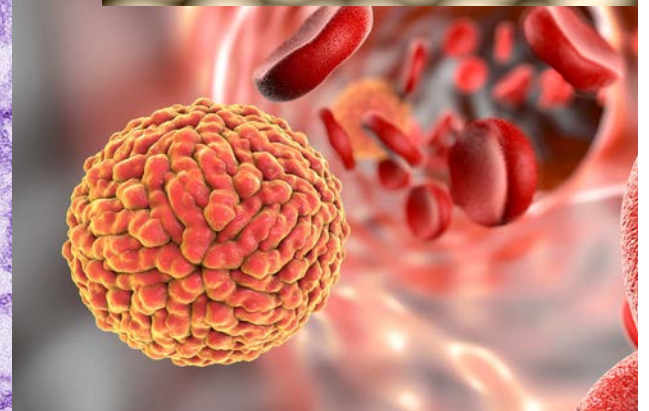
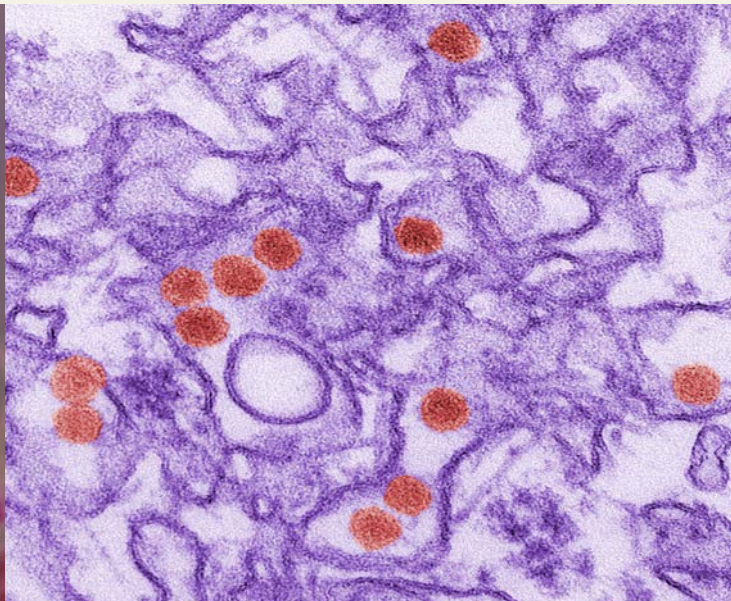
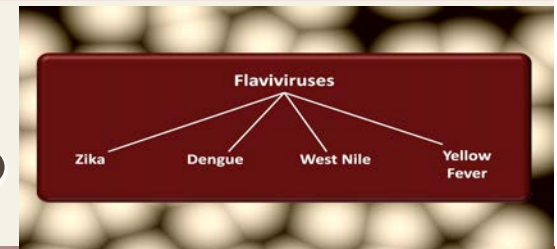

