Same Planet, a Different World

MEDICAL RELIEF IN INDONESIA, POST-TSUNAMI AND EARTHQUAKE

By DENNIS C. WHITEHEAD, MD '75

The following is a firsthand account of a medical-relief mission to western Indonesia that Dennis Whitehead, MD '75, undertook in March 2005 in response to severe earthquakes that devastated the region only months after the tsunami struck.

As this issue of Buffalo Physician *was going to press, Hurricane Katrina hit the Gulf Coast. We contacted Whitehead and asked him if he had been involved in relief efforts following the storm. We learned he had just returned from six days of working with the Louisiana Department of Health and Hospitals to support search-and-rescue efforts in downtown New Orleans, assist boat crews in the flooded areas, treat rescue workers, complete EMS site surveys and examine shelter patients in rural St. Tammany Parish, northeast of New Orleans.*

At our request, Whitehead agreed to report on his Gulf Coast experience in the next issue of Buffalo Physician.

—S. A. UNGER, EDITOR

All that remains of Banda Aceh's densely populated residential area. The hills in the background shielded most of the downtown business district.

My thirtieth medical class reunion took place this past April, and I was looking forward to it very much. I have greatly enjoyed seeing my classmates every five years and catching up on their lives. My former roommate, Jack Freer, MD '75, now a clinical professor of medicine at UB, was coordinator for our class this year and I promised him I would be there for the festivities. I never did make the reunion, but I had a pretty good excuse.

During my daughter's birthday last December 26, newscasts reported that there had been a severe earthquake and tsunami in the East Indian Ocean. Initial reports indicated significant damage and some casualties in Sri Lanka and Thailand. By evening my children and I were appalled by news of how much devastation the tsunami had caused, putting a damper on the birthday celebration. We pulled out an atlas and looked at how close northwestern Indonesia is to the quake's epicenter and wondered how the people living on the coast there had fared.

The next morning, reports began coming in from Banda Aceh at the northern tip of Sumatra, estimating that over 100,000 people had been killed in that city alone. I recall feeling sad and helpless. I just wanted to do something to help.

December 27, 2004, was a beautiful snowy day where I live in Michigan's Upper Peninsula. I had a date for cross-country skiing with my friend Coleen, a critical care nurse at the hospital where I practice emergency medicine. Our conversation turned to the tsunami, and as we talked I realized that now was the time to translate into action my longstanding intention to do international relief work.

That night I went online and sent messages to several relief organizations, volunteering my services. I was a bit disappointed to learn that most of them already had more volunteers standing by than they could use, and only those with prior international experience were being asked to serve. So I donated money and prayed for the victims, vowing to volunteer again sometime in the near future.

THE RIGHT TIME TO SERVE

On March 28, 2005, an 8.7 magnitude earthquake hit just north of Nias Island, Indonesia, which is 400 miles south of Banda Aceh and 90 miles off the west coast of Sumatra. This quake was the second largest quake our planet had experienced in 41 years and thousands of casualties were reported on Nias. (The tsunami quake in December is now rated at 9.35.) The epicenter of the March 28 quake was farther south on the Sunda Fault, the same fault that caused the tsunami.

Non-governmental organizations (NGOs) previously flush with volunteers were finding fewer applicants with a second major disaster occurring so soon after the tsunami, so international relief rookies were needed. On March 30, Coleen was called by Project Hope for immediate service onboard the USNS *Mercy*, a navy hospital ship that had been en route back to the U.S. from Banda Aceh and was now returning to assist the people of Nias. I knew she had filled out applications with several volunteer NGOs a few months earlier, and I regretted not having gotten around to doing that myself. After she left

on April 3, I sent my CV to several NGOs and again volunteered my help.

Shortly thereafter I received a response from the International Medical Corps (IMC), headquartered in Santa Monica, California: "We could certainly use your services in Indonesia. Can you leave in a couple of weeks?"

The next day, my four partners in our rural hospital's Emergency Department readily agreed to cover my shifts during the five weeks I would be away, truly making my commitment to IMC a group effort.

IMC was founded in 1984 by an emergency physician named Bob Simon to help train emergency medicine personnel in Afghanistan during its conflict with the former Soviet Union. I was acquainted with Bob from my work with the American College of Emergency Physicians, and many years ago I had called him to inquire about volunteering with IMC. At the time, he told me that he received about 30 inquiries for every volunteer who actually went into the field and that when the time was right for me to serve I would know it. In the spring of 2005, with IMC having grown to over 6,000 volunteers and employees in 20 countries, I knew it was my time.

SHOTS, FORMS AND ANXIETY

IMC is very well organized and sent me a great deal of information about what to expect during my service. At their recommendation, I started mefloquine for malarial prophylaxis and was immunized against typhoid, meningitis, tetanus and polio, all of which are endemic in Indonesia. I also completed many forms about my background and questionnaires about whether I had any objections to living in a tent, whether I was willing to fly in helicopters and whether I minded exposure to physical challenges.

Since I have mountaineering experience I expected assignment to an austere environment. I was told I would be sent somewhere in Aceh Province, an area that before the tsunami was best known as the home of a militant Muslim separatist group called GAM. (Aceh is about 95 percent Muslim, by far the highest percentage in Indonesia.) Since the tsunami, GAM had been lying low but were thought to be planning new attacks on the Indonesian military, so there was some possibility of physical danger. As our departure date drew near, we were told that final field assignments would be made at IMC's

Indonesian headquarters in Jakarta, where we would be stopping overnight on our way to Banda Aceh.

