

SURFING MEDICINE

THE JOURNAL OF THE SURFER'S MEDICAL ASSOCIATION

Issue #9, Fall 1992



ATTAINMENT OF A DREAM — THE NABILA COMMUNITY CENTER!

The Mind Meld Issue

*Featuring Original Articles,
Conference Reports & Lots of Other Stuff*

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Cover Photo: Attainment of a dream — the Nabila Community Center! Built with SMA assistance, the village of Nabila chose to recognize our love and help by naming it after us. We were particularly pleased with the abbreviation used for our Association's name, finding it to be fully consistent with our philosophy of doing serious work, but not taking ourselves too seriously. Shown are village and SMA members at the March 1992 conference. Photo by M.R.



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EDITOR'S NOTES

This issue presents a fascinating series of de facto case reports of how various individuals changed, or learned, or were affected by their experiences with and through the Surfer's Medical Association—a process of melding. Most of the authors are not physicians, and their viewpoints are causeways between worlds.

Speaking of melded minds, this issue represents the debut of Steve Heilig, MPH as our managing editor. Steve responded

to my plea for help in the last journal, and brings to the job an amazing bundle of skills as a health administrator and activist, public health specialist, and journalist who has published over 100 articles in publications ranging from Mad Magazine to The Beat magazine to JAMA to the Cambridge Quarterly of Healthcare Ethics, of which he is founding co-editor. He grew up on semi-secret Southern California beaches "when they were still good."

Mark Renneker

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Hugging the cliffs, you hike for miles over black sand beaches and boulder fields, and then you are there. Photo by M.R.

A CALIFORNIA NORTHCOAST ODYSSEY

THE 1991 SMA BIG FLAT CONFERENCE

By Mark A. Massara, San Francisco, California

Editor's Note: Mark is the legal Kahuna for the Surfrider Foundation. He is a brawny man living by choice in a homemade cabin (well, almost homemade, and almost a cabin) surrounded by thick strands (of fog) and cool ancient surf at Ocean Beach, along with a number of other surf derelicts. Mark almost singlehandedly won the Humboldt pulp mill case for the Surfrider Foundation.

INTRODUCTION

I approach this story with trepidation. Having spent considerable time traveling the great remote North Coast I have encountered many of the region's "undiscovered" surf venues. I also know many of the surfers of the Lost Coast, brawny men and independent women who live by choice in homemade cabins

surrounded by thick strands of cool ancient redwoods. For those who have discovered and pioneered these sacred surfing environments, print media exposure is sacrilegious. But no great surf spot is beyond the reach of the Surfer's Medical Association. Whether it be thousands of miles by plane, by boat over choppy seas, or merely slogging backpacks for miles across soft sand or up rugged hillsides, the SMA does have a reputation for getting there at any cost.

The Lost Coast of Northern California contains some of the last best great wide open spaces and cold water surfing anywhere in the Northern Hemisphere, surrounded for dozens of miles by deep, thick pockets of centuries-old redwood and fir forests, bear tracks on the beach,

Native American archaeological sites and artifacts, and birds and wildlife in abundance. This is nature.

FREEWAY TO HELL

Even though we made the trip in November 1991, here I am in summer 1992 still trying to put pen to paper in order to tell this amazing tale. Actually, it's a blazing hot Southern California day and I'm cruising the 405 freeway in Orange County stressing on why I can't finish the story. No air conditioning, just the smog and stench of too many people shitting in their own backyard, so to speak. Fetid, steamy and noisome, a truly pernicious, pestiferous and noxious environment not fit to culture cockroaches in. Looking out the window, it

strikes me that most of us live in a high tech toxic yuppie inferno limbo zone. We need a plan to save the planet... fast.

Our transport this day is the Mudbone, a 1975 Buick Apollo with 175,000 miles and showing it. Jane's Addiction and Mickey's Big Mouth keep this baby running. I'm riding shotgun because I can't drink, drive and write at the same time, and I'm contemplating how to describe the SMA Big Flat trip and also attempting to think of something coherent to say to United States Environmental Protection Agency Administrator William Reilly, with whom I have a meeting soon. The meeting is in San Jose, California, which is appropriate given that city's prominent role as a toxic hot spot amidst a gasping planet. San Jose is like 40 miles south of San Francisco and 40 miles inland from Santa Cruz, California. San Jose is responsible for over 1% of the Earth's emissions of CFCs, the killer coolant gas which is chief culprit in the ozone depletion nightmare. San Jose also contains 29 hazardous waste sites, none of which have been cleaned up. EPA Chief Reilly is said to be particularly concerned with the air and water pollution associated with San Jose's Silicon Valley semiconductor industry. Good enough.

So I'm thinking that in order to accomplish all this stuff I've got to adopt a "small world" theory, or else none of this stuff is gonna make any sense. Big Flat. San Jose. The "Environmental President." If only Bush and Reilly were Big Flat devotees.

Well, it is true that the computer industry, miles inland in Silicon Valley, discharges waste in the San Francisco Bay that ultimately makes its way north to the entrance of the Golden Gate, smacking surfers at San Francisco's Fort Point. Then the effluent travels out the mouth of the Bay and downstream, hitting more surfers at San Francisco's Ocean Beach.

Therein lies a crucial kernel for understanding water pollution - it travels. The ebb and flow, if you will, fails to acknowledge geographic or political boundaries. Whether on the surface or in groundwater, pollution travels according to laws of nature - not laws of Congress. **THIS THEN IS THE KEY TO PRESERVING BIG FLAT.** Big



You gotta work to get there. Photo by M.R.

Flat represents a small remnant of what the California surfing experience was like fifty years ago. Now it is an anomaly. If we have any hope for understanding our own history as surfers, or for preserving the last of the sublime wilderness areas left in California, we had better go about the business of protecting places like the Lost Coast.

FLAT GESTALT

Had I never been to Big Flat, or read Ray Raphael's outstanding book, "An Everyday History of Somewhere, The True Story of Indians, Deer, Homesteaders,

Potatoes, Loggers, Trees, Fishermen, Salmon, & Other Living Things in the Backwoods of Northern California," I might never have been so willing to pursue a project so grand, with so little chance of success.

But my own gestalt is merely a result of my having seen firsthand the mighty soul of those frontier people living on the Lost Coast. Long hours spent accomplishing meaningful tasks such as wood and food gathering, and travel by foot through rugged mountains, has the potential to instill a value system us urban yuppies can't cope with.



Ever smiling Marilyn (our hostess) and John (cook & boogiemane extraordinaire). "The Barn" in the background. Photo by M.R.

Screw utility bills and credit cards, we're talking salt of the earth, meaning of life stuff here.

Big Flat is a physical and a philosophical place. It feeds your stomach and your mind. The physical beauty is overwhelming and massive in scale. Everything is big here, except us (we are, by comparison, subminiature). Travel is by foot, mostly, and can be described as slow (and difficult). People who hang out here become extremely knowledgeable regarding local climate and geography, weather patterns and flora and fauna. The result is the profound but simple notion that nature deserves itself for its own sake, regardless of its utility to those of us who want to use it. This is deep ecology. This is not libertarianism. Frontier spirit prevails. What cannot be done alone or with a few comrades probably cannot be done. It is, essentially, an organic place.

Politically, the Lost Coast is a tormented place, bedeviled by outside, evil forces. The alternative lifestyle which draws most of those who choose to live here also draws, strangely, a bizarre group of conservative cops and military personnel who enjoy nothing more than breaking into the homes and shacks of hippies and backwoods folk in order to "see how they live." It is part of a concerted effort to "rehabilitate" these people. Namely, our United States

Democracy shivers and contorts at the thought of people living in the woods, not working for some corporation, not paying taxes, not having credit cards, not sending their kids to school, and so on. Yet the people who live here are used to the difficulties inherent in this lifestyle. Today it's CAMP (California Eradication of Marijuana Program) raids that destroy the oak forests and decimate deer populations, and reckless logging destroying the old growth fir and redwood forests. Numerous other natural disasters, including fires, floods and earthquakes, have all wrecked havoc. But the frontier spirit there will not wither.

For example, today the local activists of the Albion Nation, down the road in Mendocino County, prevents Louisiana-Pacific Corporation from felling 700-year-old redwoods by sitting in them. With each new tree sitter, one more tree is saved. With each new person who hears the message and supports the effort grows the prospect for saving additional trees from the screaming hiss of mill saws. Hope springs eternal: "Keep Hope Alive."

The SMA trip to Big Flat, and all it revealed, could not have happened without the generosity and kindness of many people. Namely, special thanks go out to Nelson and John Mike, whose labor of love built a north coast Shangri-

la. And huge thanks and kindness go to those people who work constantly to take care and keep up the spirit of the place. Especially thanks to Marilyn Dougherty and Andrea Cohen who kept us constantly entertained with stories of the history and importance of this place (and prepared insane meals). Special thanks to all the people who work to keep Big Flat in trust and out of the hands of the evil empire: the United States Bureau of Land Management. Thanks to Dan Gribi (pilot), Bill Heick, Dean Bowler, Steve Plant, Gary Stephens, and Lori Keating. Of course, special thanks to Ward Smith and Mark Renneker, who worked tirelessly to make this trip a reality.

ONWARD ONTO THE FLAT

Our Big Flat conference story begins in early November, 1991. SMA was well represented by a cadre of hardcore doctors, medical groupies and wannabees who hauled a few worldly possessions to this remote location for eight days of medical education and surfing and more information and more surfing. Our small band of enthusiasts included Mark Renneker, Malibu dentist Jeff Perkins, SMA founding member and otolaryngologist Dan Sooy from Healdsburg, Paul Georghiou and Mike Famularo, both physicians from San Luis Obispo. Later, family practitioners Paul Manchester and Kevin Starr flew in for two days. Kim Kimball, Hollister Ranch local, hiked in later in the week. Also joining the group was John Lindsey, who is an insane gourmet surfcook and Billy Lane, a Flat local.

During the week we feasted on waves and great food all day and eagerly awaited excellent lectures during the evening hours. Mark Renneker spoke regarding testicular cancer, the dreaded white male disease for which millions of recession-proof research dollars have already discovered a cure so long as early detection methods are regularly utilized. We all ran back to our tents for self-examinations. Jeff Perkins jawboned on good tooth care and self-help for surf-related dental injuries.

Paul and Mike spoke eloquently of the efforts of SMA and doctors worldwide to assist Nabau, a small Fijian boy with an enormous heart problem whom they brought to California for emergency heart surgery. We talked of the massive financial, medical and personal assis-

tance such efforts require and of moral and medical issues involved in such intense endeavors.

Kim Kimball addressed the group regarding pressures for public access and preservation of the Hollister Ranch in Central California. I spoke regarding the Surfrider Foundation, that insane, savvy group of ecosurfers fighting world wide to protect and enhance our coastal and ocean environments.

So educated, we were all filled up with the spirit of the Native Americans who inhabited this place 7000 years ago. We were, if only for a moment, enlightened surfers. Good feelings flowed. Each found their own zen. Mine was good company, six straight days of North Coast sunshine and, of course, good surf.

OTHER NOTABLE HAPPENINGS:

WORST WIPEOUT: Not many people know this, but at Big Flat Mark Renneker was almost killed by...
SHORE POUND. Big Wave Rider Doc Hazard, who has ridden the biggest waves on earth, was nearly crippled by a ten foot wall of water in ankle deep whitewash. Mark had just ridden an unreal double overhead outside wave all the way to the beach. Then, as he casually steps up onto the steep beach, the surf recedes about ten feet back, only to be immediately redirected by a massive incoming re-form macker. On the beach our screams were muffled by the roar of the insidious basilisk. Mark never saw the hellbound fiend coming until the shadow of the beast rising behind him blocked the sun. The hippogriff just completely covered him in a blizzard of white foam and sea spray. Fortunately, board and surfer emerged harried but intact.

BEST SURFER: Lori Keating. You just have to see this woman in action to appreciate the quality of her enthusiasm and dedication to the sport.

BEST KNEEBOARDER: Dan Gribi. Dan also has the probable distinction of more time annually at the Flat than anybody. Patiently, he waits for the day when again there are two kneeboarders out at the Flat.

BEST BODYBOARDER: John Lindsey. Rips in any size. This guy has even bodyboarded Mavericks!



Hot offshore at dawn; view from the Barn. Photo by M.R.



Boogie on, boogie John. Photo by M.R.

BEST GOURMET: Marilyn, Andrea, and John. Consistently superb foodstuffs.

MOST HOURS IN THE WATER: Gary Stephens. At least six hours every single day. Plus he rode in and out of the Flat in a kayak.

MOST HOURS IN HOT TUB: Jeff Perkins. Prune Face & happy about it.

LATE ARRIVAL: Kim Kimball showed up with backpack four days late.

BEST SURFER ON A 10' BLACK GUN: Dean Bowler. Couldn't turn but didn't have to.

BEST ADVICE: Attend this conference next year!

TAVARUA:

CULTURES MEET IN THE SOUTH PACIFIC – NOTES OF AN OUTSIDER

By Sedge Thomson, San Francisco

It looked a little like chicken. The inside of the cartilage, lacerated to the septum by a surfboard skeg, gleamed bright red. The man whose nose looked filleted lay on an old sofa in a dimly lit office of a Fijian surf camp. Beside me sat two orthopedic surgeons garbed in sandals, surfers' jams and tank tops. They wore sterile gloves and sewed beautiful subcutaneous sutures to close the man's nose. To help the surgeons see what they were doing, my job was to hold the flashlight. Perhaps that is why I had come to the South Seas, to be an OR assistant on Tavarua, watching Paul Georghiou, an emergency room physician and veteran of innumerable emergency nose jobs, have to surrender control to another doctor. Less than an hour before in the tropical dusk Paul took one last ride, kicked out, and his surfboard fin lodged in his face. He pulled it out like an arrow. He had paddled ashore, as he told it, blood pumping from his wound, aware he was the last one out. He showed up at my bure, apologizing for disrupting our call to dinner, but he wanted, please, at 7pm, to go to the mainland in one of the open long boats, across a half hour of dark choppy channel, to wait on shore for a taxi to take him to Nadi, then catch the next international flight to SFO or LAX via Honolulu, then home to San Luis Obispo where plastic surgeons he knew could close his nose – all requested with

the utter politeness of someone clearly in shock as he quietly leaked blood onto the floor of my thatched hut.

TRUST ME. I'M NOT A DOCTOR

I am not a doctor, nor am I a surfer, although the lure of training to be either has occurred to me from time to time throughout my life. I am a writer and interviewer. I produce and host a weekly live, two-hour radio show, "West Coast Weekend," from a theater on the north shore of San Francisco at Fort Mason. I mix together live music and a house pianist who was once the keyboard player for the Grateful Dead, and interview authors, scientists, and anyone else who interests me. I also interview in 90 minute evenings at another theater, writers from Doris Lessing to William Styron and Maurice Sendak. The radio show is my clinic on the air, the focus of which is diverse life and sounds of the Pacific Rim. Many guests and performers had come from around the Pacific, but I had yet to explore much beyond Kona.

What appealed to me most about a two-week trip with the Surfer's Medical Association was to see and work in the village of Nabila. I had never been in the Third World and aiding medical workers seemed an immediate way to connect with Fijians. I could later write and talk about it for my radio program in San

Francisco. If there was any danger in the unknown tropics, what safer way to travel than with a troupe of doctors and nurses. I felt I'd get better medical attention than the President, if I needed it.

At home I play with some SMA members in a pick-up Boggle league, a game of words and banter, and for months the talk had been of legendary games on the sands of Tavarua at sunset, and of Fijian customs of hospitality and medical need. The enthusiasms of fellow players Mark Renneker and his companion Jessica Dunne persuaded me that there was adventure to be found in the South Seas; that it was hot, the Fijians kind and sweet, the parasites unusual, and the sea snakes cordial. I joined the Surfer's Medical Association and signed up for the trip. The journey had the flavor of a Robert Louis Stevenson story.

TROPICANA HOLIDAYS

I had other intimations that this apparent lark was to be a major life experience. The travel agent for the tour failed to get me my information packet in time, so I arrived without the recommended rubber booties for the coral, but fortunately, I came with everything else I needed, including a sunscreen that gave me a static dermatitis I still have six months later.



Sedge Thomson and Bill Jones witnessing a thing of beauty—waves wrapping around the island. Photo by M.R.



Author, Sedge, interviewing Tui Tai, at Tavarua. Fijian lesson on board. Photo M.R.

Somehow I missed out on learning to surf in Southern California. Maybe I could learn on this trip. We coordinated our flights to give us 12 hours in Hawaii between flights en route to Fiji. Mark offered to give me a tour of the North Shore of Oahu. We poked around the island in a spring mist, cool and gray, stopped for a chicken sandwich in Haleiwa at Kua Aina, helping ease an air-sick headache.

