The Coldest Summer I Ever Spent

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Going south generally means, for most people, a chance to get warmer. Going way, way south, however, produces a much different climatologic experience. That's what I'm finding in my newest "international" medical practice in Antarctica, or specifically, McMurdo Station on the Ross Ice Shelf, where I will be from August 2009 through late February 2010.

As the main U.S. scientific base and the staging area for U.S., New Zealand and Italian Antarctic scientific teams, McMurdo is a bustling town. At its annual peak, it has a population of more than 1,100 scientists and support personnel. Nearly everyone, including the science community, is involved in potentially dangerous activities, many involving heavy machinery. For example, as I write this, we have crews preparing the "Ice Runway" used to land the enormous Air Force C-17 and smaller C-130 aircraft that deliver people and supplies to us. The runways are built on the permanent ice lying over the Southern Ocean several miles distant from the Station – and from solid land.

I arrived in mid-August at the end of the Antarctic winter, on the first of four WinFly (Winter Fly-In) flights. Although it is the end of the winter here, it was about -80º F windchill. White, white everywhere; and, of course, blowing snow. It hasn't warmed up much since my arrival. We've been at Condition Two now for nearly 24 hours. Condition two is observed when any one of the following is true:

- Wind speed is greater than 48 knots but less than or equal to 55 knots (a knot is 1.15 miles/hour), OR
- Visibility is greater than 100 feet but less than or equal to 1/4 mile, OR
- Windchill temperature is greater than -100°F but less than or equal to -75°F.

We are usually at Condition Three; better weather than listed above. However, after we landed, and several times since then, it has been Condition Two. It was Condition One (worse weather) for a very short period, but we expect to see more of it in the coming weeks. By the way, if the windchill is above -50°F, it isn't too bad—unless it's blowing directly at you.

My patients are what you might find in a small, isolated town with heavy industry and an unforgiving climate. "Crud," the URI that pervades the station, is a constant. While attempts have been made to find the infectious agent or, at least, to stop the spread, neither has been highly effective. Our big concern this year is to prevent both influenza and GI virus epidemics. We have administered seasonal flu shots (the Southern Hemisphere variety) to everyone as they transited New Zealand on their way to the Ice. As soon as the H1N1 vaccine is available, we'll inoculate everyone. As my infectious disease colleagues describe it, a comparable model to us is a refugee camp; lots of folks eating, sleeping and working together in a small closed environment. And, with Norovirus raising its ugly head in New Zealand, we are doing our best to contain any GI outbreaks.

As a result of the heavy emphasis on safety, both at work and during recreation, injuries are much less common than might be expected. Cold injuries (other than just being reallllly cold at times) are uncommon, as are industrial accidents. Of course, when any injury occurs, our location alone means that the management can be very difficult.

The logistics of getting someone off the Ice to our nearest referral facility in Christchurch, New Zealand, can be daunting. The flight itself takes between five hours (C-17 aircraft) and eight hours (C-130) once the plane is here and ready to fly. At present (early September), no aircraft are scheduled to make an appearance for nearly a month. If we desperately need a MedEvac, the plane will either have to come from Hickam Air Force Base in Hawaii or be sent by the New Zealand Air Force. They, of course, would take many hours to days to arrive. That makes McMurdo a prime example of remote medicine.

Most colleagues ask about our personnel and facilities/equipment. At present, I am the only physician. We also have a physician assistant, dentist, physical therapist (who is very busy) and medical technologist. Note that we don't have an X-ray tech until the end of this month, so we are taking our own (very good, if I do say so myself) radiographs. Two other physicians (one a flight doc) and two flight nurses will appear in the next month or so. We also, especially if a mass casualty situation occurs, rely on our fire department (three paramedics), search and rescue team, and our mass casualty incident augmentees: the various other personnel around the station with a medical background. Many people with excess education take any available job to get down here. Our janitor, for example, is a new RN.

Our medical building has three inpatient beds, four ED beds, a physical therapy room, X-ray suite, lab, dental clinic, hyperbaric chamber, pharmacy, various offices and storerooms; even a kitchen and a bed to sleep in when caring for an inpatient. With no pharmacist, we also do that job, keeping track of medications, printing labels and controlling narcotics. The hyperbaric chamber is for diving accidents. Yes, there is an active research dive schedule that begins next week. Luckily, the very experienced dive director is also a chamber operator.

But everything is not work. The food is excellent! We have professional chefs that make a wide variety of dishes out of what is available. The biggest lack is "freshies," or fresh fruits and vegetables. But the soups are amazing, as are the baked goods offered at every meal. Recreation is abundant. There are far more scheduled activities available every evening than anyone could handle. These include games at one of the two gyms, stargazing (I'm going tomorrow night to possibly see an aurora), and a multitude of classes. That doesn't include the hiking (I've been to Scott's hut), trips (I observed the annual night C-17 landing on the Ice Runway), special dinners (our team is going to the New Zealand base tonight), individual games, unusual movies, reading in the comfortable library, watching a DVD from the loan section of the store, and socializing in the two bars and one coffeehouse.

So, what is medical practice in Antarctica, or at least McMurdo Station, like? Exciting, very personal, and if you think about it too long, like doctoring while standing on your head in a freezer. Of note is that I found this position through an ad in this newsletter!

I'm continuing to document my Antarctic adventure as well as my other international and disaster medical experiences on my blog: www.international-disaster-med.blogspot.com. Enjoy!