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Medical Tourism

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This column is about a different sort of medical tourism. The term "medical tourism" generally refers to patients who travel outside their country to seek medical care, usually because of expense. There are places that may be tourist destinations, with nice climates, beautiful beaches, cheap hotels and good food, where the staff may be first rate, often American- or European-trained, who practice medicine at a high level, with excellent nursing care, air-conditioned, hotel-like premises, and solicitous VIP treatment. The cost may be less than the co-pay for some insurance plans, or the treatment may not be covered by insurance in the U.S. or may be performed much sooner than can be provided by national insurers, as in Canada or England.

I have been a different kind of medical tourist. I spent time in Tanzania (3 months as a graduating medical student), working in or teaching in hospitals in Zambia (4 weeks), Kenya (2 weeks), Rwanda (10 weeks), Malawi (4 weeks) and Ghana (2 weeks). I cannot account for my focus on African countries, other than, perhaps, the fact that I have only gone to places where the national language, the language in which school is taught, medicine is taught and often communicated, is English. Unlike all of my African colleagues, I am monolingual, a major drawback, I believe, in life. I find the experiences always enriching. Now that I am an experienced, old-hand at this, or, simply, just old, and a professor at Brown, I have taken on the title of the visiting professor. Since I have visited places that are greatly deficient in neurology, I think I can make a difference, albeit a small one, in helping general internists understand and evaluate neurological problems better. There is, of course, a limit on how much one can accomplish in any period of time, and shorter, obviously, means less. However, some government ministries are loath to consider an expatriot for a stay of less than 2 or 3 months, assuming, correctly, I think, in most cases, that it takes several weeks for a newcomer to get his "sea legs." It often takes some weeks to both understand English with a novel accent, especially when spoken softly, as is the norm in some places, and, perhaps more importantly for a teacher, to be understood.

When I was a Peace Corps teacher in Ghana, several decades ago, I sometimes would translate from English into English, for new American arrivals who were not understood by Ghanaians, or vice versa. Since then I have always taught at a slower pace, with attention to articulation, which might be wise advice for any teacher, especially one from New York.

There are two questions to consider about this type of medical tourism. What are the benefits for the tourist and what are the benefits for the recipient? The hosts always act grateful, although, to be honest, cultural insensitivity from both ends, may undercut this. My colleagues at home rarely appear to comprehend, however, how much the tourist receives in exchange.

Each medical trip I've made has always increased my gratefulness for being born when and where I was, for not being poor, for not having limited possibilities. But I've always been impressed with the resourcefulness of the local doctors, and for the patients' tolerance of their limited medical possibilities. It is a harsh and awful fact that a family in most of Africa will accept as an unfortunate fate that they lack the money to pay for the tests or treatment for a loved one. It contrasts with the railing against the unfairness of fate I sometimes see from the children of the 88-year-old person with one of the dread neurological disorders of the elderly. Seeing medicine in different cultures teaches us about life, how each of us lives our lives as constrained by our cultures.

I do not believe that I have developed any greater insights than anyone else who visits a hospital for short periods. I am not an anthropologist, and, since I mostly have visited places only once,

I've, unfortunately, made no real friends to provide insights that I could not perceive on my own.

What the hosts get is extra education. In the places I've been there has been little neurology teaching available. There was one neurologist in Zambia, four in Ghana, one in Malawi, none in my area of Kenya. Neurological problems affect over a third of patients on the medical wards. If one learns neurology from someone who learned neurology from someone…who was not a neurologist, who did not know how to perform a neurological exam…you get the picture. I can help change that a little bit. Hopefully that makes a difference. I try to convey the excitement I feel about neurological disorders, perhaps inspiring someone to become a neurologist. It also brings a different teaching style than may be the norm. Some hospitals have preserved the pedantic style of the colonial UK, where professors were never wrong and certainly never to be challenged. Junior faculty are window dressing even when more knowledgeable than the senior doctor.

Cultural insensitivity may undermine the hosts' feeling of gratefulness. This is usually due to the guest, but this has been rare, as best I can tell (but I am unlikely to be a sensitive guide, I admit). Some problems develop, I believe, from having too many ex-patriots, creating a two-tier system of doctors. The ex-pats become the "experts" and the nice guys, never disciplining the laggard students and house officers, while the local attending physicians are relegated to the shadows and to playing the "heavies."

The experience is unparalleled. While this is a great experience that I recommend for doctors at all levels of practice, I am hopeful that poor countries can harness the expertise and attitudes of the increasing numbers of retired American physicians, who now have the time to continue making contributions they were unable to make before. ❖

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Dickensian Diagnostics: The Diseases of Christmas Past

What ailed Scrooge and Tiny Tim?