We chose to go for a dip in the gentle shorebreak at Waimea Bay, plunging into the soft looking pillow-like waves, coming down on the beach like giant feather comforters of dark green, the water welcoming and warm and invigorating. We floated out a ways and Mark swam off for what he called a quick

power swim to the point. I treaded water, enjoying the sensations of the mild Hawaiian sea when I became aware that I could no longer see the shore, that the current was carrying me out, and unless I kept breathing calmly I would be swept out further than I could swim. My bronchitis didn't help. I called out for Mark, who swam back over and guided me back in where the waves pushed me into the sand. I retrieved my glasses where I'd left them at the base of the lifeguard tower.

I trusted the sea too much, and overestimated my ability to meet its strength. The water looked so benign and peaceful in the soft rain, and I know that had I just stopped treading water, I might have disappeared quite painlessly

there. But that experience set the tone for my trip, of expected pleasures suggesting hidden dangers, even terrors. The ocean was no swimming hole.

In the darkling mist I took a walk to renew my acquaintance with familiar asphalt along the town road and made a long distance call to the mainland. Mark took a nap in the rented van. In a while we drove back to Honolulu for a last hit of First World civilization at a 10 pm showing of a new Stephen King movie, "Lawnmower Man," before our flight for Fiji left at 2:10 am.

THE FIJIANS

Even my type B (sometimes A) behavior is no match for the K and W types here. On the taxi ride to the shoreline from the Nadi airport I saw women standing by the side of the road, sometimes in the sun, waiting for a bus to come along the dirt road. Some Indian women in saris of bright colors, some Fijian women, they would stand waiting for three to four hours for a bus that runs on no set schedule. At the shoreline, Fijian men and young boys carried our luggage and surfboards and tape recorders out to long open boats that navigate the reefs. I was struck by the feet of the Fijians, broad, and strong, able to walk across the reefs bare of the high tech velcro and rubber sandals we wore to protect our coddled American feet. We sloshed through warm water, ankle-, then knee-deep, and climbed into the boats. I got soaked on the way across from the spray, but it was pleasant. All around me are men and women in reflective dark glasses, bright colors, and speaking in tongues: "gnarly... tubed... intubated... presents... going off," and



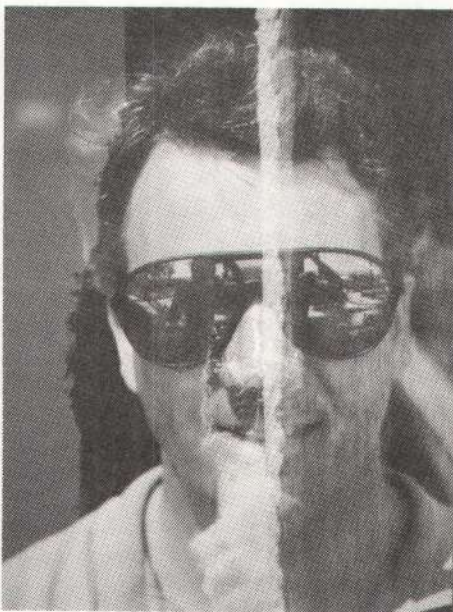
Playing with the children in Nabila are SMA men in dresses! Photo by M.R.

during the two weeks I would learn to know which term applies to infection and which to good surf.

When I arrived, feeling sick, and being aware of the dangers of the ocean from my close call at Waimea Bay, I found the beautiful landscape frightening, toxic, with sunlight beating down with a clear heat by 8:30 in the morning. Organisms floating in the shallow warm waters could cause infections in small cuts on the feet, coral cuts would easily go off as other organisms, many unknown, ploughed under the skin. And I realized how far and how many hours I was from the world I had known. But at least I was surrounded by doctors. The heat was enervating, exhausting, and as I came out of my daze and accepted the heat, I noticed the Fijians. They were friendly, happy, singing. Shaking hands, they look a long time into your eyes and say "Bula Bula": Life. To Life. Long Life. It was mildly reassuring.

COLORS

This was a place of great beauty. Last night the colors that impressed me most were the grays—the shades of clouds and water at sunset caught my eye more than the blues and greens and oranges. I heard the sounds of birds, the water and the sweeping of stone and concrete walkways by the Fijians who live and work here. The gentle whoosh-whoosh of the ceiling fan and the slight rustle of the wind. The moon was very bright last night. We were warned by the



Mystical shot of Paul's nose the morning after. Photo by M.R.

camp administrator not to pee off our decks, as the sands around us would stink in the daylight. Could it be this group of highly trained and observant people were just another bunch of testosterone crazed boobs travelling with slabs of fiberglass as companions? In any event, by moonlight I could walk to the bathhouse and pee.

GNARLY

The beauties of learning the native language are apparent on the faces of the native speakers. "Bula Bula" is greeted with a return cheery smile and a hearty Bula back. Standing on the sands, as surfing doctors returned from the big waves at Cloudbreak, I could say, "Howzit, gnarly, dude?" and get a thumbs up grin and "Got tubed, really gnarly" back. And later, at dinner, with the same surf docs, I talked with a pulmonologist about the major surfing malady he knows as drowning, but more of interest to him is that in the tranquil South Pacific there could be such a high incidence of hypertension amongst the Fijians.

Somehow I didn't expect doctors and dentists to throw themselves into the Pacific surfbreaks with such enthusiasm. After all, they explained, you tumble in the waves and scrape along the coral just a foot or so under the water, and a tropical cellulitis is just minutes away. But when the surf was going off, the fear of coral lacerations just disappeared. These people, after all, were surfers. Sure, some were weekend surfers, occasionally able to escape a busy practice for a morning in southern California waters, but this Fijian surf was the stuff of fantasies – a color fold-out from surf magazines if you just added water. And when the surf was good, and the endorphin rush flowing, all that mattered was meeting the wave for a ride. I watch the surfers return exhilarated, stoned and dazed.

I talked with the spouses and girlfriends, too, who mostly do not surf. There is some disappointment and bitterness that this trip to be together in the tropics is sabotaged by the good surf. Are these hard-driven ambitious medical workers avoiding relationships by diving into the sea the way they dive into work? A couple of their companions I talked with thought so. After sticking with some doctors through a gruelling

residency, these companions look for a little beach time with their sweet baboos. What might they learn from principles of Fijian time and the sweetness of giving up control to let Tomorrow take care of itself? But the waves command attention. When they are going off, well, they are as compelling as calls from patients. "I'm leaving soon, dear," and the sounds of abandonment for a higher calling peal with annoyance in companions' ears.

In "The Fijian Way of Life," by Vakai Taukei, I come across a description of life work: "Too much striving without a break to enjoy one's effort with others is considered not only bad for one's health, but morally unacceptable." Where do 80-hour work weeks fit in? Is there in fact enough surfing in the lives of these SMAers to protect them from the ills of overwork? And do my fellow travelers know how to sit and smell the jasmine?

CLINIC DAZE

The ephemerality of the waves for me parallels the briefness of the visits of the Surfer's Medical Association and what the group hopes to accomplish: Raising health consciousness from Third to Second World standards. I've read the syllabus for the conference on the dumping of cigarettes into the Third World by American companies, and now American doctors are here to counter the ill effects. I've read David Werner's "Where There Is No Doctor," and seen how much for granted we take our



Bill Jones will be coordinating next year's conference. Photo by M.R.



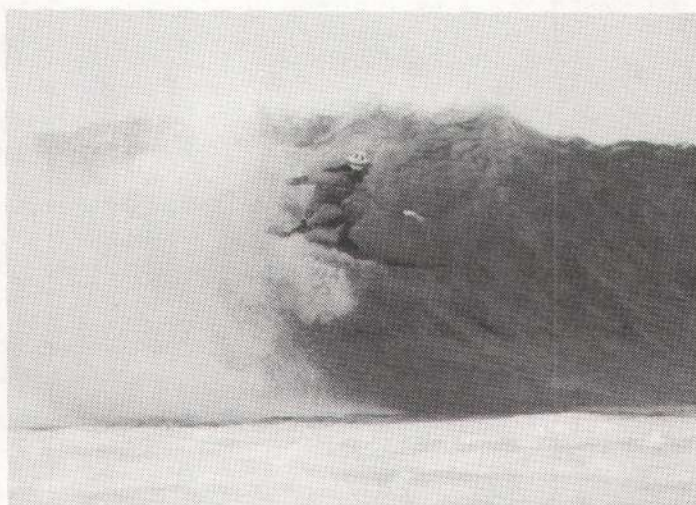
Wombat at Cloudbreaker. Photo by Sedge Thomson



"I've never seen anyone capable of carving as severe a turn as... Wombat" — M.R. McTavish. Photo by Sedge Thomson



Tom Kirsop, 60+ years old, at Restaurant's, Tavarua, March 1992. Photo by M.R.



On the 5th day of a Restaurant's swell, everyone too tired to go out. Mark Renneker surfing it alone. Photo by Sedge Thomson

understanding of basic sanitary conditions and the essential ways of treating illness, but also how much can be accomplished with simple dedicated efforts: persuade the villagers to stop smoking; bring dark glasses to curb pterygiums from the tropical sun; start Buddy Holly look-alike contests; and quell scabies and try to keep it from returning. After all, when a child is scratching at open, weeping sores, how can she sit still and learn to read? And reading is the key to change in the Third World. The kids, running around the village, collect the children's books we've brought. A photo is snapped of three kids reading "A Fly Goes By." Everyone laughs, but we Westerners laugh out of irony. For two weeks the Surfer's Medical Association is like a swell breaking on the village reef: Fantastic health waves, strong, and powerful,

instilling a message in the villagers to create their own year-round health care.

The first clinic day begins on a Sunday after breakfast and a wet boat ride for church service in the village. Gary, one of the coordinators of the conference, suggests we be prepared to put some money in the collection plate. A couple of doctors hit me up to borrow some cash once we're in the village. For Fijians, the visiting doctors and opticians and dentists are treasured guests. A homily honors the Surfer's Medical Association. Then greetings, hymns and a kava ceremony. Everyone claims the village "experience" will be stronger than the surfing. Maybe for some. One Australian doctor, who described his practice as treating "itchy dicks and itchy holes" was skeptical of any good his or the group's work might be in the village.

"Ahm here to surf," he exclaimed.

The trip to the village of Nabila further disoriented me, but because I could ask people questions, I felt comfortable. In a thatched hut I changed into a sulu, a finely made tailored wraparound wool skirt — almost Saville Row — and went to church. Hot and sweaty in there, but angelic voices fell like clear cool water all around a tropical waterfall of sound.

The village is very neat, with trimmed grass as if grounds at a resort. The men drink kava, sitting around clapping hands each time they drank — just four times, clop clop — clop clop, in a slow heartbeat rhythm, their hands slightly cupped making a satisfying hollow sound that is different from applause. It is a sound of welcome.

I became the Pied Piper in the village with my Polaroid. I'd brought five packs of film and 60 pictures turned out to be too few. Little kids and adults clamored for their pictures to be taken. I'd stop to take a picture of two or three kids, then ten would rush to get in. Like surfers, they like to see how they look in action.

Some of us worked with an elder to measure his vision. He looked like Dizzy Gillespie at the Village Gate when he wore some neon-blue, dark glasses. A man's diabetic foot ulcer was examined. I first thought he called it a "deputy" ulcer until I figured out what the Fijian was saying.

A spread of Fijian food was set out for us to eat — cassava, breadfruit, sea cucumbers—these blackish-grey pickly things, very hot chiles, taro leaves (like spinach, my favorite), then some oddly familiar but definitely Fijian-inspired weird Western-type dishes built around the imported delicacy, Spam. The cassava was bland and dry and could use some honey. The breadfruit I ate with a sense of historical connection to the crew of the HMS Bounty. I remember reading about breadfruit in "Mutiny in the Bounty" and trying to picture it. And just over in the next channel from Nabila, Captain Bligh led his survivors away from attacking Fijian warriors. I began to feel I was in the South Pacific.

A few days later, on another clinic visit, I saw the Polaroid pictures tucked into corners of dresser mirrors.

One of the Tavarua boat men, on the island for a few months rotation from his home in Hawaii, was on the office phone asking his girlfriend to send him echinea capsules, vitamin C and his "Wellness

Formula" medicine, along with resin, sandpaper and acetone — he wanted to medicate both his body and his board.

WATER, WATER EVERYWHERE

I rode out to Cloudbreak, a massive mid-ocean surfbreak which is one of the attractions in this part of the world for surfers. I took my borrowed boogie board, thinking I could glide down one of the wave faces, kind of like sledding I supposed. Then I watched the huge prisms of water move past and realized, that for me, catching one of them would be like riding the wing of a 747. Bruce Willis might do it, but that was only in the movies.

Surfing in the Third World, away from regular medical care, required more than knowledge of rudimentary first aid. For instance, what about water in the ear, which could lead to blockages and infection? We had a seminar on surfer's ear, for which Mark examined everyone's right ears, and drew an outline of our exostoses (bony growths) or wax (he told me I had lots of wax in mine). I tried his on-the-road cleaning method: my autumn cleaning project was to sluice my ears out with sun-warmed water in a syringe. The Fijians, as they walked by, watched me with a look that seemed tolerant of yet another Westerner's strange habit.

PHYSICIAN, HEAL WHOM AND HOW?

According to "The Fijian Way of Life," healers or diviners often present themselves humbly, claiming their methods came to them in their sleep. They did not seek out their abilities, but they were granted to them. No arduous academic and clinical training or driving

ambition ferried them to be healers in a culture that discourages aggressiveness, but rather the simple receipt of a gift conveyed their skills from some unknown place of beneficence.

A local medicine man, Tui Tai, came over to the island one afternoon to give us massages. I stretched myself out on the towel covered game table under the Fijian hut on Tavarua for a session under his hands. He realigned my body in a way that hurt so much all I could do was laugh. Tui Tai's connection with Tavarua goes back to the time of a hurricane that cleared sand from the beach. When he came ashore, Tui Tai found a golden cowry shell which gave him his healing powers. He first discovered this gift when he found fish in a section of reef where none had been known to live. His vision saved a wedding feast from being a wedding famine, though when I later spoke with him, he didn't know whether there had been enough bread to go around.

My specific contribution to the Surfers' Medical Association conference was to interview a Fijian. The approach was the way I've interviewed authors and scientists in the Herbst Theater for a live audience and on the radio. We sat, side by side, in front of an audience. So I interviewed Tui Tai, the village faith healer. He talked of pushing a woman's genitals back in. "A prolapsed uterus," said one of the doctors. One pediatrician came up to take Tui Tai's watery leaf cure for baldness, and the healer rubbed this mixture into the young man's smooth pate. Clinical studies do not show it more effective than Rogaine, but in a few months he may be the one out of four doctors who recommend Toko Tula. Tui Tai uses his hands to heal. And I



After a day's work in Nabila, heading back to the boats. Photo by M.R.

asked whether, for his medical caresses, does he use any other parts of his body?

"Yes."

"Which part?"

"My teeth."

"Your teeth?"

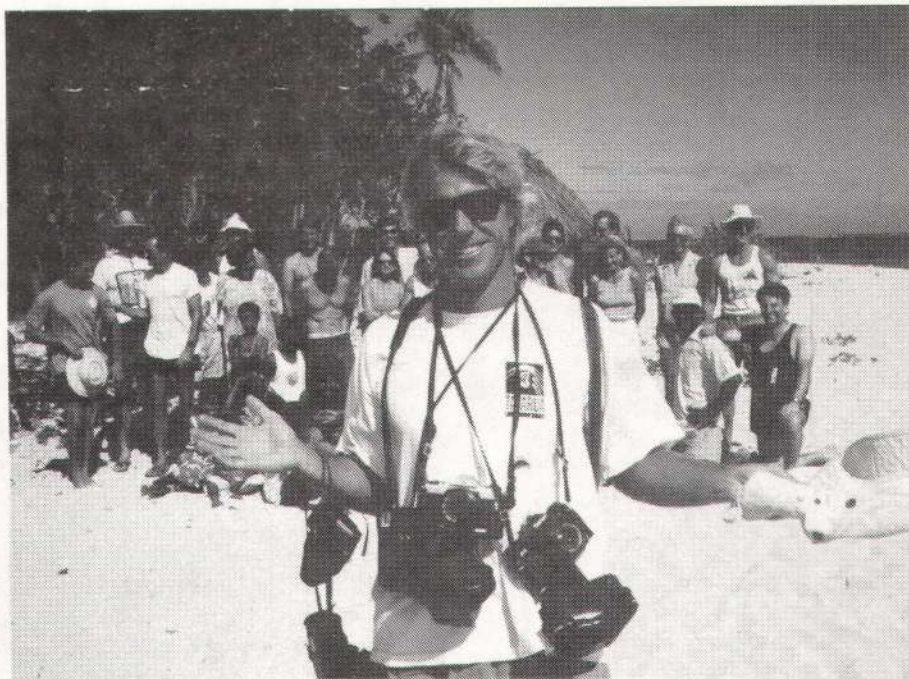
"Yes, I bite open boils and licks them clean."

