ZIKA DISEASE

(FROM THE CDC WEBSITE, HTTP://WWW.CDC.GOV/ZIKA/SYMPTOMS/)
WHAT IS ZIKA DISEASE?

Zika is a disease caused by Zika virus that is spread to people primarily through the bite of an infected Aedes species mosquito.

The most common symptoms of Zika are fever, rash, joint pain, and conjunctivitis (red eyes). The illness is usually mild with symptoms lasting for several days to a week. People usually don’t get sick enough to go to the hospital, and they very rarely die of Zika.
IS THIS A NEW VIRUS?

No. Outbreaks of Zika previously have been reported in tropical Africa, Southeast Asia, and the Pacific Islands. Zika virus likely will continue to spread to new areas. In May 2015, the Pan American Health Organization (PAHO) issued an alert regarding the first confirmed Zika virus infection in Brazil. Since that time, local transmission has been reported in many other countries and territories.
AREAS WITH ZIKA
Local mosquito-borne transmission of Zika virus has been reported in the Commonwealth of Puerto Rico, the US Virgin Islands, and America Samoa.

No local mosquito-borne Zika virus disease cases have been reported in US states, but there have been travel-associated cases.

With the recent outbreaks, the number of Zika cases among travelers visiting or returning to the United States will likely increase.

80% of cases will not be diagnosed. These imported cases could result in local spread of the virus in some areas of the United States.
HISTORY (FROM EN.WIKIPEDIA.ORG)

• The virus was first isolated in April 1947 from a rhesus macaque monkey that had been placed in a cage in the Zika Forest of Uganda, near Lake Victoria, by the scientists of the Yellow Fever Research Institute.

• A second isolation from the mosquito A. africanus followed at the same site in January 1948. When the monkey developed a fever, researchers isolated from its serum a filterable transmission agent that was named Zika virus in 1948.
FIRST EVIDENCE OF HUMAN INFECTION, 1952

- Zika virus had been known to infect humans from the results of serological surveys in Uganda and Nigeria. A serosurvey of 84 people of all ages showed 50 had antibodies, with all above 40 years of age being immune.\(^{[61]}\)

- It was not until 1954 that the successful isolation of Zika virus from a human was published. This came as part of a 1952 outbreak investigation of jaundice suspected to be yellow fever. It was found in the blood of a 10 year old Nigerian female with low grade fever, headache, and evidence of malaria, but no jaundice, who recovered within three days. Blood was injected into the brain of laboratory mice, followed by up to 15 mice passages. The virus from mouse brains was then tested in neutralization tests using rhesus monkey sera specifically immune to Zika virus. In contrast, no virus was isolated from the blood of two infected adults with fever, jaundice, cough, diffuse joint pains in one and fever, headache, pain behind the eyes and in the joints.\(^{[clarification needed]}\) Infection was proven by a rise in Zika virus specific serum antibodies.\(^{[61]}\) A 1952 research study conducted in India had shown a "significant number" of Indians tested for Zika had exhibited an immune response to the virus, suggesting it had long been widespread within human populations.\(^{[62]}\)
SPREAD IN EQUATORIAL AFRICA AND TO ASIA, 1951–1981

- From 1951 through 1981, evidence of human infection with Zika virus was reported from other African countries, such as the Central African Republic, Egypt, Gabon, Sierra Leone, Tanzania, and Uganda, as well as in parts of Asia including India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.\(^{[26]}\) From its discovery until 2007, there were only 14 confirmed human cases of Zika virus infection from Africa and Southeast Asia.\(^{[63]}\)
MICRONESIA, 2007

• In April 2007, the first outbreak outside of Africa and Asia occurred on the island of Yap in the Federated States of Micronesia, characterized by rash, conjunctivitis, and arthralgia, which was initially thought to be dengue, chikungunya, or Ross River disease. Serum samples from patients in the acute phase of illness contained RNA of Zika virus. There were 49 confirmed cases, 59 unconfirmed cases, no hospitalizations, and no deaths.

• Between 2013 and 2014, further epidemics occurred in French Polynesia, Easter Island, the Cook Islands, and New Caledonia.
Since April 2015, a large, ongoing outbreak of Zika virus that began in Brazil has spread to much of South and Central America and the Caribbean. In January 2016, the CDC issued a level 2 travel alert for people traveling to regions and certain countries where Zika virus transmission is ongoing, and suggested that women thinking about becoming pregnant should consult with their physicians before traveling. Governments or health agencies of the United Kingdom, Ireland, New Zealand, Canada, and the European Union soon issued similar travel warnings. In Colombia, Minister of Health and Social Protection Alejandro Gaviria Uribe recommended avoiding pregnancy for eight months, while the countries of Ecuador, El Salvador, and Jamaica have issued similar warnings.