HERBERT RAKATANSKY, MD

When we first meet Ebenezer Scrooge (*A Christmas Carol* by Charles Dickens), he is miserable and friendless. He had been distanced from his father and sent to a boarding school. He was allowed to return home only at the urging of his sister, who reassured Scrooge, "Father is so much kinder than he used to be." We are not told what happened at home and we know little else of his father (his mother is not mentioned) but it is not a stretch to conclude that Scrooge was emotionally deprived as a child.

His only sister, who was caring and for whom he cared, died in childbirth. He never forgave his nephew for this loss and was estranged from him.

A planned marriage was cancelled by his fiancée, discouraged by Scrooge's total devotion to his business and making money. His only friend had been his business partner, Jacob Marley, who had a similar temperament, but was now deceased. His considerable wealth bought him neither comfort nor happiness. Scrooge lived very modestly and disavowed material pleasures.

If this all sounds authentic, it is. Dickens was brought up in poverty in London and knew of what he wrote.

Mr. Fezziwig, his first employer, was remembered as a caring and kind person. One might surmise that Dickens planted this memory and the memory of the affection of his sister in Scrooge's psyche to lie dormant until the "first spirit" revives them.

Did Scrooge have an underlying obsessive-compulsive personality disorder? He certainly had a long-standing, fixed pattern of behavior that was outside the spectrum of "normal" and had negative consequences for him and others. These disorders are resistant to treatment and generally do not change easily, if at all.

One night Scrooge described hearing voices and seeing "ghosts." The next day, unexpectedly, and without apparent cause, he suddenly began giving away substantial sums of money and exhibiting a markedly aberrant mood (friendly and exuberant). His visual and auditory hallucinations might be diagnosed as a brief psychotic disorder and the question could be raised whether his behavior the next day was manic and today would be treated, perhaps with drugs.

Brief psychotic episodes (1 full day–1 month) may be spontaneous or precipitated by factors such as drugs, emotional trauma, etc. Bipolar disease may present with grandiose delusions, but there were no antecedent episodes. In some cultures and religions such behavioral episodes may be considered as "normal." But Scrooge had no such affiliations. Some speculate that a brief psychotic episode can change one's self-image, usually for the worse. Scrooge's self-image, however, changed for the better. And the hallucinations were limited to only one night, thus not fitting the criteria for a brief psychotic episode.

Perhaps his hallucinations really were just vivid dreams. He recalled the visual and auditory sensations as if he had been awake. We all have had dreams like that. They seem very real, but they do not change our lives.

LIBRARY OF CONGRESS

Charles Dickens, full-length portrait, seated at desk, facing left, in his study at Gad's Hill Place. Created by Samuel Hollyer, circa 1875.

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The original illustration of Marley's Ghost visiting Ebenezer Scrooge by John Leech appeared in the 1843 publication of *A Christmas Carol.*

Tiny Tim and 19th-Century London

The major illness in *A Christmas Carol*, however, is the crippling disease suffered by Tiny Tim, who needed a crutch and metal braces. Many orthopedic, infectious, neurologic, congenital and other conditions could be the culprit. Dickens' books were illustrated, but no visual clue about Tiny Tim is available, as he was not pictured in illustrations during Dickens' lifetime.

We know that Tiny Tim survives after the latest and best treatment is financed by Scrooge after his "transformation" (from whatever cause). So the disease must be amenable to treatment available in 1843.

One proposed theory suggests that type 1 renal tubular acidosis (RTN) might be the culprit. Treatment for symptoms such as weakness and failure to thrive (after all, he was called Tiny Tim) might have included rest, nutrition, trips to the country to rest, etc. Cod and halibut liver oil were common remedies for various afflictions. Dickens himself describes taking cod liver oil. Various "tonics" and mineral waters generally were advised. Some of these contained bicarbonate that might have served to ameliorate the acidosis. Scrofula (TB) and rickets were treated with "a prudent dose of alkaline carbonates." If Tiny Tim received this treatment, his metabolic acidosis might have improved and also the osteomalacia and propensity for fractures. Of course if he received fish liver oil he would be getting Vitamin D as well.

The theory at that time was that disease transmission was due to "miasmas," a mysterious property of the air. To protect them, children were kept fully clothed, including their arms and legs, and kept indoors, a certain impediment to achieving adequate Vitamin D levels.

At that time London industry was fueled by coal and the pollution was profound. The sky was "blackened with soot and particles." And there were high concentrations of sulfur dioxide which block UV light.

