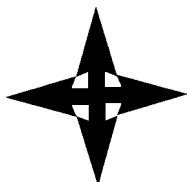


The *Aggressor* dives year-round and the diving's equally good across the seasons, though there's greater likelihood of seeing whale sharks and humpback whales in winter. It amazes me how many divers come back to Kona repeatedly. While they might see it as a nearby Polynesia, with visits to heiaus (traditional temple platforms), the royal Place of Refuge and petroglyph fields, and a full luau to experience the meaning of aloha, I suspect they're really returning for excellent diving off a world-class, uncrowded live-aboard -- certainly better than ordinary Fiji diving, as good as good Fiji diving, and a hell of a lot easier to reach.

— L. J.



Diver's Compass: Contact *Kona Aggressor II* at Live/Dive Pacific: phone 800-344-5662 or 808-329-8182; fax 808-329-2628; e-mail livedive@compuserve.com; website www.pac-aggressor.com. All-inclusive one-week cruises (Sat.-Sat.) \$1,895... Non-stop, 5-hour flights from L.A. or San Francisco often aggressively discounted. *Aggressor* van will meet and drop you at Kona-Keahole airport or town... Save 50% on lodging with your entertainment card or pick up land-package bargains off-season (roughly Easter-December excepting the Iron Man Triathlon in late October)... Nearest chamber in Honolulu, 6 sea-hours away... Air temps hover near 80° by day, 70° at night. Water highs near 80° August-October to low 70s... November-May 5mm of neoprene and a hood will help, 3mm is fine summers... C-cards checked, waivers required... Absolutely no spearfishing or collecting... A lift is available with advance notice, making the boat fully accessible to disabled divers (full five-star rating by the Handicapped Scuba Association)... E-6 done nightly, mounts available, Nikonos photo/video gear available for rental, good range of rental dive gear, some limited repairs possible... *Aggressor* fully equipped with oxygen, first-aid equipment, radio, cell phone. Water is unlimited -- 1,200 gallon-a-day watermaker. No da kine water or health pilikia (troubles) here, brah, you're in the USA!

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The DAN Accident Report

serious mistakes divers make

Each year, about 1,000 American divers are treated in a hyperbaric chamber. The Diver's Alert Network has now begun to analyze these accidents, last year studying 431. Of course, an advantage of analyzing accidents is that, since dead men don't talk, only surviving accident victims can tell researchers what really happened.

While some of us experienced divers like to think of ourselves as infallible and immortal, it's not so. In looking at DAN's cases, one sees that most victims were active

divers, having made more than twenty dives in the previous twelve months. And trusting our fate to God's own microchip isn't a surefire deal either. Sixty percent of the injured divers were using a computer. We must beware.

And, not only must we beware of ourselves; we must also beware of our guides. Forty-one divers were bent following the guide's plan and tagging along. That's ample proof why one ought to be taught to be an independent diver — and why a lot more guides ought to be

disenfranchised by their employer and their training agencies.

Two-thirds of the injured divers reported making safety stops, and 25% of injured divers made decompression stops. They thought they were doing the right thing. Their bodies thought otherwise.

The biggest single error a bent diver makes is too rapid an ascent. Sometimes a diver just isn't paying attention, and, because of a little extra air in his BC, the rise is too fast. Other times a diver has run out or is short on air. Yet other times a current carries a diver upward too fast. Some of them may not notice it, while others can't stop it. Whatever the cause, it's not just novices who rise too quickly; some of the best of us do.

Twenty-five percent of the bent divers were exposed to altitude after diving. Most were in a plane, but we have reported incidents in the past where symptoms appear when someone drives over a mountain pass after a diving trip (not uncommon for West Coast divers on a weekend trip) or goes hiking. I remember the letter of a subscriber who got bends symptoms after a couple diving days on Saba and then a climb to the 2600-foot summit of Mt. Scenery. Even medical evacuation flights aren't foolproof. Among the DAN victims were 20 divers who developed symptoms during or after flights. While 20 percent flew less than 12 hours after diving, another 45 percent flew within 24 hours, which is the U.S. Air Force rule for flying after diving. DAN's guideline for flying after repetitive diving is a surface interval longer than 12 hours.

