

You're outside watching a football game when you notice a little speck on your arm. Quickly, you slap at the mosquito that's trying to make a meal out of you. A spot of blood replaces the pest and you sigh knowing that the mosquito had already started drinking. The much dreaded itchy bump is going to come up soon and you won't be able to stop scratching—but then your team scores and you go up in cheers; you completely forget about the minor annoyance for the rest of the night.

A few days later you have to stay home sick. You have a sudden fever, you feel nauseous, and you ache all over. It's probably just the flu. A day goes by and your joints are hurting so badly you can barely move. You go to your doctor to see what's wrong. Your doctor has read about a disease new to the United States and your symptoms are very similar to the ones described to belong to the disease. She orders a blood test for you and a while later she calls you and tells you that you have been infected with Chikungunya—a virus transmitted by mosquitoes that causes fever and severe joint pain. She goes on to tell you that there is no cure and she will just have to prescribe medicine for you to ease the pain and that she's not sure how long the symptoms will last. The joint pain could go away tomorrow, next month, or in several years from now. The good news is that the disease by itself isn't fatal, and you, as a healthy young adult, should expect to make a full recovery at some point. Other people such as the very young, the elderly and those with compromised immune systems may not be so lucky and may experience worse, longer-lasting symptoms.

You want to learn more about this virus attacking your body so you do some research.

History:

The first certain case of Chikungunya occurred in 1952 in Tanzania and was later recorded by Marion Robinson and William H.R. Lumsden. However, the first major outbreak may have happened earlier but misattributed to Dengue fever since the two viruses have very similar symptoms.

Chikungunya means “that which bends up” in the Makonde language. It describes the posture of people afflicted with severe joint pain associated with the disease.

Symptoms:

Symptoms of Chikungunya are fever and the characteristic joint pain. Other Symptoms include headache, nausea, fatigue, rash, muscle pain, and vomiting. The acute symptoms will only last about a week but some people experience residual joint pain for months or years after infection.

The symptoms are a result of the immune system fighting off the virus. Immune complexes (antibodies and pathogens together) gather at the joints and irritate the joints causing pain.

Virology:

Chikungunya is a virus so it will attack host cells and convert them into “virus factories” that create more viruses. The cell will continue making viruses until the cell becomes full and bursts, releasing all the new viruses. This process of cell hijacking is called the lytic cycle.

The virus is spread by two species of mosquitoes. Both of which are common in the Eastern and Southern United States. They are *Aedes aegypti* and *Aedes albopictus*.

Prevention and treatment:

There is no vaccine or cure for Chikungunya. Doctors can only prescribe medicine to treat the symptoms and pain. The best way to prevent CHIKV is to avoid getting bitten by a vector. Wear bug repellent when going outside and empty any container with water near or at your home—this is where the vectors grow.