

Virtual Mentor

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PERSONAL NARRATIVE

"Hey Doc! Something's Crawling Out of My Foot."

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My patient population in Eastern Africa is the Peace Corps volunteers in the five countries I serve. They are a truly remarkable group of individuals. I have great admiration for their fortitude and sense of adventure. Most of them do very well from a health standpoint and return home healthier than they came. In my training activities with new volunteers, I often use the analogy that their two years of overseas service is like a life stress test. I explain the use of stress testing for diagnosis of conditions such as coronary artery disease. I go on to say that if they have medical problems, these will probably get worse during the two years. However, if the volunteers learn to cope with these problems, they will be much stronger and able to adapt to future life stresses when they turn to whatever they do next.

Most of the health problems we see in volunteers are relatively minor and predictable given the environment they live in. Infectious diseases are by far the most common. My son the medical student reminded his mother several times during his microbiology-parasitology course that each lecture usually included the statement that this particular disease is predominately found in sub-Saharan Africa. Even though we spend a lot of training time on water and food purification and preparation, diarrheal diseases are a common and almost expected part of Peace Corps life. The volunteers become quite adept at describing stool quality and frequency. The laboratory gets lots of business from us requesting tests for ova and parasites in stool specimens. While most diarrheal diseases are self-limited and presumed to be viral, we do see *Giardia lamblia*, *Entamoeba histolytica*, and a variety of bacterial stool infections. One illness that everyone worries about but we rarely see, or at least rarely diagnose, is cholera. We do not vaccinate against cholera, as the efficacy of the vaccine is not very high. The news media and many concerned parents see cholera as a major threat. There are periodic cries for mandatory cholera vaccination prior to entry in country. Luckily, cooler heads in the Ministry of Health prevail.

Malaria, endemic in many parts of the East Africa countries, kills more people than anything else, more, even, than the HIV/AIDS scourge. *Plasmodium falciparum* is the species we worry about most because of its potential for cerebral penetration or destruction of blood cells [Blackwater Fever], both of which are potentially fatal complications. All Peace Corps volunteers are required to use anti-malaria prophylaxis, although some try to get by without it because they do not like the side

effects of some of the medicines. Diagnosing malaria is a major problem. Laboratories in the smaller rural areas and community clinics seem to report positive malaria smears automatically on any sample we submit. When we have the samples re-examined at the excellent laboratories associated with the major hospitals in Nairobi, often no evidence of parasites is found. Since many of the volunteers are located so remotely that it may take them two to three days to get to an urban area, we supply them with sulfadoxine / pyrimethamine [Fansidar] for interim self-treatment. We teach them to make a thick and thin blood smear at their site, take the Fansidar, and start the trek to their designated urban area. This seems to work well. If the slide is truly positive, then we give a full course of either oral or IV drugs. We do see a few cases of proven malaria in volunteers, but so far they have been easily treated. Several years ago, however, a volunteer in Kenya died from malaria. We maintain a high respect for the disease, work to prevent it, and treat it aggressively when we find it.

Schistosomiasis is endemic in several of the areas I cover. Lake Malawi and Lake Victoria are known reservoirs for both *S. haematobium* and *S. mansoni*. It is impossible to keep sweating, itchy volunteers from jumping into or wading in the cool inviting waters of these beautiful lakes. We are almost never able to identify the eggs in either urine or stool. In the absence of symptoms, we postpone drawing blood for schistosome serology until the volunteer has left the endemic area. If the serology is positive, we presume infestation and treat it. Often, the serology results are not available until the volunteer has returned to the US. They are contacted by the Peace Corps and told to go to a local physician for treatment. I got a panic call from a family doctor in a rural town in Colorado who had an anxious volunteer in his office with a positive serology to *S. haematobium*. They forgot or ignored the time difference, so here I was at 3:00 a.m. trying to wake up and remember the treatment for schistosomiasis. I guess they don't see a lot of this parasite in rural Colorado.

For sheer numbers, the most common class of health problem in the region is skin disorders. Cellulitis is much more common here than in the States. I don't know whether it's the virulence of the bacteria, the difficulty of hygiene without running water in your house, or both. Minor bites or scrapes frequently evolve into cellulitis, requiring drainage and antibiotics. The fungi seem to love our volunteers also. Tinea *something* seems to show up in almost every volunteer at one time. The common blister beetle known locally as "Nairobi Fly" causes a frequent, though very unsettling, problem. In the usual scenario, a volunteer slaps a bug on his neck with a subsequent large area of second degree burn from the caustic substance secreted by the beetle. We treat the condition symptomatically, but even topical steroids do not seem to offer much relief.

One skin problem that brings revulsion to the hardest volunteer is the work of the tumbu fly, *Cordylobia anthropophaga*. This enterprising bug deposits her eggs under the human skin. There they develop into larvae, which crawl out through a breathing hole when mature. "Hey Doc.! Something is crawling out of my foot." I

was with a young woman volunteer in Tanzania who was, with my guidance, extracting some larvae from her leg when her parents called from the States. Just as she began to describe to her anxious mother what she was doing, the phone line went dead. I had visions of these two parents sitting up in bed in the middle of the night, wide awake now with fear for their daughter, wondering what the hell was going on. I imagined a call from a congressman to inquire about what we were exposing these young Americans to. Luckily, the parents were able to call back and I allayed their fears. The volunteer found some preservative to keep the larvae in and planned to take them back with her to the States to put in a prominent place on her mantle. I am sure it will be quite a conversation piece; the story surrounding it will grow increasingly outlandish over the years. I also hope she gets a good story ready for the immigration officers who want to know what's in the bottle.

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