Bends is no joking matter, because treatment doesn't always work. In fact, about a third of the divers failed to get complete relief of their symptoms, even after as many as six chamber treatments, which were necessary for the more serious cases. Keep in mind that the faster one gets treated, the more likely one is to get complete relief. Divers who received oxygen after the first symptoms were more likely to have all symptoms disappear than those who didn't, but not by much (71 percent v. 64%).

Divers get bent for all sorts of reasons, both obvious and less obvious ones. Here are a few cases of divers who were apparently in good health, didn't do anything too out of the ordinary, yet still got hit.

After five dives in two days in Mexico, a 34-year-old novice made an 80 fsw dive for 35 minutes, took a 60-minute surface interval, then went to

50 fsw for 45 minutes. An hour later she began to feel fatigued and weak. Half an hour later she had difficulty talking and walking. She contacted her dive operator and entered the local chamber four hours after the dive. She was back to normal after three treatments.

Another experienced diver, this 45-year-old female (5'6", 150 lbs.) began her first day with a dive to 69 fsw, followed by a second, shallower dive. The next day, she made a multilevel dive to 88 fsw. Thirty feet and 30 minutes into the dive, a strong current pulled her upward. She was using a new BC with which she was unfamiliar, and she had difficulty reaching the dump valve to slow her ascent. Before reaching the surface, she was unable to move her legs. Soon after surfacing and being pulled aboard her boat, she lost consciousness. She was recompressed within an hour and improved slightly, but remained paralyzed. She received a second treatment with minimal gain and was evacuated to the U.S., where she underwent an additional 57 hours of recompression. One year later she still had weakness and numbness in her legs.

A 52-year-old female (5'9", 170 lbs.) had made more than 300 dives in 30 years. While off on a live-aboard, she made 17 dives in six days. The first four days began with dives to 90-120 fsw. She made four dives on the fourth day and on the fifth day began with a dive to 110 fsw, followed by a shallower dive. On the third dive, she inadvertently followed a group of whale sharks to 147 fsw. Recogniz-

ing that she was in decompression, she made the stops required by her computer. She felt well after the dive. The next day she made a first dive to 86 fsw, a second to 74 fsw and a third to 60 fsw. All dives were multilevel and within the limits of her computer.

Although she waited 48 hours before flying home, she became dizzy midway into the flight. After landing, she went to bed and the next day her dizziness increased, coupled now with a slight tingling and numbness in her left arm, hand, and fingers. The second day she had to support herself when standing or walking. On the third day, she felt as though she had the flu; the symptoms continued to the fourth day and on the fifth, after evaluation by a diving physician, she was sent to a chamber. Her symptoms resolved completely within 30 minutes.

This lady, of course, made very typical live-aboard dives, both in number and profile. It's an unusual case, first because she had a 48-hour surface interval before flying and second because the symptoms were resolved although recompression was delayed five days after symptoms. The case reflects the extra risk associated with multiday diving.

This 35-year-old male (5'11", 185 lbs.) had made 350 dives in the past five years. During a dive off the East Coast of the U.S., he went to 115 fsw, ascended to a safety stop, and noticed a pain in his left arm. It subsided during the surface interval required by his dive tables. His second dive was to 75 fsw, and he had no difficulties until he made a stop at 10 fsw, when the pain in his left arm returned with twice the intensity. Upon surfacing, he

CARIBBEAN TRAVEL TIP: Try bidding for a dive trip on-line. Sites like www.bidtripper.com allow you to list preferences for dates, destinations, the price you want to pay, and activities (scuba is a choice), then automatically send an e-mail to you when your criteria are met.

breathed 100% oxygen with little improvement. The pain persisted through the afternoon and evening; this led him to a recompression chamber. The pain resolved within 10 minutes of recompression.

This diver was a 31-year-old male (6'1", 300 lbs.) who had only 20 dives in ten years and none for two years. While off on a five-day island vacation, he made a dive to 50 fsw, then during the next three days, he made one or two dives per day to 70-80 fsw. All included a safety stop at 15 fsw. On his last day, he made a multilevel computer dive to 90 fsw with a total time of 40 minutes; he made a rapid ascent from his safety stop, but had no symptoms.

