

# Zika Fever

- What is Zika fever ?
- Where is Zika found?
- How is it transmitted?
- What are the symptoms?
- Zika complications
- Differential diagnosis
- Diagnosis
- Treatment
- Prevention



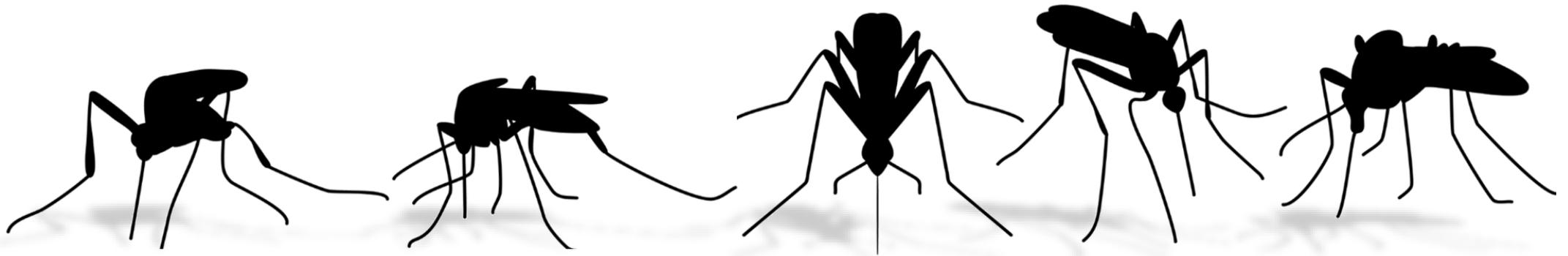
# What is Zika fever?

- Zika fever or “Zika”, is a viral disease transmitted to humans by the bite of an infected female Aedes, or tiger mosquito, which bites during daylight hours to feed her eggs.
- The Zika virus belongs to the same Flaviviridae virus family as Dengue, Yellow fever, West Nile and Japanese encephalitis.
- There is no preventive medication or vaccination.
- Prevention is based entirely on mosquito-bite prevention.



# What is Zika fever?

- The Aedes mosquito also transmits Dengue, Yellow fever and Chikungunya.
- West Nile, Japanese encephalitis are transmitted by a Culex mosquito.
- Malaria is transmitted by an Anopheles mosquito.



# Where is Zika fever found?

- Zika fever originated in the Zika forest of Uganda.
- It was first reported in man in 1968 and spread to tropical regions of Africa, Southeast Asia and the Pacific Islands.



# Where is Zika fever found?

- In 2014, the Zika virus was introduced by a foreign traveler to the South American continent and has almost spread to all of South America and the Caribbean.



CDC (Centers for Disease Control)

# Where is Zika fever found?

- Today, it is reported in more than 39 South and Central American countries and Caribbean Islands and 61 countries worldwide.
- More than 1.5 million cases have been reported in Brazil alone.



*CDC (Centers for Disease Control)*

## Where is Zika fever found?

The Zika virus is starting to appear among international travellers and is being imported to Europe, North America and Asia by returning travellers.



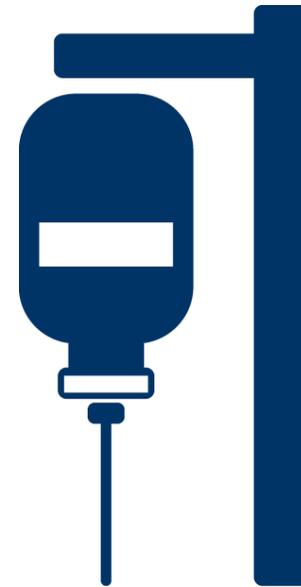
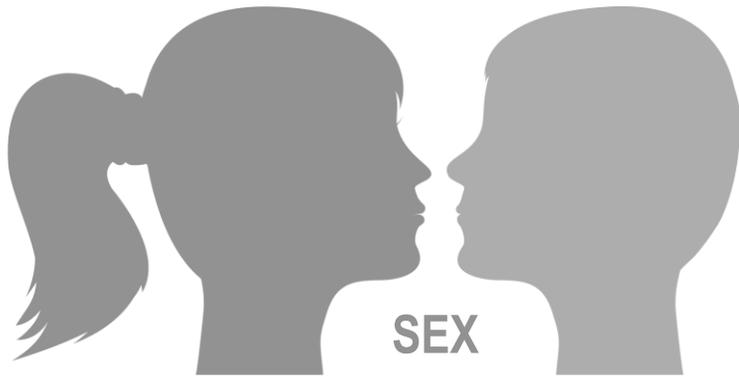
# How is it transmitted?



