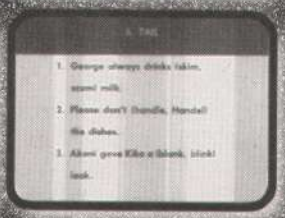
SURFING MEDICINE

ISSUE #16, WAY LATE WINTER/SPRING/SUMMER 1997

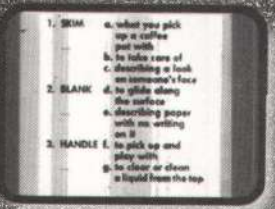
"Who ever heard of a Hawaiian being afraid to surf?" thought Akoni. "That's like a cowboy being afraid to ride a horse." "Here comes a big one," called his friend Kika from a board nearby.

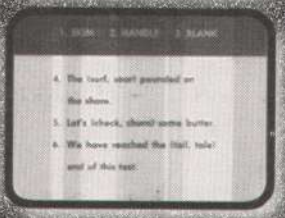
Akoni had heard the old tales many times in songs and dances of his people. The old Hawaiians had no written language. Telling stories through song and dance was a custom that had been handed down from long, long ago. His people had only started to write the language about 150 years ago.



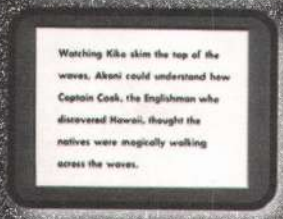
6. Years ago, there were surfing contests in Hawaii which
a. only kings and chiefs could enter.
b. anyone could enter.
c. no one watched.

But for Akoni the time was now. Right now. And he must ride his board standing up – today! He turned his board toward the beach. Suddenly there was a rumble behind him. Over his shoulder he saw a giant wave rushing at him. He would not let this one pass!





7. About one hundred fifty years ago,
a. there were no people in Hawaii.
b. Hawaiians had no written language.
c. Hawaii was discovered.



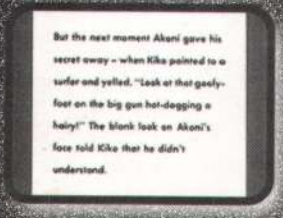
Watching Kika skim the top of the waves, Akoni could understand how Captain Cook, the Englishman who discovered Hawaii, thought the natives were magically walking across the waves.

8. Finally, Akoni caught a wave and
a. rode it all the way to shore.
b. held it in his hands.
c. wiped out.

As the wave reached its peak and began to plunge down, Akoni wobbled to his feet. His arms flung out to the sides for balance. The board raced toward shore. He was doing it, smiled Akoni. He was riding the surf! Then it happened.

1. Akoni lived in
a. California.
b. Florida.
c. Hawaii.

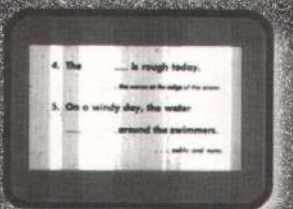
1. Akoni lived in
c. Hawaii.
2. Akoni had just bought
b. a surfboard.



But the next moment Akoni gave his secret away – when Kika pointed to a surfer and yelled, "Look at that goofy-foot on the big gun hot-dogging a hairy!" The blank look on Akoni's face told Kika that he didn't understand.

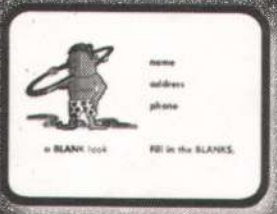
2. Akoni had just bought
a. a horse.
b. a surfboard.
c. a new pair of shoes.

3. Who was Captain Cook?
a. an Englishman who discovered Hawaii
4. Akoni was
b. a newcomer to surfing.



3. Who was Captain Cook?
a. an Englishman who discovered Hawaii
b. an Indian
c. President of the United States

5. Early surfers in Hawaii
c. used very long boards.
6. Years ago, there were surfing contests in Hawaii which
a. only kings and chiefs could enter.



4. Akoni was
a. a very good surfer.
b. a newcomer to surfing.
c. a furry animal.

7. About one hundred fifty years ago,
b. Hawaiians had no written language.
8. Finally, Akoni caught a wave and
c. wiped out.

CONTENTS

Ten Years But Who's Counting?

We're back - seems we kinda skipped an issue back there somewhere. We could just invoke SMA rules and blame it on the waves, but we could also say our dog ate our homework and show you the chewed and mangled diskette as proof. But we'll just say we're sorry to anyone who noticed and missed us and leave it at that.

There's some introspection in this issue about where the SMA has come from and to where it might be heading, along with the usual clinical explorations and reports of SMA and other activities. After you read every word, we'd like to hear from you about anything herein. Feedback is good, even if it is bad. Beyond that:

- Take a peek at the upcoming conferences listed on page 22. By the time you read this, a soldout contingent will likely be en route to Tavarua, but there are other things brewing...

- Become an esteemed author of something in this SMA journal. Send in something you'd like to see in print, somehow related to surf, seas, sickness...details on page 21.

- The next issue of this rag will be our Directory issue. If you or anyone you know has moved or lapsed, let them and us know.

- SMA central needs a printer for our Macintosh. Tax-deductible and all that; contact Paula at headquarters if you can help.

- Take a peek at the Steve Baser fund update on page 15. Pretty inspiring, huh? Can you think of a warmer way to contribute to the welfare of our beloved Fijian friends?

- Take another peek at the Treasurer's report on page 22, and reflect if it is time to update your membership, maybe with an upgrade as well. The SMA and all we serve will thank you.

- Surfer magazine wants to continue the Surf Docs column, wherein the SMA contributed answers to readers' questions about health issues. This is fun and easy to do but new SMA blood is needed for this column. Anyone interested? If so, contact SMA central and we'll hook you up with the big shots at that magazine.

Finally, to all who have participated, encouraged, supported, bemoaned, begrudged, or otherwise had anything to do with the SMA in its fast-fading prepubescent era - THANK YOU.

ORIGINAL ARTICLES

SMA CONFERENCE AND ACTIVITY REPORTS

GREEN ROOM

SMA UPDATES

LETTERS AND MESSAGES FROM FAR AND FURTHER

Cover Art: A little Surf Story with Questions that you will be tested on. See how many you can get right?
Created by: David "Homeboy" Bender some time in early recovery 1997.

Surfing Medicine

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ORIGINAL ARTICLE

CURRENT PHYSIOLOGIC CONCEPTS OF BREATH HOLD DIVING & DROWNING:

IMPLICATIONS IN BIG WAVE SURFING

William J. Reed, MD

INTRODUCTION

With the recent deaths of Mark Foo and Donnie Solomon and the increasing media attention towards big wave and tow-in surfing (1), it is apparent that more and more surfers may find themselves victims of submersion incidents. This article is my attempt to review some of the current physiological concepts of breath-hold diving and drowning and consider future technologies with the hope that the dissemination of this knowledge will minimize submersion incidents and in the process, save lives. First of all, a submersion incident is an event in which a person is "adversely affected" by being submerged in water. The two most important types of submersion incidents are drowning and near drowning. Drowning is defined as suffocation from submersion in a liquid medium and near drowning is recovery following suffocation in a liquid medium. Annually in the United States, there are roughly 4,000 drownings and 10,000-100,000 near drownings (the exact incidence of near drowning has yet to be specifically defined) (2,3). The majority of drownings (80-90%) are "wet" drownings wherein the victim aspirates. The remaining 10-20% are "dry" drownings where the victim asphyxiates secondary to laryngospasm without aspiration. The common pathophysiologic theme in both drowning and near drowning is hypoxia and acidosis with the acidosis being both respiratory and metabolic.

The most recent data from the CDC (1992) reveal an annual US death rate of 0.24 per 100,000 people who drown "while engaged in other sport or recreational activity without diving equipment," the ICD9 code which includes death caused by submersion from "surfboarding"

(3). Since this category also includes submersion deaths related to "swimming NOS" and "playing in the water," the annual submersion death rate from surfing should be less than 0.24 per 100,000 people. This data further supports Renneker's recent estimate of the annual surfing death rate from all causes of 1 death per 100,000 surfers (4).

Several factors enhancing survival have been identified in near drowning victims: youth, cold water temperature, significant hypothermia, short submersion time, available/effective resuscitation, little or no aspiration, and the diving reflex. A seven step drowning sequence has also been identified (Table 1). Several clinical "misconceptions" should also be clarified. The first is that the majority of drowning and near drowning victims aspirate large volumes of water. This is not true. It is true, however, that those victims aspirating large volumes generally do not survive. The second is that postural positioning to encourage lung drainage is an important resuscitative technique. Although contrary to common sense and still somewhat controversial, the fact is that there is no proven value in postural lung drainage techniques in the acute resuscitation of submersion incident victims. It is also of note that there is no evidence to support the routine use of the Heimlich maneuver in the care of near drowning victims (5). The final clinical "misconception" is that there are different hemodynamic consequences between salt and fresh water aspiration. It has in fact been proven experimentally that the cardiovascular changes that occur with near drowning are not dependent on the tonicity of the aspirated fluid but are the direct

Table 1: Drowning Sequence

Violent struggle/panic
Hyperventilation
Calmness/apnea
Fluid swallowing
Vomiting/aspiration
Convulsion/coma
Death

result of anoxia (6). The cornerstone of treatment in near drowning victims is to reverse the hypoxia. To this end, the initial management remains ABC's, 100% oxygen, C-spine precautions, and hospitalization. Potential complications to be alert for include latent ARDS, aspiration pneumonia, and neurologic sequelae.

PHYSIOLOGY

So what happens when you take a breath and swim under a wave? The physiologic process is a complex interplay between respiratory, cardiac, and metabolic physiology and the physics of changes in barometric pressure.

The control of respiration is governed by central and peripheral chemoreceptors and by lung reflexes and other nonchemical stimuli. The central chemoreceptors are located in the medulla and respond to elevations in the arterial partial pressure of carbon dioxide (PaCO2). They are responsible for the primary respiratory drive in humans. The peripheral chemoreceptors are located in the carotid bodies and respond to low arterial partial pressures of oxygen (PaO2). The lung reflexes are stretch receptors that respond to lack of movement of the chest wall. Therefore, elevated PaCO2, falling PaO2, or lack of movement of the chest wall all provide a stimulus to breathe. These chemical and nonchemical stimuli have been shown to act linearly but not independently on respiratory motor neuron activity (7).

For the average resting individual, normal arterial PaCO2 is around 40 mmHg and normal PaO2 is around 95 mmHg. When one takes a breath and holds it, oxygen is utilized and carbon dioxide is produced during metabolism. Therefore, PaO2 falls while PaCO2 rises. At a PaCO2 of roughly 55 mmHg, it becomes impossible to voluntarily continue to hold one's breath. This is known as the "breath-hold breakpoint." It is a rather strong impulse and whether you are on the surface or underwater, you're going to breathe. As you descend and ascend during your dive, barometric pressure increases and decreases respectively and, in accordance with Dalton's Law, the partial pressures of oxygen and carbon dioxide in the blood and tissues also increase and decrease respectively. The rise in PaCO2 from both the increased production and increased barometric pressure stimulates respiration. The increase in alveolar CO2 also causes a reversal of the normal CO2 gradient resulting in a transfer of CO2 from the lungs into the blood as well as tissue retention of CO2. PaO2 also increases during the initial phase of descent and there is a large transient increase in O2 uptake from the lung into the blood when contrasted with a surface breath-hold. PaO2 then begins to fall with increased time at depth. On ascent, however, PaO2 falls more precipitously with the decrease in barometric pressure, thereby providing an additional stimulus to breathe (provided that the breath-hold was not preceded by hyperventilation).

Author Surfing in Portugal.

Cardiovascular changes also occur with breath-hold diving. Cardiac index falls with breath- holding at the surface from increased intrathoracic pressure and thus, impeded venous return. This effect is reversed somewhat during the dive, as the volume of intrathoracic air diminishes with increasing depth in accordance with Boyle's Law (8). Heart rate falls with diving (diving bradycardia) due to increased parasympathetic stimulus. It has been shown experimentally that during the first 10-15 seconds of underwater breath-hold swimming, heart rate actually increases to a level similar to exercise while breathing air and then falls, indicative of an oxygen conserving response (9). A reduction of limb blood flow also occurs due to vasoconstriction from increased sympathetic stimulation to the nerves supplying arteries in the arms and legs. This latter effect results in a gradual increase in the mean arterial pressure.