Welcome All



ZIKA VIRUS

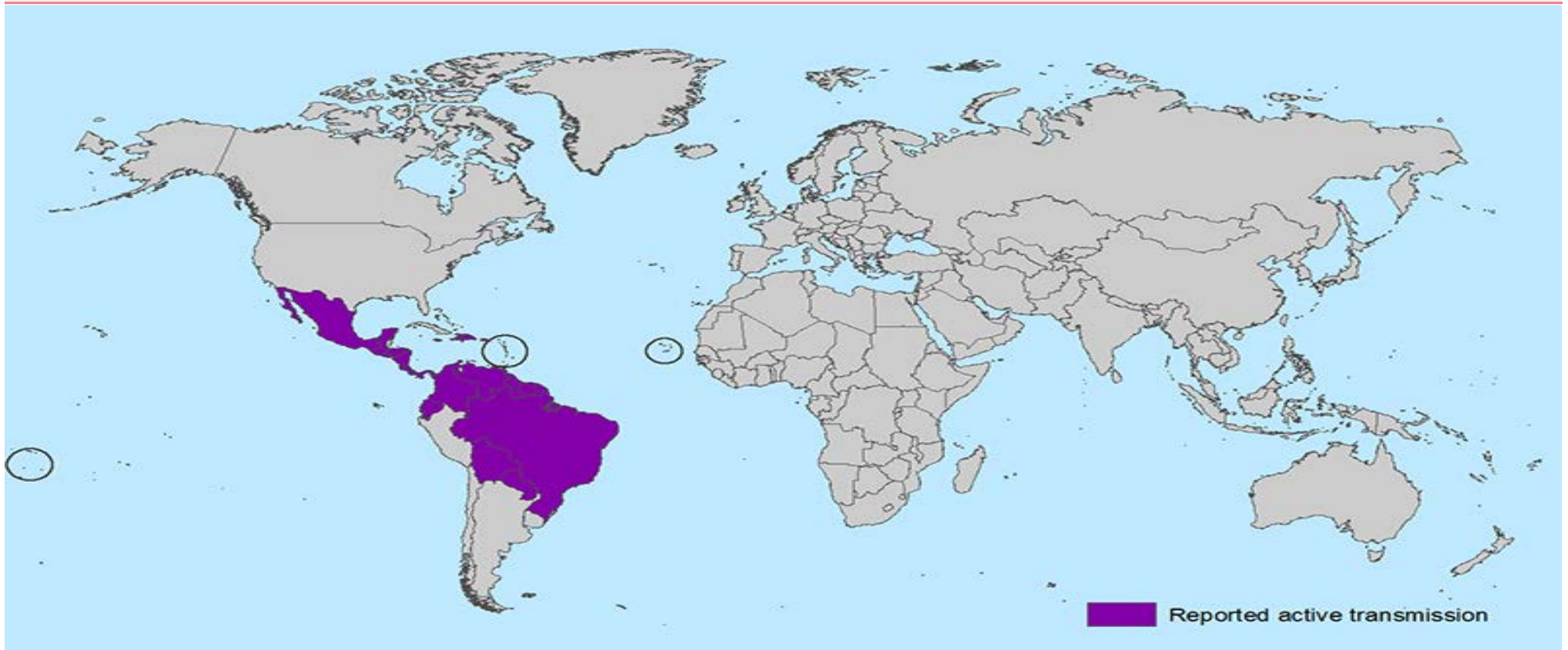
What's the latest?



Dr Clay Golledge

COUNTRIES WITH ONGOING ZIKA CIRCULATION

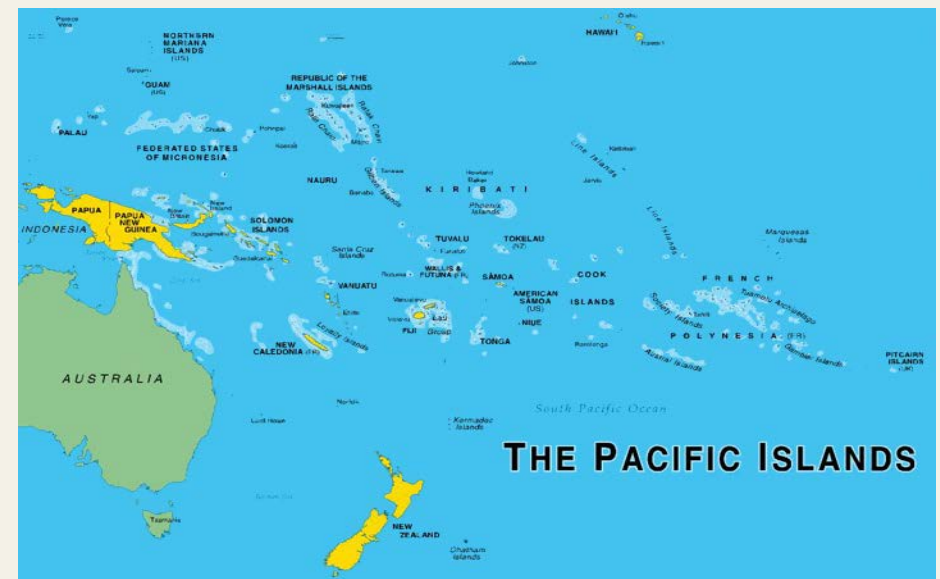
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- Barbados
- Bolivia
- Brazil
- Cape Verde
- Colombia
- Costa Rica
- Curacao
- Dominican Republic
- Ecuador
- El Salvador
- French Guiana
- Guadeloupe
- Guatemala
- Guyana
- Haiti
- Honduras
- Jamaica
- The Maldives
- Martinique
- Mexico
- Nicaragua
- Panama
- Paraguay
- Puerto Rico
- Saint Martin
- Samoa
- Suriname
- Tonga
- Venezuela
- US Virgin Islands