End of January 2016, the authorities in Rio de Janeiro, Brazil, announced plans to try to prevent the spread of the Zika virus during the 2016 Summer Olympic Games in that city.

Between October 2015 and January 2016, Brazilian health authorities reported more than 3,500 microcephaly cases, some with a severe type and some having died. The worst affected region of Brazil is its poorest, consisting of the 3 Northeastern states Paraiba, Pernambuco and Bahia, where about 1 percent of newborns are suspected of being microcephalic.

As of February 2016 52 travel-associated Zika virus disease cases and no locally acquired vector-borne cases had been reported from the US to the CDC, though there were 9 local cases from US territories Puerto Rico and the US Virgin Islands.
TRANSMISSION

Through mosquito bites

• Zika virus is transmitted to people primarily through the bite of an infected Aedes species mosquito (A. aegypti and A. albopictus). These are the same mosquitoes that spread dengue and chikungunya viruses.

• These mosquitoes typically lay eggs in and near standing water in things like buckets, bowls, animal dishes, flower pots and vases. They prefer to bite people, and live indoors and outdoors near people.
  • Mosquitoes that spread chikungunya, dengue, and Zika are aggressive daytime biters. They can also bite at night.

• Mosquitoes become infected when they feed on a person already infected with the virus. Infected mosquitoes can then spread the virus to other people through bites.
Rarely, from mother to child

• A mother already infected with Zika virus near the time of delivery can pass on the virus to her newborn around the time of birth, but this is rare.

• It is possible that Zika virus could be passed from a mother to her fetus during pregnancy. We are studying how Zika affects pregnancies.

• To date, there are no reports of infants getting Zika virus through breastfeeding. Because of the benefits of breastfeeding, mothers are encouraged to breastfeed even in areas where Zika virus is found.
Through infected blood or sexual contact

- Spread of the virus through blood transfusion and sexual contact have been reported.
SYMPTOMS

• About 1 in 5 people infected with Zika virus become ill (i.e., develop Zika).

• Characteristic clinical findings are acute onset of fever with maculopapular rash, arthralgia, or conjunctivitis. Other commonly reported symptoms include myalgia and headache. Clinical illness is usually mild with symptoms lasting for several days to a week.

• Severe disease requiring hospitalization is uncommon and case fatality is low.

• Zika virus usually remains in the blood of an infected person for about a week but it can be found longer in some people.

• However, there have been cases of Guillain-Barre syndrome reported in patients following suspected Zika virus infection. The Brazil Ministry of Health is also investigating the possible association between Zika virus and a reported increase in the number of babies born with microcephaly.

• **Due to concerns of microcephaly associated with maternal Zika virus infection, fetuses and infants of women infected with Zika virus during pregnancy should be evaluated for possible congenital infection and neurologic abnormalities.**
DIAGNOSIS

• The symptoms of Zika are similar to those of dengue and chikungunya, diseases spread through the same mosquitoes that transmit Zika.

• Preliminary diagnosis is based on the patient’s clinical features, places and dates of travel, and activities. Laboratory diagnosis is generally accomplished by testing serum or plasma to detect virus, viral nucleic acid, or virus-specific immunoglobulin M and neutralizing antibodies.
TREATMENT

• There is no vaccine to prevent or specific medicine to treat Zika infections.

• Treatment is generally supportive and can include rest, fluids, and use of analgesics and antipyretics. Because of similar geographic distribution and symptoms, patients with suspected Zika virus infections also should be evaluated and managed for possible dengue or chikungunya virus infection.

• Aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) should be avoided until dengue can be ruled out to reduce the risk of hemorrhage.

• People infected with Zika, chikungunya, or dengue virus should be protected from further mosquito exposure during the first few days of illness to prevent other mosquitoes from becoming infected and reduce the risk of local transmission.
PREVENTION

• No vaccine exists to prevent Zika virus disease (Zika).
• Prevent Zika by avoiding mosquito bites.
• Mosquitoes that spread Zika virus bite mostly during the daytime.
• Mosquitoes that spread Zika virus also spread dengue and chikungunya viruses.
• When travelling to countries where Zika virus or other viruses spread by mosquitoes are found, take the following steps:

• Wear long-sleeved shirts and long pants.

• Stay in places with air conditioning or that use window and door screens to keep mosquitoes outside.

• Sleep under a mosquito bed net if you are overseas or outside and are not able to protect yourself from mosquito bites.

