

# DENGUE FEVER



## What is dengue?

Dengue fever is a common viral infection transmitted by mosquitoes. It is widespread in tropical and sub-tropical regions.

## How do you catch dengue?

Dengue is transmitted by the bite of an infected Aedes mosquito, most commonly Aedes Aegypti (which have black and white stripes on their legs). It can't be spread directly from person-to-person. This mosquito bites mainly during the daytime, peaking at dusk and dawn. It is found in the urban area of the tropics, with a high incidence in Asia, South-East Asia, the Caribbean and Central South America. The incubation period is 3–14 days (usually 4–7 days) before symptoms become apparent.

## Symptoms and diagnosis

The main symptoms are:

- A high temperature (fever) that can reach as high as 41C (105.8F)
- Headache
- Pain behind the eyes
- Bone, muscle and joint pain
- Rash (usually 3-4 days after fever starts)
- Vomiting may also occur.

The fever usually settles after 2–7 days but there may be lingering fatigue and depression. It is important to watch for signs of bleeding such as: bleeding gums, bruising, upper abdominal pain and blood in motions.

Diagnosis is made via blood tests. These include a blood count and specific tests for the virus in the blood stream. The blood test may need to be repeated to recheck blood counts and because it may take days before antibodies appear in the blood. There are four different strains of dengue. Recovery will provide long-term protection against the specific strain causing the infection. A subsequent dengue infection can be caused by another strain.

## Dengue haemorrhagic fever/dengue shock syndrome fever

This is a rare but serious complication where bleeding occurs and shock (a sudden drop in blood pressure) may develop. There is greater risk of these complications occurring when there has been a previous infection with a different strain of dengue.

## Prevention

There is currently no vaccine available for dengue so the best way to prevent catching the infection is to take common sense precautions. Prevention measures include:

- Creating barriers, such as clothing, that cover the skin, use of screens on doors and windows in the home and nets over cribs/beds
- Use of insect repellents – the most effective are those containing DEET (N,N-diethyl-meta-

toluamide). Other insect repellents such as Citronella may be effective but only provide a much shorter period of protection. Citronella is only effective for approximately 30 minutes if applied directly onto skin. Citronella is also incorporated into wrist and ankle bands that can last all day

- Mosquitoes are attracted to perfumes, cologne and dark clothing
- Utilising air-conditioning is a deterrent
- Stay indoors as much as possible when mosquitoes are out: sunrise, sunset and early evening
- Reduce stagnant water in and around the home. Change vase water regularly, empty pot plant bases and check drains and gutters

### **How to use DEET**

DEET is safe to use for children from 2 months of age, provided it is not stronger than 30% (see insect repellent fact sheet). 10% DEET will provide protection for two hours, 20% DEET will provide protection for 4-5 hours. It is best with children to apply the lowest effective concentration for the amount of time spent outdoors.

General instructions for DEET use include:

- Apply DEET sparingly on exposed skin. Do not use under clothing
- Do not apply DEET to cuts wounds or irritated skin
- After returning indoors wash treated skin with soap and water
- Do not spray directly on your face. Spray on hands and then apply to face avoiding mouth & eyes
- When applying repellent on children, apply on your own hands and then rub it on your child. Do not apply to children's hands (as they may put them in their mouth)
- Do not allow children to apply the insect repellent to themselves
- Keep out of reach of children
- Avoid spraying in enclosed areas and do not spray near food

### **Dengue fever treatment**

There is no specific treatment for dengue – it usually clears up by itself within 1-2 weeks. Symptoms can be managed by drinking plenty of fluids, paracetamol and rest. Your doctor may need to do frequent blood test monitoring to check on the platelet (component of blood which helps the blood to clot) count and the liver. Admission to the hospital may be required for intravenous fluid administration in patients who develop signs of dehydration or if there are any changes in the blood tests. Aspirin and NSAID's (e.g. Ibuprofen) should NOT be used as they can increase the risk of bleeding. Paracetamol is safe to use to reduce the fever. It is important to keep hydrated.

## **Dengue Vaccination**

A new vaccine effective against all four dengue strains has been launched. The Singapore Ministry of Health recommends the vaccine for those who have been previously suffered from Dengue

For this group of previously infected patients, the vaccine is recommended for those aged between 12 to 45 years old. Three doses are required. The second and third dose are given 6 months and 12 months after starting. To most common side-effects of the vaccination include injection site pain, muscle aches, fever and headaches.

Dengue vaccination cannot be given to anyone who have never been infected with Dengue before. A simple blood test can be done before vaccination to confirm if there has been any previous dengue infection.

Please note that the vaccination is also not given to anyone with a fever or acutely unwell, pregnant or breastfeeding women, those who are immune-compromised e.g. AIDs infected persons and those known to be allergic to Dengue vaccines

## **Conclusion**

As with all vaccines, some people may still come down with Dengue after vaccination. Mosquito avoidance is essential. Remember to wear long and light clothing and use insect repellent. Mosquito patches containing citronella oil may be effective during pregnancy and for small children.

**When in doubt, always consult your doctor for further advice.**