Zika Virus Transmission Symptoms and Prevention – Quick Tips

The Centers for Disease Control and Prevention (CDC) describes the Zika virus as being spread to people primarily through the bite of infected mosquitos. The World Health Organization (WHO) traces the origins of Zika back to its discovery in Uganda in 1947. From the 1960s to the 1980s, human infections were found across Africa and Asia. These cases typically resulted in mild illnesses.

According to the WHO, the first widespread outbreak of Zika-related infections occurred in 2007 on the western Pacific island of Yap. In 2013 to 2014, there were Zika outbreaks in French Polynesia. In May 2015, Brazil reported its first case of Zika infection. As of March 2017, there were 5,158 reported cases of Zika infections in the United States, according to the CDC. Of these cases, 4,861 were individuals who were infected during travels outside the country. Of the remaining cases, 222 were linked to mosquito- borne transmission and 75 were traced to other routes of transmission (sexual, congenital, and laboratory).

The major concern regarding the Zika virus is its documented link to microcephaly and as well as its potential link to Guillain-Barré syndrome (GBS). After extensive research, in mid-April of 2016, the CDC confirmed that the Zika virus causes microcephaly (a serious birth defect in which a baby's head is smaller than expected compared to babies of the same sex and age). Because of this link, as well concerns that the Zika virus can lead to other poor pregnancy outcomes in babies of infected mothers, the CDC recommends special precautions for women who are pregnant or trying to become pregnant.

The CDC describes GBS as a rare disorder in which a person's own immune system damages the nerve cells, causing muscle weakness and sometimes paralysis. Symptoms can last a few weeks or several months. Most infected with GBS make a full recovery but some

suffer permanent damage. In rare instances, people have died from GBS. The CDC is working with medical partners around the world to better understand the connection between the Zika virus and GBS, but at the present time they have not confirmed a link between the two.

TRANSMISSION

The CDC reports that the most common method for the spread of Zika virus is through the bite of an infected Aedes species mosquito. This is the same mosquito that spreads the dengue and chikungunya viruses. According to the CDC, these mosquitos typically lay eggs in and near standing water in things like buckets, bowls, animal dishes, flowerpots and vases. They prefer to bite people, and live both indoors and outdoors near people. While Aedes mosquitos are aggressive daytime biters, they are also active at night. A mosquito becomes infected when it feeds on a person who has the virus. Then the infected mosquito can spread the infection to the individuals it bites after becoming infected. Zika virus is also transferred through sexual contact and blood transfusions.

SYMPTOMS & TREATMENT

According to the CDC, many people infected with Zika virus won't have symptoms or will only have mild symptoms. The most common symptoms of Zika infection are a fever, rash, joint pain and conjunctivitis (red eyes). Muscle pain and headaches are other common symptoms. These symptoms are generally very mild and can last from a couple days to a week. Those infected normally don't become ill enough to go to the hospital. Deaths from Zika are rare. Currently, there's no vaccine to prevent Zika infections nor are there specific medications for treatment. The CDC advises treating the symptoms of Zika infections. In addition to getting plenty of rest, the following actions are recommended:

- Drink fluids to prevent dehydration.
- Take medicine such as acetaminophen (Tylenol®) to relieve fever and pain.
- Do not take aspirin and other non-steroidal anti-inflammatory drugs until dengue can be ruled out.

- If taking medicine for another medical condition, talk to your healthcare provider before taking additional medication.

Also the CDC stresses the importance of mosquito bite prevention for those infected with Zika. Bite prevention helps prevent the transfer of Zika.

PREVENTION

For those who are in an area where the Zika virus is present, the CDC says:

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning or ones that use window and door screens to keep mosquitos outside.
- Sleep under a mosquito bed net if you are overseas or outside and are not able to protect yourself from mosquito bites.
- Use Environmental Protection Agency (EPA)-registered insect repellents. When used as directed, EPA-registered insect repellents have been proven safe and effective, even for pregnant and breast- feeding women.
    - Always follow the product label instructions.
    - Reapply insect repellent as directed.
    - Do not spray repellent on the skin under clothing.
    - If you are also using sunscreen, apply sunscreen before applying insect repellent.
- If you have a baby or child:
    - Do not use insect repellent on babies younger than two months of age.
    - Dress children in clothing that covers their arms and legs, or
    - Cover cribs, strollers and baby carriers with mosquito netting.
    - Do not apply insect repellent to a child's hands, eyes, mouth and cut or irritated skin.
    - Adults: Spray insect repellent on your hands and then apply to a child's face.
- Treat clothing and gear with permethrin or purchase

permethrin-treated items.

- Treated clothing remains protective after multiple washings. See product information to learn how long the protection will last.
- If treating items yourself, follow the product instructions carefully.
- DO NOT use permethrin products directly on skin. They are intended to treat clothing.

In addition to recommending EPA-Registered insect repellants, the CDC provides additional guidance on mosquito repellants to aid in the selection process. They specifically call out products containing DEET, picaridin, IR3535 and some oil of lemon eucalyptus and para-menthane-diol as products that provide longer lasting protection. They also explain that the EPA registration means that EPA does not expect the product to cause adverse effects to human health or the environment when used according to the label. Also under prevention, the CDC makes reference to the importance of the elimination of mosquito breeding sites like containers and standing water. WHO addresses this important preventative measure by stating, "It is also important to empty, clean or cover containers that can hold even small amounts of water such as buckets, flowerpots or tires, so that places where mosquitoes can breed are removed." The CDC's Mosquito Control page contains additional guidance in this area.

OSHA/NIOSH GUIDANCE FOR PROTECTING WORKERS

In early May, 2016, the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH), released their Interim Guidance for Protecting Workers from Occupational Exposure to Zika Virus. It contains Zika prevention recommendations for the employers of outdoor workers. It also offers guidance for workers who may be at risk of Zika exposure, and provides direction on the selection and use of insect repellants.

CDC'S PREVENTION GUIDELINES FOR PREGNANCY

Currently, the CDC recommends that pregnant women in any trimester

should consider postponing travel to any area where Zika virus is spreading. If travel cannot be postponed, officials advise individuals to consult with their healthcare provider and strictly follow the CDC's steps to prevent mosquito bites during the trip. For women trying to become pregnant, the CDC recommends that both the women and their male partners talk with their healthcare provider before traveling to areas with Zika. Because sexual transmission is possible, both men and women should strictly follow the CDC's steps to help prevent mosquito bites during the trip.

Commonly Asked Questions

Q: Where can I get more information on Zika virus?

A: Because this is an evolving situation, each subsection heading within this document is a link to the most current information on the respective subject matter. In addition, both the CDC and WHO have Zika virus landing pages where additional information and updates reside.

Q: How can I determine whether the country I'm traveling to poses a Zika virus concern?

A: The CDC is updating its Zika virus travel page. This is a good resource regarding the latest travel advisories and information.

References and Sources for More Information

CDC's Zika virus resource center

WHO's Zika virus resource center

CDC's Mosquito Bite Prevention for Travelers

CDC's Avoiding Bug Bites

CDC's Insect Repellant Use & Safety

CDC's Mosquito Control

OSHA/NIOSH Interim Guidance for Protecting Workers from Occupational Exposure to Zika Virus

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