I wondered how I would fare as a physician in the tropics. Practicing for the past 25 years near Lake Superior, I had seen exactly two cases of malaria in my medical career: a Christian Science couple who had just returned from a religious mission to Africa and were speaking at a church in our town when they became ill. I had never seen dengue, typhoid, cholera, tetanus or Japanese encephalitis. I hadn't even seen a case of measles or mumps in 20 years. I emailed Coleen on the USNS *Mercy* and told her of my fears, and she assured me that my concerns are common among first-time relief physicians and that my lack of tropical experience would not be an issue at all. Nevertheless, I copied several articles on the subject to take with me, and I fervently hoped there were doctors along who knew more about tropical medicine than I did.

BANDA ACEH, UTTER DESTRUCTION

On April 23, 2005, our team of 23—five doctors, one physician's assistant, 15 nurses, and two emergency medicine technicians (EMTs)—assembled at Los Angeles International Airport for our flight to Indonesia via Taipei and Kuala Lumpur, eventually arriving in Jakarta.

At age 56 I thought I might be the oldest in the group, but there were several people in their sixties, all of whom were quite vigorous and young in spirit. Since our group was traveling together, we had time to get to know each other on the way to Jakarta.

Upon arrival, I discovered that the Indonesian capital is much bigger than I had thought (over 9 million people), with many tall buildings standing cheek by jowl with shanties. It was odd to see stiffly uniformed building guards shooing away stray chickens in the downtown financial district. Not exactly Wall Street.

Before I could collapse into bed (I had been up over 36 hours, beginning with the three-hour drive to Green Bay, Wisconsin, where I caught my first flight), we were taken to the Jakarta IMC office to receive our field assignments.

We learned that while we were en route to Indonesia, IMC had been asked by the regional United Nation's health coordinator to send any personnel with emergency experience to Nias, which was still being rocked by frequent quakes. Also, the USNS *Mercy* was wrapping up its mission there, creating additional need for emergency personnel. I was chosen for Nias Island along with five nurses, an EMT, and an internist with tropical medicine training (much to my relief!).

After a short night in Jakarta, our crew stumbled out of bed at 4 a.m. for the three-hour flight to Banda Aceh, where we were to spend another day before a flight was available to Nias. Despite the heat, we were told to wear long pants and mid-length sleeves in keeping with Muslim customs and Aceh provincial laws.

Banda Aceh had a population of nearly half a million before disaster struck at 9:12 a.m. on December 26, 2004. The business district on the south side is shielded from the Indian Ocean by a range of hills to the west. However, the densely populated residential area to the north has no such protection, and over 100,000 people were killed in 30 seconds, more than were initially killed by atomic bombs in Hiroshima or Nagasaki.

IMC had maintained active relief programs throughout Aceh Province since the tsunami, and we had a chance to see the destruction firsthand with several of the organization's staff. Having seen pictures of the devastated area on television and in magazines I knew it would be shocking, but I experienced things that day I never expected to encounter in my life.

Despite taking dozens of photos, I knew nothing could accurately convey the utter destruction extending 360 degrees around me. As we entered the affected area, we were more than five miles from the ocean, yet there were several large fishing boats sitting among the ruins of houses. A bit further to the north, still five miles from the sea, there was a large ship—and I mean a ship—sitting upright on top of several crushed houses.

