Texas Tech Mosquito Expert Breaks Down Risks of Zika Virus, Chances of Seeing it in Lubbock

"It's a very scary virus"

By Alyssa Goard | agoard@kamc.tv
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Concerns are mounting internationally over the Zika virus, which spread recently through travelers and mosquitoes in Central America.

"It's a scary virus, it ranks right up there with Dengue fever and Chikungunya virus," explained, Steve Presley, Ph.D., who runs Texas Tech's mosquito research program through the Institute of Environmental and Human Health.

Presley has been researching mosquitoes for three decades and currently helps monitor Lubbock's mosquito populations for the city. While mosquito season hasn't started yet in Lubbock, Presley has been following the virus' spread with concern.

"The number of children born with birth defects and microcephaly is increasing, especially in Brazil especially where Zika virus is running rampant," Presley said.

He believes the Zika virus is yet another emerging disease as a result of what he calls less "broad spectrum mosquito control."

"There's a whole number of factors, that influence that: reduced use of pesticides, or reduced vigilance, and more open borders, and more people coming into the country from places where these diseases occur," Presley said.

According to the Centers for Disease Control no U.S. mosquitoes are known to have transmitted cases of the Zika virus to humans. However, the CDC notes that there have been cases of people contracting the virus while traveling and bringing that virus into the U.S.

Tuesday, Dallas County Health and Human Services confirmed it's first case of the Zika virus acquired through sexual transmission. DCHHS said that the patient with the Zika virus was infected after sexual contact with an individual who returned from a country where Zika is present.

The virus can also be contracted by mosquito bites and the World Health Organization said that limiting human exposure to mosquito bites will be an important part of curbing the virus.

People with the virus can see symptoms such as rashes, fever and, joint pain; not unlike the symptoms of other mosquito transmitted diseases. While the illness usually has mild symptoms which typically last up to a week, there is greater concern over how Zika may impact children born to mothers who contract the virus.
On Monday, Margaret Chan, Director-General of the World Health Organization, declared that the recent cluster of microcephaly and neurological disorders reported in Brazil, and in 2014 in French Polynesia constitute a Public Health Emergency of International Concern. The WHO is calling for enhanced surveillance for microcephaly and the Zika virus itself. It is "strongly suspected" that Zika virus is tied to these neurological disorders, the WHO said.

Back in Lubbock, Steve Presley is now making plans to have his lab trap and test Lubbock mosquitoes for the Zika virus once mosquito season begins. He added that his lab may even consider scanning human samples for the virus.

Presley said that if the South Plains was uninhabited, it wouldn't be an ideal location for mosquitoes, but because humans have settled there and brought with them tall trees, lawns, and playa lakes, vector-carrying mosquitoes have grown accustomed to the microclimate around Lubbock.

He doesn't expect that the Zika virus will become established around Lubbock because of the climate in the region, but acknowledges that it is possible for Zika to come to Lubbock through travelers.

Presley explained that the types of mosquitoes which carry the Zika virus— *aedes albopictus* and *aedes aegypti*—are found in Lubbock, but require different trapping and control measures than the type of mosquitoes Lubbock currently treats for.

"Because [the Zika virus] goes from mosquitoes to humans and back to mosquitoes, people who actually have the virus, are the reservoirs for the virus. If they come into town with the virus, you need to protect them and keep mosquitoes from feeding on them, picking up the virus, and moving the virus into the community," Presley said. "That's one of the reasons Zika virus is more of concern because it becomes established in an area much more quickly than West Nile virus where you have to have an intermediate host—a bird."

Presley has always advocated for repelling and avoiding mosquitoes, but with Zika virus in focus he hopes the public takes mosquito bite prevention especially seriously.

"I anticipate there will need to be an increased vigilance on the individual person's account to make sure they don't have species breeding in their backyard," Presley said.

Presley said Zika-spreading mosquitoes are "day-biters" who breed in small amounts of standing water. He explained that the public will have to be vigilant about their mosquito protection all day and dump out standing water near their homes.

Presley's biggest concern with Zika when it comes to West Texas is that individuals and public agencies are used to preventing mosquitoes at dawn and dusk, not throughout the entire day.

Presley has been discussing Zika virus and how to prevent it in with Lubbock's Vector Control and Health Department.

Jaime Coy with the City of Lubbock's Vector Control said the city plans on meeting with Dr. Presley to format a more comprehensive plan for how to address Zika virus.

But overall, Coy said, because there are no mosquitoes yet this year, it is too early to tell if mosquitoes in Lubbock this season will be impacted by Zika virus.

Lubbock's Health Department is on alert for the virus as well. Katherine Wells, the City of Lubbock's director of Public Health said she receives state and federal information about the Zika virus several times a week now.

"The department of State Health Services is working on additional guidelines and fact sheets for the public [regarding Zika virus]," Wells explained.

She reiterates that there are no known cases of the Zika virus in Lubbock.

Wells encourages people who have recently traveled to countries where the Zika virus is present to take precautions.

Presley also recommended that women who are pregnant avoid traveling to countries where the Zika virus is found in mosquitoes.

"[The Zika virus] is serious and it's something to take seriously, it's not something to panic about, it just needs to be thought out or addressed to control it," Presley said.