MAXIMIZING THE BREATH-HOLD TIME

Humans have long sought ways to prolong the breath-hold breakpoint, thereby maximizing the amount of time they could stay underwater. From the above discussion, it is apparent that any way to maximize PaO2 and minimize PaCO2 should prolong the breath hold. Hyperventilation prior to the breath-hold readily accomplishes this. The initial low PaCO2 effectively removes increasing PaCO2 as a respiratory stimulus, leaving only falling PaO2 to stimulate respiration via a so-called brainstem "after discharge" mechanism. The problem is that falling PaO2 is only a weak respiratory stimulus and that sustained hypoxia actually inactivates the after discharge mechanism (10). Additionally, the PaO2 falls more quickly as the individual nears the surface (due to Dalton's Law) leading to a sudden blackout at a PaO2 of 25-30 mmHg. This has been termed "shallow water blackout" although the original term referred to loss of consciousness from a "sufficient" increase in PaCO2 in closed circuit rebreathing SCUBA (11). Although most surfers do not consciously hyperventilate prior to their breath-hold dives, the hyperventilation may occur subtly while paddling strenuously to get over close-out sets, to catch waves, or paddling for the wave shoulder.

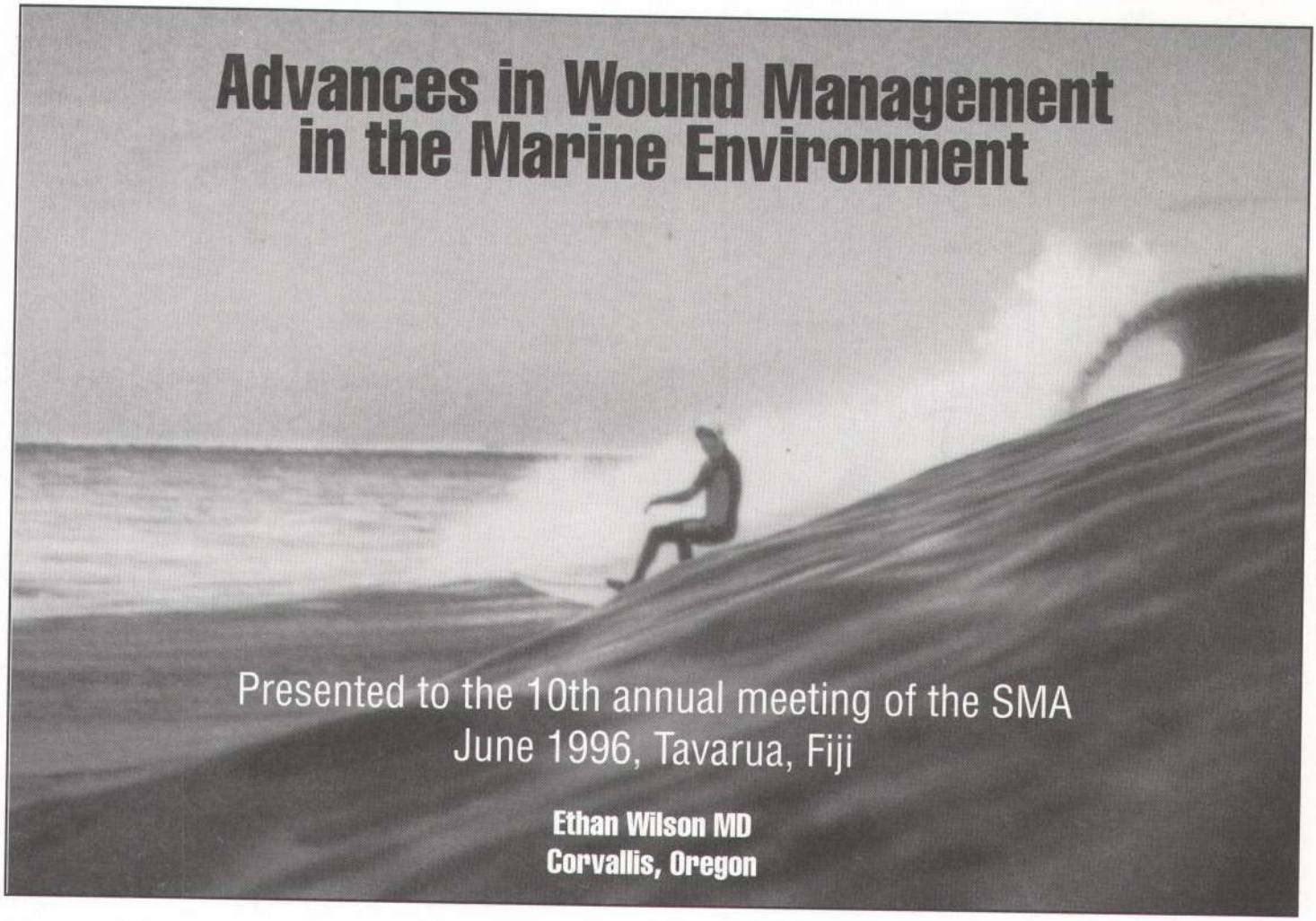
What has worked well for divers and is readily adapted to surfing are several "diver's tricks" using respiratory muscle movement. These include simple things like intermittent exhalation, movement of the respiratory musculature, swallowing, and performing the Valsalva maneuver. Recent research has also shed some light on physiologic adaptations in breath-hold divers.

The ventilatory response to increasing PaCO2 is attenuated in experienced breath-hold divers and in scuba divers (12, 13, 14). A coincident blunted hypoxic ventilatory response is not seen in these individuals. However, the breath hold time in at least one group of these individuals, the Japanese assisted breath-hold divers called Funado, is not increased because of a sensitization of the respiratory center to non-chemical stimuli. This acts as a protective adaptation to the danger of losing consciousness from hypoxia on return to the surface (12). The other interesting aspect of the Funado is that they whistle before they take their maximum inspiration prior to diving. It is thought that whistling increases intrathoracic pressure displacing some intrathoracic blood and increasing total lung capacity if the maximal inspiration is taken prior to the displaced blood returning. The increased total lung capacity improves their diving performance. What has been shown to be a predictor of longer breath hold times is the hypoxic ventilatory response (15) although this has not been shown to be consistent in elite breath-hold divers (13). It is unclear if the blunted hypercapnic ventilatory response and/or hypoxic ventilatory response are simply acquired or have a genetic component but it is clear that maximum breath-hold times can be increased by acclimatization.

Environment is also a factor. In studies comparing breath-holding times in different temperature water versus breath-holding times on the surface, it was shown that in 20 degree Celsius water breath-holding time was 55% shorter and heart rates were 26% slower than on the surface. In 35 degree Celsius water, breath-holding time was 25% longer and there was no difference in heart rate compared to surface values. In all conditions, the breath-hold breakpoint remained the same at a PaCO2 of 52 mmHg. The authors hypothesize that cold water not only increases metabolic rate but increases respiratory drive due to stimulation of skin cold receptors. These effects are

Continued on page 18

Advances in Wound Management in the Marine Environment



Presented to the 10th annual meeting of the SMA
June 1996, Tavarua, Fiji

Ethan Wilson MD
Corvallis, Oregon

Quick summary for the temporally challenged:

Marine bacteriae cause unique infections requiring specific therapy. Prevention is key: wear protective gear, aggressively irrigate and debride all wounds, suture/other closure as appropriate. Consider steri-strips or staples when indicated. Isolate cleaned wounds from further ocean exposure with appropriate dressings. Infections must be aggressively cared for: local debridement/cleansing, sterile dressings, appropriate antibiotics for marine bacteriae. Treat local dermatologic infections with sulfa/TMP or Cipro or tetracycline. Complicated infections require third-generation cephalosporin (e.g.: ceftazidime) plus doxycycline, or other specific agents. Chronic illness, especially hepatic or with alterations in serum iron, places individuals at high risk of fatal marine Vibrio infection.

Summary for the non-technical reader:

There are some seriously bad bugs in the ocean. Avoid them by wearing gear to protect from reef rash (full body lycra or wetsuit, booties, helmet, even gloves). If you get scraped or cut, clean it out by washing in clean fresh water or saline (clean water with salt in it, not ocean water). Be sure to get out any spines or coral, be aggressive. Put on sterile dressings for simple scrapes, bigger cuts will require someone who can sew them up. Keep clean, dry (waterproof) dressings on when you go back out again. If it gets infected (pus, red, pain, blisters), scrub it up and take antibiotics which work against ocean bugs. Good ones are septra, tetracycline, or cipro. Bad infections need to be seen by a physician. If you have hepatitis or other chronic illness, you are taking the chance of major infection, even death, if you have an infected wound caused by ocean bugs.

Full Text for the idle lotus-eater:

Cuts and abrasions are at risk of infection, no matter what environment they occur in. That they happen in the ocean adds an element of risk owing to infection from marine bacteriae. As experience with marine environment infections has increased, we must make intelligent decisions in order to minimize the chances of wounds getting infected. If prevention has failed, there are decisions to be made regarding treatment of wounds caused by marine bacteriae.

This article will cover the following:

1) some basic definitions of types of injury;
2) Avoiding the problem of infections;
3) identifying methods of cleansing wounds;
4) methods of wound closure;
5) types of organisms of concern in the marine environment;
6) antibiotic treatment of same; and,
7) late complications of infections caused by marine bacteriae. Any appreciation of the following material as it was presented on Tavarua was certainly lubricated by the open bar which accompanied the lecture.

Vocabulary:

Cut: incised wound, caused by a sharp object (glass, fin edge, sharp object).

Abrasion: scraping or sandpaper type effect on skin resulting from impact with coral reef, asphalt, rocks, etc.

Laceration: disruption of skin caused by blunt or abrading trauma, with tearing of dermis and

deeper elements. Commonly used (improperly) to describe cuts as well.

Biff: verb (intransitive), to incur bodily damage, make mistake, fail to succeed.

Prevention = Avoidance

Getting biffed on a surf trip sucks. Letting it pus out goes way beyond suck, it puts you on a plane home. Ignoring a heinously infected wound can put you in a pine box in the cargo hold. Avoidance of injury is of prime importance if you have designs on surfing daily on your journey, be it three days in Baja or the grand journey from cradle onward. The general thrust in the water seems to be get deeper, more critical, more waves. Fight the inclination to be a mindless surf drone, make intelligent decisions about how you are protecting yourself from harm.

Know the surf spot as well as possible. If locals can be quizzed, ask about water hazards, reefs, rocks, logs (I am from the northwest after all). Watch where they line up, what spots they avoid. Observe point of entry to water and where they get out from. Do they time sets and wait, or can you just hop in and start paddling? What tides work well and do water hazards start to show? Keep track of the tide, and know where the reef is at all times. What kind of coral is out there, does it tend to grab leashes? Watch their take-offs: Is it a leisurely drop and bottom turn, or an angled run-and-gun-type based on how fast the waves peel? Avoid late take-offs (do I hear someone laughing at me?) When the locals get out, you should too. It may be that the local tav is just opening up and they're scheduled to perform, or it may be that, even though the waves are hollow screamers and perfect, that the reef is getting too shallow. Ask anyone who's stayed out at Restaurants just one wave too long as the tide is maxing-out low.

Covering up is another important element to staying out of harm's way. The following recommendation will require that you suspend your dedication to dudeness. I firmly believe that, when surfing shallow reefs, all body surfaces should be covered. At Tavarua I wear full-body lycra with neoprene booties, nylon gloves, and a helmet. (I'm working on having a plastic pocket protector and slide-rule belt built in.) While I'm likely viewed by the Black Fly guys as the nerd-from-hell, it has kept me from having any serious reef rash for ten years now. Every tear in the lycra or scratch in the helmet stands for another intact area of skin. In areas where water temperature allows, trade up to neoprene for even better protection.

