



Dengue Fever

What is dengue fever?

Dengue fever is a viral illness caused by infection with one of 4 types of the dengue virus. When a person recovers from dengue infection they develop a long-term (not always lifetime) immunity to that type, but not the other 3 types. If the person is infected again with a different virus type, they may develop the more severe form of the illness known as dengue haemorrhagic fever (DHF).

How is it spread?

It is spread by the bite of an infected mosquito (usually the *Aedes aegypti* species). There is no spread from human to human.

Where and when is it found?

Dengue fever occurs in tropical and sub-tropical areas of the world, including north Queensland (Qld). Although the mosquito capable of spreading dengue has been found as far south as Roma and as far west as Mt Isa, the area at particular risk for acquiring dengue is northern Qld.

Aedes aegypti mosquitoes have not been established in the NT for nearly 50 years. The mosquito is imported periodically into Darwin on overseas vessels such as foreign fishing vessels and cargo ships, but has been detected and eliminated each time. It was imported into Tennant Creek from Qld in 2004 but was eradicated in March 2006 after a 2-year program. Surveys in Oct 2006 found the mosquito on Groote Eylandt and this importation is in the process of eradication. The number of adult mosquitoes presently on Groote Eylandt are very low. The mosquito is capable of spreading dengue fever. However, this would only happen if there were individuals with active dengue fever on Groote Eylandt and there were relatively many adult mosquitoes, so the risk of disease is extremely small. Nevertheless it is extremely important that these mosquitoes do not become



permanently established on Groote Eylandt and are not transported as larvae or eggs in receptacles to other towns in the NT.

What are the symptoms?

It usually takes 3 to 14 days (commonly 4-7) between getting bitten by a dengue virus infected mosquito and becoming sick.

Dengue fever

Dengue fever is more commonly seen in older children and adults. It is characterised by abrupt onset of high fever lasting 3-7 days, severe frontal headache, pain behind the eyes and muscle and joint pains. Other symptoms may include loss of appetite, nausea, vomiting and diarrhoea, rash which may be associated with severe itching and peeling of the skin, and sometimes minor bleeding (eg from nose and gums).

The acute symptoms of dengue fever last up to 10 days. Some people may experience repeated episodes of fever.

Full recovery may be slow and associated with weakness and depression. It is rarely fatal.

Dengue haemorrhagic fever

DHF is most commonly seen in children under 15 years of age but can also occur in adults. It begins with the same symptoms as dengue fever but is followed by rapid deterioration, bleeding and cardiovascular collapse, 2-5 days later.

The duration of DHF depends on the severity of the illness and response to treatment. It can be fatal.

What is the treatment?

There is no specific treatment or vaccine. Supportive treatment includes plenty of oral fluids and paracetamol for relief of fever and body aches and pains. Aspirin and

non-steroidal anti-inflammatory drugs should not be used as they can affect blood clotting. Anyone with DHF should be hospitalised for fluid replacement and observation.

Things to know about dengue mosquitoes

Only the female mosquito transmits the virus. They are most active during daylight hours. They rest indoors in closets, behind curtains and other dark places. Outdoors they rest where it is cool and shaded.

Breeding sites are mainly around the home in containers that can hold water. The mosquito rarely flies more than 200 metres from its breeding site. They do not breed in dirt pools on the ground, swamps or dirt storm water drains.

The eggs of the mosquito capable of transmitting dengue are drought resistant and can last over 12 months in receptacles that have previously held water. The carriage of pot plant saucers, old tyres and any formerly rain filled receptacles from Groote Eylandt or north Qld could introduce the mosquito to other towns in the NT.

How can dengue fever be prevented in the NT?

Avoid importing or spreading mosquitoes

Spray any container or receptacle that has previously held rainwater in Groote Eylandt or north Qld with a residual surface spray insecticide, or wipe thoroughly with a strong bleach or chlorine solution. Do not spray current eating or drinking utensils.

Eliminate potential breeding sites

- empty and apply surface spray to any old unused container that has held water eg tyres, plastic containers, black sheet plastic or pot plant drip trays. Store any containers upside down and undercover or under a domed tarpaulin in good repair
- avoid using saucers or drip trays under pot plants. Let pots drain directly onto the ground or make sure saucers are emptied at least once/week. Wipe their inner surface firmly with a cloth several times or fill with sand, or apply surface spray or methoprene insecticide pellets
- empty bird baths and pet drinking water at least weekly and wipe as above, or use methoprene pellets

- cover and completely seal septic tanks, rainwater tanks or other large water storage containers. Use methoprene briquettes in unsealed tanks as a temporary measure
- dispose of rubbish around the yard that may collect water eg plastic sheets or old tarpaulins, pot plant holders, old wheelbarrows, old tyres, and plastic containers of any type
- ensure roof gutters drain freely so that pools of water are not left at any low points. Throw a small amount of methoprene pellets on to the roof above problem gutters
- fishponds with fish do not breed mosquitoes. Tadpoles do not eat mosquito larvae. Keep fishponds and frog ponds stocked with fish and do not spray surface spray onto or at the edge of fishponds

Residual spray

Barrier sprays such as Mortein Barrier Outdoor Surface Spray® or similar can be purchased from supermarkets to kill adult mosquitoes in dengue areas. This is a residual surface treatment for use in dark sheltered areas or dark objects inside houses such as behind wardrobes or cupboards, under tables and chairs, and behind or on curtains. It can be sprayed on outdoor dark sheltered surfaces close to a house such as under wash troughs, in accumulations of rubbish or equipment, and in corners on verandahs. Precautions on the can should be read before application.

Personal Protective Measures

- use repellents containing di-ethyl-toluamide (DEET) or picaridin
- wear loose light coloured clothing with long sleeves, trousers and socks
- ensure flyscreens in houses, caravans and tents are in good repair
- use mosquito coils and electric vapour mats in enclosed areas

For information on mosquitoes and virus ecology contact the Medical Entomology Branch Darwin 8922 8901. For more information on disease aspects and prevention, contact your nearest Centre for Disease Control (CDC)

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