Groans from the assembled crowd of hard-bitten medical pros. This led to a discussion of cannibalism, a practice which continued into the early fifties in Fiji, with the chief of one village consuming the chief of another village that lost a battle. The ultimate form of the vanquished losing face. There was no particular recipe, only the need for the victorious chief to consume all the opponent's body. Tui Tai described that after roasting, it sometimes took a couple of weeks for everything to be consumed, including the defeated chief's shoes, which for some reason were viewed as part of the body.

BOOKINGS

Of the several books I carried to the South Seas to read, two were reference books. When I returned to San Francisco, I put together a series of radio shows based on some of my experiences. The guests were the authors of these guides: Trevor Cralle, whose "Surfinary" I used to catch those phrases and speak like a surfing native (wave terms, mostly laudatory, descriptions of different surfers mostly derogatory, like "sponge" or "speed bump"); and later, David Werner, recent MacArthur Foundation winner and author of "Where There is No Doctor." I learned from him that his book is used in this country in the slums of New Mexico and barrios of LA, with indigent people in Alaska and the poor of inner city Oakland, and that medical care is hard to find in much of the world.

Werner seemed unimpressed with the Surfer's Medical Association's work in Fiji, even when I showed him pictures of his book in use, not because the work of the SMA is so uninteresting, but because it is so needed, so logically and morally expected to be done. He did become excited, though, when he explained why he first put the book out. Stopping in a Mexican village for the night, he noticed a young boy with an infected foot. He learned the boy had stepped on a stick three months earlier. The wound was never cleaned or



Our sometimes host, Scott Funk. Group shot, SMA, Tavarua 1992. Photo by M.R.

bandaged, but just festered. Werner saw how simple care could make a huge difference in people's lives. His early mimeographed sheets led to a bigger and bigger collection, and eventually, his book. The work of the SMA in Nabila is special, but it is one village of hundreds of thousands in the world that can use such care. By chance, Nabila is by the reefs on which some of the world's best surf breaks, so it attracts the Surfer's Medical Association.

I saw the tremendous power that the Surfer's Medical Association could bring to help shape and improve the village through its various projects. It is the noble missionary role, but one designed to make the village independent of chronic ills that can be avoided. In contrast, one day I watched the manager of the resort we stayed at dole out wages in cash, stuffing it into pay envelopes for the Fijians who work on the island. One worker came in the office to ask for his pay a half hour before it was to be disbursed. He wanted to leave on an early boat for town. The manager refused to give him his pay packet only because he had paternally decided it simply wasn't time yet. I saw for the first time how the overseer system worked in these cultures and why the Fijians so fiercely refused to work for the British. Watching the workers have to grovel for their pay, overhearing about running tabs in the company store, I began to question even my participation in this paternal system. Details of the operations of the surf camp were kept from us.

The Fijians, according to "The Fijian Way of Life," believe that tomorrow will take care of itself. The SMA has changed, at least for the two weeks that we were there, the practice to "Tomorrow will take care of itself if you take a little care of yourself today." The overseer was not letting the Fijians take care of themselves, but infantilizing natives of an old and developed society. The gift that the Fijians give the surfing medicants is that the strange and dangerous sport of riding waves is a form of letting tomorrow take care of itself, if only because the shape of the next wave is always a surprise.

REEFALITY

I finally did catch some waves on the boogie board I had carried for several thousand miles, and I felt the rush of acceleration as the world moved under me. My waves were mere chips of glass compared to the powerful lathe-like waves that screwed through along the island, but I sensed the exhilaration. The reefs are givers of life to the Fijians in the life forms they attract. Whether encountering surfing doctors or tuna, the Fijians know their bounty comes from the sea.



NABILA:

A PEDIATRICIAN'S VIEW

By Rich O'Neil, MD, Santa Monica, California

After my arrival home to Los Angeles, I began to reflect on my experiences in Fiji. Tavarua, obviously, was a thrill and one of the highlights of my surfing life. However, I also wanted to record my experiences as a pediatrician in Nabila. From my understanding, I am one of the few pediatric physicians to make the trip to Tavarua. I know that my friend and fellow SMA member, Neil Derechin, a pediatrician and anesthesiologist, has visited Nabila before and is one of the only other pediatricians to attend the annual Tavarua conference. In the short history of the SMA's travels to Fiji, the contingent of doctors were made up primarily of family, emergency, and internal medicine physicians and an assorted group of other distinguished health professionals. Therefore, I decided to record my thoughts and experiences as a "kid doc" and send them to my fellow colleagues for "peer" review.

I began to plan my goals for visiting Nabila ahead of time when I realized I could make this safari. I was able to incorporate this as elective time in my senior year of pediatric residency at the University of California, Los Angeles. Those of you who remember residency may realize this accomplishment as somewhat of a coup. My co-workers are still not convinced of my altruistic intentions towards Nabila and the validity of my "Fiji elective" to this day.

I soon realized that I could not organize all that I wanted and decided to just take my "black bag" and do my best when I got there. My wife, Laura, being a pediatric nurse, also felt a similar anxiety and excitement towards our trip. We did, however, pack a few pharmaceutical items, paper thermometers and children's toys, but all in all, we came to Fiji only with our David Werner guides.

My first visit to the village was great. I drank Kava, met with many of the members of the Nabila health team and made my now infamous statement

to see "all of the village children" before I left. I will not soon forget Gary Groth Marnat's expression as I made this naive commitment to the health team. After much ceremony, the SMA health members broke up into their respective

teams. Within the new and beautiful dispensary, we each occupied our own corner and began to work with our Nabila colleagues to examine, teach, and often treat our Nabila patients and friends.



A congenital deformity. Nabila, Fiji. Photo by Rich O'Neil

The village of Nabila consists of approximately 250 people with many other communities surrounding it, which contribute to a larger transient population. Logically, children make up a good percentage of that population. Most of the older children were in school so I primarily saw the infants and toddlers the first day. It was really a great time. The mothers were excited and the children were beautiful. Most mothers simply wanted their children examined and wished to talk with me about their concerns. I found that the Fijian mothers were no different in their concerns than those in the United States. I enjoyed speaking and counseling them. I took this chance to ask them about Fijian customs and childrearing philosophies. They were all very well spoken and gracious. I sensed immediately the love and dedication they have for their children.

My Fijian well-baby exams soon revealed to me that most of these village infants were in excellent shape. They were primarily breastfed until a year of age, and therefore their nutritional status was excellent. Immunizations reached almost 100% and all received medical checkups with some sort of frequency by a healthcare provider. Women predominately had their babies in the nearby hospital and had access to regular prenatal care. Sophisticated medical technology was not available but, as we all know, regular, comprehensive medical checkups can often negate the need for expensive hi-tech tests and evaluation. My first day left me tired yet excited to return later in the week.

When I returned it was time to see the older children. I discovered later that our visit to the village was announced well ahead of time. The school children knew of my enthusiasm to see everyone that I could and they were waiting for me. I didn't want to let them down. Little Kava was drank this morning, as it was time to get busy. However, as I saw the older children in the village, I began to see a recurrent and pervasive medical problem: scabies. Basically, the entire village of children and very often their parents were infected. The infants were often spared this infectious and annoying illness.

The children with scabies almost always had secondary skin infections, many very severe and debilitating. The

infections involved almost every extremity. Many children had reached a point when they hardly noticed the weeping sores on their hands and feet. Recurrent infections and repeated episodes of scabies infestation had become a way of life. I watched as they scratched themselves throughout my exam and I wondered how long each child had endured their illness. We were able to use the "Where there is no doctor" handbook to instruct the parents on good hygiene and educate them on the specifics of their children's illness. I did feel frustration when I saw case after case of scabies-infected children, knowing how easily I could relieve their misery with only the most basic of medicines. Paula Smith and I decided to organize the Scabies Eradication Project (see accompanying article).

Throughout our two weeks in Nabila I also observed a few other interesting but emotionally difficult diagnoses. We saw a young girl with severe hydrocephalus (fluid on the brain) who previously had a ventriculoperitoneal shunt (a tube between the head and belly to drain the fluid), but had it removed due to a complication and now was left with severe delay and a very large head. Another young girl (see photo) was born with a very large, benign growth encompassing her right chest. The mass had continued to enlarge throughout her first year of life. She had adapted to the presence of this huge mass and could use her right arm and hand with little restriction in movement. I spoke with

the mother at length and she and I will try to coordinate some sort of surgical intervention in Fiji with a visiting plastic surgery team. As you can see, the child is beautiful and otherwise healthy.

The older children also shared many common U.S. illnesses such as otitis media, sinusitis and upper respiratory infections (even in paradise). Overall, though, the children who were older were in relatively good health like their younger counterparts.

As I conclude, I realize how invaluable it is for physicians to experience other cultures and means of medical care other than their own. The United States, as a developed country, has much to offer our children in the way of medical care. However, when it is easier to get a CT scan at the county hospital than to get a child's vaccinations paid for, I know our healthcare system's priorities are seriously misguided. The children of Nabila had access to only the most basic of medical care and most of the time, it was enough. It was a sobering observation for this Los Angeles-based, tertiary-trained pediatric resident.

The SMA is doing a great thing in Nabila and I can't wait to go back. The children of Nabila remain in my prayers.

p.s. Gary: I saw them all!

REFERENCES:

1. Werner, D: *Where there is no doctor*. The Hesperian Foundation, Palo Alto, CA 1990.



Rich O'Neil slotted at Restaurant's. Photo by Mike Eurs

NABILA:

THE NABILA SCABIES ERADICATION PROJECT

By Rich O'Neil, MD, Santa Monica, California

Nabila is a small village on the island of Vita Levu in Fiji. The Surfer's Medical Association has been teaching and administering medical care to this village since its first visit in 1986. Nabila is just a thirty minute boat ride from the SMA's most popular surfing destination, Tavarua. I was very fortunate to be able to attend the 6th annual SMA conference this year on Tavarua and my experiences on Nabila are the reason for proposing The Scabies Eradication Project (SEP).

Scabies is caused by the itch mite *Sarcoptes scabiei var. hominis*. Scabies is transmitted by direct contact with infected persons. The female mite cannot live beyond 2-3 days without human contact. The adult female is approximately 0.4 mm in length and the male is one half her size. After fertilization on the skin surface, the pregnant female burrows into the stratum corneum (skin) and gradually extends this tract as she deposits 1-3 oval eggs daily and numerous brown pellets (scybala). The eggs hatch in 3-5 days, releasing larvae which grow and molt into nymphs on the skin surface. Maturity is achieved in about 2-3 weeks and the gravid female again invades the skin to complete the life cycle.

As anyone who has had scabies knows, the itch is intense. The pruritic eruption consists of wheals, papules, burrows and eczematous dermatitis. In older children, the clinical pattern is similar to that in adults; preferred sites are the interdigital (between the fingers) spaces, wrists, elbows, ankles, buttocks, umbilicus, groin, genitalia, areola and axilla. The head, neck, palms and soles are generally spared. In infants, bullae and pustules are common. The palms, soles, face and scalp are often affected. In Fiji we observed every pattern of scabies infestation.

Diagnosis is made by microscope identification of the mite, ova and scybala. The best method is to scrape a burrow with the edge of a scalpel blade after putting a drop of mineral oil on the selected lesion. The detection of a live mite under the microscope is, obviously,

diagnostic. But primarily the diagnosis is made by clinical exam and history and microscopic identification of the above is often unnecessary and tedious.

Treatment has evolved over the past three to five years. Previously, the treatments consisted of lindane (Kwell, Scabene) and/or crotamiton (Eurax). These methods, primarily lindane, were limited by their neurotoxicity and potential for seizure promotion in young infants. Today's treatment of choice is a synthetic pyrethroid in a concentration of 5% (Elemite). Elemite is applied to the entire body with particular attention to the groin and scalp (in infants) and washed off 8-14 hours later. A second application 10-14 days later can be performed if concern for reinfestation or relapse is evident.

Two other forms of scabies exist in humans. The first is Norwegian scabies, a variant of human scabies. It is highly contagious and has a predilection for institutionalized or physically debilitated patients. Management is more difficult, but symptoms and treatment remain the same. The second form is canine scabies which is caused by *Sarcoptes scabiei var. canis*. This is the dog mite that is associated with mange. Humans are most commonly infected by cuddling young puppies. The disease is usually self-limited. Again, symptoms and treatment are basically the same as above.

After reviewing this information, one can see that this disease is easily treatable but extremely debilitating if

left untreated. As Paula Smith and I saw child after child infected with scabies, we became frustrated by our limitations and inability to relieve their suffering. Mark Renneker became aware of our problem and directed us to an article in the Tavarua conference syllabus. After reading this article, we knew we could help the people of Nabila to rid them of their chronic and pervasive scabies epidemic.

The article is from The Lancet, a well respected British medical journal, in April of 1991. Briefly, The University of Miami School of Medicine treated the Kuna Indians in the San Blas islands of the Republic of Panama with 5% permethrin cream. They were able to decrease the incidence of scabies of the 756 inhabitants of these islands from 33%



What do you think it would feel like to have scabies all of your life? Note flies on open wound. Photo by M.R.

to less than 1%. This was a dramatic result after the Kuna Indians had endured 18 years of scabies infestation introduced to their islands by western civilization.

Paula and I became very enthusiastic after reading the details of this article. We knew this could be done on Nabila and we began to formulate a plan while still in Tavarua. Our plan was simple. Nabila had built a dispensary in the last year that was very large and centrally located. The health team formed in the recent years consisted of local village residents, and therefore we did not need a specially organized effort from the United States to carry out the eradication project.

I spoke to Merewei, the main village healthcare worker, about our idea to treat the entire village with Elemite. She seemed very enthusiastic and confident in her ability to complete this task. It was up to Paula and me to return home and find a way to obtain approximately 500 tubes of Elemite. We would then ship or bring these tubes to Nabila with specific instructions on application and the need to record all of the side effects and/or adverse reactions. The instructions would also include the need to treat everyone in a 2-5 day period to avoid reinfestation. Basically, the beginning of the treatment would be announced and explained to the village. Each person would bathe, dry off and then have permethrin cream applied to all parts of the body, especially perianal (around the anus), perivaginal (around the vagina) and toe webs. The village health care team would also be provided with disposable gloves to use for application of the cream. Again, records would need to be kept on all of those treated, any new arrivals to the village (so they could be treated) and subsequent success rates and/or reinfections. Anyone who became reinfected would need to be treated again and any close contacts examined carefully for signs of scabies infection. Future SMA conference members could specifically review these records and document infestation percentage and the need for aggressive retreatment due to relapse or noncompliance. After the initial treatment program, a maintenance program could be set up to treat any new cases and prevent reinfestation and return of the epidemic.

As you read our proposal, you may begin to wonder where and how we will



This is what scabies does — a boy's ankle in Nabila. Photo by Rich O'Neil

obtain 500 tubes of Elemite and the funds to distribute the various supplies.

I have begun the process by writing the Chief Executive Officer of Herbert Laboratories, the Orange County, California manufacturer of Elemite. If this is unsuccessful (I won't give up easy) then Paula and I decided we will go to the members of the SMA for possible donations and suggestions. If all our efforts fail, I feel strongly enough about this project that I would make attempts to personally finance its success. The SEP may not sound alluring, but when carried out it will provide profound relief to so many children and adults whose chronic suffering has up to now gone unnoticed.

Although I have no prior experience in this area of epidemiology, I am very excited about this project. The people of Nabila are so gracious and would benefit greatly from the success of this idea. We will keep all our fellow SMA members up to date on our progress. We look forward to any of your comments or suggestions.

Editor's note: Shortly after Rich submitted this paper, he received word that Herbert labs will gladly donate the Elemite needed for the project.

REFERENCES

- 1) Behrman R, Vaughan V: Nelson's Textbook of Pediatrics, Thirteenth Edition. Philadelphia, W. B. Saunders Company, 1987, pp. 1437-1439.
- 2) Report of Committee on Infectious Diseases, American Academy of Pediatrics (The Red Book), Twenty Second Edition. 1991, pp. 423-425.
- 3) Werner D: Where There is No Doctor. The Hesperian Foundation, Palo Alto, CA, 1990.
- 4) Barkin R, Rosen P: Emergency Pediatrics, A Guide to Ambulatory Care, Third Edition. Philadelphia, C.V. Mosby Company, 1990, pp. 474-475.
- 5) Taplin D, et al. Community Control of Scabies: a model based on use of permethrin cream, The Lancet 1991; vol. 337: 1016-1018

EPILEPSY AND SURFING

By Steve Baser, Esq., Newport Beach, California

Epilepsy is a common disease whose symptoms usually can be treated with a variety of drugs. When the condition is present in a surfer, however, additional complications can result.

On a winter day about 25 years ago, I was surfing at Bay Street in Santa Monica, an unlovely locale remarkable primarily for its concentration of corn dog stands. Some 2 years earlier, at age 14, I had had my first grand mal seizure, with attacks occurring several times a year subsequently.