Twenty hours after his last dive, he had discomfort in both elbows and wrists. In the afternoon, he developed knee and ankle pain, then an ache in his shoulder. 36 hours after his last dive and 16 hours after symptom onset, he flew home. His symptoms remained throughout the flight, but their intensity did not increase. After a day at home (four days after symptom onset), he called his physician, who referred him to a local recompression facility, where they recompressed him twice in two days with complete relief.

During a Caribbean vacation, this 24-year-old novice diver made 14 dives in five days, all with safety stops. On the last day, he made a single dive to 65 fsw for 45 minutes. Eight hours after his final dive, he felt mild knee pain, and the following morning he noticed pain in his hands and fingers. He flew home 27 hours after his last dive. During the flight, he developed decreased skin sensation in his left lower leg. After a day with no change in his symptoms, a local hyperbaric physician evaluated him, and he had complete relief during a single recompression.

Undercurrent Gives Strobe Recall a Nudge

We U.S. divers have a powerful advocate in the Consumer Product Safety Commission — and a damn good thing it is, too, since the last time I want to find out that a product's a hazard is when I'm at depth, entrusting my fragile tissues to so many mechanical parts. Not all divers have that cushion of safety to rely on, however, as long-term subscriber Carles Cantos (Barcelona Spain) recently discovered. When Cantos read our column about the CPSC recall of several models of Sea & Sea strobes (see *Undercurrent's* 1/00 issue), he rushed to check the serial numbers on his two units — and met up with an unpleasant surprise. Both numbers fell within the range of units listed as CPSC-targeted devices after explosions in two strobes injured both a Japanese strobe owner and a Caribbean repair technician. Cantos contacted Sea & Sea representatives in Spain, Sport-Video, S.A., to read them the serial numbers off his strobes, but before he had a chance to start reading, they cut him off with the announcement, "no problem in Spain; the problem is only with units sold in the U.S." Although Cantos advises that "the strobes work fine" and he is "absolutely satisfied with their performance to date," he adds, "I am concerned about my personal safety after reading your words of warning, and I need some peace of mind."

Undercurrent called the U.S. general manager for Sea & Sea, Tak Sakamoto, to ask what impact the U.S. Consumer Product Safety Commission recall will have on strobe owners living outside the U.S. When told of Cantos' safety concerns, Sakamoto first advised that the strobes are an explosion risk only if they've been flooded, precipitating a chemical reaction between salt water and battery acid that generates explosive gas and traps it in the battery compartment. Since divers subsequently attempting to use the unit place themselves in danger of touching off electrical ignition, Sakamoto cautioned that any flooded strobe should immediately be returned to Sea & Sea for repair.

Sakamoto also assured *Undercurrent* that Sea & Sea Japan has sent letters to all its distributors worldwide about retrofitting units with vented battery caps at no charge to divers. Sea & Sea is furnishing the battery caps, which are of different designs depending on the strobe model, to all distributors worldwide. Owners outside the U.S. concerned about the safety of their units should first call their local Sea & Sea distributor for a free replacement battery cap, but, if this call does not resolve their problem, owners can e-mail Sea & Sea at service@seaandsea.com, and a Sea & Sea representative will be in contact with them. (U.S. residents should still follow the original recall procedure and call 800-732-7977 for instructions.)

Sakamoto also corrected the list of serial numbers of affected strobes as it was originally reported by the Associated Press, the same list that *Undercurrent* carried in its report. The revised list, with unit number ranges somewhat narrower than those we received earlier, are as follows: YS-50, all nos. except YS-50A and YS-50M; YS-60TTL/S yellow, 961280001-961283815; YS-60TTL/S black, 961270001-961271325; YS-60TTL/N orange, 691260001-961261137; YS-60TTL/N black, 961250001-961251075; YS-120 DUO orange, 94130001-94131794; YS-120 DUO yellow, 94100001-94101516; YS-120 DUO black, 94110001-94113903.