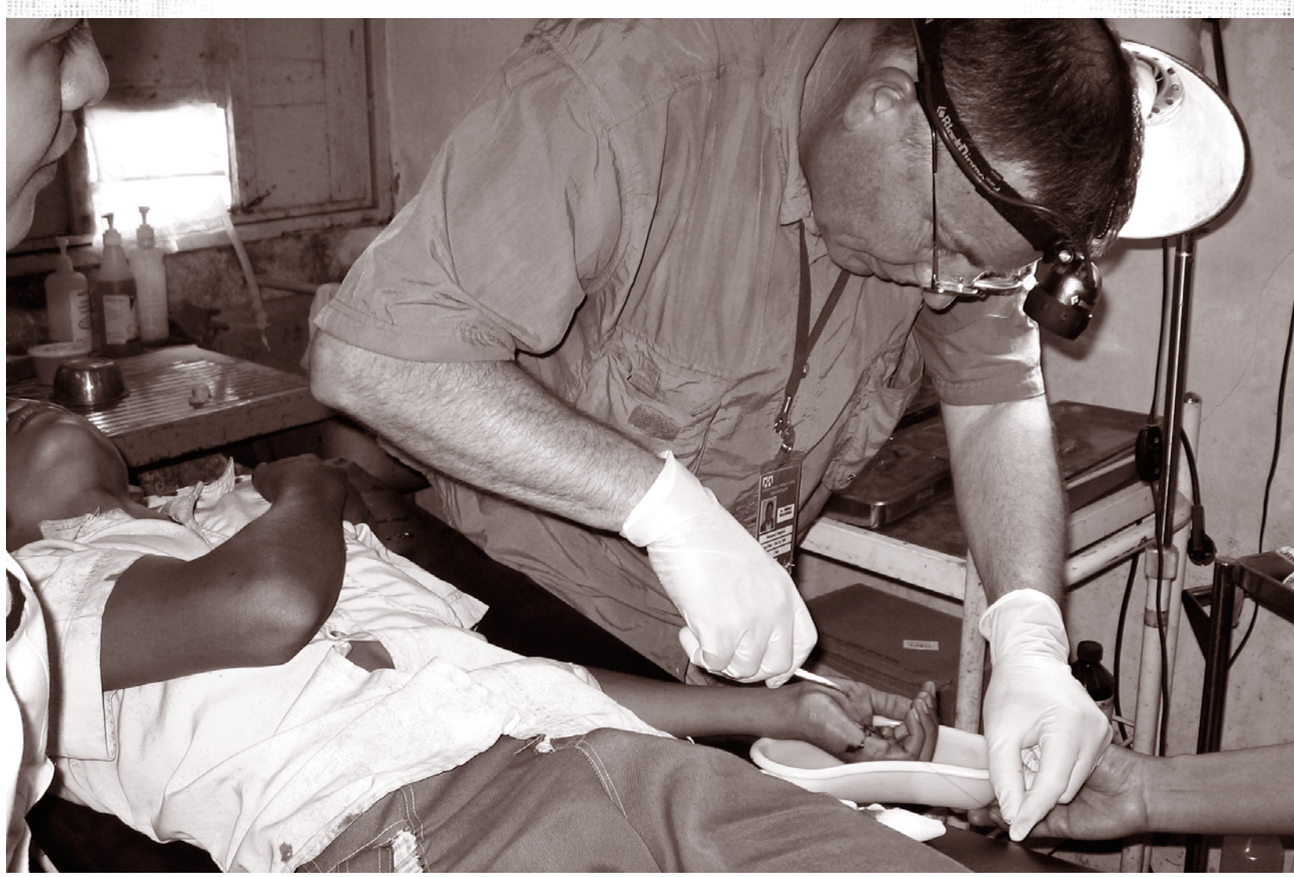
Closer to the coast, the destruction was absolute: nothing was left of the densely settled city but bare cement slabs swept completely clean by the multi-gigaton force of the most powerful seismic event since the Great Chilean Earthquake of 1960. And there was a faint smell I recognized, one of death. There were still many bodies left in the mud, a number of which surface as seawater deposited by the wave evaporates in the sun. Some of the poorest survivors take clothes off the bodies.

As we walked through the area, we saw several tents pitched on slabs, occupied by those who had lived in homes that used to stand there.

Situated very near the shore is the "Miracle Mosque," which, incredibly, sustained only minor structural damage and was being used for afternoon worship when we stopped. The faithful there graciously spoke with us and allowed us to take pictures of them at prayer. Survivors believe the mosque was spared by the grace of Allah, and I'm not sure I can come up with a more plausible explanation.

While in Banda Aceh I emailed Coleen and told her

TOP: I was grateful I had brought a headlamp with me, as lighting at the hospital was pretty poor. A mild quake occurred as I was working on this man, and I had to have my nurses restrain him from running outside so I could finish repairing his laceration. **BOTTOM LEFT:** Dozens of boats in Banda Aceh were thrown more than five miles from the Indian Ocean by the December 26, 2004, tsunami. **BOTTOM RIGHT:** Virtually all the buildings on Nias Island were damaged in the March 28, 2005 earthquake. This building collapsed in one of the strong aftershocks.



that, to my surprise, I would be on Nias. I wasn't sure if *Mercy* had left the area yet, but when I checked my mail in the evening she had responded that the ship would be leaving the following night. She also said she had been at the hospital on Nias the preceding day, helping to transport a patient off the ship, and that conditions on the island were astonishing, which was not exactly what I had hoped to hear.

The IMC team members assigned to Banda Aceh, we were told, would not arrive until the following day. The city's hospital, the only one in the province, had been severely damaged. Many of the doctors and nurses who worked in the city had been killed, and medical care throughout the region was just beginning to resume, so I knew the group assigned there would have their work cut out for them. Lying awake on a floormat that night, I reflected on the awful damage I had just seen and wondered what Nias would be like. After a two-hour flight the next morning I found out.

ON SHAKY GROUND

The first impression I had after stepping off the plane at the dilapidated terminal on the island was: Nias is hot. *Very* hot. Afternoon temperatures average 40˚C (104˚F), even warmer than Banda Aceh, and Nias has more rain and humidity. As a result, the island is greener and lusher than arid Aceh.

It's also mostly Christian, proselytized by fundamentalist German Protestants over a century ago. Most Caucasian visitors are therefore presumed to be German, a language many of our translators learned in school along with English. Being on a Christian island meant we could wear shorts, although women were still expected to dress more modestly than usual for summer at home.

Having been on climbing expeditions to rural Mexico and South America, I've had some experience in Third World travel. However, when I saw the roads on Nias, I realized that the island presented an entirely new paradigm.

Nias is the poorest part of North Sumatra Province, which is perhaps the poorest province in Indonesia. There is one narrow road around the island, indifferently paved before the earthquakes and marginally drivable now. Many bridges are out, and most of the ones standing shake ominously as traffic passes over. There are heaves and cracks everywhere from the seismic activity, and the roads visibly worsen after a significant temblor.