Bay Street was about 4' to 5', which was larger than usual, and closed out, which was extremely usual. During a lull, my friend Mark noticed that I hadn't come up for some time. Assuming I was amusing myself below the surface to kill time, he paddled over and tossed my board away, a maneuver which in pre-leash days passed for wit. But when my underwater frolic extended beyond the range of normal lung capacity, Mark belatedly cottoned on to my predicament, yelled for help, and dived. He found me and attempted to bring me to the surface. As is typical in grand mal attacks, I was convulsing with an abnormal degree of strength. Mark was a competitive swimmer and wrestler, but despite his physical condition I entangled him and began to pull him down. He returned to the surface for breath, called for help again, dived, and found me again. After struggling with me for awhile, he was on the verge of letting go—he remembers having a single finger hooked into the waist of my trunks—when other surfers arrived. I was still convulsing, and it took 5 surfers to bring me in through the break.

I don't recall having an aura. My first memory after paddling around is waking up on the sand in a befuddled state, after which I passed out again and woke up later in a hospital.

Following a seizure, rest is prescribed to alleviate the impact of a major brain scrambling. In this case, there were social repercussions as well. Family and

friends were concerned, and gently suggested that further water activity would be stupid, selfish, and/or suicidal. While the subsequent revocation of my driver's license was essential for the protection of the general populace, it had an isolating effect, since Los Angeles has eschewed adequate public transporta-

tion. For surfing, in particular, I was dependent upon my friends for locomotion. They responded to my requests in an entirely logical manner by avoiding me like the plague. As a result, my attempts to surreptitiously continue surfing were conducted via the bus, with predictably dismal results.



The author, very happy to be on Tavarua. Photo by M.R.

The situation was further complicated when I had a second seizure in the water, this time while coming out of the surf. Another friend had just gotten out, happened to turn and see me flopping around in the shorebreak, and dragged me in. During the same period, I also had a seizure while riding a bike and piled head-first into a metal pole. The concussion was compounded by severe skull lacerations after I landed on a sprinkler head on the way down.

Soon afterwards, I left for mainland Mexico, this time by myself, and headed for Mantanchen Bay. After a week of flat surf, I decided to move on, made it as far as San Blas, and toppled over in the middle of town. I woke up in the equivalent of an emergency room on sheets caked with a less fortunate predecessor's dried blood. After a suitable period the doctors released me, whereupon I wobbled out into the street and keeled over again. Transport home was arranged by slinging me into a bus headed north. San Blas is about 1200 miles south of the border and the bus, populated by both two and four-legged creatures, took a few days to get me home, but the after effects of the seizures mercifully washed the details out of my memory.

Several years later, in 1970, with the frequency of seizures about the same, I was enrolled at UC San Diego and enjoying uncrowded Black's Beach dawn patrols. This idyll was interrupted when I had a seizure while riding a bike down the street in Solana Beach. I pitched forward over the handlebars, landed on my chin, and shattered my jaw. Friends who lived nearby eventually found me lying in the street, with passing cars slowing down and rolling down their windows to take a look. My mouth was wired shut and I was prohibited from surfing for six months. Rather than return to the beach as an observer, I transferred to college in Palo Alto.

About this time, I allowed surfing to slip away and pursued other, less satisfactory outlets. The frequency of my seizures remained the same, and they seemed to occur at inconvenient times, e.g., during a job interview (I wasn't asked back.) And while sitting in my car in front of a friend's house in Santa Monica, I lapsed into pre-seizure unconsciousness during which I started the car, drove it past my own apartment

in the area, and meandered inland for several miles before creasing into the side of a parked car, none of which I remember. Although my seizure activity was not worsening, the social dislocations were.

As a result, in 1980, I spent a week at the University of Montreal, which has an epilepsy research center. A new medication regime was prescribed which, following a period of adjustment, markedly reduced the incidence of seizures.

I made it back into the water several years ago by bodysurfing on a small day in Laguna Beach. Toweling off afterwards, the unique feeling that accompanies a good session came on strong, focusing memories and motivation.

At the SMA's recent Tavarua conference I wore prescription goggles and, for the first time, could see what the fuss was all about. Being blind as a bat, my previous go-outs had provoked mirth among my friends, apprehension in the water among those within a fairly wide

radius, and philosophical reflections by yours truly on the nature of masochism.

I've been asked more than once why I don't use my melon and bag the aquatic shenanigans, but have never been able to respond satisfactorily. It seems impossible to convey surfing's sensory overload by analogy to lesser pleasures. When I was younger, it simply never occurred to me not to surf, and even when circumstances took me away from the ocean it never occurred to me not to want to surf.

Epileptic surfers today are fortunate in that their best lifesaving tool has been integrated into every surfer's equipment. Any surfer who has a seizure in the water can maintain contact with the surface via his surf leash. To minimize the risk of a seizure initially, the usual common sense dicta about taking one's medication regularly and surfing with friends cognizant of your condition round out the list of precautions.

As for me, I've been away too long. See you in the water.



A completely stoked and seizure-free kneeboarder: Steve Baser. Photo by M.R.

POTENTIAL HEALTH HAZARDS OF CUSTOM SURFBOARD AND SAILBOARD MANUFACTURING

Greg Raymond, MS, San Francisco, California

The potential health risks associated with surfboard manufacture are of particular interest to surfers. Even if we don't make boards for a living, it's likely we'll shape or glass a few garage/backyard boats, or be there when a friend does, or, at the very least, fix dings.

The following sections summarize what is currently known about the health hazards associated with exposure to chemicals used in board manufacture and repair. When you are reading the material, keep one thought in mind; any chemical is safe to work with under the right circumstances, but these circumstances are rarely arrived at by accident. To do so requires a clear understanding of both the hazard posed and the means of reducing it to a safe level. The goal of these sections is to provide you with the knowledge required to develop such an understanding.

HOW A CUSTOM SURFBOARD OR SAILBOARD IS MADE

1. *Shaping:*

- (a) The starting point is a polyurethane foam blank selected as appropriate for the board you're building; one which has the proper length, rocker, and weight. (Polystyrene foam is sometimes used for high-performance, small-wave surfboards or slalom sailboards. The resulting boards are lighter but less durable.
- (b) After drawing the desired template onto the blank, the foam is cut with a saw to obtain the board outline.
- (c) The board is shaped, using the planer, sureform, sandpaper, and/or cheese-cloth. While using the power planer, the environment resembles a blizzard, completely filled with flying white particles.

2. *Airbrushing:* If color is desired, airbrushing is done directly on the foam.

3. *Glassing:*

- (a) A length of fiberglass cloth 4-6 inches longer than the board is cut and laid out on the board. The wrinkles are smoothed out and the edges trimmed

to lap around the rails. Cloth either partially or entirely composed of non-fiberglass fibers (acrylic or graphite are the most common) may be used instead of pure fiberglass cloth for additional strength. Boards typically do not have only one layer of glass on each side. Depending on strength/weight requirements, multiple layers or partial layers (deck or tail patches) of glass are used. All layers on a given side are put on at one time.

- (b) Catalyst is added to laminating resin, the mixture is stirred, and poured onto the board. A squeegee is used to distribute a thin layer of resin, lightly saturating the cloth. The edges of the cloth are lapped around the rails. The distinctive odor of styrene is strongly present throughout the process.

- (c) The board is flipped over and the other side is glassed.

4. *Sanding:*

- (a) The rough edges are surefoamed.
- (b) Sanding resin is mixed with catalyst and applied to each side of the board with a brush.
- (c) Using a rotary sander, the board is sanded relatively smooth, generating lots of dust. Although the board can be sanded by hand, it may take ten times as long.

5. *Attaching Fins:*

- (a) Using laminating resin, glass rope, and pieces of cloth, glass-on fins are affixed to sailboards and surfboards, usually before the sand coat is applied.
- (b) For sailboards, holes are routed for the fin box(s), woodies, and mast track, and the boxes and woodies are fixed in place prior to glassing.
- (c) For surfboards, fin box holes can be routed and boxes attached anytime after shaping. The earlier in the process, the stronger the attachment.
- (d) *Glossing:* Finishing (glossing) resin is mixed with catalyst and applied to both sides with a brush. (This step is often skipped if weight is of great concern.) Again, the odor of styrene is very apparent.



7. *Polishing:* The board is polished with a rotary polisher and polishing compound. After that, it's watertime!

FOAM MANUFACTURING: CAREFUL!

In 1958, Hobie Alter revolutionized surfing when he marketed the first surfboard with a polyurethane form core. Today, though strength-to-weight ratio and overall quality have been improved, most custom surfboards and sailboards are shaped from fundamentally the same material as was used thirty years ago. As will be discussed below, once foam blanks are made they pose little potential hazard to your health. However, some of the chemicals used in the manufacture of blanks are highly toxic. If you are involved in blank manufacture, this section is of particular importance.

The standard foam blank is prepared by reacting liquid chemicals called isocyanates with others called polyol resins. Polyol resins typically contain additives to control the rate of reaction (catalysts, but not the same ones used for resin) and to make the foam homogeneous (blowing agents).

Isocyanates are extremely toxic. The greatest risk arises from breathing the vapors (inhalation). Symptoms of exposure include shortness of breath, coughing, chest tightness, and pain in breathing. Toluene diisocyanate (TDI) is the isocyanate most often used in blank manufacture. Up to 5% of those exposed to low levels of airborne TDI become allergic. If the allergy develops, subsequent exposure to even immeasurably low concentrations can result in a possibly severe asthma-like reaction characterized by chest tightness, difficulty breathing, and wheezing.

You cannot use the odor of TDI as a warning sign. If you can smell it, the vapor concentration is at least 10-20 times greater than the level thought to be safe. For that reason, and because respirator cartridges do not readily absorb TDI, if you



are working in a situation where airborne TDI may be present you are best protected by a supplied-air respirator.

Eye or skin contact with TDI can produce immediate irritation. Additionally, though uncommon, skin contact may lead to an allergic reaction in susceptible individuals. Typically, this appears as red, inflamed, swollen, and itchy welts (like hives), not necessarily limited to the area of contact. You should always wear gloves when handling TDI, preferably those made of butyl rubber. If you get any TDI on your skin, immediately wash it off with soap and water.

Recently, the National Toxicology Program (NTP) classified TDI as a suspected carcinogen (cancer-causing agent). This finding was based upon a laboratory study in which TDI was introduced directly into the stomach of rats and mice, and tumors resulted. Other studies, in which rats and mice were exposed to airborne TDI throughout their lifetimes, found no increase in tumors. Since inhalation is a more likely route of human exposure than ingestion, TDI's classification by the NTP as a substance which may "reasonably be anticipated to be carcinogenic" in man is debatable. After reviewing the data, the International Agency for Research on Cancer has concluded that "there is inadequate evidence for the carcinogenicity of toluene diisocyanate to humans," but "sufficient evidence for its carcinogenicity to experimental animals."

Polyol resins (different than the resins used to glass or repair a board) do not present a significant health risk. However, the catalysts contained in these resins are another story. The ones most often used are members of a class of chemicals termed tertiary amines and they are very irritating to the eyes, nose, throat, and lungs. Eye contact with tertiary amines can result in burns. Exposure to one tertiary amine, triethanolamine, has been linked to an increase in tumors in laboratory animal studies. The relevance of this to humans is uncertain, but you should avoid exposure until more is known. If ventilation is inadequate to control vapors, wear a respirator equipped with ammonia/amine cartridges, and wear gloves and eye protection whenever handling the liquid.

The last major component of the blank is the blowing agent and, for board blanks, carbon dioxide is the most commonly used

blowing agent. Fortunately, it is not very toxic, only posing a health hazard in concentrations unlikely to be reached during blank manufacturing.

When the ingredients react, solid polyurethane foam is formed, and the original components are not separately present to any significant extent.

SHAPING

When blanks are shaped, the foam dust generated is probably harmless. A few shapers have experienced health problems which they attribute to foam dust exposure, though this may be due to their being extraordinarily sensitive to it, or to other chemicals present in the manufacturing shop (see "Resin"). The vast majority of shapers have had no such health problems. That doesn't mean it's healthy to inhale foam dust. The truth is that there has not been any research into the health effects of exposure to foam dust. (Areas of particular interest include the precise amount and identity of unreacted materials left in the foam after polymerization, a measurement of the dust level and the size of the particles generated during shaping, and a systematic survey of long-time shapers for the health consequences, if any, of exposure.) When shaping you should always minimize exposure by wearing a good-fitting dust mask or a respirator equipped with particulate filters.

As for skin contact, there are no skin problems known to result from exposure to foam dust but, again, the issue has not been systematically investigated.

SURF SACRIFICE

When the waves have been terrible for weeks on end, it's time to appease the great Kahuna, the spirit of the waves, the surf god. The mechanics of the process are simple: find an old surfboard and reverently burn it, preferably at full moon. No virgins are necessary. In fact, to attain the state of spiritual purity required for a successful surf sacrifice, it is suggested that female surf acolytes of an affectionate persuasion be invited to the ceremony, and that they bring along a moderate quantity of the chemical mood modifier of your choice.

A warning: caution is warranted for two reasons. Firstly, you run the risk of some religious fanatic yelling at you for

worshipping false idols. Secondly, the smoke is highly toxic, containing traces of hydrogen cyanide, the chemical used in gas chambers. Inhalation of a little smoke won't hurt you, but breathe too much and you won't have to worry about paddling out ever again, you can just float out on your angel wings.

So, when you donate a board to the spirit of the great Kahuna, pick a private place to do it and stay upwind. May He smile upon you.

RESIN: A CHEMICAL BREW

The first use of polyester resin in the manufacture of surfboards was by surfing pioneer Bob Simmons in 1947. Today, two types of polyester resins are commonly used. Laminating resin is used to adhere fiberglass cloth to the shaped blank and, with the glass, to give flexible strength to the board. Sanding resin is used to fill the weave of the fiberglass cloth, adding strength and providing a means of achieving a fairly smooth surface. The chemicals in resin include:

Anhydrides: The anhydrides are severely irritating to the eyes, and are also irritants and potential sensitizers of both the skin and respiratory tract (a sensitizer is something which is known to produce allergic reactions after repeated or prolonged exposure). An asthma-like reaction would be the most likely allergic response. The most common effect of exposure is nasal and eye irritation. Prolonged exposure can result in ulceration of the nasal mucous membranes, chronic bronchitis, and dermatitis. Avoid exposure through use of ventilation, gloves, eyewear, and respiratory protection - preferably a full-face respirator with an organic vapor cartridge and a high efficiency particulate pre-filter.

Amines: Dimethylaniline, diethanolamine, and triethanolamine are all irritating to the eyes, nose, throat, and lungs. The latter two are tertiary amines (see "Foam Manufacturing"). Dimethylaniline has the potential to cause methemoglobinemia, a condition in which the blood is unable to carry oxygen to the tissues. This may result from either inhalation or skin contact - dimethylaniline is readily skin absorbable. The symptoms of exposure are euphoria, headache, chest pain, and, at high levels of exposure, a violet-blue color to the lips and ears. The



appearances of these effects may be delayed up to several hours after exposure. To prevent exposure, wear gloves (butyl rubber), protective eyewear, and, if ventilation is inadequate to control vapors, a respirator. If you're working with dimethylaniline, organic vapor cartridges are appropriate. For tertiary amines, ammonia/amine cartridges should be used.

Other chemicals: All other chemicals in the blended resin, with the exception of styrene, are of low to moderate toxicity. This doesn't mean it's safe to breathe or allow contact with them. Exposure to any and all of the chemicals involved in making resin should be avoided. Try to work only in actively ventilated areas and wear gloves. Although these chemicals are not skin absorbable, prolonged or repeated exposure may lead to dry, cracked, and tender skin.

Styrene: Styrene is of special concern for two reasons: it is highly toxic and it is readily available for exposure. During glassing, sand-coating, and glossing, roughly 10% of the styrene present in resin evaporates before the resin hardens. Since resin is almost half styrene, this means a lot of styrene ends up in the air you may be breathing. Exposure to styrene can cause headache, fatigue, nausea, disorientation, a feeling of intoxication, and a loss of coordination. It is very irritating to the eyes and irritating to the nose, throat, and skin.

Chronic exposure to styrene can cause liver problems. In addition, recent studies of women who work with styrene-based resin have linked exposure with chromosomal abnormalities and spontaneous abortion. Studies of animals exposed to styrene have not clearly resolved whether exposure can cause cancer. Some studies of workers exposed to styrene for a number of years have indicated a possible association with an increased incidence of two types of cancer, lymphoma and leukemia.

It has been recommended that up to 50 parts per million (ppm) of styrene in the air be considered a safe level of inhalation exposure, as the average level present during an 8-hour work day. One hundred ppm is recommended as the maximum acceptable level of exposure when air concentrations are averaged over a 15 minute interval, rather than an 8 hour one. Taken together, it means that it's okay to be exposed to an average level of 50 ppm and a

peak level of 100 ppm, as long as this peak level doesn't last longer than 15 minutes, or occur too often. Most people can begin to detect the odor of styrene when the concentration is between 0.5 and 1 ppm.