- The Aedes mosquito thrives in hot, humid climates and breeds near or in still water.
- Female Aedes mosquitos become infected when it feeds on a person infected with the Zika virus.
- Infected mosquitoes can spread the virus to humans as well as to monkeys.
- These animals act as a reservoirs for the virus.

# How is it transmitted?

- In addition, the virus is also transmitted by sex and by blood transfusions.



**BLOOD TRANSFUSIONS**

# What are the symptoms?

- Incubation period from the time the mosquito bites to the time the symptoms appear is 3 to 7 days.
- It is estimated that 80% of all Zika infection cases are totally asymptomatic.
- In the 20% who become ill, symptoms are usually mild and last from a few days to one week.



# What are the symptoms?

## ■ Symptoms of Zika fever typically include:



Fever



Headaches



Skin rash



Muscle and joint pain



Vomiting



Conjunctivitis or red eyes



# Complications from Zika

- In rarer cases, the Zika virus can also be transmitted from human to human by sexual intercourse and to the fetus during pregnancy via the placenta.



# Complications from Zika



Baby with typical head size

*Typical head size*



14

Baby with severe microcephaly

- If contracted during pregnancy it is believed that the Zika virus can provoke birth defects including microcephaly (small head size) associated with brain damage in new born children.
- More than 4,000 cases of microcephaly have been reported in the last few months mainly in Brazil and Colombia.

# Complications from Zika

- It is suspected, but not proven, that the Zika virus may also cause neurological problems such as Guillain-Barré syndrome.
  - GB produces muscle weakness and paralysis of hands and feet. It is an autoimmune disease also observed in many other diseases.
  - In very rare cases it can provoke breathing difficulties due to paralysis of the diaphragm or respiratory muscles and require that the patient be placed on a respirator for a few days/weeks.
  - Neurological symptoms usually regress within a few days or weeks.
  - A few deaths related to respiratory paralysis have been reported.



- In Colombia 40 cases of GB were reported out of 20,000 Zika cases, whereas in Venezuela, 250 cases were reported out of out of 400,000 cases of Zika.
- The virus is not found in all Guillain-Barré patients.

# Differential diagnosis

Zika fever is often mistaken with other diseases.

- Mosquito-transmitted diseases:

- Malaria - Falciparum malaria is rapidly fatal if not diagnosed and treated urgently.
  - There is effective curative medication for malaria.
  - **Always think malaria first!**

- Mosquito-transmitted diseases that can be confused with Zika fever:

- Yellow fever (vaccination is effective)
- Dengue fever (no vaccination yet)
- West Nile virus
- Chikungunya virus

- Other tropical diseases such as typhoid, leptospirosis, hepatitis, etc.

- Non-tropical diseases such as the flu.

# Diagnosis

- Once the malaria diagnosis has been eliminated, the diagnosis of Zika fever will be confirmed by a highly specific blood test.