After the fall

Despite the above measures, you are now no longer your former uninjured self. What to do? Are you bleeding or is there a significant laceration, cut, or abrasion? (Are you reading your wallet size waterproof copy of this article while still sitting in the line-up?) Get out of the water, Geek! Two reasons come to mind: 1) chumming; and 2) increased exposure to marine bacteriae with the passage of time. That ignores lesser issues of blood loss and shock.

Once on terra firma, the first order of business is stopping blood loss. It belongs inside, not outside. There are many clear liquids which work well for cleaning out wounds and are not so dear as blood, so don't use it as an irrigant. I am continually amazed by the number of people who will open a discussion regarding wound care with "I let it bleed, so it should be clean." Local pressure and elevation of the affected part should stem the tide. Hopefully ligation of bleeding vessels won't be necessary.

The bleeding is stopped and now irrigation with your solution of choice should begin in earnest. Clean water may be the easiest to find, saline is optimal. You can mix your own saline using two teaspoons salt per liter clean water. Total coolness would be derived by using previously boiled water. Whatever the case, don't use sea water to irrigate. . .(duh). . . that's where the enemy lies in wait.

Copiously irrigate the wound using a directed stream of fluid. This is best accomplished using a large syringe and irrigating shell (Zerowet brand). This is a good time to address the need for local anesthesia. Cleaning wounds is painful. Field blocks and regional anesthesia are ideal. Once numb, irrigate small wounds using a quart of irrigant, for medium to large wounds 2-3 quarts. At the time it will seem like a never-ending fountain of irrigation, but it will prevent infections. The admonition ìthe solution for pollution is dilutionî is nowhere more applicable. Remember that irrigation is an active sport, no passive approaches here, i.e., no soaking. The point is to wash away the bugs, not encourage them. Irrigation is the single most effective step in avoiding wound infection. It is much more important than type of closure, antibiotic usage, or phase of the moon.

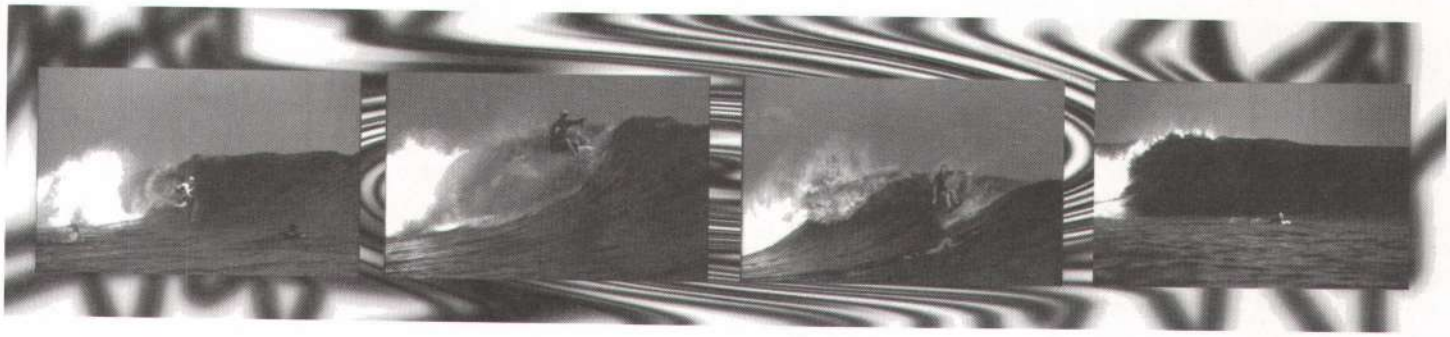
Next up is debridement. Any bits of coral, surfboard, rock, bone, or hair that remain in a wound will serve as a nidus for future infection. These must be scrupulously looked for and removed, ideally with sterile pick-ups (dude note: thems tweezers what's been cleaned). Special attention must be given to the complete removal of stingray sheath and urchin spines, using sharp dissection as needed. If there is much ground-in material, be it reef, asphalt, or other, a sterile toothbrush can be useful for scrubbing.

Closure

Decide if the wound is deep enough to require closure. Is it in an area that is rubbed or touched often? Some wounds shouldn't be closed in any case: if located over the tibia anteriorly (notorious for infecting owing to horrendous lack of blood supply), or if deep and containing foreign material despite attempts at removal, consider leaving it open and cover with sterile dressings. If located away from joints (thus little movement and likelihood of opening up) and with edges that are staying together well, simple antibiotic ointment application (Bactriban or chloramphenicol ointment), followed by sterile dressing, will suffice.

If there is any question of the wound edges coming apart, the next step is to consider sterile strips across the wound. Steri-strips, Nichi-Strip, Cur-Strip all work well. Prior application of tincture of benzoin, when fully dried, will ensure good adhesion of strips. To apply strips, adhere to one side of wound, cross at right angles to the wound, apply gentle traction to bring wound edges together, then stick down on opposite side of wound. Strips can be used in combination with glues, suture, or staples in order to optimize on approximation of wound edges.

Cyanoacrylate glues are now available in many areas outside the USA for wound closure. They can be very effective for holding non-stressed wounds together. They're also very good for appending one's own finger to the patient, beware! Application must be done on clean, dry, non-bleeding wounds. The technique involves holding the wound edges together while applying a thin coating of the glue on the skin surface around the wound and across the wound (not in the wound). The point here is that you don't coat down the inside edges and squeeze together as you would a broken teacup. Spread it around with the bottle cap or a sharp stick, not your fingers. Be sure to avoid anywhere near the eyes, as the vapors burn horribly. The glue will dry into a flexible clear purple bandage which will stay on for a week or so. Nexaband brand is available in the USA through veterinarians. The downside of the glues is lack of tensile strength compared to



suture. They are just slightly better than steristrips. Upside is that they come in a tiny bottle and can be taken anywhere...add it to your shave kit!

For closure requiring strength, decide between staples and suture. The former are useful in that they now come in small prepacks (3M), have decreased infection rates, don't require additional equipment to apply, and are quick enough in application that they can be put in without anesthesia in a pinch. Technical expertise necessary is minimal compared to suturing. Don't use them on the face: scarring is increased over carefully applied sutures or glue. Remove staples after ten days using (what else?), a staple remover.

Suturing is best done using Monofilament nylon in a one-layer closure with interrupted stitches. This will minimize chance of infection while maximizing wound strength. Suture sizing should be as follows: Face would generally be 6-0, arms and legs 4-0 or 5-0, hands 5-0, soles of feet 4-0. Expertise and equipment requirements are greatest, thus it is less likely that an untrained person will succeed. Suturing labs are available through the SMA (attest all those who attended Paul G's sessions at Big Flat last month). In general (Big Flat as the exception), a surf trip isn't the place to try and learn how suture on your own. Remove stitches on the face in five days, elsewhere in ten days.

Covering up

Yeah, we all like to get covered up, but I'm not talking tubes here, just sterile dressings. Start with an antibiotic ointment or cream. I prefer Bactriban for its broad coverage, but chloramphenicol may be a better choice for its activity against Vibrio. Follow this with sterile non-stick dressing (Adaptic works well, Telfa less so) and gauze. Finally, a wrap with ace bandage or Coban self-adhering wrap. For forays into the ocean, try using one of the self-adherent clear plastic dressings, such as Opsite. Change dressings daily or when wet. Note that the old saw about keeping wounds dry doesn't absolutely hold, you can wash a wound daily without problems. Soaking in water, especially sea water, is a bad idea, thus the recommendation for a waterproof dressing. Covering abrasions can be done using either antibiotics mentioned above, or aloe or honey, followed by sterile dressing. Honey works well owing to antibacterial action as well as significant hygroscopic activity.

When to return to the water?

No studies pertaining to timing of return to surfing are available. The best advice I can give is to wait three to four days to allow for initial healing and wound closure. If it was deep, over a joint, or on the sole of the foot, then wait at least one week. If a new swell has just moved in, I'm on the trip with you, and you're a wave hog, wait two weeks before returning to the water!

Infections

Well over seventy marine bacteria have been implicated in wounds. Those of greatest concern are the halophilic gram negative rods. The biggest players here are the Vibrios, with up to ten of them having been found in infections. In addition to the usual Staph and Strep, other bugs of concern include Mycobacteria marinum, Aeromonas hydrophila, Bactericides fragilis, Erisipelothrix, and others. The range of infections includes local cellulitis to sepsis with bullae and fever, with unresponsive shock despite intensive therapy. The latter syndrome is over 50% fatal and is caused by Vibrio vulnificus most often.

Prophylactic coverage with antibiotics should probably be limited to patients with chronic illness or those with particularly nasty wounds. Certainly those with hepatic or iron metabolism disorders should be prophylactically treated (had any Tavarua teas lately?) For those in normal states of health, the wound should not infect as long as irrigation has been copious and re-exposure to salt water avoided.

For simple local infections, (once the possibilities of abscess [incising and draining as needed] and retained foreign body [removing as indicated] have been addressed), coverage with sulfamethoxazole+trimethoprim (Septra), or tetracycline, or ciprofloxacin will be adequate in most cases. Be careful with sun sensitization with tetracycline. Significant infection not covered by these may be treated with ceftazidime two grams IV BID with doxycycline 100 mg IV or PO BID. Other third-generation cephalosporin options include cefotaxime and cefoperazone. Also acceptable would be chloramphenicol 500 mg every six hours PO or IV.

Final thoughts

Advance preparation for trips should always include bringing tetanus immunization up to date. Clostridium has been isolated from shark tissue. At the same time, address immunization for hepatitis A and B. Remember that scars will minimize over the course of a year. The plastic surgeon can revise most any problems that would keep you off of the cover of GQ or Surfer. Note however that gruesome scars will likely increase the chance of making the cover of this journal, so all hope isn't lost. Anything that I haven't answered herein, I'd be glad to have a go at via the internet: wilsonet@ucs.orst.edu

I reviewed many articles resulting from a literature search (contact me for web address to get free medlars searches), but by far the best grasp of this topic can be had in one sitting by reading Paul Auerbach's chapter on hazardous aquatic life in his book Management of Wilderness and Environmental Emergencies, 2nd ed.. An outstanding text, very complete, a medical bible for the outdoors.

The Classic Misdiagnosis: "Surfing the 'net"

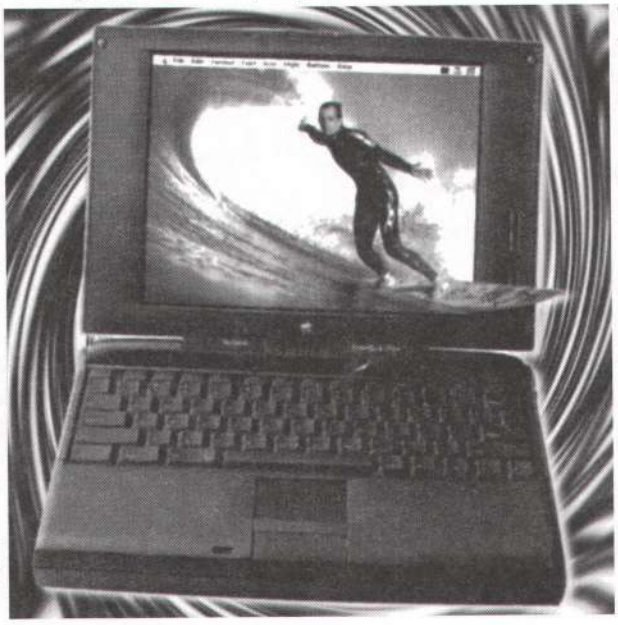
Robert D. Budman, MD
Huntington Beach, CA

All surfers have heard it, and most of us dislike it, but we'd all better get used to it. Some horn-rimmed pocket-protector type coined the phrase years ago, and it has been with us ever since: "Surfing the 'net." Over the last several years the Internet has grown steadily in the science community and more recently in the last 2 years it has undergone the "Big Bang" and grown in epic proportions in both size and usage by the general public. Cruising the 'net is probably a more fitting term, but I don't wish to get into areas of mundane terminology or needless triviality.