STYRENE LEVELS IN A SURF SHOP: ORIGINAL RESEARCH

Since styrene is both highly toxic and present in the air during surfboard manufacture, it's important to know typical airborne levels. A search of the literature failed to turn up any published reports of air monitoring for styrene, or anything else, during board manufacturing, although studies of fiberglass boat building operations have found styrene concentrations of 100-200 ppm to be fairly typical during phases involving active resin usage.

In an attempt to estimate the airborne styrene levels present during board construction, I did a limited amount of air sampling at a custom surfboard and sea-board manufacturing shop. Samples were collected in the glassing area during glassing, in the glossing room during glossing, and in the polishing area during glassing. Sampling was done during summer; fans on the walls of the glassing and polishing area had neither forced ventilation nor an open door to the outside.

Samples in the glassing and glossing areas were collected 5-20 feet from the point of resin application.

Findings: (styrene concentrations):

- 1) glassing area: 4-30 ppm
- 2) glossing room: 60-100 ppm
- 3) polishing area: up to 20 ppm

Discussion:

- a) Because the glasser and glosser work very closely to the point of resin application and the styrene concentrations noted above for the glassing area and glossing room were collected 5-20 feet from the point of application, the findings probably underestimate potential worker exposures during the periods monitored. On the other hand, because these operations were not done continuously during the day, the average exposure over an 8-hour period is likely to be considerably below the reported levels.
- b) As evidenced by the samples collected in the polishing area (where resin was



not in use), ventilation was inadequate. An employee who works in the retail area of the shop, located on the other side of a couple of "solid" walls and 40 feet of walking distance from areas of resin use, reported having occasional symptoms con-

sistent with styrene exposure. The basics of an adequate ventilation system were present — wall-mounted fans to remove room air — but an overall plan for air movement in the shop was not evident.

Conclusions: This was a limited study, but it indicated that airborne levels may be high enough to cause health problems for someone who is routinely exposed. If you work with resin on a regular basis, it would be wise to minimize exposure. If ventilation does not adequately control vapors, that is, if the smell of resin is strong and you notice that your eyes and throat become irritated after a few minutes in the area, wear a respirator with organic vapor cartridges and change the cartridges frequently. If possible, wear a full-face respirator. It will provide improved respiratory protection and also keep your eyes from becoming irritated. Also wear gloves, preferably ones made of PVA or polyethylene.

What's all this mean for you if you're only fixing an occasional ding? If you don't sit with your nose next to the ding watching the resin harden, and if you generally keep resin off your skin (styrene is skin-absorbable), you should suffer no ill-effects. If you do get some resin on your skin, wipe it off with a rag, using a little acetone if needed, and then wash with soap and water.

CATALYST - METHYL ETHYL KETONE PEROXIDE

Catalyst is used to initiate the hardening (polymerization) of the resin used in glassing boards. Commercially available catalyst is roughly 60% methyl ethyl ketone peroxide (MEKP) and 40% diluent. A diluent is added to increase shock resistance, providing a mixture which will not react violently (BOOM!) at room temperature. Diluents are typically a blend of dimethylphthlate, cyclohexanone peroxide, and/or diallylphthlate.

MEKP is extremely irritating to the skin, eyes, and respiratory tract. Wear

gloves (neoprene, nitrile, or PVC), protective eyewear and, if you're using it in large quantities and ventilation is inadequate, a respirator with organic vapor cartridges. A full-face respirator is suggested for added respiratory and eye protection.

The data on the effects of chronic exposure to MEKP and the diluents are limited. However, one recent study of laboratory rats exposed to diallylphthalate found a significant increase in leukemia and liver disease. Similar results were not found in mice.

Suffice it to say that catalyst is pretty nasty. Don't breathe it, get it on your skin, or in your eyes. If you do get some on your skin, immediately wash it off with soap and water. If some is splashed in your eyes, rinse them for at least 15 minutes with room temperature water. If eye effects persist, see a doctor as soon as possible.

FIBERGLASS

Fiberglass is literally that: fibrous glass. Minerals called silicates are, under high temperature and pressure, extruded (forced through a die) into filaments and then air-cooled to form fibers. The fibers are woven into cloth and coated with various binders, lubricants, and coatings. These bind the fibers together, protect them, and increase their resistance to impact and friction.

Skin irritation is the most often experienced health effect of working with fiberglass. The irritation takes two forms. The most common is an itching or prickling feeling associated with small red dots. The warmer and more humid the environment, the greater the response since your pores are more open and the fibers are able to easily lodge in them. Partial resistance to irritation appears to be acquired after a week or so of exposure. After exposure, gel facial masks applied to any part of the body can be effective in removing the fibers which are imbedded in your skin. When the mask dries and is peeled off, it pulls the fibers out with it.

The other skin effect, though uncommon, is an allergic reaction to binders from other additives. If you find that your skin is persistently irritated from working with fiberglass, with your skin inflamed, itchy, and weepy, Benadryl may

reduce the reaction. It can be found at most drug stores, sometimes under the generic name, diphenhydramine. If it doesn't help, or if the sores become infected, you may need to see a physician.

The short-term effects of inhalation of glass fibers are nose and throat irritation. To prevent this, wear a dust mask or a respirator with a particulate filter. As for the long-term effects, studies of over 40,000 workers exposed to fiberglass and similar material have failed to demonstrate that exposure is associated with increased risk of lung cancer or other respiratory disease. However, two recent laboratory studies have indicated that exposure to fiberglass may lead to development of lung cancer and consequently, in the summer of 1987, the International Agency for the Research on Cancer added fiberglass to their list of materials suspected of having the potential to produce cancer in humans.

ACETONE

Acetone is the solvent normally used to remove unhardened polyester resin. In surfboard manufacturing facilities it is common practice to have buckets of acetone available for the cleaning of equipment and skin. Fortunately, acetone is one of the least toxic solvents in use.

The odor of acetone is first detectable in the air at concentrations reported to range from 100 to 500 parts per million and there are little, if any, noticeable effects at these levels. So, if you smell acetone vapors, it doesn't necessarily mean it is harming you. At higher concentrations, acetone can cause eye, nose, and throat irritation and, at even higher concentrations, headache, dizziness, and nausea. When acetone is inhaled, approximately 75% is absorbed into the bloodstream. It then takes 3-5 days for your system to eliminate it.

Acetone on your skin damages the skin and is absorbed into your bloodstream. After repeated contact with acetone, skin can become dry and cracked. The best way to prevent this is to avoid the need for contact with acetone, that is, wear appropriate gloves when working with resin. Also, if you work in an area where acetone vapors are present, wear a respirator fitted with an organic vapor cartridge.

NOISE

The power sanders, planers, polishers, and routers used in board manufacture all generate high noise levels, as indicated by the following measurements I took at a board manufacturing shop during normal production activities:

Sanding:	95-100 dBA
Polishing:	90 - 95 dBA
Routing:	98-100 dBA
Planing:	98 - 10 dBA

(Note: a dB is simply a unit of noise measurement; dBA indicates a filter was used which simulated the sensitivity of the human ear.)

Regular exposure to these sound levels will cause hearing damage. In the USA, the Occupational Safety and Health Administration (OSHA) states that exposure to 95 dBA for 4 hours, 100 dBA for 2 hours and 105 dBA for 1 hour, is unacceptable if hearing protection is not worn. An average person, with average hearing, will suffer measurable hearing loss if regularly exposed to these sound levels for longer than the recommended time periods. Many people, perhaps 25% of the population, will suffer hearing loss even if exposed to lower levels for shorter periods of time.

Both noise-reducing plugs or muffs will reduce surf shop noise to safe levels if properly worn. For plugs, properly worn means inserting the plugs well into the ear. For muffs, it means making sure there is a good seal around the ear. If you want to continue to listen to music and to hear what people are saying to you, wear hearing protection when around sources of loud noise. It's bad enough that our ability to hear naturally decays as we grow older. Add in rock concerts, headphones, and industrial noise, and we may be the first generation in which deafness is normal for the aged. Unless you're looking forward to learning lip reading, take care. (I take ear plugs to rock concerts. When the pain threshold is approached, I stick them in.)

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is equipment you wear which protects you from exposure to something which can harm you. Although wetsuits, sunscreen, sunglasses, and condoms are the PPE surfers are most familiar with, these topics are addressed elsewhere. This section looks at



ways to reduce exposure to chemicals when process redesign and material substitution are not feasible alternatives.

Before you can select the right type of PPE, there are several questions you have to be able to answer. The first question is: what are you trying to protect yourself from, that is, what is the identity of the chemical(s) present? The answer may be found on the product label, product literature, or from the vendor of the product, but the best source of information is the Material Safety Data Sheets (MSDS). Manufacturers of chemicals worldwide make these information sheets available for every product which contains an ingredient known to be hazardous. MSDS include the name and telephone number of the manufacturer, a description of the hazardous ingredients, information on the potential health effects of exposure, suggested emergency first aid (in case of over-exposure), and notation of the flammability and reactivity of the material. MSDS are available free of charge upon request. If you work in the USA, your employer is required by federal law to obtain a MSDS for every hazardous chemical used in your work area and to make them available to you. Just about every chemical is classified as hazardous, including all of the chemicals mentioned in the section on surfboard manufacture, with the exception of polyurethane foam.

The second question is: what are the likely routes of exposure, that is, will you breathe it, get it on your skin, or splash it into your eyes? This question is best answered by an industrial hygienist. If one is not accessible, your next best bet is the person who actually does the job: YOU. Look carefully at the work you do. Identify potential opportunities for exposure, even unlikely ones. If you can imagine it occurring, it will eventually happen.

The third question is: what are the effects of exposure? The MSDS should provide you with this information. If you determine that the chemical can cause eye or skin damage, then you need to obtain gloves and eyewear. If inhalation poses a hazard, then you need a respirator.

Glove selection: There are 8 or 10 different glove compositions commercially available, each formulated from different polymers or blends of polymers, and each resistant to particular types of chemicals. It's important to select the right glove for the

job. Put the wrong glove in the wrong type of chemical and it will literally melt before your eyes. If you don't know which is the right type of glove for the chemical you're handling, ask the people who sell them (see Purchasing Info below).



Eyewear selection: The goal of protective eyewear is to provide impact resistance and/or protection from splashed chemicals and flying particles. In increasing order of "protectiveness", the basic types available are safety glasses, safety glasses with side shields, goggles, and face shields. My advice is to determine which ones you think will adequately protect you, then get the next one on the list. If you think safety glasses are sufficient, buy ones with side shields — the angles flying materials can achieve are amazing. If you work with liquid chemicals and splashing sometimes occurs, get goggles. And, if there is any chance of a sudden eruption of material, wear a face shield. One last comment on this topic: wearing contact lenses while working around chemical irritants can lead to damage to both the contacts and your eyes. Don't do it!

Respiratory protection: Different respirator designs offer different protection factors. Protection factor is defined as the ratio of the concentration outside the respirator to the concentration inside, if the respirator is properly worn. To determine which type of respirator is correct for your work environment, you first have to know what protection factor is required, and for that you have to answer the fourth question: if the chemical is likely to become airborne, what's the maximum concentration likely to be present?

Realistically, this requires air-sampling. If your employer is unwilling to hire a consultant to evaluate the situation, a conservative approach would be to pick a respirator with a high protection factor. Since protection factors are developed under optimum conditions in a laboratory, the real protection offered is considerably less than the number stated. For instance, the protection factor of a disposable paper dust mask is said to be 5, meaning the concentration of material in the air you breathe is expected to be one-fifth the concentration in the air around you, but in real use the protection factor is probably 3 or 4, at best.



Other respirator types and protection factors are:

Half-mask with cartridges:	10
Full-face with cartridges:	50
Full-face with supplied air (continuous flow):	1000
Self-contained breathing apparatus (similar to SCUBA gear):	10,000

For many industrial operations, a full-face respirator with proper cartridges is the best choice. It offers reasonable respiratory protection and, because the entire face is enclosed, also minimizes eye irritation.

When do you need cartridges? If the airborne concentration is well above the recommended permissible exposure limit, the material is highly toxic, or if the odor of the material is not easily detectable, the cartridges may have to be changed daily. If the material is not very toxic and the odor is readily noticeable, when first changing cartridges you can wait until you smell the material. Note how long it took and schedule future cartridge changes for a shorter interval.

All in all, let me just say: RESPIRATORS SUCK! Not only are they uncomfortable to wear for longer than a few minutes, they do NOT provide fully reliable protection from environmental hazards. A respirator must be properly fitted to a worker before it can possibly work, and then, if he doesn't shave for a few days or gains or loses 10 or 15 pounds, it's likely that the respirator no longer fits. On top of that, the bodies need to be routinely cleaned and the valves maintained (the respirator's, not the wearers'). Additionally, if they are going to provide effective protection, the cartridges have to be frequently replaced. The initial investment in a ventilation system is greater, but the long-term benefits make it well worth while.

Purchasing Info: Find a safety supply house by looking in the telephone book under "safety supplies" or "safety equipment".

If there's nothing listed under those headings, look under "laboratory supplies" or "chemicals-retail". Once you track down a supplier, request a catalog. If you have any questions that aren't answered in the catalog, for instance, what type of glove or respirator cartridge is right for your operation, usually someone at the supplier will have the answer, or know where to find out. If not, write me care of the SMA.



Gretchen Van Dyke, early 1960s

MY SURFING SISTER, GRETCHEN

By Fred Van Dyke, Kailua, Hawaii

Fifteen-year-old Gretchen, having just won the Queen of the May contest in the spring, had her right leg amputated in November of 1948 — a complete disarticulation at the hip joint.

She had been slightly injured playing baseball in high school; a scratch on her knee became infected with gas gangrene. Having x-rayed her entire body to kill the gangrene, the doctors told us — after November passed into December — that she would die soon. There was little or no chance of survival, and if she did make it, one radiologist felt compelled to say that she'd never have children.

Silently we — the entire family — visited her on Christmas Eve to say goodbye. I was the last to leave her side. Gretchen was heavily sedated. I bent over to kiss her goodbye and she

grabbed me close. Tears filled my eyes; my throat and body contracted with spasms of grief.

Gretchen whispered into my ear. "Fred, I'm not going to die. I know it. Jesus appeared on the window ledge today, and he said I must fight to live. He said I will swim and surf again, too!"

I stood up, wiped tears from my face, and vowed to her that I'd be there to help her do it.

Months passed, with many visits, consultations with specialists, more speculation by skeptical physicians; but we could all see that Gretchen was improving slowly; that she was going to make it.

Early in May Gretchen was dismissed from the hospital, returning a

week later to have the last stitches removed; and then the question came: When can she swim again? Her doctor said, any time the weather looked right; give it a try but be careful.

My mother left the judgement of when up to me. The day arrived, a perfect 85-degree San Francisco day. I left college early and drove home, wondering if she would still be able to swim. What if she were lopsided? What if the stitch scars split open?

There was anxiety in all of us but Gretchen. She was first in the car. We drove out to Fleishacker pool. Gretchen walked toward the dressing room, using her new crutches, the empty space so obvious. I walked behind her to make sure she was protected from stares of bystanders. Cliff, our lifeguard friend, stood next to me as Gretchen made her

laborious way to the side of the pool. I asked her if she wanted to start in the shallow end; it might be easier. She said "No, if I'm going to swim it'll work just as well here in the deep end. That's why you're here."

She dropped her crutches and hopped on the one foot, leaned forward, and dove deeply. We waited, and waited, and waited. She surfaced 40 feet from the side, turned over on her back; and you could not only see the smile of success, of happiness, but you felt it.

I looked over at Cliff. Tears streamed from his eyes. I held my mother, and Gene and Peter dove in to swim out to her. It was a great day, but just the beginning.

My parents moved to Santa Cruz, then to Capistrano Beach in southern California. Gretchen went with them, ending up getting married and having five children, four of them avid surfers. Gretchen spent most of her time, after housework was done, taking her children down to San Onofre. Her husband Chuck gave her a camper so the kids could take their naps and live right on the beach until dad came after work, and they all barbecued on the beach. She taught her kids to swim practically as they were born.

Gretchen got back into surfing the next summer, when I started by taking her out tandem. She got to the point where she could stand in front of me on the board, and we even accomplished a few acrobatics. She wasn't satisfied with that, so we wound up going into Dale Velzy's shop and having a board made for her. She learned to surf at San Onofre. She could stand on one leg, making sweeping turns by dropping to her one knee, then supporting her weight on her arms and dipping the leg back into the wave. As soon as she got the direction, she would jump back to her standing position.

I moved to the islands. The third year I was there, my sister came over to surf. I told her that small Makaha was the perfect place for her, and Waikiki. One day she rode out with me to Sunset. I had brought her board in case Haleiwa was rideable, but it wasn't. I drove up to Sunset, and it was about ten feet.