Almost everyone who can afford it gets around on bicycles, mopeds, or dirt bikes. There are very few private cars.

The only required equipment on motorized transportation is a horn, which is used incessantly. Most night drivers do not use headlights, as the prevailing belief is that they strain the engine. With this densely packed mix of weaving, honking traffic, it seemed incredible there aren't more accidents.

IMC's Nias station is on the northeast side of the island in the town of Gunung Sitoli. With a population of 35,000, Gunung Sitoli is the largest town on the island and serves as its administrative center, as well as home to the island's only hospital.

Gunung Sitoli looks quite different from Banda Aceh. Whereas the tsunami left little in its wake, Nias was all rubble. (Nias had minimal tsunami damage, as the island of Simeulue to the north stands between Nias and the December 26 epicenter.) Unfortunately, the concrete-slab style of building construction prevalent on Nias is the worst type possible for a seismically active area since it collapses straight down, crushing its victims.

Many of the bodies had yet to be recovered when we arrived on Nias less than a month after the March 28 quake, and with several significant aftershocks in the preceding week, the damage was still fresh.

The slabs upon which the buildings were constructed have rebar inside, and hundreds of men were crawling day and night over rubble, retrieving metal that was sold for scrap. Quakes strong enough to collapse buildings immediately brought out dozens of rebar hunters, many of whom we wound up treating for injuries they sustained while combing new wreckage.

Before March 28, Nias had nine physicians, three of whom moved permanently off the island when aftershocks continued. IMC had rented two of these doctors' houses, which faced each other across the coast road just north of downtown.

On our arrival we were briefed by Frank and Mary, the site managers. Not surprisingly, I was assigned to emergency duty at the hospital, along with three emergency nurses. To my dismay, the internist with tropical medicine training was assigned to clinic visits around the island, so I would be dealing with tropical diseases on my own.

We were given room assignments and told our first day of duty would begin at 8 a.m. the following day.

My bedroom was on the second floor of the departed doctor's home, across from IMC headquarters. I shared it with Dick, a 65-year-old EMT from California who was experienced in earthquake rescue. He was pretty nervous about being on the second floor, where the most rapid egress was jumping 15 feet off a balcony to the ground below. The tsunami evacuation plan given in our briefing was to "run like hell up the hill behind the house," and Dick was sure the jump would result in a broken leg and certain drowning if the quake didn't crush us first.

Bathroom facilities included intermittent running water that drained into a tile cistern, a squat toilet that you poured water down to flush, and showers in which you dumped buckets of water over yourself. In the equatorial heat most of us took three or four showers a day just to cool off.

WORKING CONDITIONS

Following a hot night, punctuated by trying to get a good seal on my bed's mosquito netting—*de rigueur* in the tropics—we were driven to the hospital in a truck and dropped off at the office of the administrator, a middle-aged public health physician who wore an Indonesian Health Service uniform and worked at his desk in bare feet. He expressed appreciation for IMC's help in getting

FAR LEFT: Undoubtedly several bodies remain in this pile of houses at the edge of Gunung Sitoli. The magnitude 8.7 quake on March 28 struck at night, killing thousands in their beds. **BOTTOM LEFT:** In front of the International Medical Corps pharmacy shack with some of IMC's staff. It wasn't much fun in there: 130˚F, and infested with mosquitos. **BOTTOM RIGHT:** On Nias, cloudy skies made the best viewbox.

emergency services started again on Nias.

He requested that we work from 8:30 a.m. until 3:30 p.m. and told us we could expect to see 12 to 15 patients a day. Used to working 13-hour shifts where I sometimes saw 50 patients, I thought this would be like falling off a log and wondered if I would be fully utilized. I need not have worried.

I asked him what kind of emergency services there were for Nias and what I could do to assist their EMS program, and he just shrugged his shoulders.

There are 18 clinic sites around the island; at the time, most of them were accessible only by helicopter since so many bridges were out. We were told that the island has four ambulances, two of which were stationed in Gunung Sitoli and two at the south end of Nias around the second largest city of Teluk Dalam. Yearly operational budget for all the ambulances was 1,300,000 rupiah, or $1,500 total.

We took a tour of the facility, which had 70 inpatient beds in one pavilion. There was a newly constructed surgical suite that had such severe damage it can never be used: doors would not open or close because of the uneven floors, and all the supporting walls were cracked. It was to have been dedicated on April 1.

"Staggering out of the hospital several pounds lighter at the end of the first day I looked to address our most immediate problems: we had virtually no antibiotics save chloramphenicol and ampicillin, no clean surgical tools, and no gloves that fit me."

There was another new wing for outpatient use, also damaged beyond repair, that had been scheduled to open May 21. A large crack in the ground ran directly through the hospital compound. With all the damage we saw, expectations for the emergency ward were pretty low as we walked into the dilapidated building that housed it.

What we found was, as Coleen had said, astonishing: a single sweltering room, 16 by 14 feet; three rusted cots with blood-stained leather covers, no sheets; one curtain, perhaps washed a few years ago, that slid between two of the beds; no covering on the windows, allowing those outside or in the hallway to look in on the proceedings; no running water; grubby cobwebbed walls; one set of museum-quality suture tools, caked with dried blood; no morphine, no meperidine, no codeine; no lab facilities; X-ray equipment that was available an hour or two daily, depending on electricity; urine, vomit, blood, needles, and who knows what else on the floor—and a lineup of 20 patients who had somehow heard there were "expats" (foreigners) beginning work that day.