Apparently, the CPSC posture of consumer safety at all costs is a hard one for foreign businesses to grasp. Disinterested distributors are certainly an impediment to dive safety, but manufacturers adhering to the letter of the law while ignoring its spirit don't do much to make our sport safer, either. When asked why Sea & Sea's website at www.seaandsea.com was full of product promotions and photo contests but carried nary a word about the strobe recall, Sakamoto confessed that they were concerned that posting a warning just might alarm people.

The 46-year-old (5'7", 145 lbs.) inexperienced male diver, off on a Caribbean holiday, made two uneventful, multilevel dives to 100 fsw with a one-hour surface interval, ascents according to a dive computer, and safety stops. The following day he made a multilevel dive to 120 fsw for 28 minutes and 120 feet for 37 minutes, with an hour surface interval and safety stops. After another hour, he made a 100 fsw multilevel dive for 58 minutes with a five-minute safety stop at 15 feet.

On awakening the following morning, he had nagging pain in his shoulder, with numbness from his elbow to wrist and numbness down the left side of his face. The local island physician sent him to the chamber, where they recompressed him six hours after waking with symptoms.

The forearm numbness completely disappeared, the shoulder pain diminished by half, and the facial numbness was reduced. A second treatment resolved all pain and further improved the tingling on his

face. After two more treatments, the remaining numbness disappeared.

While some of the 1,000 divers who get recompressed every year resume diving, others aren't so lucky. Some are told to restrict their diving in time and depth, others are told not to resume diving for a long period, and others are told they should never dive again. While the pain of walking might have been eliminated, the pain of never diving again remains untreated.

— Ben Davison

What's New at DEMA

new travel, new equipment, new downsize

I'm sure the Diving Equipment and Marketing Association's annual statement will soon announce that this year's DEMA was bigger and better than ever, but to me January's show in Las Vegas seemed a smaller production with fewer exhibitors than last year's New Orleans venue. Major manufacturers seemed to be downsizing as well. For example, Mares has always had an interesting, well-funded booth — in recent years, a popular espresso bar with uniformed java jockey — but this year, Mares wasn't even there. Aqualung, which includes the former US Divers (USD) and Sea Quest, had a fairly ordinary booth, in sharp contrast to previous years when large, lavish displays with wine and cheese were common. In the past Sherwood has had expansive theme booths with getaway rooms where deals were done; this year, their booth had less action than an auto parts counter on Sunday night. And Oceanic didn't bother to display their whole line, only this year's new products. The

shrinkage was understandable in part, because the dive industry has had a couple of bad years. However, while everyone I've talked to lately paints a picture that's gotten rosier over the last year, it seems manufacturers haven't caught up with the upturn. Maybe they're just reflecting the widespread trend toward corporate downsizing, or perhaps we're just seeing the lag factor that always exists between a change in the market and manufacturers' response to it.

Similarly, travel booths also reflected the world's political events offset by a few months. Dive operations in Indonesia and Malaysia, both hit by internal unrest that made the headlines in the USA, were keeping a pretty low profile. They seemed to be tired of saying (over and over again), "Not one tourist was injured during the troubles," but then what else could they do? Still, dive operators from Thailand and other more stable countries were happy to point out that nothing much was going on at home and divers were always

welcome. I also spotted what seemed to be a growing representation of African tour operators as well as a couple of new live-aboards serving Cuba, one of them the *Ocean Diver* from Scubacan (888-799-2822 or www.scubacan.com), whose land operation we reviewed last January, as well as the *Oceanus* (011-52-98-84-9604). This boat went bankrupt last year, but it now has a new owner and will be diving Cuba as well. Another boat that's been in and out of the dive business for years and keeps showing up in different parts of the world, the *Coral Star* (800-215-5169 or www.coralstar.com), will be doing Panama's Hannibal Bank, Coiba, and other islands on the Pacific side of Panama, as well as special trips to Malpelo, Cocos, the Panama Canal, and the Caribbean side of Panama.

Another continuing trend was Grand Cayman's coming of age. Despite what you might read in the slick pubs, Grand Cayman hasn't been the Super Bowl of diving for years. An awful lot of divers still head there, but many don't go back because of all the hand-holding and strict, inflexible time/depth limits. However, Grand Cayman's dive operators seem to have figured out the