From another perspective, I offer my views as a physician, surfer, and active "cyberspace" pioneer. For the last 15 months I have authored and hosted my own surfing medicine "clinic" on a site called SurfLink. SurfLink is an interactive multimedia computer information site catering to the action sports aficionado. SurfLink is found primarily on the premier online service in the US, America Online (AOL). There is also a website access for a majority of the SurfLink services. The content of all websites is primarily controlled by the authoring body of each particular site. Sites vary in quality, and more often than not integrity, in relation to their creators, the prime example of this being the plethora of "adult" sites available on the 'net. We happen to feel our SurfLink site is one of the best Action Sports sites around. After all, it is ours and we have the huge backing of AOL.

The strength of individual sites seems to hinge primarily on graphical content, like pictures, and now movies as well as sound. Our site has a multitude of surfing pictures, snapshots of famous surfers, and, additionally, we have content derived from a number of traditional print media sources. Most recently cyber turf wars have arisen over the use of real time self-updating surf cams at some high profile surf breaks. The surf cams are almost instantaneously available via the internet or AOL. These video captures show which spots are going off and which are not, at the click of a button. Much to the chagrin of locals everyone will soon know how the best spots are breaking. Not that it really matters - those spots are already crowded to begin with even when the surf sucks. I don't think surf cams will influence surfers to actually flock to those spots. If anything they will see that the surf isn't that great or the wind is wrong and look elsewhere. When the surf is good people will know and hit the beaches anyways without the surf cams.

Another allure to the internet is live chatting. When many people steer their computers to particular sites they may find other folks with



shared interests in the same area. If the software capability exists at that address, then those people can discuss whatever they please in an open forum. This may be anything at all from astrophysics to needlepoint to Zen and the art of mushroom picking. Unfortunately, live chat is another area of internet sleazedom, and the propensity to find perverts, prankster children, and boorish morons seems to run rather high. On SurfLink we have controlled the problem by scheduling regular "programs" of discussions and utilizing our high usage patrons as hosts.

This brings us to a more in-depth description of my adventures on America Online with surfing and medicine. My area is called "Dr. Budman's Medical Surf Clinic." In its current form it consists of a collection of answers to numerous e-mail inquiries from around the world concerning various extreme sports-related injuries. Sometimes the questions are not always medical, but may relate to the environment, politics, or some other social issue. Another collection is educational where people can browse through topics occasionally, with graphics about health promotion and prevention issues. There is a photo album and a travel log of sorts, too. I get e-mail daily regarding much of this available information. In my "cyberclinic" there is a form that can be filled out to deliver instant e-mail to my mailbox. Additionally, all of this information is now available via an internet site. Naturally, there is a paragraph of waiver about consulting your personal physician for diagnosis and treatment.

Another popular service I have is referred to as "Surf Doc chat." Once a week without fail I host a live surf chat with SurfLink's medical doctor. This is every Tuesday evening from 6:30 pm pacific standard time. This generally fast paced talk group of 10-20 people goes for about an hour and has an open forum for the most part. Sometimes the questions are medical, and very often the dialogue degenerates into surf spot checks, surf stories, and flirting with the girls of the 'net.

Overall the experience has been very positive. Besides providing a service to a group of niche athletes it has allowed me to learn and experience a great deal about computers, the internet, the surf industry, professional surfing, and surf publications. As SurfLink grows, I hope to continue expanding my "clinic" while enhancing its ease of use and improving its mode of information dissemination. Marketing efforts should continue to swell the ranks of SurfLink devotees which in turn should keep my area busy. Thankfully, I can get most of the work done at night so I don't have to interrupt my surfing schedule! If you have any questions or comments...what the heck...e-mail me at surflinkmd@aol.com! Aloha and Mahalo!

The SMA's First Decade

by Mark Renneker, M.D.,
San Francisco, California

Introduction

Have you ever seen the green flash? It's a rare meteorological phenomenon involving atmospheric solar refraction, the appearance of which is a splendorous viridescence of the horizon whence the sun sets? I first heard about it when I was sixteen, and thereafter I stared closely at every sunset I was lucky enough to observe. Years passed without seeing it, but many were the sunsets I expectantly viewed, particularly while surfing the last waves of the day. If anyone was nearby, I'd opine that we might see the green flash; such incredulity I encountered, and never one who had actually seen it! I was not disbelieving. I was intrigued by the idea of something that could reilluminate the darkening sky.

Finally, the day came in March 1989, while on Tavarua for the 4th annual Surfer's Medical Association conference. For a week straight we had been surfing the best and biggest swell ever (Tavarua old-timers who were there readily will attest to this), and then it happened. We had gathered on the beach on the west side of the island to watch the sunset, too exhausted to surf anymore that day. There was a divine sense of fulfillment: the awesome swells wrapping past us, the realization that we were being treated to what would likely turn out to be the best waves of our lives, plus our work in Nabila had been going particularly well (the theme of the conference was "Making Yourself Useful in the Third World"). The earth turned those last seconds of an arc away from the sun; the sun appeared to have set into the ocean. About half a minute later an emerald glint began creeping back up from the sea. It brightened and then began broadening as molten green light poured up from the horizon, finally forming into a brilliant green obelisk. It hovered over the water for almost a minute. What a sight! We cheered and hooted, and when it was over we were silent, struck dumb by profoundity. We had witnessed something miraculous.

Ten Years Ago

In September, 1986, a group of twenty surfer-health professionals gathered on Tavarua to hold a medical conference on surfing - the first one ever. Days were spent surfing, nights were for seminars. The surf was unreal, the exchange of ideas hot... the Surfer's Medical Association was born.

Simultaneously, during that first conference there was an intense and totally unexpected kinship that developed between the SMA members and the native Fijians in the nearby village of Nabila. From the outset it was a healing-based relationship, the nature of which became something of a divining rod for the SMA, an amalgam of self-centeredness and altruism that is uniquely SMA. It was best summed up by founding member Rym Partridge, D.D.S., when he said: "let's go surfing and then heal some people." (Note the sequencing of activities, decidedly a reversal of the usual selfless-doctor shtick, reflecting more than just the surfer in us but also the realization that we give better care when we care for ourselves.)

On return to our respective locales - Australia, Hawaii, the west and east coasts of the U.S. - interest in the SMA spontaneously blossomed. The surfing world was openly welcoming of us, it was evident that we were something long needed. The surfing magazines, the local and national lay and medical media (over 100 publications in the first two years) played us up as the curiosity that we are. The memberships began rolling in. Within a year there were 200 members, 400 by year two, finally settling into a comfortable 600-700 by the end of year three. The growth of the SMA was not due to an "outreach plan," but seemed due to the infectious nature of the ideas and the spirit of the SMA.

Although the SMA had a set of agreed-upon goals and objectives (listed below), there was a deliberate lack of plan or structure to accomplish those aims. A horizontal rather than vertical organizational structure was chosen upon. There would be no officers or governing boards; members would be honor-bound to each other by virtue of two simple "laws": (1) any SMA member can initiate any project - just run it by other SMA members to make it better, and (2) the only excuse for not doing the SMA project you've taken on is if you went surfing.

The goals and objectives of the SMA, as put forth in the SMA's first year, are as follows. As you read them begin gauging if and to what extent they have been or are being met:

First Wave: The number one goal of the Surfer's Medical Association is to educate surfers so they can spend minimal time hassling with doctors and maximal time surfing.

Second Wave: To conduct and support research and educational activities on surfing and health.

Third Wave: To represent the sport of surfing in the fields of medicine and science.

Fourth Wave: To teach physicians about the unique health problems of surfers, and how to better care for surfers.

Fifth Wave: To create a network of barefoot doctors and surfing health professionals around the world.

Sixth Wave: To protect and preserve the surfers' natural environment: the waves, the ocean, and our beaches.

Ten Years After

So, what can be said about the SMA ten years later? Evaluating something as nebulous as the SMA is not easy. The fact that the SMA is still in

existence says something, given the travails of most such well-intentioned non-profit organizations. Most would agree that we get an "A" if only for the fact that not once in our ten-year existence has there been an event that could be construed as a "fundraiser," the perpetual bane of virtually all other organizations.

The zeitgeist of the SMA, at least to me, is that of stability and flexibility. In other words, the SMA is unbelievably healthy. The elements contributing to that assessment are as follows:

1. We are duly registered as a tax-exempt, non-profit educational corporation in the State of California, since 1989, and have never run afoul of that charter or responsibility, whether financially, legally, or ethically. It's more than looking good on paper; we really are good - fully legit and above board.

2. Financially, the SMA has operated in the black from day one. We average about $7000 in the bank, swelling higher after each conference (a hearty chunk of conference fees constitute our "fundraising"), and dipping a bit lower after the publication and mailing of each issue of this journal.

As surfers, our natural inclination towards prospective analysis (where to paddle to, anticipating when a wave is going to jack up, how not to get caught inside, etc.) has served the SMA well. We do regularly look into the SMA's future to chart our path; thus far we've been able to anticipate and prevent problems quite successively.

3. Our membership has been rock steady at between 600 and 700; few quit or don't renew. There are undoubtedly hundreds if not thousands more surfing health professionals (and surfer-health professional students) and barefoot doctors out there, but we haven't yet needed to have a membership drive. Financially we haven't needed more members than we have, but our Treasurer Kahuna, Tom Kever, tells us that we are nearing that point: the almost 100 non-dues paying Life Members (who paid $250 up until about 1992, or $500 since) are beginning to weigh us down a bit. Either moving towards requesting of Life Members some token annual dues, or recruiting approximately 100 new members is needed. An additional conference each year would also make up the difference, but the membership money is "hard" money compared to the softer conference money (only about 4 out of 5 SMA conferences make money).

4. We have been able to afford a part-time "staff" person - the Executive Kahuna - for the past 6 years, whose job is to provide continuity and facilitation to the membership. Initially, Tony Peckham served in that role, then Paula Smith inherited the mantle. It wouldn't appear that we need more staff time, but Paula is certainly due for a raise. The Executive Kahuna pay is the same now as it was in 1990, $600 per month.

5. We continue to put on two to four conferences per year, averaging about 20 attendees per conference. The conferences have taken place in Western Australia (the Bluff, crystalizing SMA Australia), Costa Rica (Pavones, on coastal and rain-forest ecology), the North Shore (Sunset Beach, with a comprehensive surfer's health screening and research project), Big Flat (wilderness surf medicine), Puerto Rico (psychopathology of surfers), Todos Santos (northern Baja, wilderness and marine surf medicine), Magdalena Bay (southern Baja, eye and ear-focused), Indonesia (G-Land, surf camp medicine), and always the annual (except one year) Tavarua conference.

6. In the second year, there was the creation of this biannual journal, "Surfing Medicine," and the publication thereafter of many original papers and other sundry tidbits. It's safe to say, that despite the plethora of other organizations' desktop-published journals, newsletters, and zines, ours is in a league by itself: serious but funny, straight but quirky, academic but irreverent. We are now in our 16th issue, averaging 40 pages per issue, with a larger membership directory issue every two years. It remains the principal means of communication between members, and has stimulated umpteen projects and publications. We have an enthusiastic managing editor, Steve Heilig, who is paid $1000 per issue to put it all together (way underpaid given how much work it is), and a publishing and art kahuna, David "Homeboy" Bender, who also has done it all at far below usual and customary fees.

7. We continue to have a consulting role with numerous surfing magazines on surfer's health problems. In 1987, we initiated the "Dear Surf Docs" column with Surfer magazine, modelled after Dr. Geoff's column with Tracks. That ran steadily for 7 years, until the columns were published as a book - Sick Surfers, Ask the Surf Docs, and interest waned from our end to continue to publish the column. That is not to say, however, that Surfer magazine wouldn't like to still run it. At this point, it is up to whomever might want to pursue it (give me a call to discuss it - see Updates in back of this issue). The SMA's column with Surfer magazine earned a nice chunk of dough monthly for the SMA. Members have published similar columns with various of the Australian, French, and Brazilian surf magazines. SMA members have continued Dr. Geoff's column with Tracks as Dr. Bob, etc., but to my knowledge none of these columns' resulted in donated royalities/buyouts to the SMA. Not an issue though.