I was appalled to see the first patient kick off his sandals and trudge across the filthy floor, only to show me an infected laceration on the heel of his foot!

TAKING STOCK

I had thought since we had come early the first day, we might have a chance to take stock of what was available to us at the hospital, but the sudden flood of patients precluded that.

After an hour I began to suspect this was by no means a normal crowd when several patients came in with IVs attached. Word was out on the wards, and patients were recycling themselves to get a second opinion.

With no lab, or X-ray, or worries of litigation, I was going through patients like a hot knife through butter. I was completely drenched in sweat after half an hour and concerned that I had already gulped down the two liters of drinking water I had brought with me. I began to realize that seven hours in that setting would seem a lot longer than 13 hours in euthermic comfort back home. I was quite grateful the nurses with me were extremely competent and, perhaps more importantly, all had an offbeat sense of humor.

Staggering out of the hospital several pounds lighter at the end of the first day I looked to address our most immediate problems: we had virtually no antibiotics save chloramphenicol and ampicillin, no clean surgical tools and no gloves that fit me. I wear size 8, and since most Nias natives are smaller in stature than Westerners, the biggest glove I could find was a 7. The only way I could get on gloves was to wipe my hands dry and plunge them in a big box of talc before donning them. I brought my dilemma to Frank and Mary, who took me to IMC's mosquito-infested pharmacy shack where I was overjoyed to find cephalexin and ciprofloxacin, some plaster and an ample supply of ketamine. They also arranged for me to meet up with one of the UN warehouse managers the following night to see if I could find anything useful.

The next day at the hospital was like the first, only busier. As Nias has no surgeon or orthopedist—or any specialists for that matter—I found myself tackling things I would never do at home, like repairing huge lacerations with extensive tendon involvement or reducing open fractures. If I didn't do it, it didn't get done.

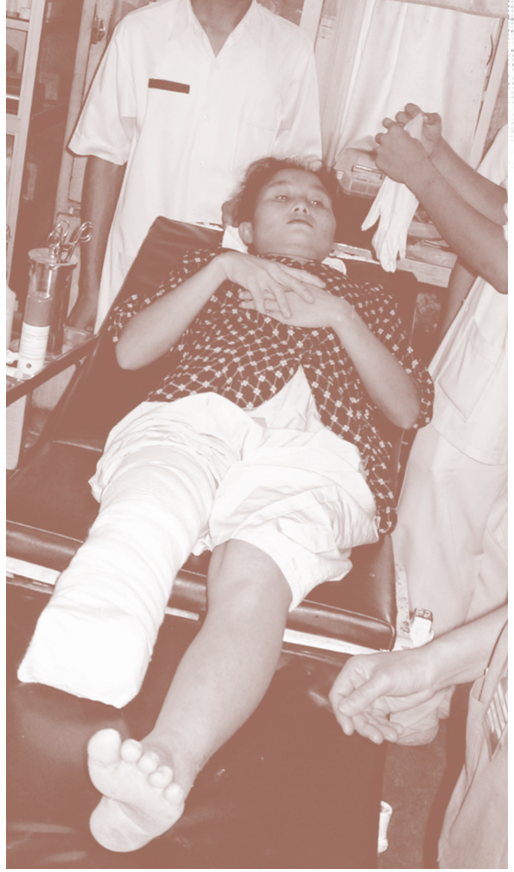
Over 80 percent of the population has a "poverty card" from the Indonesian Health Service (called Dinkas), which may entitle them to specialized care in Medan, the North Sumatra provincial capital. Even with the hospital director's administrative approval—rarely given—getting to Medan by surface transport takes at least a couple of days. The ferry to Sumatra runs only twice a week and is a nine-hour trip, and then another day is needed for the bus trip across Sumatra. I learned that air transportation and treatment at the University of Indonesia Medical Center in Jakarta were out of the question.

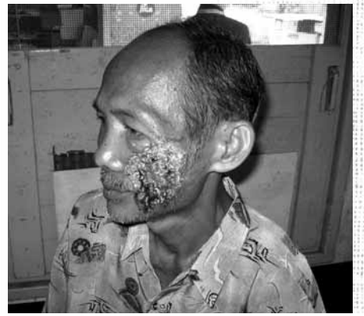
I prayed fervently that I would not see a case of appendicitis during my tour and, amazingly, I never did. While I had done a few appendectomies during residency with a surgeon holding my hand, I certainly would not have attempted one on Nias given the septic conditions. The best you could do would be to load the victim with antibiotics and cross your fingers.

Incidentally, the UN had contracted with the University of Singapore to air evac any relief workers on the island to their hospital in the event of an extreme emergency, at a one-way cost to the UN of $50,000 U.S. Not very egalitarian, but I doubt I would have turned it down had I needed it.

