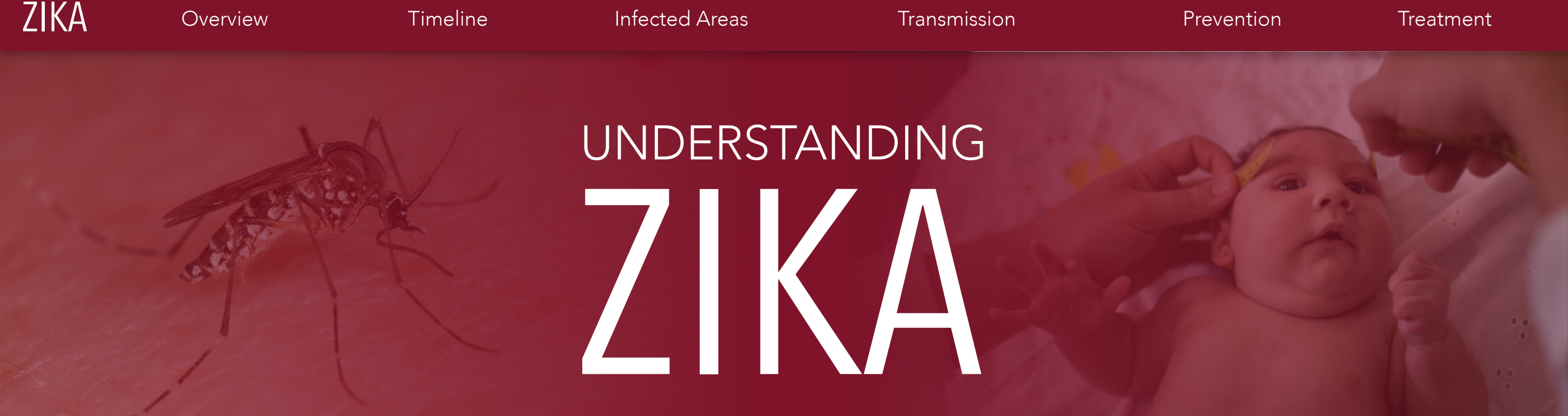


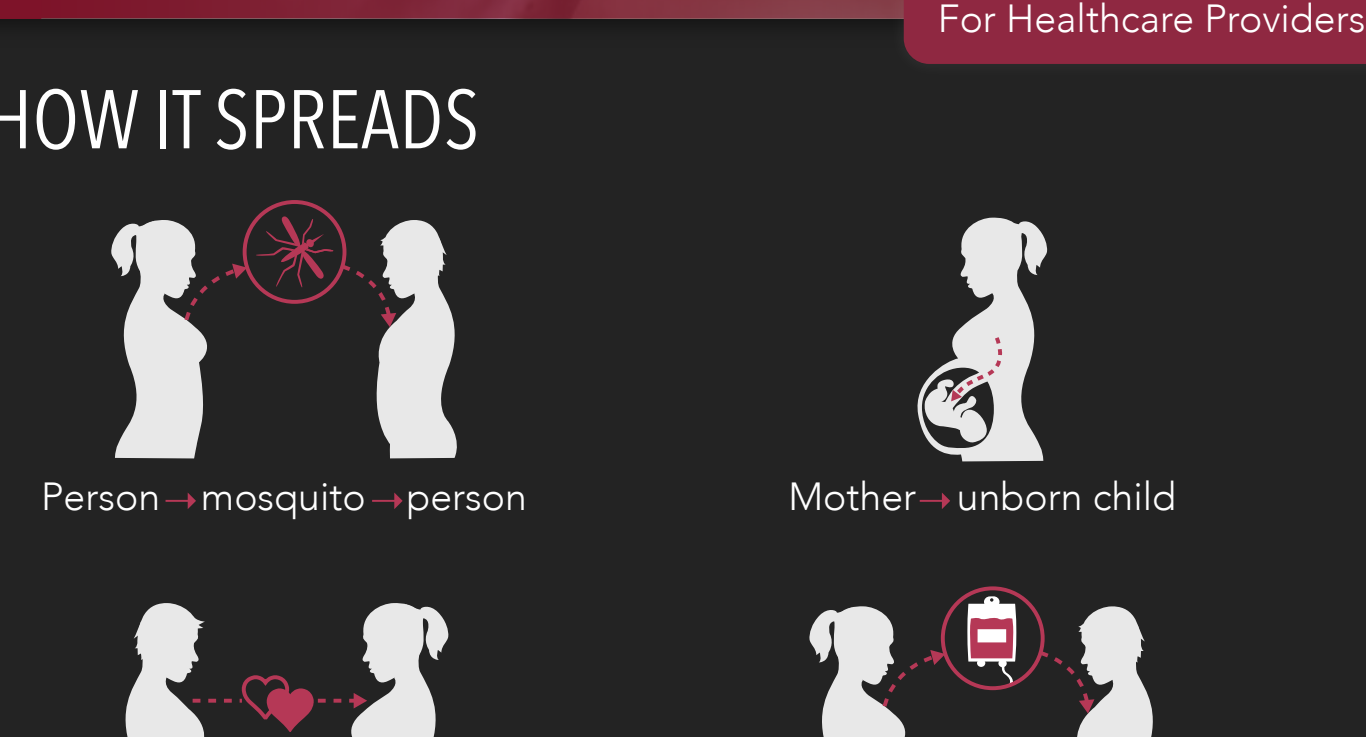
UNDERSTANDING ZIKA

For Healthcare Providers

WHAT IS ZIKA

Zika is a **virus** spreading quickly throughout Latin America that is carried by **mosquitoes** and causes mild illness. There has been an unconfirmed link between Zika-infected **pregnant woman** and a condition called **microcephaly**, in which babies are born with underdeveloped brains, as well as an autoimmune disease of the nervous system called Guillain-Barre syndrome (GBS).[1]

HOW IT SPREADS



HOW TO PREVENT IT

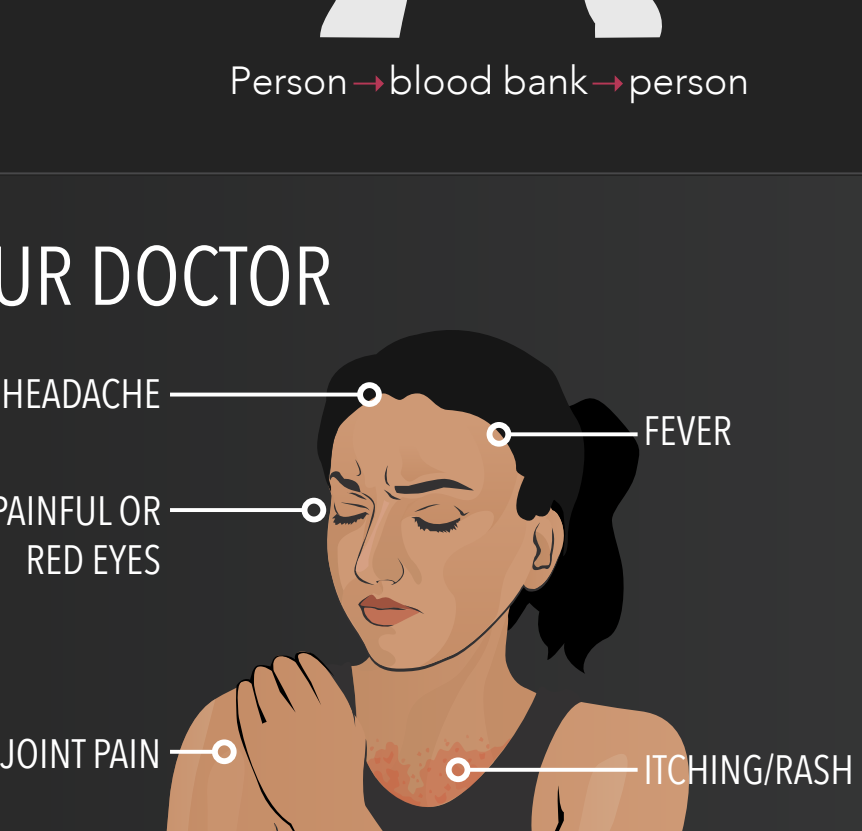
- Avoid travel to areas with confirmed Zika cases, especially if you are pregnant.
- Remove still water in flowerpots, buckets, animal water bowls, and kid pools to prevent potential mosquito breeding grounds.
- Use insect repellents containing DEET or picaridin, or cover up with long-sleeved shirts and trousers. Apply sunscreen BEFORE applying insect repellent.
- Keep doors and windows covered with screens or closed. Sleep with mosquito netting if exposed to the outdoors.

WHEN TO TELL YOUR DOCTOR

If you have been exposed to a Zika-infected area, watch for these signs of Zika Disease.

Incubation period is likely a few days to one week. Symptoms are usually mild and last several days to a week.