Gretchen was supposed to sit on the

beach sunning herself, while I went out for just a couple of rides before taking her back to Honolulu. The next thing I knew was that I saw this blonde, longhaired creature paddling out through the rip. It was Gretchen. She paddled outside me and asked "Where do I go to catch a wave?"

I was really angry. I yelled at her and asked if she wanted to drown, and that she had better sprint for the channel and beach. She smiled and complied by paddling near the channel as a good eight-footer loomed behind her. I yelled, "Paddle out!" She turned shoreward and took deep strokes, then disappeared with the wave. I tightened: "What if she wipes out?"

She didn't. Later she told me that she shot down the face, turned towards the channel and flew forward. She said she never got to her feet: "Excuse me, I mean foot." She proned out all the way to the inside of Val's reef. I was still angry at her for taking such a chance, but I was also so proud that I broke buttons on my shirts for a month whenever someone told me about my sister's ride at Sunset.

Gretchen entered the Castle Swim, about two miles, out to the Diamond Head Buoy and back. Her guide boat got off course and Gretchen missed first place by a short distance, but in everyone's mind she was a total winner. In fact, she gained so much respect in Waikiki that one day she was walking down Kalakaua Avenue, and a car rental salesman came running out onto the street to hand her the keys to a brand new convertible. He told her that she could have the car as long as she stayed in Hawaii. The car rental agency men in Waikiki are not known for being easy people.

When Gretchen returned to California, she took up long distance swimming in the ocean. She wrote me long letters telling me that as soon as she started to swim, she felt as if she were normal again. She could compete in the water.

Time passed for Gretchen, and even though the doctors had been wrong in their prognosis that she would die after the operation, the x-ray exposure had its dire effects. At the age of thirty-three, after another tremendous struggle with death, she gave in to cancer and died.

I still feel Gretchen's presence whenever I surf San Onofre, or there is glassy middle surf breaking at Sunset. I remember her beautiful spirit, and that will never die.

— From Fred Van Dyke's "Thirty Years Riding the World's Biggest Surf," 1988. For SMA members wanting to purchase Fred's book (don't be surprised if he inscribes it to you), it is available from him at: 204 Poo Poo Place, Kailua, Hawaii 96734.

MISCELLANY



This was anonymously submitted—a candid shot of Gary Groth-Marnat ("Wombat"), ever pensive, probably playing "Mr. Tambourine Man". High School yearbook, circa 1969.

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SURF DOCS

SURF DOCS "HEAVY D" CONTEST

Dear Surf Doc Readers,

Enough doctor babble from us, we'd like to assign you the job of teaching us to be better docs. Into our 5th year with this column, one of the most remarkable things about the letters you send is your cleverness in trying to solve your own health problems. Sometimes the results are miraculous, sometimes disastrous, but virtually always what you attempt ain't in any of our medical textbooks.

So, please, consider entering our "Heavy D" (death, or near-death) contest: send us any story in which you or someone you know was in a heavy health situation, where perhaps life was in jeopardy, and there was no one to help, no doctors on call. So, you made do, and figured out what to do on your own. We want to know what you did (right or wrong), so we can use that information to help other surfers.

Maybe it was a deep gash while surfing, and how you stopped the bleeding? Someone knocked unconscious, and how you got them into shore? A near-drowning, perhaps? Killer cramps? Anyone held under for two waves (or longer)? How'd you survive it? Leash stuck on the bottom, keeping you underwater — what'd you do?

Shark attacks, malaria, a nasty infection that you used some kind of local cure for, the worst sunburn in the world, avoiding a near-beating by locals? Write and tell us in detail about it. We want to learn more about how self-survival in surfers.

The best three letters will receive official Surfer's Medical Association t-shirts, and will be run in our Surfer column and/or the Journal of the Surfer's Medical Association.

Apart from the contest, Surf Docs is happy to hear from any surfer who has a health question or problem they can't solve. Be sure to include your age and how many years you've been surfing.

Submitted 7/92; published 1/93

Replies will be limited to those letters published.

Dear Surf Docs column provided through the volunteer efforts of The Surfer's Medical Association. Edited and written by Mark Renneker, MD, and Kevin Starr, MD., Family Practice, San Fran., CA. Consultants: Kim Bodkin, MS, Sports Med., Montara, CA; Geoff Booth, MB, Physical and Rehab. Med., Newcastle, Aust.; Mark Bracker, MD, Wilderness and Sports Med., San Diego, CA; Chris Carver, MD, Neurosurgery, Salinas, CA; Robert Chatfield, DC, Chiro., Santa Cruz, CA; John Cherry, MD, Gen. Surgery, La Jolla, CA; J. Grant Davis, MD, ENT, Santa Barbara, CA; James DiMarchi, MD, OB-GYN, Wash. DC; Dan Dworsky, MD, Internal Medicine, San Diego, CA; Randy Fulton, DC, Chiropractic, El Toro, CA; Shale Gordan, MD, Cardiology, Hermosa Beach, CA; Helmut Jones, MD, Ortho., Chico, CA; Alex Kaliakin, DC, Chiro., Santa Monica, CA; Robert Lawson, M.D., Environmental Health, Simi Valley, CA; Geoff Loman, MD, Gen. Med., Ventura, CA; Paul Manchester, M.D., Environmental Health, San Fran., CA; Ricardo Mandojana, MD, Dermatology, Knoxville, Tenn; Gary Groth Marnat, PhD, Health Psychology, Perth, Aust; Tom McLaughlin, PT, Physical Therapy, Duarte, CA; David McWaters, PharmD, Medications, San Fran., CA; Richard Miller, PhD, Psychology, Malibu, CA; Anthony Moore, MD, Esoteric Medicine, La Jolla, CA; F. Ray Nickel, MD, Ortho., Ventura, CA; Andrew Nathanson, MD, Emergency/Marine Medicine, LA, CA; Mikele Nova, MD, PhD, Dermatopathology, La Jolla, CA; George Orbelian, Design Safety, San Fran., CA; Rym Partridge, DDS, Dentistry, Santa Cruz, CA; William Petersen, OD, Optometry, Dana Point, CA; Greg Raymond, MS, Environ. Health, San Fran., CA; Margaret Ripley, MD, Ortho, Jacksonville, FL; William Rosenblatt, Ed.D., Psychology, Loch Arbour, NJ; Mike Rowbotham, MD, Neurology, San Fran., CA; Ross Rudolph, MD, Plastic Surgery, La Jolla, CA; Robert Scott, MD, Surfer's Ear, Santa Cruz, CA; Daniel Sooy, MD, ENT, Santa Rosa, CA; Craig Swenson, MD, Ortho., La Jolla, CA; Craig Wilson, MD, Preventive Medicine, Brockwood, England; Ethan Wilson, MD, Emergency Medicine, Corvallis, Oregon.

SURFER'S SKIN CARE

Dear Surf Docs,

I'm proud of the fact that for 14 of my 26 years I've been a hard-core surfer, but lately my skin is really starting to show it. I was bummed last night, at a party, when a chick complimented me on my "cute, freckly, weathered look."

But I don't know that it's anything I can help. I've been using sunscreen pretty regularly, and I don't try to get tan

anymore. My mother says it's just how we Irish look when we get older (she's already had two skin cancers!). Is there any hope for me?

Cute and Freckly,
San Diego, CA

Dear Freckly,

Yes, there is hope — but it will take a different mind set and a more dedicated approach on your part. Despite all the wonderful things the sun provides — how good it makes us feel, the fact that it sustains life on this planet — when you think about it, we're really basking in the glow of the biggest nuclear reaction in our corner of the universe. The sun is an atomic bonfire bigger than a billion Hiroshimas!

Those who take the worst hits from the sun are folks like you, Freckly, people of northern European ancestry, especially the Irish and Scottish. Your ancestors evolved in the frozen north, where the sun is less intense. Their genes slowly lost both the ability to make sun-blocking pigment and the ability to repair the damage from the sun. Freckles are a pitiful reminder of your genetic inability to darken your skin for sun-protection. The "weathered look," which is premature aging, represents poor skin repair from sun damage.

Growing up in a sub-tropical place like San Diego, there's no "luck of the Irish" when it comes to skin damage from the sun. Parents and schools need to take responsibility for helping kids learn about the sun and how to avoid over-exposure. It's estimated that by age 18, the average American has already received 75% of their lifetime total of sun exposure.

Then, after age 18, when most people begin turning to an indoor worklife, surfers go on adding to their sun exposure, attaining lifetime exposure amounts that are off the chart! For most surfers, or at least the unaware ones, it isn't a question of whether they'll end up with a skin cancer; it's a question of how young they'll be when they get their first one, and how many more will follow.

To avoid being one of those statistics, here's what we recommend for all surfers when it comes to the sun:

1. Surf more, sun less. If you have all day to surf, keep in mind that midday sun is the worst, early morning and late afternoon the best. If you have a choice of where to surf, go with spots with less intense early morning or late afternoon glare and reflection problems. Even ten minutes of reflected sun can burn your face.

2. Dress for the occasion. Go for max skin covering if out in the midday. At a minimum, use a surfcap or visored hood to shield your head, face, and eyes (and consider sun-goggles as well). If in warm-water climes, don't stop with just a lycra vest, go for something with sleeves — down to the wrist if possible — and a high neck. Those in the know wear full-body lycra/polypropylene suits, which aren't easy to come by in surf shops but are carried as under-wetsuit garments in many dive shops.

3. Screens and blocks. Use a waterproof sunscreen of SPF 15 or greater. Despite manufacturer's claims, the maximal useful time in the water is about 80 minutes (40 minutes if marked "water-resistant"). Creams and gels are usually better for surfers than lotions and oils, which can make your board slippery. Make sure it screens out both UVA and UVB rays. Use enough: a full teaspoon for the face, about five teaspoons for the whole body (if you're lucky enough to surf naked). Use a sunblock (completely blocks vs. screens the sun) on the most heavily sun-exposed areas, such as your nose and lower lip (the more common sunblocks are zinc-containing).

4. Check it out. Skin self-examination is the call. Currently, one-in-seven American will get skin cancer. The risk for surfers is far higher, perhaps three-in-four. Most skin cancers are completely curable if caught in time. Any new skin growth, bump, mole, or blotch should be checked by a doctor.

5. Live clean, vote green. Do whatever you can to stop the destruction of the ozone layer. Surfer's have a special stake in the stratosphere. Educate yourself about CFC's, and avoid releasing more into the atmosphere. Get active in your community, raise a stink. Vote intelligently; help others do the same.

Submitted 5/92; published 8/92

"WET SUIT PIMPLES"

Dear Surf Docs,

I've been surfing for many years and have only recently developed what I think is an unusual reaction to my wet suit: pimples. I've never had this problem before and fortunately it only occurs around my neck. I wear an O'Neill "Heat" suit that has a smoothie neck lining which doesn't even give me a rash. I rinse it in fresh water after using it to keep it clean. I've neglected to mention that I'm a girl and (luckily) lack the hairier, coarser neckline of a male, and have been furnished with a more soft, supple, and, unfortunately, in this case, sensitive neckline. Could my gender be the deciding factor, or is this a non-discriminatory problem?

Pimpled Polly,
Newport Beach, CA

Dear Polly,

It sounds like you've got what we surf docs call wetsuit folliculitis: inflamed hair follicles caused by a wetsuit rubbing against the skin. O'Neill isn't at fault, any brand can do it. Despite advertising claims to the contrary, wetsuit material — whether neoprene ("smoothie") or nylon — is pretty coarse stuff (bear witness the need for "rash guards"). To understand the cause, treatment, and prevention of wetsuit folliculitis, you first need to know a little about human biology.

Our animal descent really shows through for both men and women when it comes to the generous number of hairs we have down the back of our neck. Every hair grows from out of a pit, which is called a hair follicle. The walls of the hair follicle contain sebaceous glands, which produce oils that keep hair and skin shiny and supple. The oils normally ooze out of the follicle along the shaft of the hair, then spread across the skin.

When something tight-fitting, which is largely inflexible and relatively rough-surfaced, like a wet suit, rubs and catches the hair, the skin around the hair follicle becomes irritated. This leads to inflammation and swelling. The swelling can block off the opening of the follicle, so

that the oils produced by the sebaceous glands are trapped inside. That's when you've got a pimple.

To make things worse, the body tries to break down the oils with enzymes, which leads to toxic fatty acids — and more swelling. It's a vicious cycle until the follicle opens up.

When we surf, our near constant head movements and paddling motions are constantly pulling and stretching the wetsuit across our necks and shoulders, which is the most common site of wetsuit pimples. The smoothie wet suit may glide more easily over your skin, but it would still catch on the hairs of your neck and lead to folliculitis.

The treatment of wet suit folliculitis involves decreasing the inflammation and unclogging blocked follicles. For the inflammation, use hydrocortisone 1% cream (available over the counter), three times a day. The blocked follicles will be opened up by the nightly use of benzoyl peroxide gel, (also over the counter). You don't need the maximally strong stuff (10%), low-strength (2.5% or 5%) would be kinder to your skin. Also, begin using a gentle soap at home, such as Dove® or Neutrogena®.

Wearing a rash guard or even a T-shirt will shield your hair follicles and help prevent other skin problems, such as rash. Peel down and get out of your wetsuit as soon as you leave the water. Shower right away. If there isn't a shower at your beach, bring a gallon of water. Also, applying a dose of hydrocortisone right then may pre-empt inflammation.

You'll be stoked to know that you aren't a victim of evolutionary sexual discrimination. In fact, it's quite the opposite: males have larger and coarser hairs and are more likely to get wet suit rash than females.

Submitted 7/92

RESIN REDUX

Dear Surf Docs,

I am 27 years old and have been glassing surfboards for different factories for about 5 years. When I first started glassing, friends used to joke about my getting a cheap "high" from breathing in the resin fumes. At first it was funny, but

now I'm kind of scared.

These days, I feel spacey after a heavy glassing session, and I think my memory is getting worse. Am I frying my brain, or what? Are there really risks of working with resin? Is there any chance of permanent damage? What can I do to reduce my risk? Any advice would be much appreciated.

Thanks,
Ralph the Resin Man.

Dear Ralph,

Our resin fumes expert, Dr. Gary Groth-Marnat, from Curtin University in Perth, Australia, has researched your questions, and provides us with the following information:

Breathing resin fumes is no joke - they can be dangerous! And, yes, your symptoms exactly fit the picture of resin fumes intoxication. The good news, though, is that it's doubtful you're on your way to becoming a zombie. Here's what you and every other surfer needs to know about the health hazards of resin.

Resin is a conglomerate of many chemicals, most of which are pretty safe to be around (unless you're involved in the day-to-day manufacturing of resin). The bad stuff in resin, what's causes you to feel cuckoo, is called styrene. Styrene is what makes the resin get strong ("cross-link") after catalyst is added. It's what gives resin its characteristic smell. It makes up about half of the total volume of resin. 10% of the styrene evaporates as the resin hardens, which means that as you're glassing a board and waiting for it to dry, there's a lot of it in the air. That's the danger time.

U.S. worker's health standards are that 50 parts per million (ppm) of styrene in the air is considered to be a safe average level of inhalation exposure during an 8-hour work day for nearly all workers. 100 ppm is the maximum acceptable level for a 15-minute interval. Most people can detect the odor of styrene when the concentration is between 0.5 and 1 ppm.

The styrene levels — and health hazards — in surfboard manufacturing have never been formally studied, but a pilot study was conducted by Greg Raymond, M.S., an industrial hygienist

and a founding member of the Surfer's Medical Association. He did a limited amount of air sampling of styrene at a custom surfboard and sailboard manufacturing shop in the summer of 1986, at distances of 5-20 feet from the point of resin application, in rooms with varying degrees of ventilation.

His findings (styrene concentration): (1) laminating/glassing area: 4-30 ppm, (2) sanding/glossing area: 60-100 ppm, and (3) polishing area: up to 20 ppm. The glossing area, where the highest levels were found, was where the ventilation was the worst (no open door to the outside, no forced ventilation).

These findings probably underestimate direct, maximal exposures to workers, because they were taken at distances reflecting overall levels. If your glassing style is to keep your face up close to the board during the laminating process, watching for missed areas, bubbles, and places needing squeegeeing, your styrene exposure will be considerably greater.

If you're really curious, it is possible to measure your blood levels of styrene. Contact ESA Laboratories in Bedford, Mass.

Styrene exposure would be considerably lessened by: (1) improved ventilation (good air flow with open doors and windows, wall-mounted fans to remove room air), (2) keeping the glassing room at a cool temperature, (3) using a respirator containing organic vapor (charcoal) cartridges (paper face masks don't cut it), (3) use of protective clothing and gloves (PVA or polyethylene are best).

Styrene causes a sense of irritation or burning if it gets on your skin and/or mucus membranes, so be extra careful to keep your skin, mouth, and eyes covered, particularly if you have open cuts and sores.

If your sense of smell is reasonably intact, the degree to which you can smell the resin fumes is a good measure of how protected you are. Fully decked out by the above precautions, you should barely be able to smell the resin (if at all), and it may take changing your respirator cartridges as often as every day to keep it that way.