We tried again that second day to get the floor cleaned, but we couldn't even find a mop. Nias has a two-year nursing school, and during the afternoon I sent one of the students out to the water bladder in front of the hospital so I could cast a fracture I had just reduced. I accidentally kicked the bucket over and, voila, a mop-bearing housekeeper materialized out of thin air. Blood, urine, vomit could not elicit a mop, but water did!

After that, I made it a point to knock over at least one bucket a day, the biggest challenge making it look accidental. Grumbling housekeepers referred to me henceforth as "the clumsy German doctor," but the





LEFT: This woman was one of several amputees we treated. Machetes were used to hack off limbs of victims trapped in rubble. This woman had stump revision on the USNS *Mercy* and came to us for dressing changes. **BOTTOM LEFT:** This beautiful girl presented with a wrist fracture sustained in the March 28 quake, and came out of the jungle three weeks later for treatment. The nursing student pictured here said the girl would probably never get married, as women with physical deformities were considered unfit to do household chores or to have children. **BOTTOM RIGHT:** This is the facial-injury patient, described on page 23, whom I tried to send for plastic surgery on Sumatra. Although we were able to clean up the wound and get rid of the smell, he may well die from infection if he doesn't get a skin graft to close the defect into his oral cavity. I think of him often and wonder what has happened to him.

floor was cleaner anyway.

That afternoon I went through several UN "warehouses"—fabric huts whose interiors were hot enough to bake cookies. Following disasters like on Nias there is a flood of donated material from around the world, much of which arrives in a bolus a couple of days after the event. There is little time to catalog the items so they're stockpiled haphazardly by hastily contracted native workers who usually don't understand the writing on the boxes, making it hard to find specific items. Given it was within a few weeks of the disaster and secondary inventory had not yet taken place, my British guide, Tony, and I were forced to move dozens of heavy crates and boxes looking for surgical instruments and pharmaceuticals. I did find size 8 gloves, but still was not able to locate decent suture sets. There were several "disaster kits" from different organizations, all apparently designed by public health officials. We also found cartons and cartons of cholera supplies, but nothing to treat trauma victims except thousands of burn dressings.

Another warehouse had 2,000 crates of sardines, half in olive oil and half in tomato sauce. But we did find one treasure trove: a case of ceftriaxone, which probably helped us save as many lives on Nias as anything else. After our work in the warehouse, I had to take three showers just to stop sweating.

We had been told earthquakes occurred almost daily, and not having felt anything after two days I wondered whether they had stopped. I voiced this to one of the translators while sitting in front of the house that evening, and got a look like, "Just you wait, greenhorn."

Of course a few minutes later everything began to shake back and forth for about 12 seconds. A truck in the yard rocked side to side on its springs, and a light bulb hanging down in the house was swinging around. My first earthquake had struck.

Dick, my roommate, said, "At least a 5.5 on the Richter." The translator looked at me wryly and mumbled a brief rejoinder that required no translation.

Dick went up to our room and promptly packed his things, moving outside to a tent as almost all the locals on the island had done. The UN had distributed nearly a quarter million tents on Nias, and many folks pitched them on higher ground in fear of a tsunami. Earthquakes were indeed a daily occurrence on Nias, often collapsing previously damaged structures. During our last week there, we endured shocks of 6.8 and 6.9, the latter lasting well over a minute and strong enough to visibly move the ground.

Like many patients with survivor guilt, this woman lost her entire family. When I said her reaction was a normal one she seemed quite relieved, as she had felt it was wrong that she lived through the quake.

OUR REMARKABLE PATIENTS

We immediately developed great respect for the toughness of our patients, who rarely moved or complained despite exquisitely painful procedures. They were grateful for any medical treatment and effusive in their gratitude.

Not having any opiates, we were forced to use ketamine for pain control, and we used plenty of it. I gave adults proportionately lower doses than I did for children, and it worked reasonably well even if some of them did get pretty zoned out.

In relief work it's important to improvise and use whatever resources are at hand. The nurses cleverly devised infant suction devices out of spare respiratory tubing, and became adept at fashioning splints and dressings out of cardboard boxes and packing.

Emergency cases at the hospital fell into a few major categories. There were trauma victims from the notorious coast road, usually cycle riders knocked into the ditch by other traffic. We saw plenty of infectious disease, including measles, mumps, nasty impetigo, TB and occasional dengue (which I really didn't have any trouble diagnosing). Potential TB and malaria patients were referred to a nearby clinic, which sent samples for testing to the big hospital in Medan.

Quite a few patients of all ages presented with "quakophobia," a constant dread of the next tremor. Most of them had lost family or friends and had somatic symptoms as a result. I had found a 1,000-count bottle of haloperidol tablets that seemed to help most of these folks. I had them take some at bedtime, and several came to me later and said they felt better. However we always saw plenty of "QP" after a strong aftershock.

We also saw many patients missing limbs, hacked off with machetes to free them from rubble, all done without anesthesia. Many patients came to us from the interior jungle after traveling days to get to the hospital, sometimes weeks after the original injury. I saw patients with fracture-dislocations frozen in place who needed complex orthopedic surgery and would most likely never get it.

Several presented with serious secondary infections, including one middle-aged man with a large traumatic facial avulsion penetrating into his oral cavity so that he leaked fluid through it when he drank. He didn't mind the pain or inconvenience so much, but his wife made him walk five days to the hospital because she couldn't stand the smell any more. I'm not sure he'll ever get the plastic facial graft he needs, which means he'll eventually die from infection.

