

Once Bitten, Twice Shy

We've all seen the signs dotted around Singapore warning about dengue fever, but what exactly is it? Here Dr Katherine Rainbow explains what it is, what to do if you've got it and how to prevent getting it in the first place.

Global incidence of dengue has grown dramatically in recent decades and it's estimated that two-fifths of the world's population is at risk of this mosquito-borne virus. It is spread by the bite of an infected *Aedes* mosquito (*A. aegypti* in Singapore's case) and causes outbreaks across Asia, Africa, the Americas, the Eastern Mediterranean and the Western Pacific.

Dengue cases occur throughout the year in Singapore, with peaks typically occurring from June to September, when warmer weather favours mosquito breeding. Epidemics caused by one of the four strains of dengue occur every five to seven years. More than 13,000 cases were reported in 2005, the year of the last major outbreak. In 2008 there have been 4,176 cases in the first eight months of the year.

SYMPTOMS

Dengue is characterised by the sudden onset of fever, which can last up to a week, and is accompanied by intense headache, body aches, joint pains, loss of appetite, nausea, vomiting and the development of skin rashes. Symptoms usually appear four to seven days after infection.

Because of the risk of serious but rare complications, such as dengue hemorrhagic fever and shock syndrome, it's important to watch for signs of bleeding, including bleeding gums, bruising, upper abdominal pain or blood in bowel actions. The risk of complications is greater when there has been a previous infection with a different dengue strain.

DIAGNOSIS

Diagnosis is made using blood tests for the virus. Blood counts are also checked, sometimes multiples times. Once recovered, patients have immunity to the specific strain that caused their infection, though subsequent infection with a different strain is possible.

TREATMENT

There is no specific treatment. Supportive care with fluids and monitoring blood counts can reduce the risk of complications. In severe cases, blood transfusions may be necessary. Aspirin and anti-inflammatory medicines such as ibuprofen (Nurofen) should be avoided because they can increase bleeding risk. Paracetamol and acetaminophen may be used for fever. It is important to keep well hydrated.

PREVENTION

There is no vaccine available for dengue. The best way to prevent infection is to avoid mosquito bites, which occur mainly during the daytime, peaking at dusk and dawn. Avoiding mosquito bites is best achieved by:

- ◆ creating barriers, such as clothing that covers the skin, use of screens in houses or nets over cribs/beds.
- ◆ applying insect repellants. The most effective are those containing DEET (N,N-diethyl-meta-toluamide). Other insect repellants such as citronella may be effective but have a shorter duration of protection (30 minutes for citronella).
- ◆ preventing mosquitoes breeding around the home by ensuring there is no stagnant water around the house, particularly in buckets and other containers. Fogging and spraying are also commonly used to reduce mosquito numbers.

DEET is safe to use from two months of age provided it is not used in concentrations greater than 30%. Ten percent DEET will

provide protection for two hours and 20% will provide protection for about four hours. For children, it's best to apply the lowest concentration effective for the amount of time spent outdoors. General instructions for DEET use are as follows:

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



Above: Dr Katherine Rainbow (second from right) and the team at Complete Healthcare International (CHI) at body with soul, 45 Rochester Park. Call 6776 2288 or log on to www.chi-health.com.sg.