



The Zika Virus in the United States

Jake Oatess

In 2015, the Zika Virus Disease was discovered in the Americas and the Caribbean for the first time in history within the bloodstream of those who had been bitten by infected mosquitos. Present since the mid-forties in areas like Africa, parts of Asia, and the Pacific Islands, officials were worried when reports of infections within the region started to manifest. In May of 2015, the Pan American Health Organization issued an alert regarding the first confirmed case of the disease in Brazil. A little less than a year later, on February 1st, 2016, the World Health Organization labeled Zika as a Public Health Emergency of International Concern. Ever since then, the Zika disease has become a growing concern for those employees who are classified as at-risk of mosquito bites. According to an OSHA Interim Guidance for Protecting Workers from Occupational Exposure to Zika Virus at-risk groups include: those who handle mosquito-control, people who travel for business, those who handle insecticides, and healthcare and laboratory employees that may be exposed to infected blood. Since, according to OSHA's interim guidance, the industries that have the highest exposure risk to Zika Virus Disease are outdoor employers¹, this poses an increased risk to the Agricultural Industry compared to many other sectors.

Even though the Agricultural Industry faces an increased risk of exposure to the Zika virus, this disease only affects adults mildly, and a lot of the time many people will not even know that they suffered from the disease. People usually do not get sick enough to go to the hospital and rarely do people die from Zika Virus Disease. The most common symptoms of Zika include fever, muscle pains, a rash, joint pains and aches, headaches, and red or bloodshot eyes.² These symptoms usually last anywhere from a couple days to a few weeks. The incubation period of Zika Virus Disease is not exactly known, but is estimated to be anywhere between a few days and a couple of weeks as well. Once a person has been infected with the virus they are likely to become protected from future infections. The main issue with Zika however is with woman who are pregnant during the time of infection. The virus can be transferred from mother to fetus and may lead to a serious birth defect called microcephaly and can cause other severe brain defects in babies.

¹ http://www.cdc.gov/niosh/topics/outdoor/mosquito-borne/pdfs/osha-niosh_fs-3855_zika_virus_04-2016.pdf

² <http://www.cdc.gov/zika/symptoms/index.html>

Currently there are no known vaccines to prevent the disease and there are no developed medicines to treat it as well. There are a couple of things that one can do to treat the symptoms of Zika though. Make sure to get a lot of rest and drink plenty of water so that you are staying hydrated. You can also reduce fevers and pains by taking medicine such as Tylenol or other over the counter painkillers. One thing to do is make sure to avoid aspirin and other anti-inflammatory drugs until Dengue can be ruled out. Taking these drugs while infected with Dengue can lead to internal bleeding that can be deadly. If you do have Zika, make sure to try and avoid being bitten by mosquitoes for the first week of your illness. During this time period, the virus can still be found in the blood of an infected person and can be passed from the bloodstream to a mosquito which will in turn infect the mosquito and put anyone who gets bit by the mosquito afterwards at risk of infection.

Since there is no vaccine to protect you against the Zika Virus Disease, the best way to avoid the disease is to do what you can to prevent being bit by a mosquito.³ When in areas where Zika and other diseases spread by mosquitoes are prevalent, make sure to take the following steps listed below. Try to wear long sleeved shirts and long pants. Stay in places with air conditioning and places where window and door screens are present to keep mosquitoes outside. Do what you can to prevent heavy mosquito infestations both inside and outside your homes. Use EPA-approved insect repellents when going outside and spray clothing and gear with permethrin. Clothes and gear treated with permethrin will stay protective after multiple washings. If you do treat these items with permethrin, make sure to cover your skin with either insect repellent or long sleeved shirts and pants as permethrin cannot be applied to your body. Zika Disease can also be transmitted between sexual partners through the male's semen. If your male partner has recently traveled to South America or any other parts of the world where Zika is common, make sure to use a condom if you are pregnant or may become pregnant in the near future. Utilizing these preventative measures will significantly decrease your risk of infection.

Although there have been some reports of Zika Virus Disease in the United States, for the most part this country should stay relatively free of the virus. Of the 193 confirmed cases of Zika Disease in the U.S, they have all been associated with travel or sexual transmission. As of June 2016, nobody in the United States has yet to be infected with the virus through U.S. mosquitoes. There are a couple factors that play into this. One being the inhospitable winters that this country faces during that season. Mosquitoes cannot thrive in that type of environment. Mosquitoes have a biological response that causes their bodies to shut down and "hibernate" when temperatures drop below fifty degrees so it is all but impossible for mosquitoes to live in climates where temperatures commonly dip below that threshold. Only a couple areas of southern Texas and southern Florida would be a suitable habitat for those mosquitoes year round. This may change during the summer months as temperatures warm and it becomes more humid, but by the time mosquitoes migrate north and into those upper regions, it will soon be turning into fall again causing them to turn inactive and become a non-factor.

Although the Agricultural Industry is at higher risk of being exposed to the Zika Virus Disease due to the outdoor nature of that work, the most at-risk individuals are pregnant women and their fetuses due to

³ <http://www.cdc.gov/zika/prevention/index.html>

the severity of the symptoms that affect them. it is not really that dangerous for the rest of the human population. Reports⁴ have shown that this virus does not pose significant harm to the general population here in the United States. If you do contract the disease, just make sure to rest and stay hydrated, take the proper precautions to avoid being bitten by mosquitos and further spread it to other people, and make sure to seek medical attention if your condition worsens. The United States is lucky enough to have the climate it does, so that pests like mosquitos don't have a huge role in doing harm to our population. For more information regarding the Zika Virus and its impact on agricultural employers, refer to the fact sheet that OSHA recently released with their interim guidance. For more general information on the virus, visit the Center for Disease Control's website and search "Zika Virus".

⁴ http://www.cdc.gov/niosh/topics/outdoor/mosquito-borne/pdfs/osha-niosh_fs-3855_zika_virus_04-2016.pdf#page=2