8. More recently, we have begun moving towards an on-line Surf Docs service via Surfer magazine, spearheaded by virtual surf doc SMA member Robert Budman, M.D.

9. We have had a number of internal publications, notably the Collected Surf Medicine Works, a compilation of everything ever published on surfing and health in the world's medical and surfing literature (volumes 1 and 2), as well as the draft of SMA members' own Handbook of Surf Medicine (volume 3).

10. We have ongoing collaboration with other surfing-related organizations, notably the environment-focussed Surfrider Foundation and Surfer's Environmental Alliance. Our Sixth Wave is the one goal that the SMA could be said to have not accomplished, relying instead on our sister organizations; it is interesting to note that our Sixth goal was not initially formulated at the first, founding conference, but was an after thought, added on later in the first year.

11. We continue to provide medical backup to both professional and amateur surfing contests, most recently to the World Surfing Games as a prelude to Olympics participation.

12. The SMA continues to be listed by and referred to in the sports medicine journal, The Physician and Sports Medicine, as the consulting body for the sport of surfing in the field of sports medicine. Many presentations on surf medicine have been made by SMA members at local, national, and international sports medicine conferences.

13. SMA members continue to publish papers in various scientific and medical journals on work done by or in conjunction with the SMA, for instance the recently published (and lauded) paper on the smoking cessation project in Nabila.

14. The Nabila Project remains the most significant achievement of the SMA. For those of us who were there in the beginning seeing lines and lines of sick Fijians hoping to have us cure them, that we so swiftly - within 10 years, that is - helped them establish a sustainable way to care for their own health problems (creating a village health committee, training village health workers, building a community health center), to have returned this year and find no one there needing to be seen by us was astonishing! Man, did we do the right thing! Couple that with the Steve Baser Memorial Educational Fellowships, which is sending two Nabilan girls to high school, one of whom wants to go on and become a nurse for the village (the first Nabilan to ever go to college, much less to become a health professional), and, well, we're really doing it right - making good in Steve Baser's name.

15. There have been many other SMA projects and activities over these past ten years, beyond those listed above, but one that could escape microanalysis is simply that the creation and the ongoing existence of the SMA has lead to its members surfing more and better waves (at least those who have come to an SMA conference!). If that were our only accomplishment, it would be reason enough for the SMA to exist.

The Future

If it weren't for the SMA, I seriously doubt if I would have ever seen the green flash; it was the SMA that had brought me to Tavarua, it was the SMA and the good work we'd been doing in Nabila - truly I believe this - that had brought such incredible surf, and it was the SMA that had me sitting there on the beach with the other members so that when the green flash appeared, we all saw it together. I see the green flash story in the context of the SMA because wonderous things beget wonderous things. As a side-note, in reading more about the green flash, I discover now that it can occur just before sunrise as well, so, twice the opportunity!

What does the future hold for the SMA? Well, "as we approach the 21st century," we wholeheartedly intend not to build a bridge to it. We'll leave that bullshit talk to the corporate-bureaucratic-politician hacks. We have a good thing going here. We're stable and flexible, we trust each other; there ain't much that could unseat us. So long as we keep on surfing and healing some people, the SMA will continue to thrive.

All the good deeds that SMAer's have done.

THE FIRST DECADE CONFERENCE:

June 24 - July 8, 1996, Tavarua
"The Foundation of Surf Medicine"

by Mark Renneker, M.D.
San Francisco, California

Prelude

If there is one consistent truth about the SMA that I've come to appreciate over this past decade, it is that the pinnacle SMA experience is being on Tavarua with the SMA. I've been to many SMA conferences in various other locales, but none top Tavarua. Tavarua and the SMA are magic. However, although I had conceived of and coordinated the first surf medicine conference on Tavarua, back in 1986, which then lead to the creation of the SMA, it had been several years since I'd been to Tavarua or coordinated an SMA conference.

"1996 marks the tenth year since the Surfer's Medical Association came into being, and what a fantastic decade it has been! What better time for those who were with the SMA from the beginning to return to whence we began, to Tavarua, to see and stimulate each other again, to take stock of what the past decade has lead to in our lives, the SMA, and the field of surf medicine, and, most importantly, to again surf magnificent waves together."

That was the opening to the letter I sent to fifty founding or longstanding, hardcore members of the SMA. Many were at the first conference, some at the second or third; all were active members from the get-go (and still are). Then there were a handful of newer members with unique expertise or specialization that were needed.

I was nervous about sending such an exclusionary, "A" list letter, not because I didn't think people would want to go - despite what Tavarua costs these days; I was afraid too many would want to come and I wanted to be sure that all of the major fields of surf medicine were covered. That, plus the fact that with the exception of the first SMA conference, there

had never been a "priority list," i.e., selective invitations to a conference; that just isn't the SMA way. But I felt it was essential and justifiable, that a decade later, those earliest and most hardcore members needed to be convened. How else, really, to take stock of the SMA and the field of surf medicine over this first decade? Every SMA member I ran the idea of exclusive invitations by - including those who weren't invited - agreed that this conference needed to be the exception to the usual SMA principle of inclusivity.

The slots quickly filled up, with a few late cancellations that allowed newer SMA members to come (if someone happened to call SMA Central during those closing weeks, they were invited!). Yes, the cost of attending a Tavarua SMA conference has increased from $95 (including tax) per day per person rate in 1986 (plus a $250 conference fee to the SMA), to about $135/day or for couples $230/day (plus a $300 conference fee). This is still considerably less than the $160/day non-charter rate Tavarua charges nowadays (but good luck finding a slot, Tavarua has become such a popular destination that the years' two-week slots are all taken up by group charters).

The Line-up

As it came closer to the actual conference, it seemed like everyone wanted to come, but there is technically only room for 24-guests on the island at one time. We ended up beyond full, thanks to our exuberant planning: at one point there were four lucky souls set to be stuffed into one two-man cabin! Here was the ultimate line-up, listed for posterity if for no other reason:

1. Founding members, who were at the 1st SMA Tavarua conference in 1986: Geoff Booth (physical medicine; Newcastle, N.S.W., Australia), Jessica Dunne (art and irreverence; San Francisco), Brian Lowdon (exercise physiology; Torquay, Victoria, Aust.), Rym Partridge (dentistry; Santa Cruz), Bill Petersen (optometry; Dana Point), myself (family medicine), and Ethan Wilson (emergency medicine; Corvallis, Oregon).

2. Early, hardcore members: Neil Derechin (anesthesiology, pediatrics; Minneapolis), Paul Georghiou (emergency medicine; San Luis Obispo), Alex Kaliakin (chiropractic; Santa Monica), Simon Leslie (general and surf medicine; Stanwell Park, New South Wales), Tom McLaughlin (physical therapy; Atascadero), Tom Mulholland (family and sports medicine; Teranaki, New Zealand), Tony Peckham (screenwriter; Morro Bay), Michael Rowbotham (neurology/pain; San Francisco), Ward and Paula Smith (education, health; Aptos/Santa Cruz), Robert Speers (rehabilitative medicine/head injuries; Oahu), Norm Vinn (family practice; Orange County).

3. More recent members: Mike Baser (neurogenetics, education; Los Angeles), Paul Blaze (optometry; Orange County) and his wife Rhonda (counseling), Michael Douglas (psychologist, Marin County), Grant Davis (ENT; Santa Barbara) and his wife Mindi, David Kaminsky (urgent care; Oahu), Terry Kurtts (family practice; Gulf Coast), Chris Lancey (television producer; Hollywood), Sarie Lowdon (Brian's wife, educator and CPR instructor), Kenny Malott (dermatology; Maui), David "Gonzo" Miller (travel medicine; Perth, W.A.), Burt Moritz (urgent care; Oahu), newlyweds Will Padilla (family practice; Chula Vista) and Ann Padilla (social work), Brian "Peaches" Price (abalone diver, shark experienced; Santa Cruz), Bea Rothweiler (lawyer, Neil Derechin's wife; Minneapolis), Cas Soma (orthopedics; Maui), and Jo Stroud (chiropractic, counseling; Half Moon Bay).

The Foundation of Surf Medicine

Although this conference represented a time for reunion, it was also the logical time to take stock of where the field of surf medicine (and the SMA) stands today, to look at what is known and what remains unknown, and to consider what might be further pursued individually and collectively. It was a chance for all of us to come up to speed on the full range of knowledge of surf medicine, much of it having come into existence since - and as a result of - our early Tavarua work. At one level, then, it was a comprehensive review course. At another level, though, it was a time for rigorous exploration.

I asked each presentor to prepare a 20-30 minute talk, the kind of tight, well thought out, comprehensive presentation that would be appropriate for a major, hundreds-in-attendance type of national or international level conference. As an incentive, a $300 prize was offered for the best talk (everyone voted at the end of the conference). Spouses or spouse-equivalents also were encouraged to give talks, for instance a case presentation on anything relating to surfing and health.

The range of original and summative talks was tremendous. Over the two-weeks we covered literally every aspect of surf medicine, including the diagnosis and multidisciplinary (conventional and "alternative") management of all types of surfing-related problems: orthopedic and soft tissue injuries, marine envenomations and bites, surfer's ear, sinus, eye, vision, dental, skin, emotional, menstrual, and pain syndromes; emergency techniques in rescue, resuscitation, neck stabilization, anesthesia techniques, and wound care; as well as broad discussions on aging, sports medicine, conditioning/deconditioning, parallel sports injuries, deaths from surfing, working in the 3rd world, travel medicine, surf camp medicine, environmentalism, training barefoot doctors; and of course numerous SMA matters, including staffing, membership, organizational interfaces (Surfrider, SEA, the Olympics), the Surf Docs column, Internet possibilities, future conferences, the Journal, and financial planning, which included an End of the Decade Treasurer's Report prepared by our Accountant Kahuna, Tom Kever.

Some of the outstanding presentations that deserve special mention:

1. Brian Lowdon's keynote address, an overview of surfing physiology and fitness. Although others have done some work in this field, it has primarily been Brian for all these years, conceiving of, successfully performing, and then publishing one great study after another.

2. Simon Leslie's videotape analysis of the actual mechanisms of surfing injuries - truly fascinating and revealing.

3. Geoff Booth's 10-year prospective study on the effects of spinal and cranial injuries on surfers' lives (a hopeless presentation because he had planned to use an overhead projector, but none could be located in Fiji).

4. Ethan Wilson's acappella-initiated, open-bar driven, and visually compelling presentation on wound management of marine-environment injuries (Ethan's libationary generousity was good for as long as his talk lasted, so the group had Ethan up there for quite some time: "Scuse me, Ethan, could you go back a couple of slides - oh, and could I have another pina colada?").

5. David Miller's presentation on state-of-the-art approaches to travel medicine, including forging a plan for a surfer's travel medicine company with Simon Leslie, that would provide definitive, affordable travel medicine and first aid kits to surfers.

6. Paul Georghiou's final report on Nabau, the Fijian boy whose life he helped extend by bringing him to California for major cardiac surgery four years ago, but who suddenly died in the past year.

7. Brian "Peaches" Price's mind-boggling accounts of face-to-face encounters with Great White Sharks while diving and surfing in Northern California (oh, only 50 or 60 such chance meetings!).

8. Tom Mulholland's real story on how he cheated death and rode a 50-foot tidal wave naked in G-land.

9. There were a number of other excellent talks, but the one that won the Best Talk Prize was Robert Speers' highly original "Shaken Surfer Syndrome." Speers is a head-injury expert, caring for many people who have brain injuries due to acute but also repeated, chronic trauma (think of athletes such as football players and boxers, those who have had multiple concussions, etc.). He postulated that there may be many surfers who are unknowingly causing repeated cerebral micro-trauma when they wipe-out, particularly in big surf; that the acceleration-deceleration and rotational forces involved in striking the water during a wipe-out could and probably would over time lead to this. The acute symptoms of such brain injuries as concussion are well-described (post-traumatic amnesia, confusion, disorientation), but the symptoms of occult, chronic injury can be more subtle, and come on gradually over years: lapses in attention and concentration, emotional and personality changes, trouble performing mentally when under pressure, slowing of reaction times, fatique, headaches, and more (are you taking stock of what you're feeling like these days!). Bob was roundly encouraged to begin serious studies on this problem. A full-paper by him on this syndrome will appear in a later issue of this Journal.