Only about 1 in 5 infected people develop symptoms

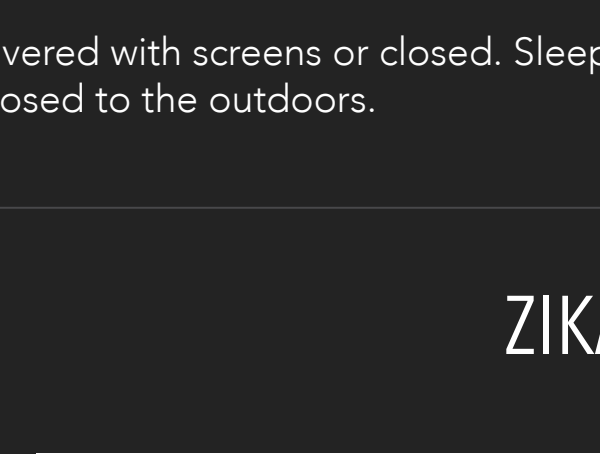


ZIKA TIMELINE

ZIKA FOREST
PROPERTY OF
UGANDA VIRUS RESEARCH INSTITUTE
P.O.BOX 49 ENTEBBE

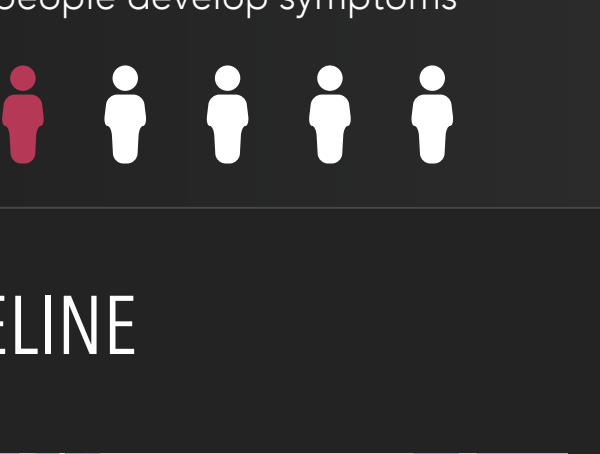
1947

The name comes from the Zika Forest in Uganda, where the virus was first isolated. It was identified first in rhesus monkeys through a monitoring network of sylvatic yellow fever.[4,9]



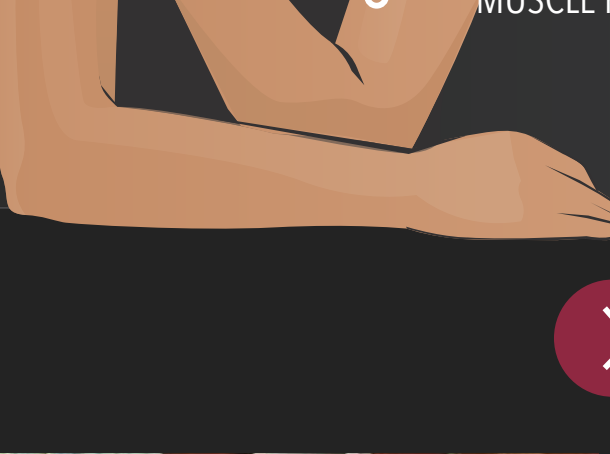
1952

A paper was published confirming the first case of Zika virus in a human - a 10 year old Nigerian female. The research effort was initially studying an outbreak of jaundice suspected to be yellow fever.[4,8,13]



1951-1981

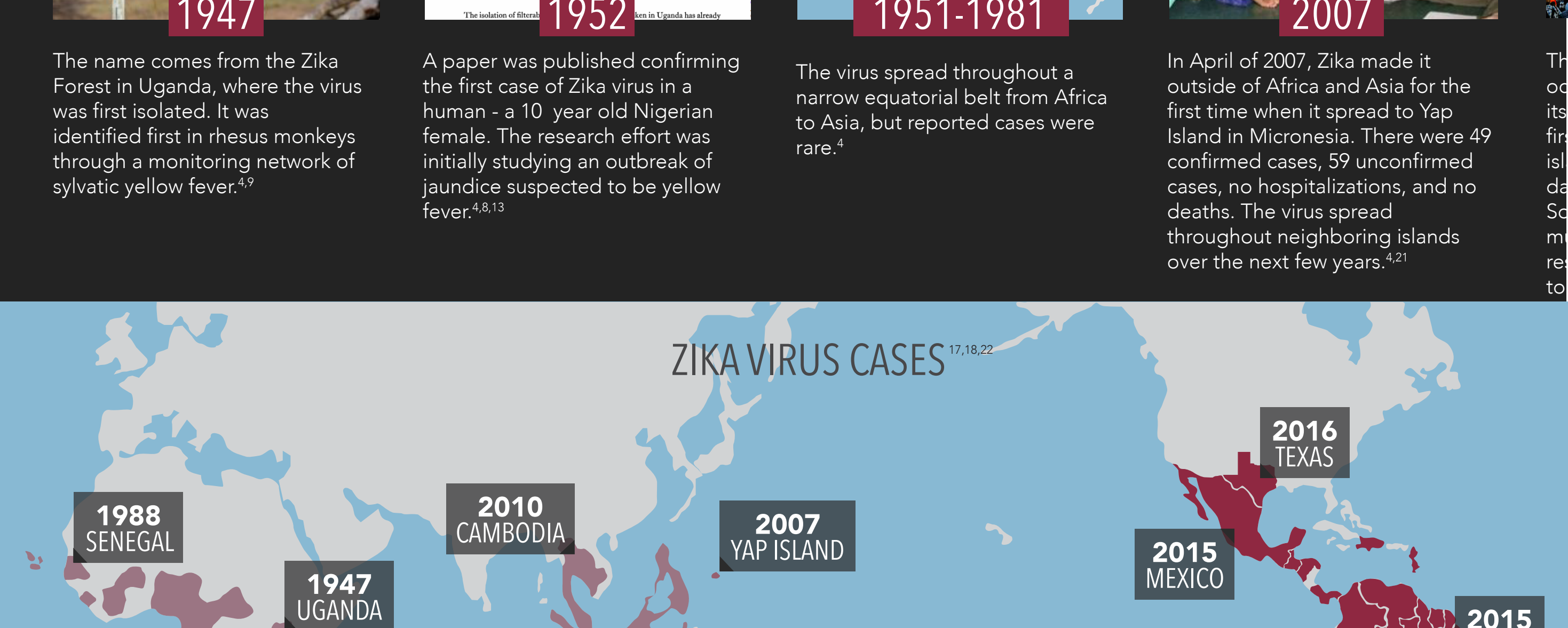
The virus spread throughout a narrow equatorial belt from Africa to Asia, but reported cases were rare.[4]