The diet of Londoners, especially the poor, was mostly carbohydrates and deficient in Vitamin D. Commercial bread from small bakeries was adulterated with alum and aluminum salts, that precipitate phosphates leading to hypophosphatemia, which worsened the rickets. This was illegal. The inspectors, however, concentrated on large flour wholesalers so that flour for home-baking was not adulterated. Did Tiny Tim eat commercial or home baked bread? We know that Mrs. Cratchit, Tiny Tim's mother, cooked "pudding" but there is no mention of her baking bread. In 1857, John Snow first suggested the association of adulterated bread with rickets.

The diet and lack of sunlight combined to produce profound Vitamin D deficiency and rickets.

It is estimated that 60% of children in London at that time had rickets. The first evidence that lack of an essential nutrient was the cause of rickets was noted in 1899. After multiple litters of lion cubs died of rickets at the London Zoo, survival was achieved with a diet that included cod liver oil. Subsequent investigations led to the discovery of Vitamin D and its structure, for which Adolph Windaus won the Nobel Prize in 1928.

Thus the improved nutrition, the Vitamin D in the cod liver oil and the exposure to sunlight at country sanatoria would have been appropriate treatment for Tiny Tim's rickets.

Additionally, in Dickens' era, fully 50% of London children had TB. The etiology of TB was unknown. Proof of its infectious etiology (Koch) appeared only in 1882.

If Tiny Tim had TB, why did it get better? Macrophages take up Vitamin D and this activates a series of intracellular processes resulting in the production of cathelicidin, a molecule that is bactericidal, especially to M tuberculosis. This also helps explain the success of treatment for TB with rest, adequate nutrition and sunlight in the pre-antibiotic era.

Type 1 RTN is a rare genetic disease. Rickets and TB were ubiquitous. Tiny Tim's response to treatment and the prevalence of rickets and TB suggest that these were his afflictions.

All this clinical retrospection is interesting. But the power of this tale, as an allegory, is greater than its physiology. Perhaps the story of Scrooge's "brief psychotic episode" or dreams (if you prefer), and Tiny Tim's recovery, can "transform" the reader and lead to a better world. Thanks be to Charles Dickens. ❖

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Reconnecting with my Purpose in the Kingdom of Bhutan

ERIC COHEN, MD

The entrance gates to Jigme Doriji Wangchuck National Referral Hospital in Thimphu, Bhutan. The hospital was created in 1972 and named after the Third King of Bhutan. It functions as the main referral hospital for the country with 350 hospital beds. Bhutan has a nationalized healthcare system and basic healthcare is provided for all citizens by the government.

[Editor's note: To get to Bhutan, Dr. Cohen flew from Boston to Dubai to Bangkok and then took a flight to Paro, Bhutan on Druk Air. From Paro, it is an hour drive to the capital of Thimphu, Bhutan and the hospital where he worked. It takes about 24 hours of traveling to get there. Prior to departure, volunteers must have updated vaccinations for yellow fever and hepatitis.]

KEYWORDS: Heath Volunteers Oversees (HVO), international volunteer, medical mission, medical education, Bhutan

On March 11, 2016, I began my journey to the Kingdom of Bhutan, a small Buddhist country nestled in the Himalayans, on a volunteer medical mission through Heath Volunteers Oversees (HVO) with support from the Caroll M. Silver Traveling Fellowship. For me, volunteering abroad was more than just wanting to satisfy my need for an adventure or the need to conquer something new. If that were the case, I would have left on this mission at least five years earlier. Timing was critical to my plan; I finally had medical knowledge to share. My mission to Bhutan was rooted in my need to show gratitude for all that has been given to me over the course of my medical school and residency career to date.

As a chief orthopaedic surgery resident at Rhode Island Hospital, I left Rhode Island with the intention of immersing myself in the Bhutanese culture with a goal of applying western medicine best practices to have an impact on the patient community served by the Jigme Dorji Wangchuck National Referral Hospital in Thimphu, Bhutan. But, I returned to the states five weeks later with a newfound connection to several core principles that will undoubtedly be invaluable to my future practice as an orthopaedic surgeon.

The first core principle I reconnected with was the importance of continuing medical education across all disciplines. To medical and surgical practitioners in the western world, this may seem obvious and easy to do. But, when you strip out luxuries like access to the latest literature, high-speed communication platforms and exposure to the most sophisticated experts in a given field, the value you place on medical education expands exponentially. Within my

Dr. Eric Cohen presenting Grand Rounds on pediatric septic arthritis of the hip to the Bhutanese orthopaedic surgeons, fellow (Heath Volunteers Oversees) HVO volunteers, fourth-year medical students, orthopaedic technicians and orthopaedic nurses.