COUNTRIES WITH PAST ZIKA CIRCULATION

The Pacific

- Cook Islands
- French Polynesia
- Micronesia
- New Caledonia
- Vanuatu
- Solomon Islands









Western Australia
Oncology
Menopause
Endometriosis
New Mothers

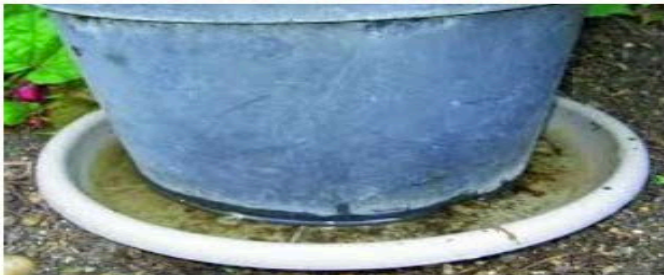
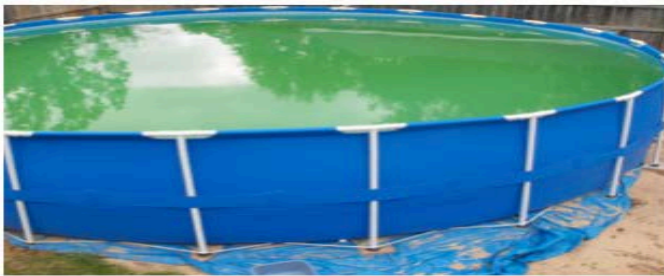






Women CENTRE

Western Australia
Oncology
Menopause
Endometriosis
New Mothers



What is Zika?

- First isolated from Zika Forest in Uganda in 1947
- Arthropod borne flavivirus
- Related to Dengue, Yellow Fever and West Nile Virus
- Only 20 percent of infected patients become significantly symptomatic
- Current significant outbreak in Central America, particularly Brazil

Epidemiology

- First major outbreak in Micronesia in 2007.
- Large outbreak in French Polynesia in 2013-14.
- First appeared in Western Hemisphere in Chile's Easter Island.
- First Brazilian case in May 2015.
- First microcephaly case reported in Hawaii in January 2016.
- Sexual transmission reported in Texas in February 2016.

Transmission

- Principally by the bite of an *Aedes* mosquito (principally *aegypti*).
- RNA detected in blood, urine, semen, saliva, CSF, amniotic fluid, breast milk.
- Virus has been detected in semen 60 days after febrile illness.
- Transmissible by blood products.

SYMPTOMS OF ZIKA VIRUS



Clinical manifestations

- Only 20-25 percent of infected individuals become symptomatic.
- Low grade fever, maculopapular rash, arthralgia (mostly of hands and feet), non-purulent conjunctivitis.
- Also frequent myalgias, headaches, retro-orbital pain.
- Usual incubation period of 2-12 days.
- Significant complications rare.







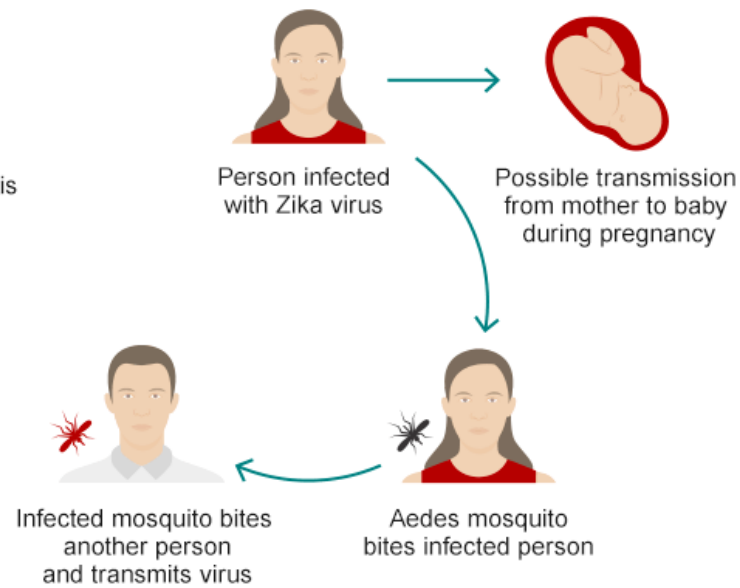




Zika virus transmission cycle

Symptoms

- Fever
- Rash
- Joint pain
- Conjunctivitis (red eyes)



Zika can be transmitted through blood, but this is an infrequent mechanism. The virus has also been isolated in semen, but person-to-person sexual transmission is unconfirmed.