"We also saw many patients missing limbs, hacked off with machetes to free them from rubble, all done **without anesthesia.** Many patients came to us from the interior jungle after traveling days to get to the hospital, sometimes weeks after the original injury."

PROBLEMATIC BUREAUCRACY AND PHARMACY

I spent hours filling out forms—all of which needed bilateral translation—trying to arrange transport approval for these patients, only to be told the need was not urgent enough to justify exceeding the Indonesian health-care budget for the island.

The UN had access to air transport so I began bugging them to fly the most urgent patients off the island for care. Although willing to do that, the UN staff were there at the invitation of the Indonesian government and had been asked by Dinkas [the Indonesian Health Service] not to circumvent usual patient-transfer protocols.

Since I was making friends at the UN compound, IMC asked me to represent them at the UN Health Planning and Disaster Coordination meetings, which meant an extra six hours duty per week. I learned a great deal about the bureaucratic idiocies that plague relief workers, and was outraged by one cogent example.

The Danes and Norwegians had designed a modular field hospital that could be erected on a soccer field in 36 hours, and there were two of them on a ship just off Sumatra. These have air-conditioned modules for lab, radiology, surgery, emergency, pharmacy and an 80-bed inpatient ward. Yet during the time I spent there, Dinkas would not grant permission to deploy them, apparently feeling the UN should repair the existing hospital. With pieces of the building falling off every time the ground shook, that didn't make much sense to me.

During one meeting, a Dinkas bigwig presented plans to plaster over damage at the hospital, and as he spoke there was a sharp tremor that caused him to stop in mid-sentence and run outside. A message from the Universe, no doubt. I found I had to temper some of my remarks in favor of a more diplomatic approach—not exactly my style.

Another recurrent frustration centered on the hospital pharmacy, just across the hall. After our first week there a patient with a fungal infection came back and said the medicine I had prescribed was not working. I had prescribed nystatin, but the patient was given hydrocortisone cream, which naturally made things worse. The chief pharmacist looked perplexed when confronted with the evidence and exclaimed, "You wanted a cream, so I gave him a cream!"

Other interesting substitutions involved dispensing medications beginning with the same letter as the one I had prescribed, such as paracetamol for propranolol. To circumvent this problem, I assigned a student nurse to bring each patient back with his or her prescription to make sure it was appropriate for the illness, or at least not something lethal.

LEARNING AND LEVITY

We were impressed by the nursing students' willingness to learn, and we gave them regular teaching lectures. We offered these same lectures to the doctors and staff nurses as well. Some of the nurses came, but none of the doctors did.

We developed great affection for the students, many of whom came in on their off days to work extra hours with us. Several of them cried when we left the hospital for the last time. I often wondered what would be our most enduring gift to the people of Nias, and it may have been the teaching we did.

Nobody wore gloves when we arrived; in fact the nurses used to fish our used gloves out of the garbage and wash them in a bucket, hanging them out on a line to be used later. By the time we left, the students were all using universal precautions and many of the older nurses had started to emulate them.

IMC was originally going to scale down its hospital operations on Nias after the immediate emergency was over, but our site managers convinced their superiors to keep the hospital program going for at least another year when they saw the progress we had made.

As always in emergency medicine, there were moments of humor. A husband-and-wife team came in after they crashed their motorbike, moaning and groaning way out of proportion to their injuries. I tried to discharge them, but both claimed they were unable to walk and needed to stay in hospital.

As we spoke, a 6.8 quake struck with a sharp jolt that jerked the building three feet to the right. The blur whizzing past me out the door was, of course, the injured couple. I went outside when the walls started groaning and saw them in the street smiling and walking without any difficulty, so I snapped a telephoto picture of them. When the shaking stopped and they limped pathetically back in, I showed them the picture. They left.

path through the jungle to the village's only street, which, like the rest of the island, had considerable quake damage. The smiling townspeople paraded closely behind us to the small schoolhouse where we set up clinic.

Everyone in town came in to be seen, all in their Sunday best, for the rare chance to see an actual doctor. We saw 130 patients in four hours, most of them with trivial complaints, but some chronically ill with hypertension and heart failure. We had very limited medications with us, certainly not enough to make a difference in a chronic illness, so mostly I gave reassurance and vitamin therapy. While I initially felt frustrated, I began to see the value my touch and smile had on them. They were just grateful I took the time to come and see them, and if that was enough for them then it was enough for me too. I

We immediately developed great respect for the toughness of our patients, who rarely moved or complained despite exquisitely painful procedures. They were grateful for any medical treatment and effusive in their gratitude.

FAR LEFT: One of many laceration patients who fell in the rubble salvaging rusted rebar. I prayed none of them developed tetanus. **ABOVE LEFT:** Our International Medical Corps team, reunited in Banda Aceh after our separate missions. Before heading home, we had a big party where we had a chance to catch up on everyone's adventures. The average weight loss for our group was about 15 pounds. **ABOVE RIGHT:** My helicopter transport to the village of Hilo on the northwest coast.