2007

In April of 2007, Zika made it outside of Africa and Asia for the first time when it spread to Yap Island in Micronesia. There were 49 confirmed cases, 59 unconfirmed cases, no hospitalizations, and no deaths. The virus spread throughout neighboring islands over the next few years.[4,21]

ZIKA VIRUS CASES[17,18,27]



There are an estimated 1.6 MILLION cases of Zika virus in 33 COUNTRIES[30]

AMERICAS

Barbados
Bolivia
Brazil**
Colombia**
Costa Rica
Curacao
Dominican Republic
Ecuador
El Salvador**
French Guiana
Guadeloupe
Guatemala
Guyana
Haiti
Honduras
Jamaica
Martinique
Mexico
Nicaragua
Panama
Paraguay
Puerto Rico
Saint Martin
Suriname**
U.S. Virgin Islands
Venezuela**
United States*

OCEANIA/PACIFIC IS.

American Samoa
Samoa
Tonga

AFRICA

Cape Verde

*35 travel-associated Zika disease cases in the U.S. have been reported.
**Also report having significant increase in cases of microcephaly and/or GBS

Last Updated 8.Feb.2016[3]

TRANSMISSION

The Zika virus is not yet fully understood. However, there are 4 known ways to transmit the Zika virus.

PERSON → MOSQUITO → PERSON

Zika is most commonly transmitted from person to person by the Aedes mosquito, which live in urban areas and are active during the day (usually mornings and late afternoons).[1,3]

MOTHER → UNBORN CHILD

Zika virus can spread from an infected mother to the placenta and their unborn baby. The virus will not infect infants conceived after the virus has cleared from the blood.[2] There is no evidence suggesting a risk for future birth defects.[1]

PERSON → SEXUAL PARTNER

Transmission of Zika during sex is possible but rare. If an infected male partner has the virus in their blood stream, their semen can be contagious. It is unknown how long Zika can live in semen. Infected individuals should abstain from sex or use a condom for 6 months after the infection.[10]

PERSON → BLOOD BANK → PERSON

There may also be a chance of transmission through blood transfusions, but no conclusive evidence as been found.[10]

PREVENTION

Currently no vaccinations exist to prevent Zika. The best way to prevent infection is to avoid mosquito bites.

Avoid travel to areas with confirmed Zika cases, especially if you are pregnant. See above for Zika-infected areas.[2,14]

Apply insect repellent every few hours. Do not spray repellent on the skin under clothing. If you are also using sunscreen, apply it first before repellent. Follow instructions on the label. Insect repellent is safe for pregnant women.[2,14]

Remove still water in flowerpots, buckets, animal water bowls, and kid pools to prevent potential mosquito breeding grounds.[2,14]

Wear long-sleeve shirts and pants to avoid mosquito bites.[2,14]

Choose lodging that is air-conditioned, has screens on the doors and windows, or purchase a mosquito bed net.[2,14]

If you have travelled to a Zika-infected area, wear a condom during sex or abstain from sex for 6 months.[10]

Choose a WHOPES-approved bed net with 156 holes per square inch that is long enough to tuck under the mattress. Permethrin-treated nets help kill mosquitoes, do not wash them or expose them to sunlight.[2,14]

Follow directions on the label when applying insect repellent to children. Spray repellent onto hands first to apply to a child's face. Avoid applying repellent to the child's hands, mouth, eyes, or open wounds.[2,3,14]

DO NOT apply insect repellent to babies younger than 2 months old. Instead, dress them in long sleeves and cover the stroller or carrier with mosquito netting.[2,3,14]

Mosquitoes can bite through thin clothing. Treat clothing and gear (boots, pants, socks, tents) with an insecticide called permethrin. Follow directions on label and DO NOT apply directly to the skin.[2,14]

CHOOSING THE RIGHT BUG SPRAY

Use an insect repellent with one of these active ingredients:

DEET

Picaridin, KBR 3023, Bayrepel, or

Oil of lemon eucalyptus (OLE) or para-menthane-diol (PMD)

IR3535

The EPA has not yet evaluated common natural insect repellents for effectiveness. The CDC recommends using repellents containing proven safe and effective ingredients. Examples used in unregistered insect repellents are: citronella oil, cedar oil, geranium oil, peppermint oil, soybean oil, and pure oil of lemon eucalyptus.[14] Visit www.cdc.gov/features/StopMosquitoes for more information.