Nabila Revisited

Our Nabila trips during the first years of the SMA were more akin to the practice of disaster medicine: long lines of sick people - 50, 100, more - and all we could hope to do was to triage to find the sickest, and then see as many as we had time for; it was chaos. In recent years the numbers of "sick people," as the Nabilian village health workers called them, began to decline, due, it seems, to our helping the village establish a truly functioning and effective clinic, staffed by the members of the Village Health Committee we helped train.

Having not been to Nabila in the past several years, I was apprehensive that the intensity and effectiveness of the clinic and village health work may have begun to wane, as often happens with such well-intended projects. However, walking into the village I saw only smiling, vibrant people, and on reaching the clinic area found there were no sick people to see. None! I was dumbstruck, and kept expecting that they would soon arrive, that perhaps they were spirited away in a bure somewhere. But none arrived! Talk about old habits, of not being able to let go of the "doctor" role, when a clearly healthy appearing woman walked by and I could see she had a rash on her arm, I stopped her hoping she'd want to be seen. No - she was OK, no need to be seen.

Wow! We'd succeeded all too well - there was nothing to do! Basically, we'd spend afternoons there socializing, perhaps consulting on a few cases that were already being followed, using it as an opportunity to advance the training of the health workers.

To all of you in the SMA who over this past decade contributed time, energy, and money to the Nabila Project, it's time to collectively pat ourselves on our backs. We done good.

Towards Smoke-Free Tavarua

My mind was further blown when I came to realize that the Nabila smoking cessation project has successfully continued. We saw no one actually smoking in the village on our multiple visits there, kept looking for evidence of smoking (smell of it on Fijians) and saw only a smidging of evidence: one cigarette butt in the grass. On asking various village members how many Nabilans are presently smoking, the estimates ranged from 8 to 18. We'd known there were a handful of elders who had continued to smoke, and were allowed to do so by the village. But of the others, those who had returned to smoking or taken it up anew, none, we were told, were daily users. So, the project must still be seen as a major, ongoing success. Particularly when, as we discovered, there is an ever expanding epidemic of smoking in Fiji.

On Tavarua, for instance, there was more smoking among the Fijians than at any time in the past I can remember. Beyond the fact that smoking rates are rising in Fiji in general, two specific reasons account for this: (1) Tavarua is no longer staffed only by Fijians from Nabila, but the many (30 or more?) jobs are shared equally between the three villages of Nabila, Momi, and Yako (a job on Tavarua is coveted among the local Fijians, and there was jealousy when only Nabilans were selected, so that policy was recently changed), and there have not been smoking-cessation efforts (yet) in Momi or Yako, so those workers are likely to be smokers, (2) the Tavarua store for the Fijian workers sells them cigarettes!

I discovered this on the last day of the conference, when one of the Fijians working on Tavarua told me the reason he smokes is because he can get cigarettes so cheaply from the worker's store. I was in disbelief, with all the work the SMA had put into helping the Fijians stop smoking, could it be true that the Tavarua owners were selling them tobacco? I stormed into the office of Ric, one of Tavarua's co-owners, and he verified that they were indeed selling cigarettes on Tavarua, but they did so to help the Fijians save money, that they, Tavarua, could purchase tobacco cheaper, in bulk. He said that he hated doing it, that he'd been frustrated by it for a long time. In fact, he was bummed out that they even allowed smoking on the island, for anyone, Fijians and guests alike; that it was crazy for surfers to smoke.

I said that, if he felt like that, then why not declare Tavarua smoke-free? He jumped up and said "YEAH!," and there commenced the beginning of Smoke-Free Fiji, beginning with Tavarua.

We discussed how to do it, involving Druku in the discussion (who still smokes, despite having successfully quit before). First, Ric and Druku would hold a meeting with all of the Fijians on the island to announce the intention of Tavarua becoming smoke-free by January 1st, 1997. This would allow people time to quit. Second, they would immediately stop selling tobacco on the island, that if the Fijian smokers needed to smoke until the January cessation date, they would have to bring their own. Also, they would begin letting surfers/guests coming to Tavarua know that Tavarua was becoming smoke-free; that for some, who are smokers, coming to Tavarua might be a good way to quit.

The other principal co-owner, Jon Roseman, wasn't there to further cinch the commitment, nor David Clark and Scott Funk, the original owners who still are part-owners, but Ric's drive towards this goal seemed real and deeply felt, and I would guess that this venture will succeed (but maybe not as soon as planned).

The Next Generation SMA Fiji Health Project: Momi VIllage

Further fuel to the smoking fire came later that afternoon, after our group had departed the island to return home. Instead of going into Nadi to shop and rest in a hotel before the night-flight home, some of us had agreed to spend the rest of the day visiting Momi village, which is about as close to Tavarua as is Nabila. Momi had requested us to visit them, ostensibly as a first step towards the kind of medical-care relationship we've had with Nabila. I was eager to go, feeling that in many ways we had largely finished our work with Nabila, and now it was time to try to apply what we had learned elsewhere.

Smoke-Free Fiji? Photo: MR

Seven of us went. On entering Momi, the differences between it and Nabila were immediately evident. It is about the same size, close to 250 people, but the people are clearly not as healthy. Everywhere I looked there were people smoking. We had a kava ceremony with the elders, as befits a first visit to a Fijian village, and then had a discussion about what the health needs of the village might be. They identified their major problems as high blood pressure, asthma, and sudden death, that three young people (under 40) in their village had apparently dropped dead in the past year.

I raised the question about smoking, pointing out that it can be related to all three problems they were concerned about. When I asked how many people in the village were smokers, my mouth dropped open: 90%!!! It wasn't clear to me if that was 90% of the adult men, or was it 90% of the full-grown men and women, but, regardless, it is an astonishingly high figure. On further questioning, we determined that the Momi smokers spend an average of $10 per week on cigarettes, out of an average weekly income of $30. One-third of their income. Shocking. How did this happen?

We were expected to see the "sick people," and they were lined up in droves, just like the early days in Nabila. But we told the village that this first visit could only be seen as a way for us to assess what the village's needs were, and with that information the SMA and next year's conference planners could perhaps plan a full-fledged approach to working in their village. We quickly were consumed by the many sick people, and once again I felt that suffocating feeling of being overwhelmed by the health needs of the developing world, and that in the traditional model of providing services without education our actions had little chance of really making a difference, other than creating false expectations and dependence. It would only be possible if we proceeded as we had in Nabila, via education less so direct service, and that would have to wait for next year.

The Devastation Upon Yako Village

On the way into Nadi, Paul Georghiou asked us to stop at Yako Village, the third of the three sister villages to Tavarua, so that he could visit Nabau's grave and pay his respects to his mother. Evidently, Nabau's death - given all he had been through, going to America for the heart surgery, etc. - was of such major significance to the village that they had made a major exception to the usual Fijian funeral practices and had buried him immediately adjacent to the family house. It was quite moving seeing the grave, and seeing Paul with Nabau's mother.

The most devastating aspect of visiting Yako for me, though, was in seeing how it had been targeted by the tobacco industry. Yako lies along the main highway between Nadi and Suva, the capital of Fiji. There is now a very nice wooden sign for the village along the highway. In rather jaunty, inviting letters it tells you that this is Yako Village, almost as if it were a sign for a ride at Disneyland. Then, underneath that sign is an even larger, more visible, metal sign for Benson and Hedges.

I asked in the village for the story of how that sign came to be. The story is depressing in its entirety. Evidently, awhile ago a very nice man had come to the village, saying he was from Benson and Hedges, and that he had brought kava with him to present to the village. They held a traditional kava ceremony to welcome him as a visitor, as every Fijian village will do for any visitor (such is the Fijian way). After the ceremony, he said he liked their village very much and that his company would like to give them a sign to honor their village. And would it be okay to also put the company's name under the village sign? They agreed, because, they said, he had been so nice to them.

So, the sign was put up. And, then, they said, he continued to be very nice and returned many times over the next few weeks, always bringing free cigarettes for everyone in the village who wanted them. But, pretty soon he stopped coming back.

Oh, by the way, they estimated that now 75% of the village smokes.

Towards a Smoke-Free Fiji

That is what we are up against: ghouls from multinational cigarette companies who are deliberately seducing and then addicting such wonderful people as the Fijians. It is happened all over the world, but in this case, it is happening in the part of the world to which we have a profound commitment.

What is your degree of outrage?

How far would you go to combat this?
We have something stronger than those cigarette company bastards have. We have the trust of the people of Nabila, who listened to us and resisted the cigarette companies insidious incursion into their lives. The whole village of Nabila gave up smoking. Why can't that happen next with Momi, then Yako, and then keep going. We can use the kinship ties that connect all Fijian villages to one another, perhaps have other villages come to Nabila to see that it is possible. That would be the Fijian way; it is what the cigarette companies are starting to figure out and exploit. We need to stay ahead of them.

We should go one-on-one with the cigarette companies. We could succeed. This is definitely not a pipe-dream. There aren't many places on this planet where it would be possible, but owning to the uniqueness of Fiji's society, it would truly be possible for Fiji to become smoke-free. My hope is that this will become the SMA's mission in Fiji.

The Surf

No SMA conference report would be complete without a surf report. I won't mince words. It was perfect.

The Future

The next Tavarua conference, I am told, is already totally booked, just from the mailing Paula did in December to the general SMA membership. It will be coordinated by Simon Leslie. If you are not among those lucky enough to be going, write or fax Paula now and tell her you want to go next year. We all need to go to Fiji, and Fiji needs us to go. Get ready for the experience of your life.

Steve Baser scholarship recipients.

WHERE THERE IS NO EDUCATION;

THE FIJIAN WAY AND THE SMA-STEVE BASER MEMORIAL FUND

Michael Baser, PhD

The themes of this article derive from several sources. First, emblematic of the SMA's approach, there is the book "Where There is No Doctor" by David Werner. Second, there is the Fijian way that connotes hospitality, extended family, community support, and mutuality. And third is the new high school scholarships for children of Nabila, Fiji, a village of 236 people 30 minutes by boat from Tavarua. This is the home village of many of the workers at Tavarua.

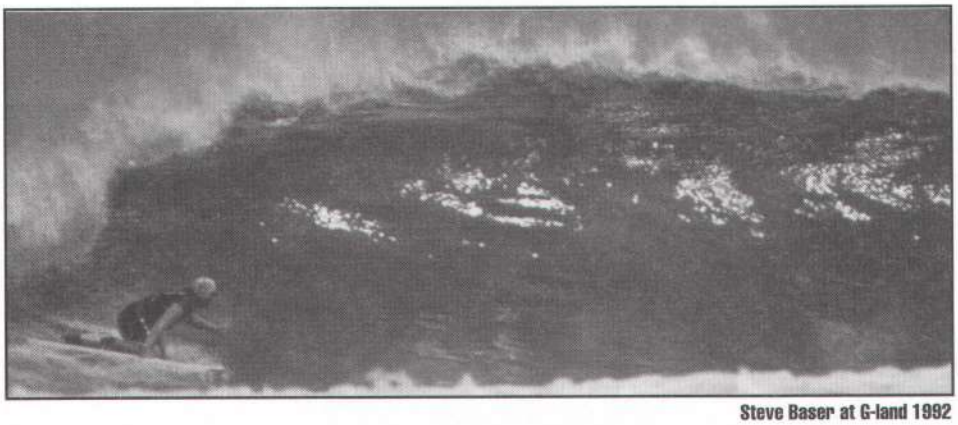
SMA members have been visiting Tavarua for a decade and in return for the waves and hospitality have provided a variety of health and community programs, including scabies treatment and smoking cessation efforts, medical supplies, transport and treatment of especially sick children to the USA for surgery, and building a concrete water storage tank and large community hall. The economy of Nabila is based largely on surf tourism to Tavarua, plus sugar cane agriculture. In the Fijian education system, high school is not free and as a result many worthy students do not proceed due to financial impediments. At the SMA First Decade conference on Tavarua this year, we were fortunate to bring together a like-minded group of surf docs, other health professionals, and others to establish and award two full 4-year high school scholarships based on the SMA-Steve Baser Memorial Fund.

