"Pull out, Betty! Pull out! ... You've hit an artery!"
IF YOU THINK YOU ARE TOO SMALL TO MAKE A DIFFERENCE TRY SLEEPING WITH A MOSQUITO.

- African Proverb
Zika Forest
Entebbe, Uganda

Means
“overgrown”

1947 – virus isolated from monkey by researchers working on Yellow fever virus
Uganda Virus Research Institute

Zika Virus

SS RNA virus

Flavivirus Family also includes Yellow fever, Dengue, West Nile
First human cases – Nigeria 1954;
1960 – 1983 sporadic cases equatorial Africa, Asia, Indonesia
Yap 2007 – 49 confirmed, 59 probable
French Polynesia 2013-2014 – 8752 cases, GBS in 42
Zika Moves to the Americas

Zika Virus Outbreak, Bahia, Brazil

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Areas reporting active Zika Virus transmission

Countries and territories reporting active mosquito transmission of Zika virus
Brazil confirms this week it has documented a staggering 91,387 cases of Zika in 2016,
Mosquito Vectors

- **Aedes mosquito**
  - Yellow fever, Dengue, Chikungunya, Zika

- **Anopheles**
  - Malaria

Daytime biter
Not usually found at
> 6000 feet

Evening biter
Dusk to dawn
Zika Epidemic

Key Ingredients

Densely populated cities

Poor housing situations
- lack of screening or air conditioning

*Aedes* needs only small amounts of standing water – flower pots, tires, etc.
How does Zika virus affect people?

- Anyone who lives in or travels to an area with Zika and has not already been infected with Zika virus can get it.
- Many people infected with Zika virus won’t have symptoms or will only have mild symptoms
- ie 80 % of cases may be asymptomatic yet contributes to the epidemic
What are the symptoms?

- The most common symptoms of Zika are:
  - Fever
  - Rash
  - Joint pain
  - Conjunctivitis (red eyes)
  - Headache
  - Muscle pain

Incubation period – 3-12 days
Zika

**Figure 1**
Conjunctivitis in a case of imported Zika virus infection from French Polynesia, Japan, January 2014

Summers, D et al Journal of Travel Medicine 2015
How is Zika treated?

- Treat symptoms
  - Rest
  - Drink fluids to prevent dehydration
  - Take acetaminophen (Tylenol®) to reduce fever and pain
Zika Virus

Associations / Complications

Guillain Barré – unusual autoimmune neurologic disease where a person's immune system damages nerve cells → muscle weakness, and paralysis

Microcephaly – birth defect where babies are born with small heads and abnormal brain development
Zika Prevention

**and let’s not forget also works for Dengue, Chikungunya, Yellow fever, West Nile, Japanese Encephalitis, and Malaria!!

“If you don’t get bitten, you won’t get sick”

- - easier said than done sometimes …

ML Scully
**Personal protection**

DEET Products 25 - 35 %

Picaridin 20 %

Apply on exposed skin only, avoid mucous membranes, wash off when exposure ends, ok in children > 6 months

*** Not really “natural” at all. Synthetically produced since 1980 to resemble the natural compound, piperine, which is found in plants used to make black pepper.
**Personal Protection**

Oil of Lemon Eucalyptus or PMD  
Not for children under 3

IR3535  
Ethylbutylacetlaminopropionate  
Combination sunscreen + repellants not recommended

? Garlic, B6, tea tree oil, etc not recommended
Permethrin Clothing Treatment

Especially good for daytime biters. Odorless, stainless, last through several washings. “Buzz off” clothing can be purchased where done for you.
“Don’t ask me why, but they always look tastier on the other side of the screen!”
Updated CDC map