# Treatment



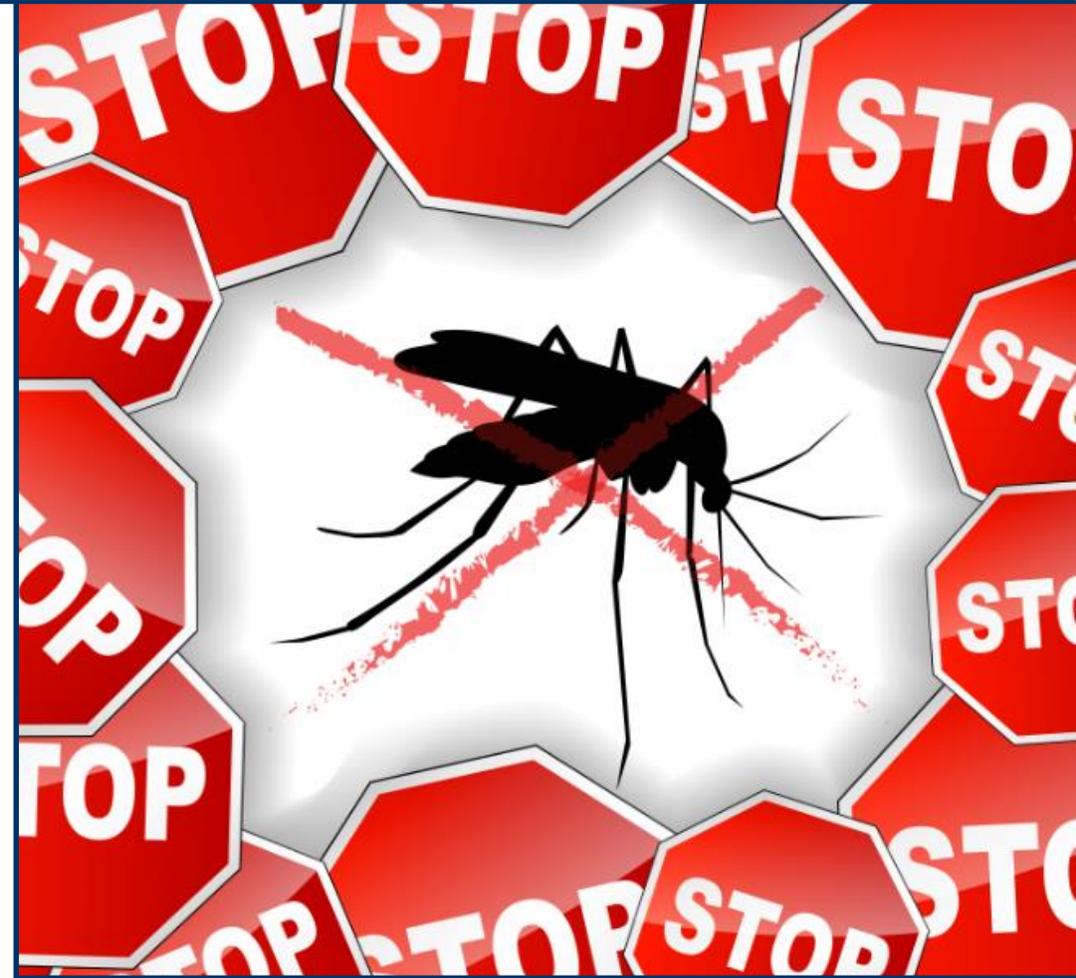
There is no specific treatment for Zika fever.

■ Treatment is based on:

- Bed rest
- Fluids
- Medication to reduce fever
- Pain killers such as paracetamol
  - Avoid aspirin until the diagnosis of Dengue fever (a hemorrhagic fever) has been eliminated.

# Prevention

- There is no preventive medication or vaccination against Zika virus.
- Prevention is entirely based on mosquito-bite prevention.





Fogging

## Bite Prevention - Outdoors

It is important to reduce insect breeding grounds:

- Avoid setting up camp or any operation near freshwater: swamps, ponds or lakes.
- Destroy mosquito breeding grounds by draining swamps, ponds and patches of stagnant water.
- Perform regular fogging outdoors around living quarters to destroy mosquito larvae.