If styrene is making its way into your brain, you'll begin to notice any number of problems, starting with worsening of short-term memory ("Did I remember to add the catalyst to the resin?"); trouble concentrating, slowed reactions and incoordination (explaining why some pinstripping looks so nutty); as well as irritability, tiredness, and headache ("Why are all these surfers bugging me to get their boards done, I'm only a month late!")

Symptoms usually go away within a matter of hours or days, but in particularly susceptible people, can last longer and be more severe. In one case, a guy with only two years of styrene exposure became completely psychotic for an extended period of time, with persistent visual hallucinations, paranoid thoughts, insomnia, and depression.

Long-term exposure to styrene (i.e., 10 years or more), has been associated with permanent liver damage, numbness and weakness, and a mild increased risk of cancer (lymphoma and leukemia).

Breathing resin fumes will make you "high," via depressing the central nervous system, with effects similar to sniffing glue. The difference, though, is that the toluidine in glue actually kills brain cells, whereas styrene usually doesn't. Exposure to another solvent, such as acetone (which many glassers use to get the resin off their hands) may make the styrene effects worse. Use acetone sparingly.

Real and unpredictable problems can occur when combining styrene with other central nervous system depressants, such as alcohol and various other drugs. Driving a car after a heavy glassing session, when you feel spacey, would not be a good idea; a beer or two during or after glassing, and then driving a car would be a terrible idea.

For the average surfer doing backyard ding-repair jobs, the styrene exposure risks would obviously be far less than for a professional glasser, but the above safety precautions should still be considered.

As for you, Ralph, we doubt that your brain has been turned to mush. Stick to the above recommendations and you should be fine.

Submitted 4/92; published 9/92

LETTERS

① A CASE REPORT: SURFER'S CHEST KNOTS

Dear SMA:

I recently saw an eighteen-year-old surfer in my office who had been surfing for approximately two years. Over the last few months he has noted an enlarging mass in the left subcostal area (lower part of the ribcage), mid-clavicular line, approximately 3 x 5 cm in diameter that has a bluish discoloration and seemed to be more painful and more discolored after surfing. He also has a small area on the right subcostal rib margin.

On physical exam it seemed to be a ballottable (compressible) bursa-like mass and I advised the patient merely to protect the area and did not recommend surgery; however the patient has a family history of cancer and was somewhat cancerophobic and insisted that it be removed. We did excise the lesion and included is the path report of a 5 x 4 x 2-

1/2 cm mass which was anterior to the rectus muscle, at the costal margin.

In talking to the SMA about this case, it appears this is apparently a common phenomenon in surfers and has been called "surfer's chest knots." They appear to result from repeated pressure and irritation of the tissues overlying the lower aspects of the ribcage, as a result of the way a surfer positions the chest on a board when paddling.

The patient is right-handed. He didn't have any real comments in retrospect as to his surfing technique or paddling technique but I did pass on the information to him about more use of the abdominal wall muscles, pelvis and perhaps a less floaty board and perhaps in padding either the board or in his wetsuit might be helpful in preventing this.

Sincerely yours,
Stephen W. Van Meter, MD
General Surgery, Alameda, CA



These aren't breasts—they're surfer's chest knots (on "Beeper Dave," just back from Baja). Photo by Steve Heilig

② SMA IN BRAZIL: ANY TAKERS?

Dear SMA:

I returned to Brazil a couple of weeks ago, following 3 years of medical and surfing activities in Australia. As you know, surfing in Brazil has been growing daily. And as you can imagine, a 4th World country needs education, of course not as much as clean water, but in large quantity and quality. This education must target our surfers, as well.

Inspired by SMA and supported by our planet waves, I created a medical column on a Brazilian Surf Magazine: "INSIDE" of Florianopolis, Santa Catarina...

Following Simon Leslie's orientation, I would like to refer you to my application in order to obtain the rights to represent SURFERS MEDICAL ASSOCIATION in Brazil. I've been thinking about a SURFERS MEDICAL CONFERENCE IN FERNANDO DE NORONHA ISLAND for February, 1994, an offshore island of Brazil, northeast coast, a national park and a top wave spot.

Please let me know what do you think about it?

Boas ondas...Joel Steinman

Address: Rua Aimbere 4666- 131
Sao Paulo S.P. Brazil
Cep 05018 PHONE/FAX 011. 531-2964

OPERATIVE REPORT

PREOPERATIVE DIAGNOSIS: Surfer's bursa.

POSTOPERATIVE DIAGNOSIS: Same

OPERATION: Excision of a mass in the left costal margin.

SURGEON: Stephen W. Van Meter, M.D.

ANESTHESIA: Local.

PROCEDURE: The left costal margin was prepped and draped in the usual manner, and then 1% Xylocaine was used to anesthetize the skin and subq, and an incision approximately 5 cm. in length was made along the costal margin, carried through the skin and subq, down to the subcutaneous mass in the abdominal wall. Flaps were raised superiorly and inferiorly, and then down to the chest wall and the lesion which was approximately 5 cm. in diameter was excised. Bleeders were coagulated with the Bovie and the specimen sent for Pathology. With this done, the subq, was closed with interrupted 3-0 Dexon sutures and the skin with a running subcuticular 4-0 Dexon. A pressure dressing was applied.

The patient was told to keep the wound dry for 24 hours, to use Tylenol with 0.5 gr. codeine, p.r.n. for pain, and return to the office in one week.

PATHOLOGY REPORT

PREOPERATIVE DIAGNOSIS: LESION, LEFT CHEST WALL

TISSUE SUBMITTED: LESION, LEFT CHEST WALL

GROSS DESCRIPTION: A 5 x 4 x 2.5 cm fragment of soft tissue with pliable tan tissue noted on the inside surface. Multiple 0.2-0.5 cm cysts are noted, some of which contain pasty yellow fluid. Representative sections, one cassette.

MICROSCOPIC DESCRIPTION: The sample consists of fibrofatty connective tissue bearing cysts lined by attenuated synovial cells.

MICROSCOPIC DIAGNOSIS: MULTILOCULATED SYNOVIAL CYSTS, CHEST WALL

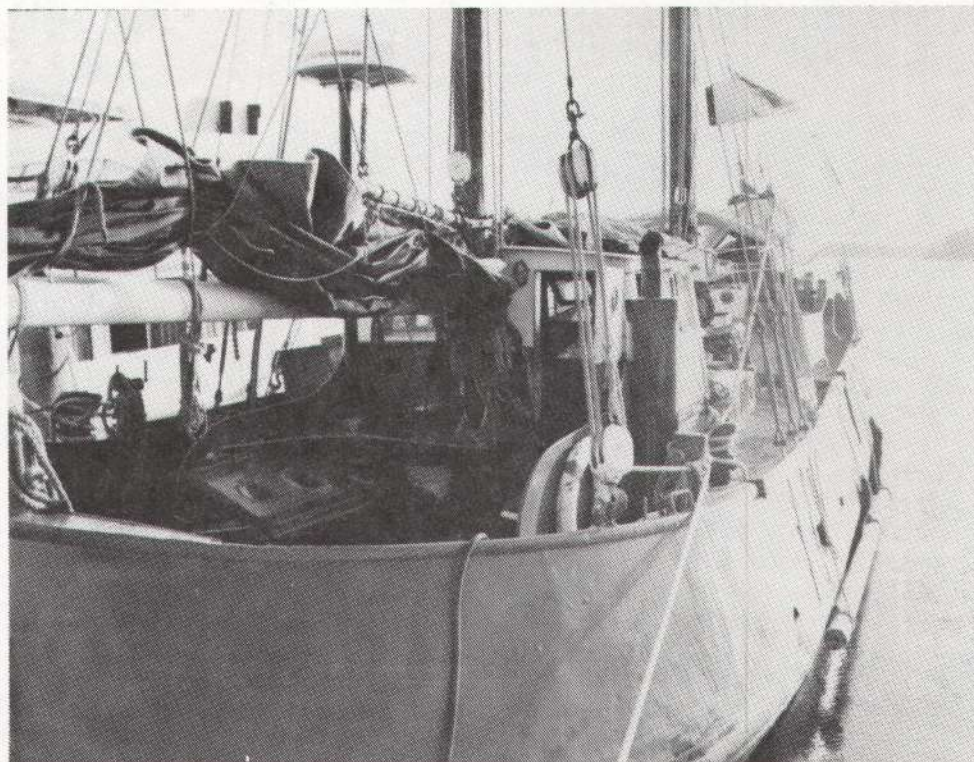
③ SMA AT SEA?

Dear SMA:

The Dirk Von Texel (aka the Seaguard), a magical 80-foot North Sea Trawler, will be available in the future for a SMA floating conference. It sleeps 8 guests and 4 crew, and the cost would be relatively low. It is currently on a round-the-world cruise to raise awareness about saving the oceans, and could be made available at a variety of diverse locations, such as in the Caribbean/Central America until April 1993, Europe during May-October 1993, and onwards. A two-week SMA conference could be structured as a "mystery cruise" with the destination unknown, with only the departure and arrival ports disclosed. Tobago, anyone?

Interested? Let me know.

Ron Bockhold
N. Miami Beach, FLA
(305) 945-7783



Dirk von Texel (aka Seaguard, Survival of the Sea Society) lying at port - Miami, Florida, July 1992

④ WORDS OF WISDOM

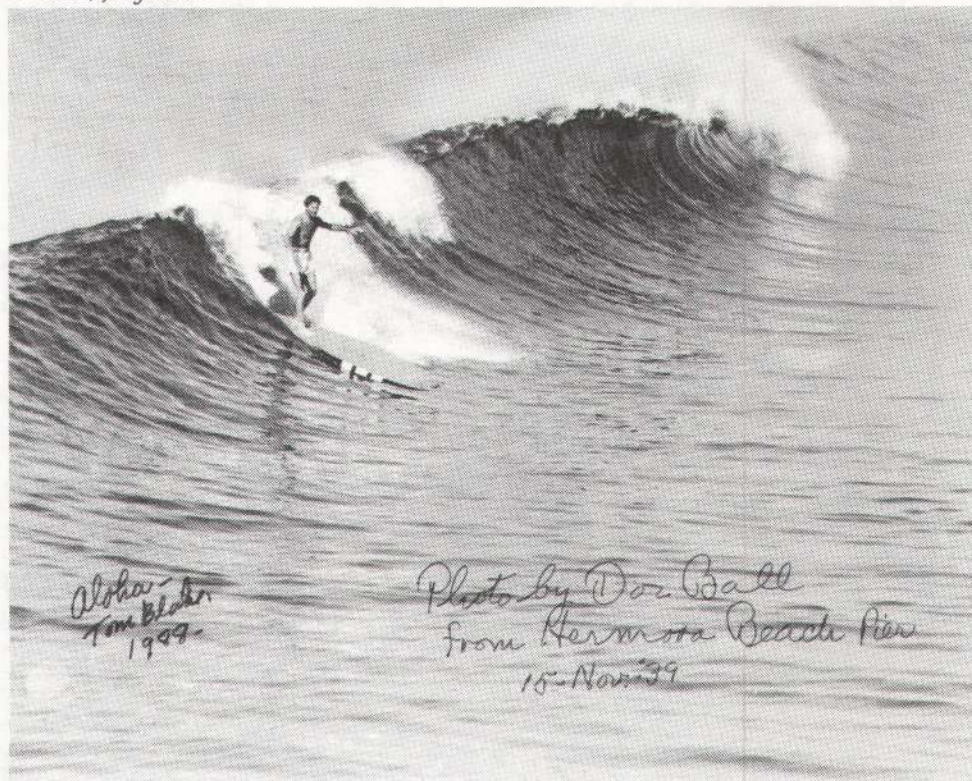
Having ridden the wave of life for 88 years, I feel qualified, and obligated, to record some of the impressions and knowledge the years have contributed to me, and to thank all concerned before going to where "They Have It Easy."

We are made of atoms. In dying we change form; but cannot escape from the kingdom of the atom. Furthermore, the atoms cannot escape the so-called universe; so we not only have eternal life, as Jesus and Einstein tried to tell us, but we cannot escape eternal life.

Nature = God. So, who do we blame for old age, illness, death? Nature or God? All is still well, no blame — only gratitude for all our blessings. The positive attitude always.

The knowledge you get in schools and colleges is second-hand. The wisdom and know-how you get from the sea and waves and water is virgin new and fleeting. By all means, get some of this kind of education.

Thomas E. Blake
Surfrider & Swimmer



"Aloha - Tom Blake 1988" Photo by Doc Ball from Hermosa Beach Pier. 15 Nov. '39.

(Ed. note: Tom Blake is one of the founders and father figures of modern surfing. These comments were forwarded to the SMA by member Gary Lynch, who is Tom Blake's biographer).

THE GREEN ROOM:

PAPER FOR A BETTER WORLD

By Ward Smith

Lately, the good news for the Surfrider Foundation has been the pulp mill victory in Humboldt County. Louisiana-Pacific Corp. and Simpson Paper Co. were dumping 40 million gallons of highly contaminated, untreated waste into the ocean every day. In addition, the mills were guilty of 40,000 violations of the Clean Water Act since 1984. Surfrider sued and won, forcing the mills to radically clean up their act. The bad news, however, is very hard on the environment.

Paper products consume 35% of the world's commercial wood harvest. Cutting down trees to manufacture paper destroys wildlife habitats. Trees, however, are a renewable resource; they can be replanted. Unfortunately, when they replant the forests, they don't plant the same trees that they cut down. They plant one species of tree where before many species grew. Without the diversity, the forests can't support the same kind of creatures as before. Furthermore, the transportation of logs creates special problems. Many logs are transported to the mills in streams. The overabundance of logs in the stream upsets the delicate ecological balance and causes the depletion of oxygen. All the life forms that depend on oxygen can die. This also occurs during part of the paper manufacturing process when the pulp is washed. Finally, the whole process requires the burning of fossil fuel and the use of electricity. This pollutes the air with sulfur dioxide, nitrogen oxides and carbon monoxide, causing acid rain as well as the depletion of the ozone layer.

Although this may sound depressing you, as a consumer, can do something to help. Whenever possible, buy only recycled paper. Every ton of recycled paper that consumers use (instead of non-recycled paper) reduces landfill use by 9.9 cubic feet, reduces water pollution by 35%, reduces air pollution by 74%, saves approximately 17 trees, saves 7,000 gallons (or 58%) of water, and uses 64% less electricity. It is equally important to recycle your used paper. 40% of the solid waste in landfills is paper. Recycling paper saves an estimated 200 trees every 30 seconds. Furthermore, the paper recycling industry creates 5 times

more jobs than the timber harvesting industry. Recycling paper is not only good for the fragile environment, but it is also good for our fragile economy. Finally, when you buy recycled paper, buy paper that is unbleached. The bleaching process is usually accomplished with elemental chlorine which produces dioxin and other compounds believed to be harmful to aquatic life.

Unfortunately, the terminology used in the recycling industry is not only confusing but often misleading. Many consumer products are labeled "recyclable," surrounded by the universal recycle symbol. All this means is that the product can be recycled if you take the initiative to do so. It does not mean that it was made from recycled materials. Buying recycled paper is not always enough. A majority of the recycled paper is made from the cuttings and waste created by making paper at the mills. In other words, the mills are recycling their waste, a process that is commendable. As consumers and environmentalists, we need to create and sustain a market that encourages all people to recycle their used paper. Buying paper recycled at the paper mills will not create or sustain this market. You need to look for, ask for, and purchase paper that is labeled "post-consumer" recycled paper. Post-consumer paper has been recycled at least once already. By buying post consumer recycled paper, we are creating and sustaining the market. Frequently, recycled paper is labeled with the post-consumer content specified as a percentage. Whenever possible you should buy paper with the highest post consumer content. You can make a difference.

BLUE WATER TEST KIT UPDATE

(From the Summer 1992 Surfrider Foundation newsletter — The SMA and SF have agreed to share relevant newsletter and journal updates)

To improve the accuracy and legal clout of its water quality data, the Blue Water Task Force will be adding a new testing procedure to its dirty-water arsenal. Until recently, water quality testing has been conducted for the presence of coliform bacteria using the "Coli-Count Sampler" manufactured by the Millipore Corporation. However, the Coli-Count Sampler is not an EPA-approved procedure,

requiring additional verification when high bacterial counts are measured. This verification was done by the procedure known as "Multiple Tube Fermentation" in local EPA-certified laboratories.

In general, the verification testing found that the Coli-Count Samplers were accurate in highly contaminated water. However, they sometimes lacked the resolution necessary to determine when the bacteria count was down around the threshold of the EPA maximum for safe skin contact (1000 MPN/100 ml). In addition, the dye system used in the Coli-Count Sampler to differentiate coliform from other bacteria was often invalidated if nickel was present in the water sample.