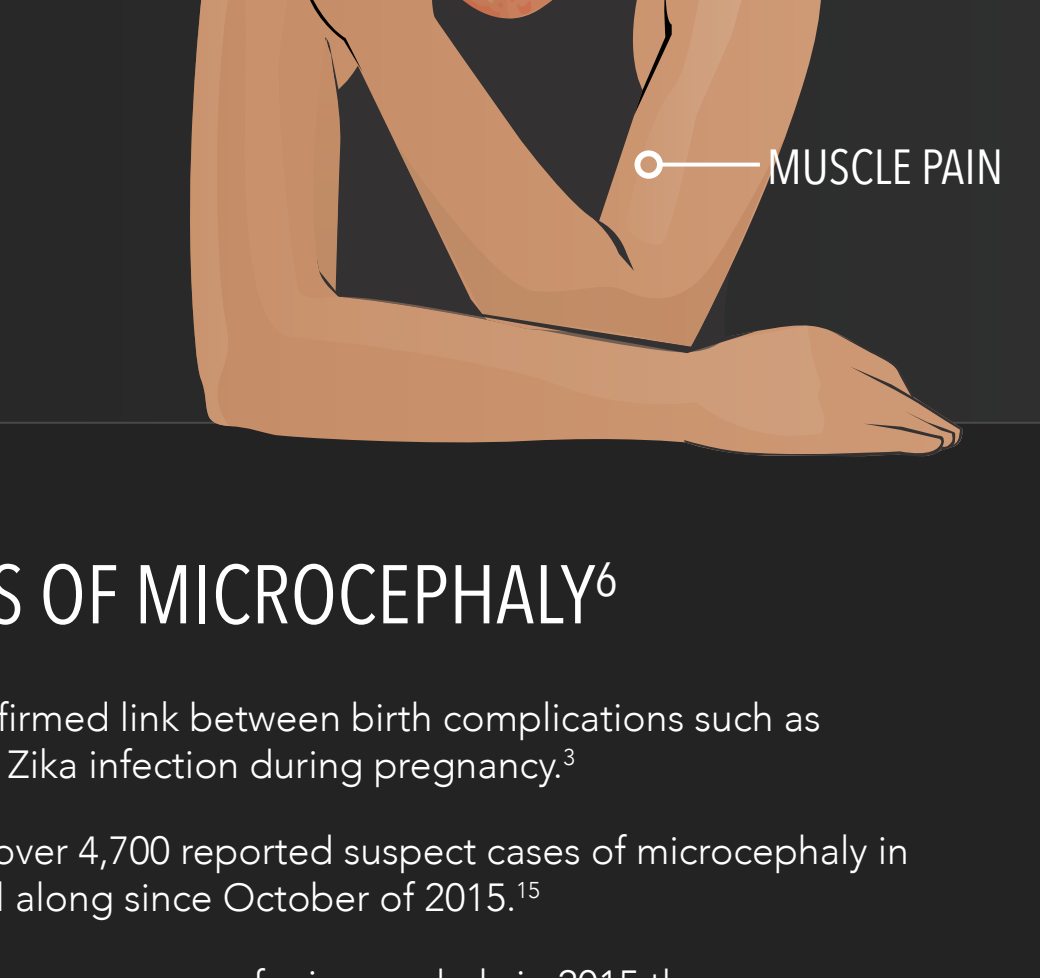
SYMPTOMS OF ZIKA DISEASE[1]

About 1 in 5 people infected with Zika virus actually become ill.[3]