• Use EPA-registered insect repellents. When used as directed, EPA-registered insect repellents are 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 2 months of age.
  • Dress your child in clothing that covers arms and legs, or
  • Cover crib, stroller, and baby carrier with mosquito netting.
  • Do not apply insect repellent onto a child’s hands, eyes, mouth, and cut or irritated skin.
  • Adults: Spray insect repellent onto 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.
• If you have Zika, protect others from getting sick

• During the first week of infection, Zika virus can be found in the blood and passed from an infected person to another mosquito through mosquito bites. An infected mosquito can then spread the virus to other people.

• To help prevent others from getting sick, avoid mosquito bites during the first week of illness.
Sick with CHIKUNGUNYA, DENGUE, or ZIKA?
Protect yourself and others from mosquito bites during the first week of illness.

Protect family and friends:
- During the first week of illness, chikungunya, dengue, or Zika virus can be found in the blood.
- A mosquito that bites you can become infected.
- An infected mosquito can bite a family member or neighbor and make them sick.

Watch for these symptoms:
See your doctor if you develop a fever with any of the following symptoms:
- Muscle or joint pain
- Headache, especially with pain behind the eyes
- Rash
- Conjunctivitis (red eyes)

Protect yourself from mosquito bites:
- Wear long-sleeved shirts and long pants.
- Use door and window screens to keep mosquitoes outside.
- Use insect repellent.

For more information:
www.cdc.gov/chikungunya
www.cdc.gov/dengue
www.cdc.gov/zika

GOING TO THE AMERICAN TROPICS?

MOSQUITOES spread DENGUE, CHIKUNGUNYA, ZIKA, and other diseases

Mosquitoes bite day and night. Prevent mosquito bites:

- Use insect repellent
- Use air conditioning or window/door screens
- Wear long-sleeved shirts and long pants

DON’T LET MOSQUITOES RUIN YOUR TRIP

For more information, visit www.cdc.gov/travel
RECENTLY IN THE AMERICAN TROPICS?

MOSQUITOES spread DENGUE, CHIKUNGUNYA, ZIKA, and other diseases

Watch for fever with joint, muscle, or eye pain, or a rash in the next 2 weeks.

If you get sick, see a doctor. Tell the doctor where you traveled.

For more information, visit www.cdc.gov/travel.
MICROCEPHALY
ZIKA DISEASE IN MALAYSIA

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TITLE: Malaysia at 'high risk' for spread of Zika virus: Health Ministry

By Sunita Naidu, Malaysia Correspondent, Channel NewsAsia
Posted 29 Jan 2016 21:25

The Health Ministry says this is due to a large Aedes mosquito population and a lack of immunity.

KUALA LUMPUR: Malaysia is at high risk for the spread of the Zika virus due to a large Aedes mosquito population and a lack of immunity, the Health Ministry said on Friday (Jan 29).

Deputy Director General of Health, Dato' Dr Hafizan Sidek said in a statement that Zika is viewed as a serious threat because of its suspected links to microcephaly, which causes babies to be born with an abnormally small head.

As part of the ministry's checks at health facilities, 288 samples were taken from patients whose blood tests were negative for dengue. All the samples tested negative for Zika.

The ministry is advising all visitors from Central America and South America or citizens who have visited countries in the Americas to report themselves to the nearest quarantine or health offices upon their arrival in Malaysia.

It is also calling on the public to help control the spread of Aedes mosquitoes and dengue, a viral disease which affects thousands in the Southeast Asian nation every year. There is currently no treatment for Zika and a top US health chief warned on Thursday that the hunt for a vaccine could take years.

- CNA/yt
The Health Ministry wants Malaysians planning to visit countries affected by outbreaks of the Zika virus, to take precautions to reduce the risk of infection.

Health director-general Dr Noor Hisham Abdullah said pregnant women, especially in the first trimester, are also advised to defer travel to Brazil until the actual cause of the surfacing of microcephaly linked to the Zika virus in that country was determined.

Microcephaly is abnormal smallness of the head, a congenital condition associated with incomplete brain development.

"The Brazilian Health Ministry is carrying out further investigations on the actual cause for the increase in microcephaly cases in childbirths including the possibility there might be a link to Zika virus infection," he said in a statement in Kuala Lumpur today.

World Health Organisation (WHO) has noted that until the middle of this month, 17 countries in the Americas had reported Zika virus cases.

They are Brazil, Barbados, Colombia, Ecuador, El Salvador, French Guiana, Guatemala, Guyana, Haiti, Honduras, Martinique, Mexico, Puerto Rico, Paraguay, Suriname and Venezuela.

The Zika virus is spread to humans through the bites of the Aedes mosquito, the same vector that causes dengue fever. The symptoms are similar to dengue - like high fever, muscle ache, joint pains, headaches, pain in the rear of the eye, conjunctivitis and rashes.

"For now, there is no vaccine to prevent infection of the Zika virus and no specific medicine to treat the disease. Treatment given is to mitigate the symptoms," said Dr Noor Hisham.