Source: PAHO/WHO

Diagnosis

- RT-PCR of serum for Zika RNA. Definitive test but short opportunistic window.
- Serology for Zika IgM.
- Measure specific neutralising antibodies.
- Acute and convalescent sera often needed.
- No NS-1 antigen available as in Dengue.
- Lot of cross-reactivity with other flaviviruses.

Differential diagnosis

- Dengue
- Chikungunya
- Parvovirus
- Rubella
- Measles
- Leptospirosis
- Malaria
- Rickettsial infection
- GAS infection

Perinatal complications

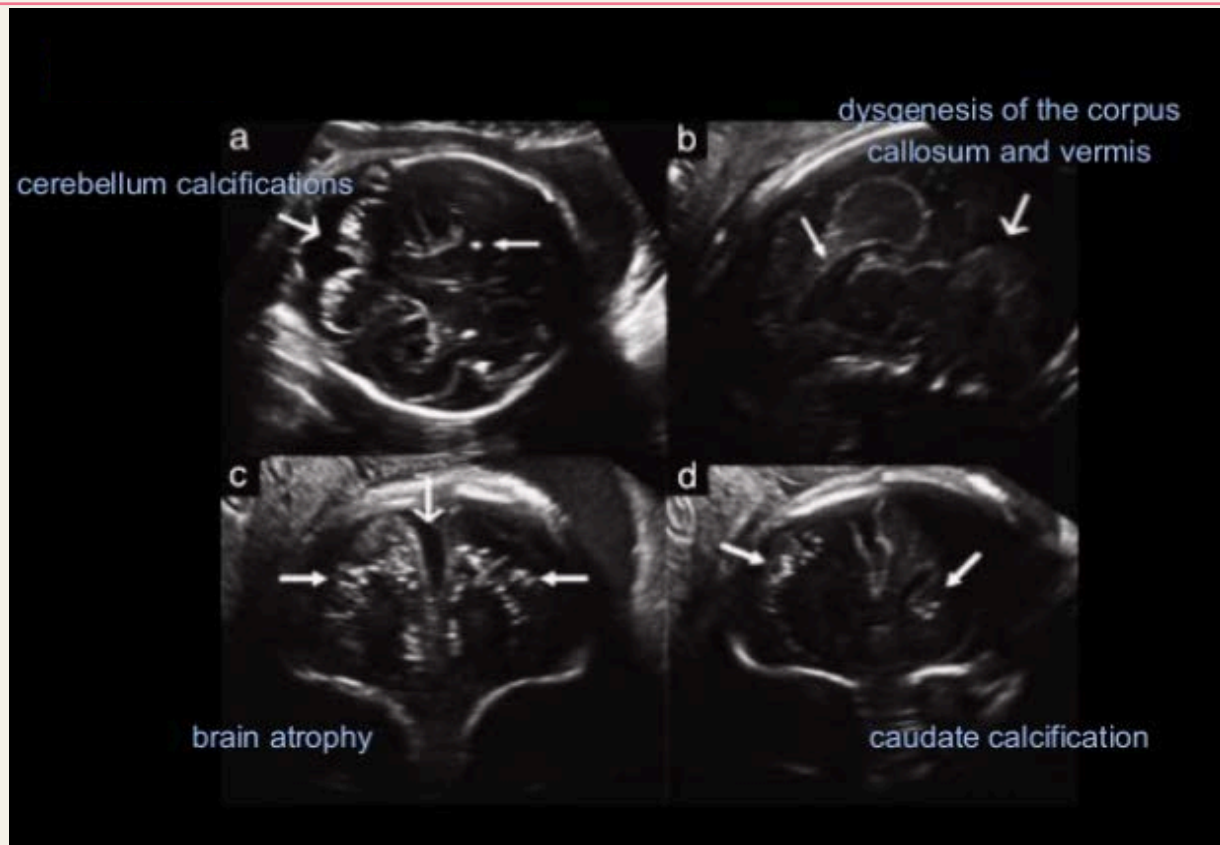
- Microcephaly.
- First trimester foetal loss.
- March 2015 – Feb 14 2016
4000 cases of Brazilian microcephaly.
- No evidence that pregnant women more susceptible to Zika or have more severe clinical disease.
- No developmental complications noted in healthy neonates, infants and children.