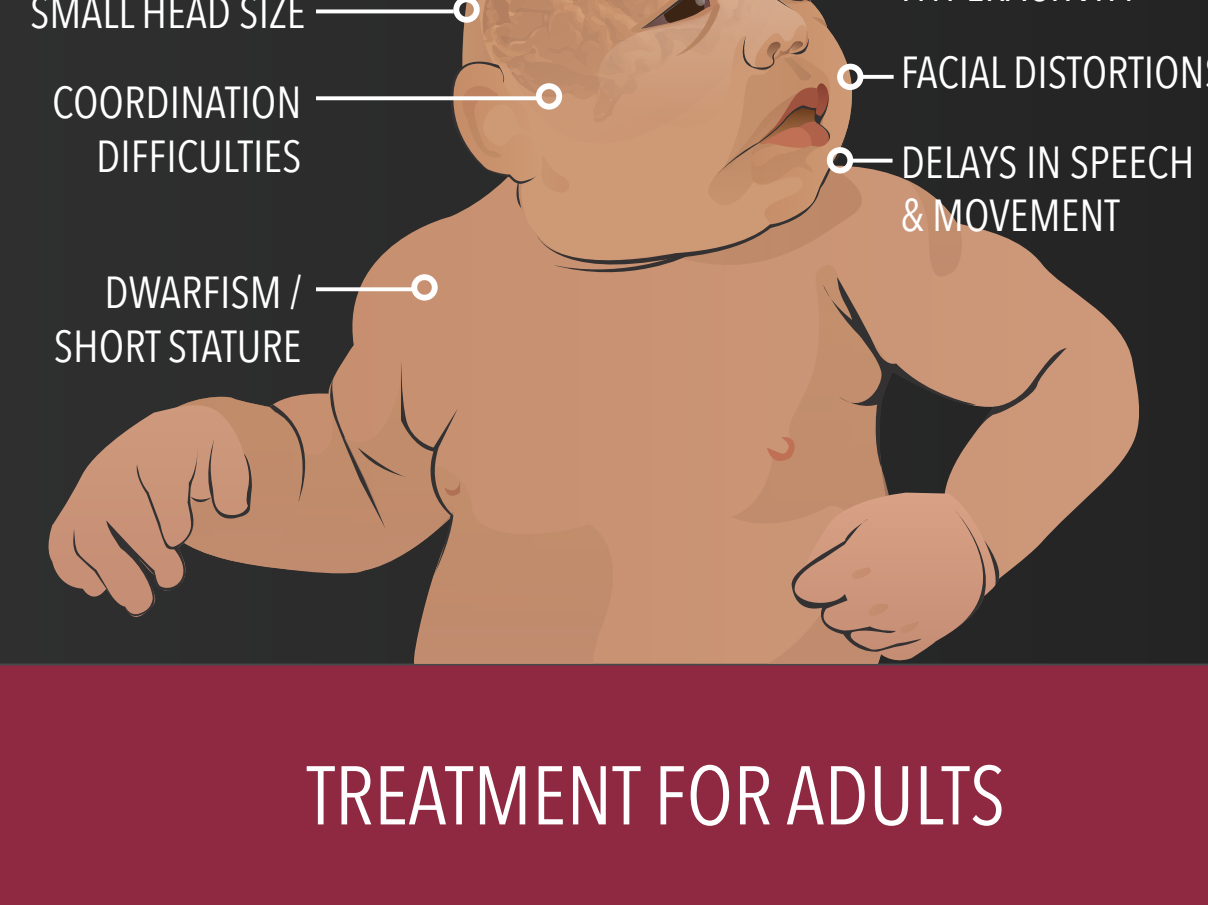
Incubation period is unkown but is likely a few days to one week. Symptoms are usually mild and last several days to a week.[3]

Hospitalization is uncommon. Zika is not known to be deadly but those with preexisting health problems can have fatal complications.[3] There have also been cases of Guillain-Barré Syndrome following suspected Zika infection, but the relationship is not known.[4]

IF YOU HAVE BEEN TO A ZIKA-INFECTED AREA AND HAVE AT LEAST 2 SYMPTOMS, CONTACT YOUR DOCTOR.



IF YOU HAVE BEEN TO A ZIKA-INFECTED AREA AND ARE PREGNANT OR RECENTLY GAVE BIRTH, CONTACT YOUR DOCTOR.

