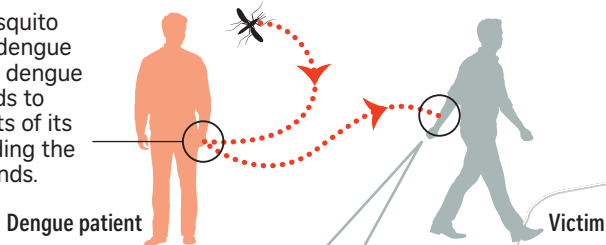


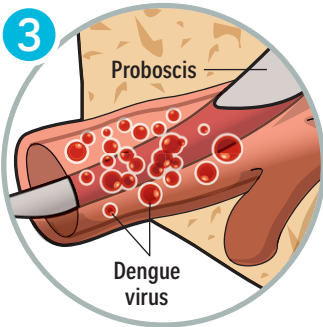
When a mozzie bites

Scientists from the National University of Singapore and Duke-NUS Medical School want to understand more about virus transmission in mosquitoes. Among other areas, it will look at proteins in the mosquito's spit, which are believed to transmit viruses more efficiently. CAROLYN KHEW takes a look at how the virus is spread to humans through a mosquito's salivary gland.

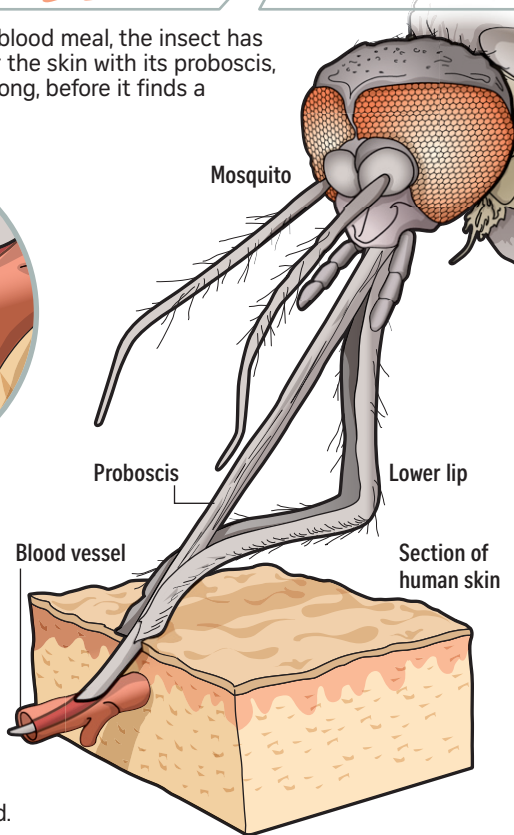
1 When a mosquito feeds on a dengue patient, the dengue virus spreads to various parts of its body, including the salivary glands.



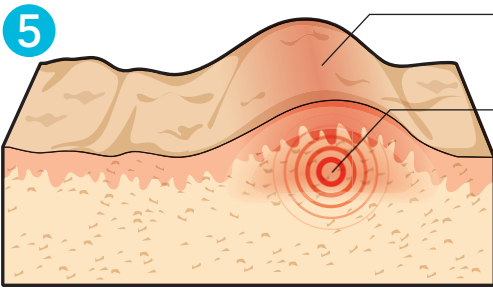
2 When taking its next blood meal, the insect has to poke around under the skin with its proboscis, which is about 5mm long, before it finds a suitable blood vessel.



- While probing and feeding on blood, the dengue virus is passed on to the human through its saliva (above).
- The saliva contains anticoagulants and other proteins to prevent the blood from clotting.
- Its proboscis contains various tubes, including one for secreting saliva and another for sucking up blood.



4 The amount of saliva secreted is in minute amounts of 10-15 nanolitres (1 litre = 1 billion nanolitres), but it is believed to be highly efficient in transmitting the dengue virus.



5 Wheal: a red swollen area

The anticoagulants and other proteins trigger our body to release histamine, causing our skin to itch after a mosquito bite.

NOTE: Drawing is not to scale.

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