My twin brother Steve was an SMA member and attorney who surfed while growing up in Los Angeles. When he rediscovered surfing in his late 30's, it became the organizing principle of his life and gave him tremendous happiness. He went on SMA trips to Tavarua and G-Land and was long-distance swimming in preparation for another trip when he died suddenly of undiagnosed hypertrophic cardiomyopathy in May, 1993. In thinking about an appropriate memorial, I contacted Mark Renneker and kicked around a few ideas with other SMA members. Rich O'Neil, SMA member and good friend of Steve's, contacted yet more members who had been to Tavarua and after a good deal of debate we came up with the ideas of memorial high school scholarships.

We solicited contributions from SMAers who knew Steve, had SMA events sponsored by members such as Norm Vinn, collected royalties from the "Sick Surfers" book donated by Geoff Booth, Mark Renneker, and Keven Starr, and my family donated as well. The village elders of Nabila established a five-person committee to administer the scholarships, with Sunia Vuniyayawa as secretary and Lorima Torosi as treasurer. Based on Sunia's estimate of the cost of schooling, we thought we had enough money for one full scholarship.

Despite Mark's pre-trip assurances that all would be well handled in the Fijian way, I was nervous because I would only be there for one week. On Thursday in Nabila we found, for the first time according to Mark, that disease was noticeably more difficult to find than previously. During the kava ceremony the scholarships were briefly announced. Back on Tavarua that night, the debate about the scholarships included (a) should we restrict the scholarships to individuals who wanted to follow careers in health professions; (b) should we give one full scholarship or two half-scholarships; and (c) if we give two scholarships, should we give one to a boy and one to a girl. It was soon clear, though, that to be meaningful the scholarhips would have to be for four years to ensure that the recipients would have the opportunity to complete high school.

On Friday, Geoff Booth, Jessica Dunne, Grant Smith and I returned to Nabila to further discuss the scholarships. The tenor of this visit was very different than that of the previous day, when the SMA had arrived in a full medical capacity contingent. This time, a wedding was in process and we did not meet in the community hall but rather in a bure (Fijian house). Only Sunia and one other villager where there, and after introductions they asked us if we wanted to meet the two candidates and read their application essays. Two girls walked in, extremely shy and maintaining physical contact with one another at all times. Neither girl had both mother and father living together, and in the Fijian way had been raised as sisters by the village. One wanted



Steve Baser at G-land 1992

to be a doctor and the other a nurse - see their essays printed here - and they were both at the top of their eight grade class. Geoff Booth went on rounds in the village with them and noted that they had genuine interest and aptitude for healthcare.

It was very apparent that we could not separate these girls. Quite apart from the merit of their applications, they would support each other in boarding school. But how could we send both when we had only enough funding for one scholarship? Pondering this, we returned to Tavarua, blown away by the elegant way many of our questions had been addressed. At the SMA meetings that evening, we reviewed the situation and in a few moments the SMA folks had pledged enough for a second scholarship. I think all those who were involved were deeply moved by the Fijian way of selecting the candidates and by the generosity of the SMAers. Jon Roseman and Rick Isbell, the majority owners of Tavarua Island Resort, volunteered to assist Nabila and the SMA with local management of the SMA in any way necessary.

We also asked Sunia what the villagers would think if the girls decided to choose professions other than medicine or nursing, because some of us did not necessarily want to make the scholarships restrictive and feared that the village might have been accommodating the SMA in choosing only candidates with specific health career goals. Sunia made it clear, though, that whatever the girls decided to do would be considered a credit to the village. Fiji is a patriarchal society and women traditionally live in their husband's villages, but when a village needs labor or funds, all those who were born in that village respond. Before leaving Fiji, we had determined that all arrangements were satisfactory to the village elders.

We are continuing to solicit contributions to the fund, which fired everyone's imagination, enthusiasm, and generosity. Read the following essays and see what you think. As for my brother Steve, his SMA friends assured me that he would have liked these scholarships, which to me brings this work full circle.

(Tax-deductible donations may be made to the "SMA-Steve Baser Memorial Fund", c/o Michael Baser, 11732 Henley Lane, Los Angeles, CA 90077. For SMAers in academic medicine or who receive speaking fees, honoraria from such engagements may be directly donated to the fund by sponsoring institutions).

SMA Gives books to Nabila School Children

From the first two SMA-Steve Baser Memorial Scholarship recipients:

Dear Sirs:
Thanks a lot for providing two would-be fortunate ones with your scholarship. Such financial incentives would be of great help as we face a lot of financial crisis as far as our school expenses are concerned.

I am Lanieta Nagata, a class 8 student of Nabila Public School. The following are the reasons as to why I need the scholarship. My father and mother has separated and I stay with my uncle. My uncle doesn't have any source of income and he finds it extremely hard to send me to school. I may have to put a full stop to my future education if I don't get any financial help. I am indeed grateful to you that such a scholarship is affordable to us. If I get it, then my dreams of becoming a nurse will surely materialize.

I take this opportunity in thanking you sir and hope some consideration is given to my application.

Thank you so much.
Lanieta-Nagota

Dear Sirs:
Thanks a lot for giving me the opportunity in writing on the above subject. I am Adi Luru Kulavare, a class 8 student of Nabila Public School. I have done extremely well in my primary education so far. And I intend to improve further on that as I move on to secondary school. It was news for me when I heard that such a scholarship is offered to two children in our school. In fact I was in desperate need of financial help to carry on with my education and I think it is an opportune time for me to get such a scholarship, as my father has deceased and my mother lives in another village. I stay with my grandmother who is very old and doesn't have any source of income and she finds it really difficult to send me to school.

I would like to be a doctor when I finish my form 7 education. And for this I have to go to the Fiji School of Medicine after completing my 7th form. I am optimistic I'll be able to achieve my aim. Becoming a doctor is no easy work and I am prepared to work harder for this. This proffesion will enable me to help my community here at Nabila and others in my country. I thank you for this incentive and hope due consideration is given.

Thank you.
Adi Luru Kulavare

REPORT ON THE MENTAWAI ISLANDS TRIP OF 1996.

The REAL Surfers' Paradise - Report of the SMA Sumatra Trip

Bruce Campbell

"SUMATRA, INDONESIA. A planned yacht charter for ten SMA members is slotted for July, 1996, visiting the islands off of Sumatra where the surf is supposed to be great" said the small advertisement in the Conferences section of the Summer 1995 issue of the SMA Journal. I had heard vague rumours over the last few years about these islands so, curiosity aroused, I contacted Gary (the Wombat) Groth Marnat, the author of the notice, in Perth. Gary had a little more information since he had been able to speak to Rick Cameron who ran boat trips to the islands but even so it was hard to get a good feel for what it would be like. The group consisted of six surfers: Gary Groth- Marnat and Simon Monteith, a surfing friend of Gary's from down the road in Perth; Wade (Lycraphile) Myers from Gainesville, Florida, and three surfers from Brisbane - Andrew Hallam, Bruce Campbell and Bruce's son Tom, age 14.

The whole group first came together in the domestic terminal of the Jakarta airport where we got ready to board our flight to Padang in Sumatra. We landed in Padang amidst a heavy tropical rainstorm and soon found that the wind had been blowing an unseasonal strong northerly for the last five days, blowing out most of the breaks in the Mentawais and making the 100 km passage out uncomfortable and potentially dangerous. Unwillingly, we were forced to postpone our departure for 24 hours to let the seas abate.

On top of this, our maritime transport continued to shrink. The original ad specified a 67 foot ketch and ten surfers. The trip as finally planned consisted of six surfers and a 54 foot yacht. On arrival we found that this boat was out of commission for repairs but Rick had managed to organise a 45 foot yacht instead. This was the Temeraire II owned and skippered by Hans-Dieter Otto, a cheerful German with an Indonesian wife and family who has lived in Jakarta for the last 20 years and who usually made his living by running diving and sightseeing charters for expatriates out of Jakarta. Our trip would be only his second surf charter to the Mentawai islands.

We set off at 5 PM the next day, six surfers, Hans the skipper, a deckhand and a cook. After a fairly rough passage on the tail of the northerly windswell, the first light of dawn revealed some of the Mentawai island chain before us. We navigated the passage between two small islands and arrived off our first surf break, a fun right hander called Naposi on the southern side of Nyang Nyang island. The wind had dropped and the Indian ocean swell was delivering sets up to double overhead. We all put in six or more hours surfing that first day and set the pattern for the rest of the trip.

Hans had a favourite anchorage in this area about an hour away from Nyang Nyang. This was a perfectly sheltered area set between three picture postcard palm fringed islands. From the anchorage we could look out on four other breaks off two of the islands. Two of these were good waves, an unnamed fun left and a heavy tubing right called Kanduis which several of the crew voted the best wave of the trip, delivering standup barrels and 200 metre rocket ship rides. As an offering to the surf gods of the Mentawais I involuntarily sacrificed one of my boards here after being swallowed and worked by a large barrel. I also left a fair amount of skin on this reef. Each day we surfed one or more of these and other breaks in this northern part of the straits between the large islands of Siberut and Sipora. Travelling between breaks we passed a number of small islands, each of which would have an inviting left and a right breaking on each side of the island. We could not surf them all and mostly surfed the named breaks.

On the other side of Nyang Nyang is a left called Ebay which breaks off a picturesque, heavily forested hillside on the island and the planned site of a surfcamp Rick Cameron wants to set up in a year or so. I had the best tube session of mylife here riding on my backhand in one and a half to double overhead surf. The wave is not as long as G-land but just as good and was delivering many long and deep tube rides. Despite having so much fun where we were, we felt obliged to do some more exploring, so we eventually made the crossing southward to the top end of Sipora island. Here at break called Telescopes we had our only surf of the trip that was not overhead. We quickly abandoned this spot and moved a short distance south to another left called Scarecrows which for the last two days of our trip poured in glass-smooth double to triple overhead sets. Here we all experienced many epic waves and a few epic workings by monster sets. Gary lost his big wave gun and gave up hope of finding it after extensive searching in the dinghy. To everyone's amazement we found it again four hours later and 3 kilometres away in the open ocean when we set off in the yacht.

There were other boats with surfers in the Mentawais while we were there but we never had to share a break with another boat. There are also a few hardy land-based surfers living rough in the jungle and taking their chances with malaria which is a real risk all through Sumatra and its off-shore islands. We occasionally met one or two of these "feral surfers" in the water and those we met were basically young enthusiasts accessing surf as good as any in the world while spending the minimum amount of money.

I think we all agreed that this was the best surf trip that any of us had made. We were lucky with swell since it pumped throughout the trip but a visitor would have to be very unlucky not to get some swell in Indonesia between June and September. For the fisherman there is an added bonus in boat-based surfing since we caught Spanish mackerel, tuna, mahi-mahi and trevally while trolling and lost a few lures to larger fish. One last thing to think about - we only surfed some of the breaks we saw, and we only saw a fraction of the breaks that exist throughout the Mentawai island chain. We did not even attempt to visit the best known breaks including Lance's, HT's and Macaronis at the southern end of Sipora island. Surfers Paradise is not really in Queensland - try the Mentawais instead!

BIG FLAT 1996:

Big Waves and The First Barefoot Doctor Training

Ward Smith, Aptos, CA

The 1996 Big Flat Conference far exceeded all participants' expectations. The surf started off good and got better each day - from head high to double overhead, and we have the video to prove it, thanks to Julie Rubalcaba. And the first SMA Barefoot Doctor Training was very successful as well.