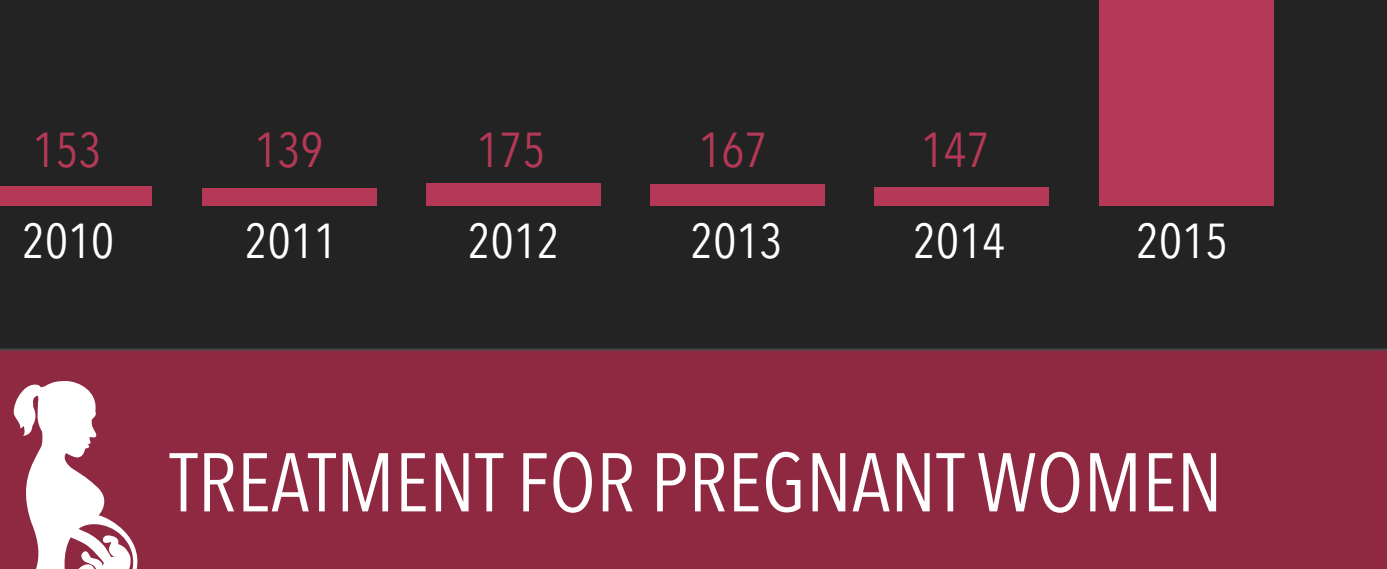


SYMPTOMS OF MICROCEPHALY[6]

There is an unconfirmed link between birth complications such as microcephaly and Zika infection during pregnancy.[1]

There have been over 4,700 reported suspect cases of microcephaly in newborns in Brazil along since October of 2015.[15]

Brazil saw 20 times more cases of microcephaly in 2015 than past years.[28]



TREATMENT FOR ADULTS

If you have Zika symptoms within **2 weeks** of traveling to a Zika-infected area[2]:

- ○ Contact your doctor
- ○ Take medicine (acetaminophen or paracetamol) to relieve fever and pain.
- ○ To reduce the risk of bleeding, do NOT take aspirin, aspirin products, or other nonsteroidal anti-inflammatory drugs such as ibuprofen until Dengue can be ruled out.
- ○ Get rest and drink plenty of fluids.
- ○ Prevent additional mosquito bites to avoid spreading the disease.

TREATMENT FOR PREGNANT WOMEN

There is no cure for Zika virus.[1] If you are pregnant, your doctor will treat you for the virus, while also monitoring your baby. The next steps will most likely be[11,16]:

- ○ An ultrasound to test for microcephaly or calcium deposits in your baby's brain
- ○ You may get an amniocentesis (also called amnio) to check the amniotic fluid that surrounds your baby in the womb for Zika.
- ○ The placenta and umbilical cord may also be tested after birth.
- ○ Your baby's growth should be monitored by ultrasound every 3-4 weeks. You may be referred to a maternal-fetal medicine specialist.

ONE OF MANY FLAVIVIRUSES

Zika, like dengue, yellow fever, and others, is part of the flavivirus family. Flaviviruses are arboviruses, which means they are spread via infected arthropod vectors such as ticks and mosquitoes. Zika, yellow fever, and dengue grow very well in the human body, and easily reinfect mosquitos. Flaviviruses enter the bloodstream, infect cells in the immune system, travel to the lymph nodes and target different organs.[31]

