
dive packages, but for \$100 a day you get a nice condo, no maid hassles, and close proximity to Poipu Beach." They were less satisfied with their choice of dive operations, Fathom Five. "Divers haveno freedom. Except for Charlie, the divemasters seemedto be generally bored with their jobs and viewed divers as a nuisance to be tolerated. Considering the high price of Hawaiian diving, we expected better service. Other than Charlie, divemasters were also inconsiderate of the reefs and sea life. They actually picked up shells from the bottom and offered them to the divers as souvenirs!" (4/95)

Crazy about Diving

Does scuba diving cause brain damage?

The popular sport of scuba diving is probably bad for you, according to Dr. Juergen Reul and colleagues at the Technical University in Aachen, Germany. In an article in the medical journal *Lancet*, the researchers said divers were aware of the dangers of decompression sickness, but that "not all will know they may be risking pathological changes to their central nervous system and spine that accumulate over the years."

It is already known that professional divers can suffer permanent neuropsychological changes, such as memory disturbance and depression, probably because of gas bubbles in the blood.

Dr. Reul and his colleagues studied members of amateur diving clubs in Germany and compared them with swimmers and runners. Scans of the brains and spines of 52 amateur divers and of 50 control subjects found 86 brain lesions in 27 divers and 14 lesions in 10 nondivers. Spinal changes in the divers were mostly in the neck — 32 divers had at least one abnormal intervertebral disc, compared with only nine nondivers.

According to the *Lancet* article, "What the researchers cannot predict is whether the lesions will go on to produce symptomatic disorders."

The criteria for inclusion of the 52 divers in the study were a history of diving four years or more, at least 40 dives per year. I compared the data collected from divers and nondivers and found that the only significant differences in the characteristics listed was that the divers both drank and smoked more.

Divers Alert Network (DAN) responded quickly to the *Lancet* article, stating that recreational divers should not be unduly concerned. "The findings of Dr. Reul and colleagues from the Technical University of Aacheri, Germany, need to be put in context and not cause more concern than is appropriate. First, these findings are not new. It has been a controversial question for many years whether or not both sport and commercial divers have changes in their brains as a result of diving, but there has been no substantive proof."

DAN goes to say that the supposition of any damage to the brain rests on the occurrence of so-called "silent" bubbles, the existence of which has been demonstrated by Doppler studies, but the theory that these silent bubbles cause changes in the brain remains unproven.

Silent bubbles are more likely in deeper dives and with more rapid ascents. DAN states, "In this regard, all our recent knowledge, as pointed out in a recent DAN editorial, advises slower ascents from the standard 60 feet per minute. Most suggest 30 feet per minute or slower today. Further, recent research shows a three- to five-minute stop at 15 feet does markedly reduce or eliminate silent bubbles. DAN will soon be mounting a research study to investigate the occurrence and control of silent bubbles and the effect that the rate of ascent has upon them.

"In the meantime, divers should not be unduly concerned about this information. More research is needed, but the world is filled with many divers who have been diving for over 40 years who show no unusual deterioration in their abilities which would affect their quality of life."

DAN points out that Dr. Reul found no relationship between

the number of lesions and years of diving or number of decompression dives. "If indeed these areas of hyperintensity were caused by diving, one would expect that those individuals with the least exposure would have the fewest, and vice versa. It may be that the study demonstrated not that divers have an increased probability of getting hyperintense areas in the brain, but rather his nondivers have a lower probability."

Unlike DAN, I'm not sure I'm ready to explain it away by speculating that the nondivers in the study had an abnormally low incidence of brain damage (Maybe brain lesions make you want to become a diver?). Although I'm not giving up diving, I think this is an area in which we would all like more reassurance, and I hope Dr. Reul's findings will stimulate more studies.

J. Q.



HIT AND RUN. Basking sharks, docile plankton feeders that grow to 34 feet in length, are being threatened by jetskiers and power boat owners off the western coasts of Britain. Though the species is not endangered, the Marine Conservation Society is calling for greater protection for it after the discovery of two dead basking sharks. One shark's tail had been severed, presumably by a prop; the other had to be put to sleep because of similar wounds.

SHARKS STRIKE BACK. A couple of years ago we reported on an eight-foot barracuda that leapt from the water into a houseboat in Florida and seriously mauled a woman — truly a weird incident. Now a Fijian fisherman has died after a 12-foot shark leapt into his boat and attacked him while he was sleeping. Five men were sleeping in a 16-foot fishing boat anchored in open seas off Fiji's remote Yasawa group when the attack occurred. The shark tore off the right leg and hand of the villager, who died from loss of blood shortly after the other fishermen got him to the village hospital.

BE THE FIRST ON YOUR BLOCK. . . . Want to dive Vietnam? I don't have a lot of info on what the diving is like there. I *am* curious — but I think I'll wait awhile before using my budgeted scuba hours on a Vietnam trip. The live-aboard *Song Saigon*, a luxury replica of a Chinese junk (*In Depth*, Sept. '94), has moved its operation from the coastal city of Nha Trang to Ho Chi Minh City and reduced its diving operations. It seems that local officials had to approve the *Song Saigon's* cruising/diving itinerary, which they did, but they would unexpectedly change it before departure. Voiles Vietnam, the company operating the *Song Saigon*, said other problems, such as uncooperative local dive operators and continued dynamite fishing in the area, also contributed to the move.

HOT EARS FOR DIVERS. If you find yourself with ears that won't clear, try Samsonite's Earaid the night before diving. It's a reusable gel pack designed for the ear. Activate the internal metal disk and it supplies soothing heat to the ear. For \$16.95, it will either clear the blockage or simply warm your ear. (914-699-1400, ext. 223)

In Depth is the consumer newsletter for sport divers that reviews scuba destinations and equipment. We accept no advertising. Subscriptions are \$60 a year (addresses in Canada, Mexico, and the Caribbean, add \$15; other foreign addresses, add \$30).

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