

Update on viral illnesses in the Americas and the Caribbean

Zika, Dengue and Chikungunya

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MSOS - February 2016

During the past few years, several viral illnesses have become established in South America, the Caribbean and increasingly in North America.

The main illnesses are Dengue Fever, Chikungunya, and more recently Zika.

There is a common factor here – the mosquito *Aedes aegypti*.

We are all used to covering up at night to avoid getting bitten by the mosquito *Anopheles* that spreads malaria, but the problem with *Aedes aegypti* is that not only is it somewhat active at night, it's mostly active during the day. And therein lies the problem – it's too easy to get bitten during the day by an infected mosquito, and subsequently to contract one of these viral illnesses.

The most important defence, and probably the only defence at present (more on that below), is to avoid getting bitten, and the gold standard to deter mosquitos is the insect repellent DEET (Diethyl-meta-toluamide). There are lots of brands of insect repellent on the market containing DEET, so there is a wide choice.

It is not straightforward to know whether someone has contracted one of these diseases. Each has a spectrum of symptoms that overlap with other viral illnesses, and can even be confused with normal 'flu-like symptoms. There are blood tests that can be performed to look for evidence of infection in the blood, but these need to be performed in a clinic or hospital, and are not completely reliable.

These three illnesses are usually self-limiting in the majority, and treatment comprises controlling symptoms such as fever, arthralgia (joint pain) and myalgia (muscle pain), using paracetamol (acetaminophen), and maintaining good hydration.

However, all three of these viral illnesses can be associated with short- and longer-term serious complications. A brief profile of each illness is outlined here:

- **Dengue Fever** (also known as 'Breakbone Fever' due to the sometimes severe joint and muscle pain)
 - A viral illness – no specific cure, although a vaccine is available – see below;
 - Spread by mosquitos active during the day (*Aedes aegypti* and other species);
 - Range – Tropics and Sub-tropics, including South America, Caribbean, North America and now in southern Europe;
 - A vaccine was introduced in Mexico in December 2015. Further vaccines are under development by the WHO;
 - Symptoms usually become apparent 3-14 days after the infecting bite:
 - Fever
 - Arthralgia, myalgia
 - Headache
 - Occasional nausea and vomiting
 - Rash (generalised over most of the body)

- Seek medical help, but treatment is usually just supportive (hydration and paracetamol);
 - Serious complications are unusual, less than 5% of sufferers, but may include haemorrhagic fever.
- **Chikungunya**
 - A viral illness – no specific cure;
 - Spread by mosquitos active during the day (*Aedes aegypti*) as for Dengue Fever;
 - Range – Tropics and Sub-tropics, Caribbean, Central Americas, spreading in to North America and Europe, Far East;
 - Symptoms usually become apparent 3 - 7 days after the infecting bite:
 - Fever
 - Arthralgia, myalgia
 - Headache
 - Occasional nausea and vomiting
 - Rash (generalised)
 - Seek medical help, but treatment is usually just supportive (hydration and paracetamol)
 - Serious complications are unusual, but joint pain can be prolonged, possibly leading to a chronic pain syndrome in rare cases, lasting years.
- **Zika**
 - A viral illness – no specific cure;
 - Originated in the Zika Forest in Uganda about sixty years ago;
 - Spread by mosquitos active during the day (*Aedes aegypti*) as for Dengue Fever and Chikungunya. There are also reports of spread by sexual contact;
 - Range – South America, Central Americas, North America, Caribbean, Samoa and other Pacific Islands – spreading quickly;
 - Symptoms are usually mild, and become apparent a few days to a week or so after the infecting bite:
 - Fever
 - Rash which becomes generalised
 - Transient arthralgia, myalgia
 - Conjunctivitis (red eyes).
 - The illness is usually mild with symptoms lasting from several days to a week.
 - Severe disease requiring hospitalization is uncommon;
 - The virus stays in the blood for a few days (sometimes longer);
 - Serious complications are possibly the risk of birth defects (microcephaly) and Guillain Barre Syndrome. Further research is being undertaken to establish the links between these two diseases and Zika.

Further information

There are several free websites – notably from the UK and US Governments, and the WHO, which are regularly updated with the latest verifiable information on these three illnesses and more:

- NHS travel advice
www.fitfortravel.nhs.uk/destinations.aspx
- Centre for Disease Control, USA – travel advice
wwwnc.cdc.gov/Travel

- WHO International Travel and Health
www.who.int/ith