The Barefoot Doctor course included the following: Trauma management including head, spinal, and orthopedic injuries as well as basic wound management; advanced wound management including local anesthesia, irrigation, exploration, removal, debridement, and tape, staple, and suture closure; CPR; and surf-related problems such as ear and sinus problems, wound infections, and allergic reactions. The course was a mixture of lecture and hands-on workshops. Paul Georghiou, the point master, did an excellent job designing and teaching the course; thank you, Paul. And thanks to the other docs who helped with the training. All the workshops were videotaped so that participants can review what they learned, and for evaluation by other surf docs. We may eventually create a barefoot doctor video to sell to interested members; more about this in the next journal.

The entire conference was so successful that we intend to offer another barefoot doctor training at the next Big Flat conference, already set for Saturday, November 8 to Saturday, November 15, 1997. To reserve your spot please send a deposit of $150 to the SMA. Space is very limited. For more info, contact Ward Smith at (408)684-0916.

Continued frompage 4

not seen in thermoneutral water (16). The implications for big wave surfing in tropical versus cold water oceans are apparent.

Training is another area of potential benefit. It has been shown that breath-hold time can be increased with training and in short periods of time by as much as 160% just by increasing the frequency with which you breath-hold, ie., practicing (17). It appears that the "exer-psychos" (1) who run with rocks on the bottom of the ocean are on the right track. Elite breath-hold divers have also been shown to have increased anaerobic metabolism (18) and an overall decreased metabolic rate, traits which may also be increased with practice and physical conditioning. The combination of acclimatization, training, and reduced activity will all help to increase an individuals breath-hold time.

THE FUTURE

So what does the future hold for maximizing the surfer's breath-hold time? Two technologies currently available to aviators that aid in emergency underwater escape from submerged aircraft offer potential benefit to surfers. The first is the Helicopter Emergency Egress Device or "HEEDs bottle" used by US Navy helicopter aircrewmen. It is nothing more than a small self contained underwater breathing apparatus (SCUBA) attached to a lanyard and kept in the helicopter aircrewman's survival vest. When needed, the bottle is retrieved and the regulator end placed in the individual's mouth. After clearing the regulator it provides 2-3 minutes of compressed air to the aircrewman, aiding the egress from the submerged helicopter. Potential problems include leaky bottles and decompression injuries.

The other technology is a simple "air pocket" system that can be incorporated into the aviators flight suit. It is simply a bag containing circular tubes that allows the person to rebreathe their own expired gases. It is sometimes referred to as an emergency underwater breathing aid or EUBA. A recent study revealed a minimum of a two fold doubling of maximum breath-hold times (19) simply by rebreathing into the EUBA. Since it contains no compressed gas, there is no risk of decompression injuries.

SUMMARY

Although submersion incidents among surfers are rare, the drowning sequence is something no surfer wishes to experience firsthand. The complex physiology of breath-hold diving applies directly to surfing, especially in big waves, and current research has shed light on ways to maximize a surfers breath-hold time. Hyperventilation is clearly not one of these but the "diver's tricks" of intermittent exhalation, swallowing, and performing the Valsalva maneuver as well as whistling prior to taking that last breath, are all readily adaptable to surfing. Training, primarily by practicing breath-hold dives, is a proven way of maximizing the breath-hold. Surfers should be aware that breath-hold times are shorter in colder water. Finally, there are current technologies that are easily adaptable to surfing that can prolong breath-holding times. The thought of seeing surfers with miniature SCUBA bottles attached to their waist or wearing wet suits with air pocket systems and whistling while paddling hard to get over close out sets may seem amusing but it may also be just what the future has in store for surfing.

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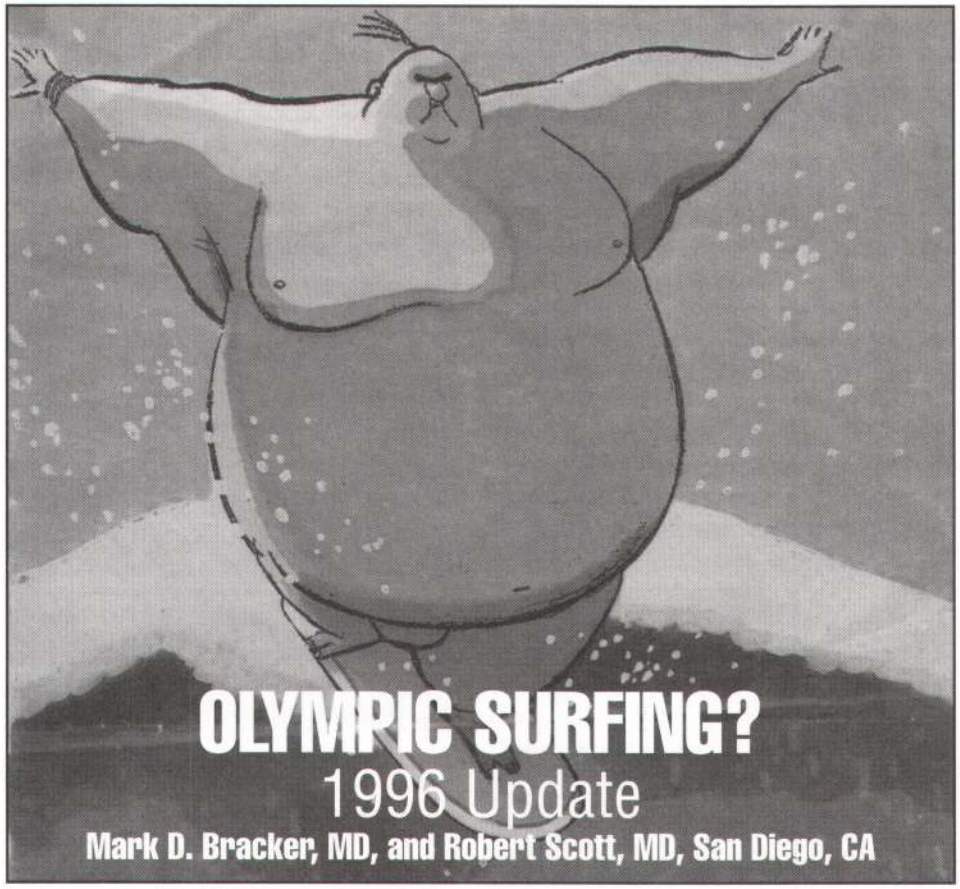

OLYMPIC SURFING?
1996 Update

Mark D. Bracker, MD, and Robert Scott, MD, San Diego, CA

This year was a significant one milestone for the sport of surfing. After considerable discussion and prodding, the International Olympic Committee (IOC) recognized the International Surfing Association (ISC) as the official governing body for World-Wide Surfing Competition. This is a critical first step for any sport that would want to be represented in the Olympic movement. As many of you already know, Sydney, Australia will be the host city for the year 2000 Summer Olympics. What could be a more appropriate location to spotlight surfing as a new Olympic sport than where Duke Kahanamoku introduced surfing to the world over 75 years ago?

To make this a reality, however, the real work is still ahead. Individual countries that wish to compete now need to apply for recognition by their own nation's Olympic committees, and this is not a simple matter of filling out an application that is then rubberstamped. The U.S. Olympic Committee (USOC), for example, has a rigorous process that each new sport must go through to demonstrate that the governing body truly represents the sport on a national level. In our case here in the USA, several organizations with competing agendas have claimed this role. It seems clear, however, that the U.S. Surfing Federation (USSF) is in the best position to provide the leadership and organization to accomplish the task. To move forward at this time with the speed needed to meet the deadlines required for the 2000 Olympics will call for some real consolidation of all the special interest groups that promote amateur and professional surfers. The ISA and USSF officials have made this a top priority with goal of building a strong U.S. National Team, which can bring home the gold from Sydney.

This past summer the USSF Board of Directors met in Hawaii and, among other things, approved a Medical Committee to provide services to the USSF. The responsibility of the committee is to help with the required medical section of the USOC application, to provide medical services to the U.S. national team and at national and international competitions. Dr. Bob Scott, who is a longtime SMA member and USSF official, was asked to serve on the USSF Board and Dr. Mark Bracker was asked to chair the medical committee and be the first USSF head team physician. These roles took on the immediate responsibility of providing medical coverage for the ISA World Games held in Huntington Beach in October.

With the ISA now fully recognized by the IOC, the World Games became the first showcase for the Surfing-Olympic movement. Thirty-five countries sent a total of 635 surfers to compete in Huntington Beach, and the event was conducted under the watchful eye of IOC and USOC officials according to Olympic protocol. For the medical team, this included drug testing following strict IOC guidelines.

To accomplish the task of providing medical coverage, we recruited local SMA members in Southern California, who generously donated their services, offices and equipment for the nine days of competition; without this help, it would have been an overwhelming and impossible task. Everyone worked hard to meet the demands and needs of surfers, officials, support staff, and in a few cases, spectators. Most nights we felt like interns on call. Drug testing was done the final Sunday, with the two top medalists in each division required to produce a urine specimen that was sent to the USOC-designated lab at UCLA. We kept records of injuries from the events that may be examined in the future and added to similar data collected by the Brazilian team physician from previous events.

We'd like to here thank those who donated their time and energy: Physicians Norm Vinn, Fred Vaca, Joe Lombardo, Robert Budman, Parv Arun, Roger Nash, and Warren Kramer; chiropractors Clive Bridgham, Clayton Silver, Doug Anderson, Garrett Anderson, Marta Collatta, and Tim Brown, and Malia Holmes, ATC.

So where do we go from here? It is our hope that surfing continues to press its efforts towards becoming an Olympic event at the games in the year 2000. Towards that goal, the SMA has been offered a unique opportunity to be there from the ground up. Physicians, chiropractors and ATCs will need to be available to travel with the U.S. National Team to upcoming international events such as in Bali and South America in 1997, Portugal for the next World Cup in 1998 and ultimately to Australia in 2000. We should also be available to attend important national finals of USSF competitions such as in Hawaii last August. The medical staff will be required by IOC and USOC regulations to organize random drug testing throughout the year and at international competition.

This will all come at a significant expense to the national team, but will be a budgeted expense paid by the USSF. I expect sponsorship will be available as well from the pharmaceutical industry making such products as sunblock, Retin-A and other dermatological products of interest to our sport. If any SMA member has any thoughts along these lines, we would be interested in hearing from you. Similarly, if you have interest in sports medicine and team coverage, and might be interested in covering event such as the ones mentioned here, send in your C.V. We will put together some follow-up articles in this journal to keep all members worldwide current on what is happening.

GIFT SHOP

SUMMER IS COMING SOON!

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

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).

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(include weight of envelope!) 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.

Number of shirts: _____Size(s): _____

$ Enclosed:_____

Must include SASE.

New! Decals!

New colors: fade-resistant red, blue, purple, hot pink 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 privi-leges 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:_____

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 # _____

Complete set of all 3 volumes $100 # sets_____

Postage amt. $ _____

Total amount $ _____

Steve Baser Memorial Fund

To memorialize SMA member Steve Baser, who died May 3, 1993, the fund is devoted to supporting sustainable disease prevention and health education programs for village children in Fiji, and elsewhere. Independent of the SMA, but a cause that the SMA fully supports, overseeing the fund will be his twin-brother, Mike, and a small group of village-experienced SMA members who knew and admired Steve. Regular reports on the Fund's work will be in this journal. Make your (tax-deductible!) check payable to *"Steve Baser Memorial Fund"* and send care of the SMA.

Instructions

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

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

These items are only available to SMA members.

Total amount enclosed
(all of above) $ _____

MEMBERSHIPS

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.

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: Nonmedical members — for surfers interested in learning how to take better care of themselves and others. $30

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

Gremmies Member: for beginning or young surfers. $10

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

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

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 life-style should be supported to the max. $100

Illegal Member: $100 cash or equivalent. Anonymity guaranteed (unless Newt 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. $29.95

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

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 [Non-USA members, please 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:

_____

_____

_____

SURFER'S MEDICAL ASSOCIATION

P.O. Box 1210
Aptos, CA 95001-1210 USA