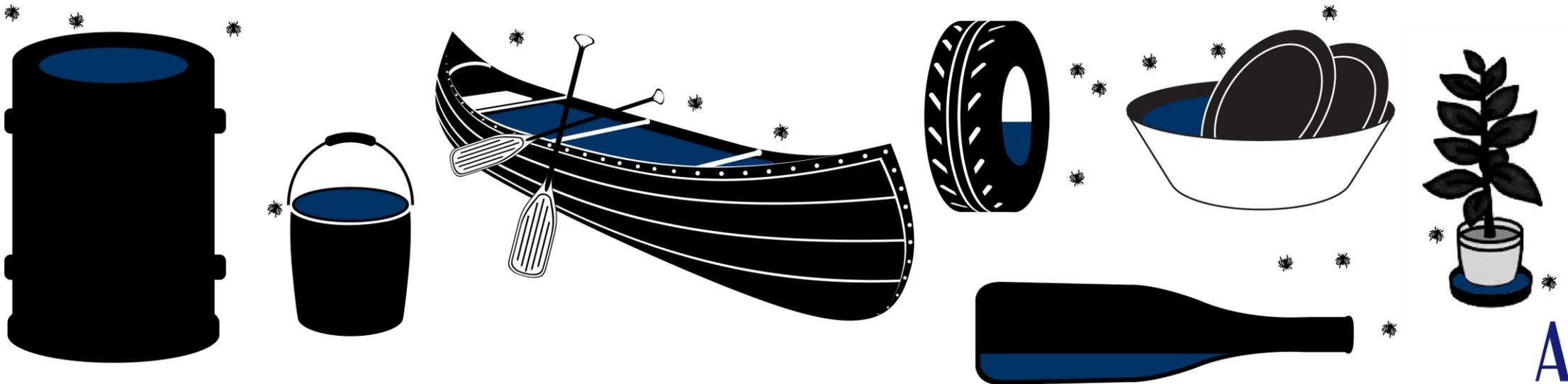
# Bite Prevention - Outdoors

## Reduce insect breeding grounds.

### ■ Eliminate standing water:

- Do not leave old car tires exposed outdoors.
  - They collect rainwater and make excellent breeding grounds for mosquitoes and other insects.

- Cover all cans and buckets that contain water or change the water every 24 hours.
- Cover all wells.
- Clear blocked drains.



## Bite Prevention - Outdoors

- Wear protective clothing – long-sleeved shirts, long trousers and socks.
- Permethrin can be sprayed on clothing to make the clothing repellent for 3 to 6 weeks.
- Insect repellent should be applied on uncovered parts of the body (face, hands) before going outdoors. Repellents containing DEET, Picaridin or Icaridin are recommended.



# Bite Prevention - Indoors

- Keep windows and doors closed.
- Ensure that windows and doors are fitted with screens and that these are regularly checked for holes.
- Where available ensure air conditioning is working and on cold.
- Use electric chemical diffusers or insecticide in rooms.
- Burn coils in verandas and tents.
- Sleep under a chemically treated bed net (treated with permethrin or deltamethrin) and regularly check bed net for holes.



# Recommendations

- **Non-pregnant women living in endemic countries** who wish to become pregnant should delay their pregnancy if possible by 6 to 12 months until the Zika epidemic has been brought under control.
- **Pregnant women living in endemic Zika countries** should use all mosquito-bite prevention measures for the entire duration of their pregnancy in order to avoid getting bitten by a mosquito.
- **Women who live outside of endemic Zika countries** and are pregnant or who wish to become pregnant should avoid traveling to active endemic Zika countries.
- **Pregnant women who live outside of endemic Zika countries and whose male sexual partners** have spent time in a country with confirmed transmission of the Zika virus should either abstain from sex or use condoms during intercourse for the duration of their pregnancy.



# Conclusion

- Zika fever is a viral disease transmitted by the female *Aedes* mosquito which bites during the daytime.
- Zika which first originated in Uganda and spread to certain parts of Africa, Southeast Asia and the Pacific Islands has now spread to South America and the Caribbean Islands.
- Symptoms resemble many other tropical diseases and usually include fever, headaches, joint and muscle pain as well as skin rash, vomiting and red eyes.
- The diagnosis of *Falciparum* malaria must be eliminated first.
- There is no preventive medication or vaccination and no specific treatment for Zika fever.
- It is recommended that pregnant women consider postponing travel to countries where Zika is endemic.
- Prevention is based on mosquito-bite prevention.