

The Power of the Mosquito Bite

Daniel Van Durme's goal was to be in the *New England Journal of Medicine*, but not like this. In July 2014, when the *Journal* reported that the United States had 232 imported cases of the chikungunya virus, he was one of those cases.

More than a year later, he still is. The high fever lasted just the first week, as did the worst joint pain. But he's still taking ibuprofen and other anti-inflammatory drugs to ward off the discomfort.

Van Durme, director of the College of Medicine's Center on Global Health, has treated patients in more than a dozen countries. Yet he has a whole new respect for infectious diseases and the impact one mosquito can have.

"I was returning from a medical trip to Haiti, and at the Miami airport I first started having symptoms," he said last spring while leading a seminar on chikungunya (pronounced "chicken-GUN-ya") and similar diseases. "I started rubbing my left ankle. By the time I landed in Tallahassee, my right hand started to hurt. Those are still giving me trouble."

The first week is typically the worst.

"Chikungunya' is a West African word that means 'to be bent over,'" said Van Durme, who's also chair of the college's Department of Family Medicine and Rural Health. "Within 24 hours of first having ankle pain,

I had to have two canes — one in each hand — to get from my bed to the bathroom, walking ... about ... like ... this," he said, pretending to trudge through molasses. "Every joint was hurting. My knees, my back, my neck, everything. I lay in bed like this" — hands crossed on his chest — "and my arms got stiff. So I thought, 'I've got to straighten my arms out.'" Easier said than done. He demonstrated with clenched teeth and grunts of pain how much effort was required.

"The bad symptoms last seven to 10 days. My fever got up to 104.0 — delirium-inducing fever. The joint pain can last a year or more. I'm still taking daily NSAIDs. I'll keep my fingers crossed, and hopefully it will be resolved eventually."

Chikungunya showed up in West Africa in the 1950s and the Caribbean in 2013. As of March, throughout the Americas, there were 1.3 million suspected cases, Van Durme said.

Originally the virus lived in just one type of mosquito, *Aedes aegypti*, he said. "Then it jumped species to also live in the *Aedes albopictus*. Both of those mosquitoes are all through the Southeast. You go outside and get bit by a mosquito, there's a good probability it could be one of those two."

In fact, some people who didn't travel have still contracted chikungunya. "Somebody went to one of these areas, brought back the virus, got bit by a Florida mosquito, and then the Florida mosquito bit another Floridian and gave them chikungunya," Van Durme said.

The fatality rate is only about 1 in 1,000, usually the very young or very old. No antiviral therapy is available. So rest and hydration are important, he said, as are acetaminophen for fever and, again, anti-inflammatories for pain. He's still taking them every day.

But this experience has done nothing to dampen Van Durme's enthusiasm for global medicine. He plans to return to Haiti and has resumed his quarterly trips to Nicaragua.

"I have seen several patients with chikungunya in Nicaragua," he said, "and they understand that I can show true sympathy when I tell them I had it as well."

Painful though it has been, Van Durme's illness has been a powerful teaching tool.

"Students do not really comprehend that we actually put ourselves in harm's way when we treat some illnesses," he said. "I think it gets them to consider their own career choices and what precautions they may take."

If they do get sick? "For some illnesses, like the flu, we strive to teach students that they MUST stay home to avoid getting others sick." But if they're not contagious, he said, doctors must find the balance between when to work, even if they're not 100 percent, and when to stay home and get well.

Avoiding mosquito bites: www.cdc.gov/features/stopmosquitoes/

