

Zika linked to neurological defects

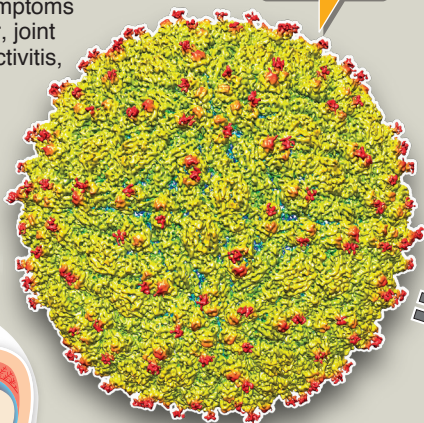
The Zika virus, which is linked to microcephaly – small brains in newborn children – may also cause a swelling of the brain that attacks the central nervous system in a similar way to multiple sclerosis



Zika virus: Infects blood system. Common symptoms include fever, joint pain, conjunctivitis, muscle pain, rash and headache.

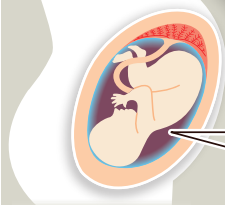
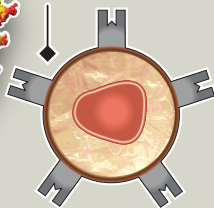
Symptoms are usually mild, and last several days to a week

Zika virus



Immune system: Body's defence against foreign invaders.

Killer T-cells – type of white blood cell – find and destroy infected cells, and virus

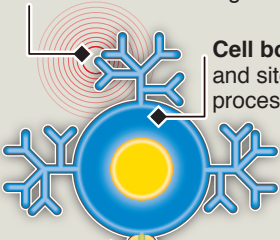


Zika virus and pregnancy: Zika has been found in amniotic fluid of women during pregnancy, suggesting virus can cross **placental barrier** and potentially infect foetus

Brain: New study discovers that Zika infects cells in cortex – brain's outer layer. How virus crosses protective **blood-brain barrier** remains unclear

Healthy neuron (representative diagram)

Dendrites: Receive signals from other neurons

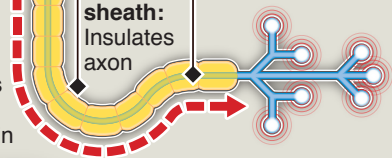


Cell body: Control centre and site of information processing

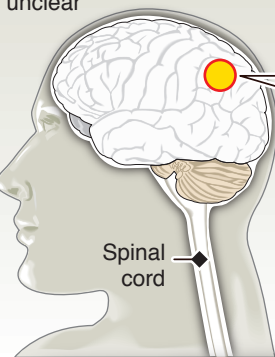
Axon: Long nerve fibre carries information as electrical impulses

Myelin sheath: Insulates axon

Impulses to and from brain



Spinal cord



Central nervous system (CNS): Virus is associated with disorders that attack CNS – brain, spinal cord and optic nerves

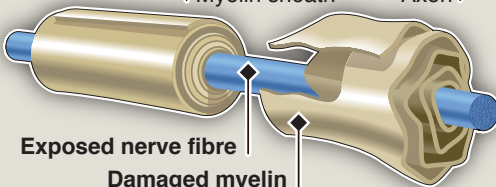
ADEM: Two Zika victims have also developed **acute disseminated encephalomyelitis** – inflammation of CNS in which myelin and axon is damaged. Neuron is unable to conduct signals



Nerve

Myelin sheath

Axon



Exposed nerve fibre

Damaged myelin