The new water test kits, to be distributed by Surfrider through local chapters, use a fully EPA-certified method. They are manufactured by Hach Co. of Denver, Colorado and are based upon the multiple fermentation procedure. For seawater testing only the method must be EPA certified, not the person doing the testing. Therefore, all the Blue Water Task Force samples analyzed by this new procedure will meet EPA standards. This will make the data unimpeachable in either court or in government agency hearings.

Like the Coli-Count Sampler, the new test kits will still require incubation, beginning within four hours after the water sample has been collected. This initial incubation is followed by an additional incubation using a separate culture medium to verify that any positive reading was due to coliform bacteria. However, since the new test is somewhat complicated, anyone wishing to use them needs to be checked out on proper testing procedure to ensure the results are not invalidated.

The new sample kits cost \$6.00 each compared to \$2.50 for the Coli-Count Sampler. However, this is still a good deal when compared against as much as \$200 per water sample charged at an EPA-certified laboratory. Also, because of their ease of use, inexpensive price, and general reliability in polluted water, the Coli-Count Sampler will still be used for frontline monitoring to indicate high-contamination levels. However, when backed up with the Multiple Tube Fermentation system, it becomes a bulletproof piece of evidence to submit to various agencies responsible for clean water.

Scott A. Jenkins, PhD
for the Surfrider Foundation

SMA UPDATES

MEMBERSHIP REPORT

Notes from the Execudome:

Members, I want some input from you on the subject of overdue renewals. I've come to realize that the SMA is spending a lot of money on the printing and mailing of journals and directories for members who have not renewed their memberships. After deciding to try to wipe out this problem, I first called another membership organization and asked them how long they continue their mailings to overdue members. I was told that 16 months overdue is the standard cut-off time for theirs as well as for many other organizations. Next, I sent out an overdue renewal notice (our notorious "SLIMEBALL?" mailing) to all members who were 16 months or more overdue (some were years overdue). I mailed out a total of 259 cards — the response has not been overwhelming. From the mailing only 32 have actually sent in their renewal fees. Another 10 intend to remit their renewal fee upon receipt of free information which I have sent. 43 cards were not deliverable because of wrong or no addresses. These names will be included in the MIA list posted in this issue. If you know the whereabouts of any of these people please let us know! This leaves 174 overdue members who have not yet responded to my request for their renewal. So now, I come to you for guidance. Remember, the SMA's not an organization in which a select few determine its direction. We're all steering this ship - where do we want to go? Do you want to:

1. Forget it & keep mailing?
2. Give 'em one more chance?
3. Make the cut-off point longer? shorter?
4. Delete them from our membership?
5. Other

Please drop me a card and let me know what you think.

Best Wishes and Good Surf,
Paula Smith
SMA Headquarters
PO Box 1210
Aptos, CA 95001 USA

These Folks are Lost at Sea.

It may be that they simply didn't notify us of an address change, but what we mailed them just keeps getting returned. Can you help us find them? Send us any information you have on them, please.

<u>First Name</u>	<u>Last Name</u>
Garth	Alpenstein
Michael	Arvanitis
Jerry	Berland
R. Charles	Brownlow
Jeffrey	Cheskin
Pete	Coulston
Mark	Cunningham
Dave	Donhoff
Dave	Elpern
Paul	Faringer
Harris	Feinstein
Bill	Finnegan
Bill	Fornaciari
Randy	Fulton
Matt	Gadow
Mike	Godin
Tom	Goglio
Gordon	Haas
Dave	Holtzman
Fred	Holzmer
Philip	Jones
Suzette	Kale
Randy	Leger
Tito	Liotta
Benjamin	Luber
Paula	Luber
Phil	Martin
Keith	Merrill
Keith	Myers
Michael L.	Nichols
Dave	Oates
Anne	Pazieri
Felipe	Pomar
Ian	Rothwell
Michael	Rowbotham
Frank	Ruiz
Don	Shomer
Michael	Shutt
Jane	Stanser
Christian	Sunoo
Bill	Takashima
Steve	Vitarius
Leo	Westcott
James	Wright
Dennis	Zafran
Taissa	Cherry
Tom	Taylor
Anton	Gracey
James	Robertson

DOCTORS WANTED

TO STAFF GRAJAGAN SURF CAMP
JAVA, INDONESIA
MARCH 3-SEPTEMBER 29, 1993

BENEFITS: Free food and accommodation for doctor and significant other; one night's accommodation in Kuta provided on arrival in Bali; transport via bus from Kuta (overnight).

REQUIREMENTS: Minimum of one week's stay in Grajagan; proof of registration as a medical practitioner; transport to Kuta, Bali; ability to provide acute care for trauma, drowning, malaria, etc; provide own medical indemnity insurance; provide sutures, dressing equipment or with G-land staff to obtain medical supplies as required.

DATES OF TRAVEL TO GRAJAGAN:

March 2, 9, 15, 21, 27
April 2, 8, 11, 20, 26
May 2, 8, 14, 20, 26
June 1, 7, 13, 19, 25
July 1, 7, 13, 19, 25, 31
August 6, 12, 18, 24, 30
September 5, 11, 17, 23, 29
October 5, 11, 17, 23, 29

The bus leaves Kuta at 10:00 pm on these dates arriving at 7:00 am the next day. Return journeys are on the day after these dates, i.e., March 3, 10, 16, etc.

CONTACT:

Simon Leslie
63 The Drive
Stanwell Park NSW AUSTRALIA 2508
Phone 042 941716 Fax 042 941082

Provide name, address, phone/fax number, preferred dates, alternative possible dates, name of significant other.

HOLLISTER RANCH?

Partners wanted for Ranch parcel. Three owners, minimum 500k total purchase price. Creative financing.

Darryl Genis: 310-832-9332

UPCOMING CONFERENCES

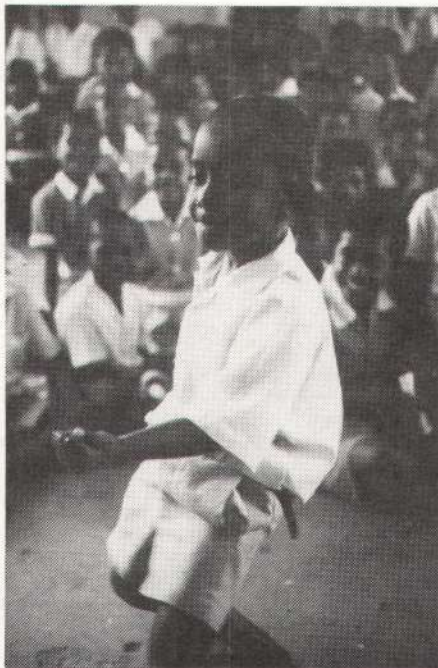
WANT TO GO TO FIJI?

TAVARUA

MARCH 13-27, 1993

THE EIGHTH ANNUAL SMA TAVARUA CONFERENCE

If you've been to, heard, or read of our previous conferences, you know we have each time been blessed with great traveling companions, excellent medical presentations and work, wonderful hosts - and waves like nowhere else. The emphasis for the meeting this year will be on kids - both yours and the Fijians'. We invite you to bring your children for an intercultural experience they will never forget. The kids in the village of Nabila will be their hosts - together they can share and learn about one another, as we work on kids' health projects. Any age child is welcome, but, optimally, older children and teens would probably benefit most (especially if they surf - there are waves for all levels of water



Mickey, and Nabila classmates—the feature of next year's Tavarua conference: children. Photo by Wombat

experience). This will be a great opportunity for them to learn a little about the developing world, and to see you in action as a health worker (the occasional member's child who has come before has invariably decided to go into medicine as a result of the experience). The conference dates overlap with some school holidays.

Of course, anyone without kids is welcome as always!

Call Bill Jones for details at (408) 373-2209, or SMA central (408) 684-0916.

BIG FLAT NOVEMBER 8-14, 1992

Big Flat. November 8-14, 1992. Apologies to non-California SMA members are in order. This journal couldn't be readied and mailed early enough to give everyone a chance to sign up for this year's Big Flat Conference. So, we did a postcard mailing to only California members in late September. All the spots quickly filled! Next year ...



"We want you!" Hey you kids—large and small—come to Tavarua. Photo by M.R.

TODOS SANTOS, BAJA DECEMBER 11-13, 1992

Annual Southern California "chapter" meeting at Todos Santos.

To reserve your spot send \$200 to SMA. \$200 covers transportation from Ensenada, meals, drinks, and BIG WAVES!

Call Mark Bracker for details. (619) 270-7569

GRAJAGAN, JAVA SEPTEMBER 20-30, 1993

Expressions of interest are invited from those prepared to venture to Grajagan for another great conference. The first two conferences have been successful in terms of conference content, participation and surf. Before we finalize the next conference we need to know if there are enough SMA members left out there with the courage and time to go. Cost exclusive of airfare will be approximately \$800 US. Register with SMA central ASAP: (408) 684-0916.

MEMBERSHIP INFORMATION

Memberships are for one year unless otherwise specified, and include a decal, membership directory, a journal every 6-8 months, and invites to all SMA conferences. Membership is a way of both joining and contributing to the SMA. Choose your category accordingly.

Life Member: Totally Committed and has some bucks—pay once and you belong forever. \$500

Charter Member: Wants to be a Heavy Local in the organization. \$100

Health Professional Member: the Surf Doc Membership—for those who spent too much time going to school and now want to surf more. \$50

Professional Member: for non-health professionals with real jobs. \$50

Barefoot Doctor Member: the Surfer's Membership—for surfers interested in learning how to take better care of themselves and others. \$20

Gremmies Member: for beginning or young surfers. \$10

Silver Surfer Member: for the elders of our sport (over 60) No charge.

Corporate Sponsor: philanthropy has its costs...\$500 and up.

Corporate Guilt Member: for those who have exploited surfing for personal gain—you know who you are, now pay up. \$1000

The John Cherry "I Won't Join Anything" Membership: for the truly hard-core non-joiner. \$109.95

Life's A Beach Member: for wealthy patrons who believe the surfer's lifestyle should be supported to the max. \$100

Illegal Member: \$100 cash or equivalent. Anonymity guaranteed (unless Nancy Reagan wants to know).

Surf Parent Member: for those who want to see Johnny come home in one piece. \$30

Surf Family Membership: the family that surfs together, stays together. \$30 (\$60 if any family member puts a degree down after their name).

Surf Widow Membership: for spousal equivalents of surfers—the SMA can help! \$10

I'll Join Anything Member: for non-surfers who think it would be cool to join a surfing medical association. \$19.95

Join Now, Pay Later Member: send us your hard-luck story. \$0

Organizational Member: let's trade memberships to keep each other up-to-date. \$0

Surf Professional Member: for career surfers—you endorse us, we endorse you. (the SMA supports pro surfing). \$0, and maybe an occasional favor.

Hodad: interested in joining, hasn't paddled out yet.

Shoulder-hopper: those who drop-in on the SMA without paying their dues.

Snake: a flagrant, chronic shoulder-hopper (always promising to pay their dues)

After-Life Membership: for Life Members, a chance to surf in the hereafter—the SMA will do everything possible to see that your organs are donated to surfers, and we'll provide a lovely surfboard tombstone for your grave. \$1000

T-shirts: \$15.00@, M-L-XL, include SASE (8 oz. @, 9 x 12 in. envelope)

Decals: \$2.00@, include SASE (1/2 oz. @, 7 x 10 in. envelope)

Wall Diplomas: \$5.00@, include SASE (1/2 oz., 9 x 12 in. envelope)

TO RENEW: When did you first join, or last renew? Was it a one-year membership? Figure it out (reminders abound). Consider Life Membership to simplify things in the future.

TO JOIN: Choose your membership category, fill out this form, make out a check payable to the Surfer's Medical Association (in U.S. dollars), and mail to: Surfer's Medical Association, P.O. Box 1210, Aptos, CA 95001-1210. Phone/FAX (408) 684-0916. Be patient if you don't hear back from us right away (especially if the surf is good).

PLEASE SEND US THIS INFORMATION

copy or Xerox if you don't want to disfigure your journal

Date _____

New Member Renewal

Name _____

Address _____

City/State _____

Zip _____ Country _____

Work phone _____

Home phone _____

Membership Category _____

Amount [Fees as of Sept. 1st, 1991] \$ _____

Non U.S. Members add \$10

Type of surfer (stand-up, boogie, etc.) _____

Years surfing experience _____

Present number of go-outs per month _____

Your worst surfing injury _____

Type of work/specialty _____

Job title/Academic position _____

What about the SMA stokes you the most _____

Name/address of a surfing buddy(s) who you think would appreciate being invited to join the Surfer's Medical Association:

THE HOLIDAY SEASON IS COMING!

Give **YOURSELF** and others **SMA GIFTS!!**
 (And be donating to the SMA at the same time!!!)

T-Shirts

High-quality (Hanes), colorful SMA logo on back and front pocket, short-sleeve in bone color only. Medium - Large - Extra Large, include self-addressed, stamped envelope (they weigh about 8 oz. each, and one will easily fit into a 9 x 12 in. envelope). Classic gifts. The medium is fairly small, and reasonably fits children and smaller adults. \$15.00 each.

Number of shirts: _____

Size(s): _____

\$ Enclosed: _____

Must include SASE.

SMA MEMBERSHIPS

A fantastic gift - join someone up to the SMA (or renew or upgrade your membership). See the listing of membership categories on the reverse of this page, and complete the membership form. Indicate if a gift membership on the membership form (don't worry if you don't have all the relevant information; just put the name, address, and type of membership - we'll have them fill in the rest later).

Decals

Torquoise-blue SMA logo on white mylar, about 5 x 6 in., perfect for surfboards, car bumpers, windows, notebooks, and office doors. Include self-addressed, stamped envelope (1/2 oz. each, 7 x 10 in. envelope so they won't have to be folded). \$2.00 each.

Number of decals: _____

\$ Enclosed: _____

Must include SASE

Wall Diplomas

To place alongside your other diplomas, whether from high school or medical school, this signed, slightly surf-motif'ed diploma officially confers upon whomever you indicate "the rights and privileges thereto pertaining to membership" in the Surfer's Medical Association. Get it framed, and give it as a gift! Include self-addressed, stamped envelope (1/2 oz., 9 x 12 inch envelope, so they won't have to be folded). \$5.00 per diploma. Diploma in what name(s): _____

Number of diplomas: _____

\$ enclosed: _____

Must include SASE

Books: The Collected Surf Medicine Works

Volumes 1, 2, and 3

Each volume is about 300 pages, in a 3-ring binder with **Collected Surf Medicine Works** on the spine. They will look handsome on any bookshelf, and be a powerful reference and educational tool. Each volume costs \$35.00, plus \$2.40 postage (first class, U.S.), or \$18.00 foreign (if air mail) or calculate sea-mail foreign postage costs for two pounds per volume. Or, order all three volumes for \$100 and the SMA will throw in the postage for free (if U.S.). Vols. 1 & 2 ready for delivery. Vol. 3 still in press.

Volume 1: World Literature on Surfing and Medicine \$35 each # _____

Volume 2: The Complete Dr. Geoff and Dear Surf Docs \$35 each # _____

Volume 3: Handbook of Surf Medicine - \$35 each # _____

(underground edition - still in progress, but will be sent when ready)

Complete set of all 3 volumes \$100 # sets _____

Postage amt. \$ _____

Total amount \$ _____

SURFING MEDICINE: A Pier-Reviewed Journal

Here's your chance to add a significant publication to your resume: consider making a submission to the Journal of the Surfer's Medical Association. Send us your surfing related case reports, research, proposals for upcoming trips or projects, stories, and anything else you feel is relevant to surfing and medicine.

Rules for Submission:

1. Send material in early -- next deadline February 10, 1993.
2. Include pertinent references and slides/prints (yourself surfing?).
3. We'll love you forever if you put your material on a Mac disc, using Microsoft Word.
4. Include any graphics and photos (especially surf pics, particularly if they are of you).
5. Proof-read your stuff a couple of times -- have your kids correct your spelling and punctuation.
6. We'll publish anything sent in that looks good and passes peer-pier review (we pass it around to SMA members and other derelicts hanging out under the pier; if it meets their rigorous standards, it's in).
7. Mail to: Editor Surfing Medicine, 2396--48th Ave., San Francisco, CA 94116

Instructions

Follow the above instructions per item ordered, and make your check out to the SMA.

Mail to:
 Surfer's Medical Association
 P.O. Box 1210
 Aptos, CA 95001-1210

These items are only available to SMA members.

Total amount enclosed

(all of above) \$ _____

Surfer's Medical Association
P.O. Box 1210
Aptos, CA 95001-1210 USA

Bulk Rate
U.S. Postage
PAID
So. San Francisco, CA
Permit No. 655

KIDS OF ALL AGES: COME TO FIJI



Tom Kirsop at Tavarua. Photo by M.R.

TAVARUA CONFERENCE MAY 13-28, 1993

WANT TO GO TO FIJI?

**SEE DETAILS ON PAGE 31 FOR
NEXT TAVARUA CONFERENCE**

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