One of my most enjoyable experiences came near the end of my tour. The internist who had been traveling to outlying clinics by helicopter didn't want to fly on Friday the 13th, so we switched jobs for the day. I accompanied two of the Indonesian doctors to the remote village of Hilo on the northwest coast of the island. When we landed on the beach, the entire village was standing there waiting for us. We unloaded our supplies and walked down a short

know that I thoroughly enjoyed it.

Following the clinic we had a couple of hours until the helicopter returned, so I walked out to explore the huge beach. (The recent earthquakes raised the north end of the island 16 feet and lowered the south almost as much, making the northern beaches much bigger and exposing many coral reefs.)

I found a secluded spot and went body surfing in the

warm Indian Ocean, until I looked up and saw several worried looking adolescents staring at me from shore. I came back in and eventually understood they thought I had fallen in and was caught in the surf. Surprisingly, the people of Nias do not swim and assiduously avoid the water. I managed to convince them I was okay, and as we walked back to the landing area I gradually collected about 40 children who had never seen anything like me before and wanted to play with me. I walked around tossing coconuts and mangos with them and heard shrieks of delight whenever I showed them their images on my digital camera. I can still see their smiles.

LESSONS IN HUMANITY

Now that I'm back home, people ask whether I've been changed by the experience. I know I don't seem to get as upset over little things that used to bother me, and I have a much greater appreciation for the blessings I've been given.

The people of Nias had very little before the earthquakes, and they have even less now. Yet they are always smiling and outgoing, and despite their understandable fear, they don't seem discouraged by their fate. There were no episodes of human violence during the month I worked there, and I only saw police at the hospital twice: once when an officer got hurt and once when a hysterical young woman was brought in after having been discovered having extramarital sex. (She and her boyfriend were arrested for "disturbing the social order.")

There were depressed patients, to be sure, but I did not see anyone suicidal, nor could anyone at the hospital ever recall seeing a suicide. The people of Nias are tough indeed, and I learned a lot from them. Perhaps the Buddha was right: the richest man is the one with no possessions, for he has nothing to lose.

I've also been asked what my interactions with Muslims were like, or whether I encountered any hostility. Given the political climate in our country and the lack of Muslims where I practice I can understand why I'm asked that question. Those I met on the trip were friendly, courteous, curious about our country, grateful for the assistance we were giving and scrupulously honest. My new digital camera fell out of my pack at one point, and a Muslim couple went through considerable effort to track me down and return it to me. They also refused my efforts to repay them for their kindness.

The last night on Nias we had a party at the only night spot in Gunung Sitoli, a sort of bistro-on-the-hill overlooking the harbor. On that beautiful moonlit evening, the town below looked surreally peaceful, the pervasive damage invisible for a while. We had invited our friends from the UN and other NGOs on the island to come celebrate with us. There were hugs and tears, but more laughter than anything else.

FAR LEFT: On the Indian Ocean with my newfound friends. It may have been Friday the 13th, but it was one of the best days of my life. Whenever I'm angry or tired, I recall the energy of this moment and feel instantly refreshed. **BELOW:** The children of Nias are beautiful, as are kids everywhere. This was outside our clinic in Hilo, on the west side of the island.

At one point I found myself sitting at the head of the long table looking at this remarkable group of people from around the world, all of us having done good work in a faraway land under adverse conditions, and I grinned broadly for several minutes as I took it all in. It was one of those precious moments in life when I was exactly where I was supposed to be.

Would I do it again if IMC called and said they needed me? In a heartbeat. BP

Dennis Whitehead (drdcw@up.net) is chief of Emergency Services at Dickinson County Healthcare System in Iron Mountain, Michigan. More information about International Medical Corps can be found at www.imcworldwide.org.

Mouse Calls

Disaster Medical Response

The deployment of doctors and other health-care workers at disaster locations around the world is no small feat. The details of how those volunteers are assigned and who coordinates disaster-relief efforts is the focus of Disaster Medical Response, a guide on the UB Health Sciences Library web site at http://ublib.buffalo.edu/hsl/resources/guides/disasterresponse.html.

The page includes selected links to international and national agencies and organizations that stand ready to provide emergency medical care in the event of disasters such as 9/11, the 2004 tsunami or hurricanes Katrina and Rita. A short list of journal articles for background reading is also included.

As is the case with ALL volunteer organizations, individuals MUST register themselves in advance in order to be deployed expeditiously. While many individuals feel compelled to volunteer immediately after a disaster occurs, pre-qualification, coordination and training are essential to provide a response that will help rather than hinder.

Although the United Nations has an International Strategy for Disaster Reduction (http://www.unisdr.org/), and is a coordinating agency for assisting nations who suffer disasters, their broad scope precludes individual volunteer participation.

However, agencies such as the International Medical Corps (http://www.imcworldwide.org/index.shtml) and the U.S. Office of Force Readiness and Deployment (OFRD) of the Department of Health and Human Services (https://volunteer.ccrf.hhs.gov/) have online application forms.

For those who cannot volunteer in person but wish to help financially, reputable response agencies such as the Federal Emergency Management Agency (FEMA) (http://www.fema.gov/) identify reputable charities through which monetary donations can safely be made.

Compiled by Pamela M. Rose, MLS, Health Sciences Library, University at Buffalo, Abbott Hall Room 102, 3435 Main Street, Building 28, Buffalo, NY 14214. Phone: (716) 829-3900 ext. 129; email: pmrose@buffalo.edu