Dr. Cohen teaching one of the Bhutanese orthopaedic technicians a splinting technique for lower-extremity fractures.

first few days in Bhutan, I encountered a pediatric patient who came into the hospital from one of the smaller villages with an undiagnosed septic hip for two weeks. He presented with the classic signs of pediatric septic hip arthritis – high fevers, refusal to bear weight, and external rotation of the hip; however, he was referred for evaluation of shoulder and knee pain. I addressed this patient's medical needs and also took the critical next step of hosting a Grand Rounds for an audience of attendings, nurses and orthopaedic technicians to educate them on this topic. Utilizing this pediatric patient as a classic case study, I am positive that future cases such as this will be diagnosed and treated in a timely manner.

This experience made me realize that while I now had the necessary technical skills, the most significant impact I could make over my five weeks was not through patient care – it was through education and mentorship. My Grand Rounds lecture as well as a dozen other seminars on the topics of midfoot and forefoot fractures, lower extremity casting and splinting, pediatric elbow fractures and general trauma and spine evaluation, circulated through the orthopaedic technicians to rural village clinics. I didn't come back from Bhutan having treated every patient – I returned knowing I was able to share my knowledge with the staff so that they could help more patients by avoiding missteps in the future. I was touched to hear from one of my orthopaedic technicians recently, now a valued friend, that the orthopaedic team is continuing to apply some of the educational content and knowledge-sharing techniques I left them with a few months ago, like implementing daily review of all new consults and admissions and preoperative planning discussions.

Another key principle that emerged during my trip was approaching patient care with an appreciation and respect for the patient's environment, culture and values. It would have been easy for me to approach each patient with the authoritative "surgeon-knows-best" persona that comes all too naturally for those of us in the field. But, that persona is lost on the 80-year-old Buddhist monk who just walked 20 miles from a rural village while clutching his prayer beads with a chronic infected lateral malleolar bursitis – a condition he developed due to prolonged meditation in the cross-legged position. Advising a monk to undergo a surgery that will take him away from his monastery for several weeks is not a conversation that has much room for the surgical super ego. Instead, I learned to approach this consult and others with a different style altogether. By mirroring the bedside manner of my attendings, one a Bhutanese native, and the other

Dr. Cohen and Wangchuk Dorji, a senior orthopaedic technician, at the Orthopaedic Clinic. Orthopaedic technicians function as physician assistants providing orthopaedic care throughout Bhutan and assisting the Bhutanese orthopaedic surgeons in surgery.

The Taktsang Palphug Monastery, also known as the Tiger's nest, is a sacred Buddhist temple located on the side of a cliff in Paro, Bhutan. In the eighth century, Guru Rinpoche, who is credited with bringing Buddhism to Bhutan, is said to have flown from Tibet on a flying tigress and stayed and meditated in a cave at this location. This breathtaking monastery is the most popular tourist attraction in Bhutan.

two seasoned HVO volunteers, I began to relax my body language, slow down the cadence of my speech and demonstrate active listening through playback techniques. I was surprised how quickly I settled into this new style and saw the positive impact it had on my patients and their families almost immediately.

Finding creative and sustainable solutions was a final theme threaded throughout my trip. Orthopaedic injuries are the same in any country, but their presentations and how you treat them can be different and are contingent on environmental circumstances. I worked at the main referral hospital for the entire country and the infrastructure getting to this hospital was very poor, which meant we were often seeing open fractures that were several days old, increasing the risk of infection. While the injuries were the same as those I dealt with domestically, my approach to treatment was limited. I learned to operate with limited fluoroscopy, which increased my appreciation for this technology.

I have been back in the United States for several months and returned to a fast-paced orthopaedic trauma fellowship. But, amidst the fast-paced speed of play in a level-one trauma hospital in a country with seemingly infinite access and resources, Bhutan is imprinted in my memory and is an experience I reflect on frequently. This experience has truly enhanced my five years of orthopaedic surgery residency training and was essential to my development as a caring, thoughtful physician. Reconnecting with one's purpose through volunteerism can be a profound experience. The purpose of HVO is medical education of physicians and ancillary staff in developing nations to enact long-term change and improvement in patient care. Ironically, I think I learned more from my patients and fellow Bhutanese orthopaedic surgeons than they did from me.

For fellow residents and professionals considering volunteering abroad, HVO is an invaluable resource with volunteer opportunities throughout the world. For more information regarding international volunteer projects, visit the HVO website at www.hvousa.org.

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