents accounted for a higher proportion of incidents than ever before.

We have gathered cases from DAN, the British Sub Aqua Club and the South Pacific Medical Society to illustrate how diver

error leads to serious consequences.

DCS and the flying ascent

Fully understanding BC operation and features is essential. New BC's and rental BC's are common causes of diving accidents.

In this case, an experienced 45-year-old American woman made her third dive to 88 feet with a multilevel ascent. At 30 feet

In Britain, a diver was bent when she shot to the surface from 35 feet after her weight-belt slid around her body and the buckle popped open when it hit her tank.

and 30 minutes, a strong current pulled her upward. Unfamiliar with her new BC, she had difficulty reaching the dump valve. Before reaching the surface, she felt weak and was unable to move her legs, then lost consciousness after surfacing. She awoke partially paralyzed from the waist down. She was recompressed locally within an hour and had some improvement, then received a second treatment but remained paralyzed. After air evacuation to the U.S., she underwent an additional 57 hours of recompression; a year after her injury, she still

had weakness and numbness in her legs.

Two divers completed a dive to 125 feet, then began their ascent. One had serviced his BC himself and had failed to connect the wire that operated the dump valve. As he rose, he operated the dump and when no air escaped he assumed it was empty. At 20 feet he lost control of his buoyancy and shot to the surface. It took him three trips to the chamber to eliminate his DCS symptoms. Of course, this diver had the other option — usually the first — to dump air from his inflator valve. Ignoring that option cost him.

Two divers descended a line to a wreck. At 90 feet one signaled he had a problem. Hanging onto the line, he fumbled with his inflator, but it wasn't connected and he couldn't reattach the hose. His buddy tried to help, but when the troubled diver released the line he began to ascend, because he had dropped his weightbelt. Despite attempts to control their ascent, both divers rose rapidly. The buoyant diver required recompression, which cleared his symptoms. Had he remained calm and held the line, his buddy could have easily solved the problem if he could not.

In Britain, a diver was bent when she shot to the surface from 35 feet after her weightbelt slid around her body and the buckle popped open when it hit her tank. A sliding weight belt is common as the body's soft tissues squeeze on descent, giving you the waistline you've always