ZIKA

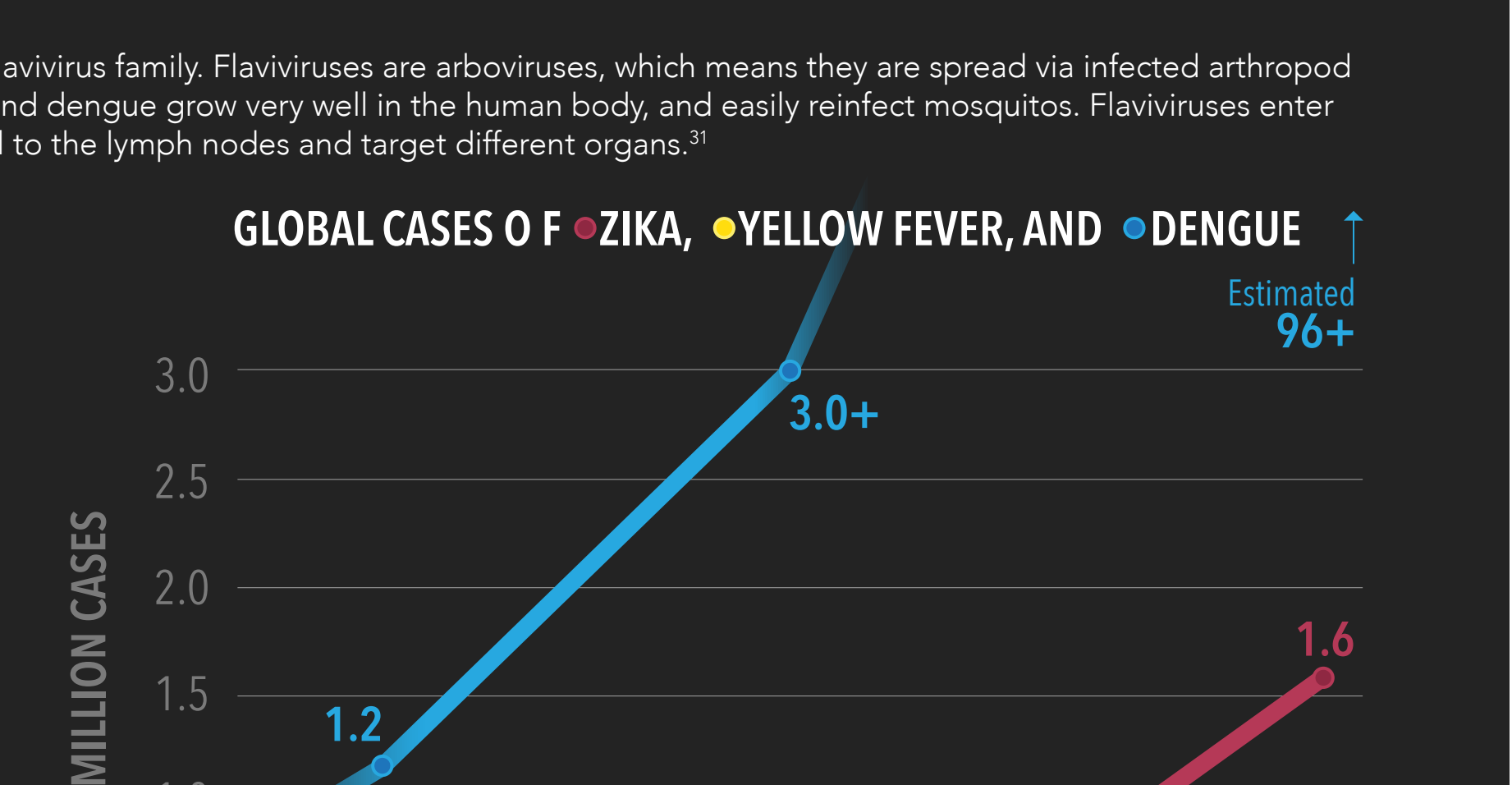
Zika induces fever, rash, joint and muscle pain, and red eyes. Fatal cases are rare and are usually due to complications from pre-existing health conditions. There is no vaccine for zika.[31]

YELLOW FEVER

Yellow Fever infects the liver. It can cause fever, headache, nausea, and vomiting, and in serious cases may cause fatal heart, liver, and kidney conditions. The yellow fever vaccine has been in use for several decades.[31,32]

DENGUE

Dengue can cause high fever, rash, and muscle and joint pain, and in serious cases may cause fatal shock and haemorrhage within the body. Dengue is one of the fastest spreading vector-born viral diseases and has increased by 30 times in the past 50 years.[34] A vaccine for all four variations of dengue was recently developed and licensed in Brazil, the Philippines, and Mexico, but not in the U.S.[31,33,35]



*Yellow fever value of 200,000 cases based on yearly estimate by WHO[32]

WHAT WE STILL DON'T KNOW

We don't know for sure if Zika is the cause of the increase microcephaly.[28]

We don't know for sure how many of the more than 4,700 cases reported cases of microcephaly in Brazil are related to Zika, as it is difficult to diagnose and can have other causes.

We don't know for sure if Zika is the cause of the increase in Guillain-Barré Syndrome.[28]

The possible connection of Zika with microcephaly and Guillain-Barré Syndrome suggest mutation in the virus to become more pathogenic to humans. We don't know what exactly has changed about Zika virus and why.[28]

THE *WHO* ACTION PLAN[8]

Prioritize research into Zika virus disease by convening experts.

Enhance surveillance of Zika virus and potential complications.

Strengthen risk communication to help countries meet International Health Regulations.

Provide training on clinical management, diagnosis and vector control at WHO Collaborating Centres.

Strengthen the capacity of laboratories to detect the virus.

Support health authorities in curbing spread of infected mosquitoes by providing larvicide to treat standing water sites.

Collaborate with other health agencies to repare recommendations for clinical care and follow-up of people with Zika virus.

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25. Photo by IAEA Imagebank. Photo retrieved from https://www.flickr.com/photos/iaea_imagebank/24407404799/in/photolist-DbNk78-fvEXR4-fvETn6-DBk3Nc-DKAirB-Dc6SmP-DBk1g8-Dc6RbT-CXf3aW-8VnCcF-DHW6bX-CLqAjf-DzEWzc-CLqzU7-DzEW4H-DHW4P8-CLqyBs-CLqy9o-DgPpTb-Dxwh3S-BCimRP-C2e22m-CbP14k-BCihNP-C2dWWs-pAKfpe-C2e3L3-oppw9W-oyv588-dcAVdB-oydVZx-DKhGPp-CMTRsk-DGYfro-DGYeey-DiaXvy-AVqThX-92EMis-92EMdC-92EM3U-92BDEH-92BDuX-92ELmm-92BCE4-92EKF7-92EKtN-D9vKBM-4Y9VRz-AT9SQE-AjM4wi

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