Exam findings of infants and foetuses

- Widespread brain calcifications mainly periventricular, parenchymal and thalamic.
- Frequent ventricular enlargement .
- Severe cortical, subcortical atrophy.
- Zika RNA detected in brain and placental tissues from foetal losses.
- Zika not found in non cerebral tissue from recent autopsy case.



Guillain-Barré Syndrome

- 3 fold increase in recent incidence of Zika associated with GBS in several countries just reported.
- Current studies underway but jury still out.
- 74 patients had neurologic or autoimmune syndromes during 13-14 French Polynesia outbreak.

Pregnant women – no mosquito transmission

- Within first 7 days after onset of symptoms perform both serology and PCR.
- Asymptomatic women should have serological testing.

Pregnant women – no mosquito transmission

- Ongoing surveillance required throughout pregnancy
- RT-PCR for any symptomatic cases
- Minimal screening in each trimester

Foetal monitoring

- Ultrasound findings as early as 18 weeks
- Negative laboratory tests
Ultrasound at 20 and 28 weeks
- Positive/inconclusive tests
Serial ultrasonography every 2-4 weeks from 18 weeks

Amniocentesis

- ? ≥ 15 weeks with a history of exposure and positive/inconclusive testing.
- Consider for any patient with ultrasound findings of microcephaly intracranial calcification or ventriculomegaly.

Infants – Who to test?

- Infants with microcephaly or I/C calcifications born to women with Zika virus exposure.
- Infants born to mothers with positive or inconclusive Zika testing.
- May need to test CSF and Histo/PCR on placenta.

For all infants with possible congenital Zika virus infection, perform the following:

- Comprehensive physical examination, including careful measurement of the occipitofrontal circumference, length, weight, and assessment of gestational age.
- Evaluation for neurologic abnormalities, dysmorphic features, splenomegaly, hepatomegaly, and rash or other skin lesions. Full body photographs and any rash, skin lesions, or dysmorphic features should be documented. If an abnormality is noted, consultation with an appropriate specialist is recommended.
- Cranial ultrasound, unless prenatal ultrasound results from third trimester demonstrated no abnormalities of the brain.
- Evaluation of hearing by evoked otoacoustic emissions testing or auditory brainstem response testing, either before discharge from the hospital or within one month after birth. Infants with abnormal initial hearing screens should be referred to an audiologist for further evaluation.
- Ophthalmologic evaluation, including examination of the retina, either before discharge from the hospital or within one month after birth. Infants with abnormal initial eye evaluation should be referred to a pediatric ophthalmologist for further evaluation.
- Other evaluations specific to the infant's clinical presentation.

For infants with microcephaly or intracranial calcifications, additional evaluation includes the following:

- Consultation with a clinical geneticist or dysmorphologist.
- Consultation with a pediatric neurologist to determine appropriate brain imaging and additional evaluation (eg ultrasound, computerised tomography scan, magnetic resonance imaging, and electroencephalogram).
- Testing for other congenital infections such as syphilis, toxoplasmosis, rubella, cytomegalovirus infection, lymphocytic choriomeningitis virus infection, and herpes simplex virus infections. Consider consulting a pediatric infectious disease specialist.
- Complete blood count, platelet count, and liver function and enzyme tests, including alanine aminotransferase, aspartate aminotransferase, and bilirubin.
- Consideration of genetic and other teratogenic causes based on additional congenital anomalies that are identified through clinical examination and imaging studies.

Women of child bearing potential

- Zika persistence is not fully understood.
- Current RANZCOG position.
- West Nile Virus may persist for several years.

Sexual Transmission

- Ongoing studies but at least 2 likely cases.
- Prudent for individuals with Zika Virus infection/exposure to abstain from sexual activity or use barrier protection.
- Men who have a pregnant partner should follow such guidance for this duration of the pregnancy.



Management

- No special treatment exists.
- Supportive measures as per Dengue.
- Avoid aspirin/NSAID's until Dengue excluded.

Prevention

- No vaccine available.
- Mosquito protection.
- Environmental control.
- Pregnant women should not travel to Zika affected areas if at all possible.
- Most authorities allow breast feeding to continue.



THANK YOU