



Tick-borne encephalitis

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Tick-borne encephalitis virus circulates in small wild animals, mostly rodents, and is transmitted by Ixodes ticks. Humans may also become infected by drinking goat's milk.

It has a wide area of distribution across Europe and the former USSR, and its seasonal incidence is reflected in one of the many pseudonyms 'Russian spring-summer encephalitis'. Genetic sequencing has allowed Western tick-borne encephalitis virus, which is endemic in Germany, Austria and much of Europe, to be distinguished from Far-Eastern tick-borne encephalitis virus which is found across the former Soviet Union.

After one to two weeks incubation, the virus causes a sudden onset of fever, headache, nausea and photophobia. In mild cases this resolves after a week, but in more severe cases there is a second phase of illness with meningoencephalitis, or myelitis. The latter tends to cause flaccid paralysis of the upper limb and shoulder girdle. Respiratory muscle and bulbar (brainstem) involvement lead to respiratory failure and death.

Far Eastern tick-borne encephalitis has a higher case fatality rate, but the Western form is often associated with sequelae (after effects).

A formalyn inactivated vaccine given as two doses 4-6 weeks apart, has been recommended for those likely to be exposed in the endemic forested areas of Europe and the former USSR.

Louping ill virus is a closely related tick-borne virus notable for being the only flavivirus found naturally in the British Isles (as well as Scandinavia). It occurs naturally among small mammals (hares, wood-lice and shrews), but is also transmitted to highland sheep which develop encephalitis. The disease is named after the leaping (or louping) demonstrated by the encephalitic sheep. Very occasionally the virus infects humans causing a meningoencephalitis, which can be severe.

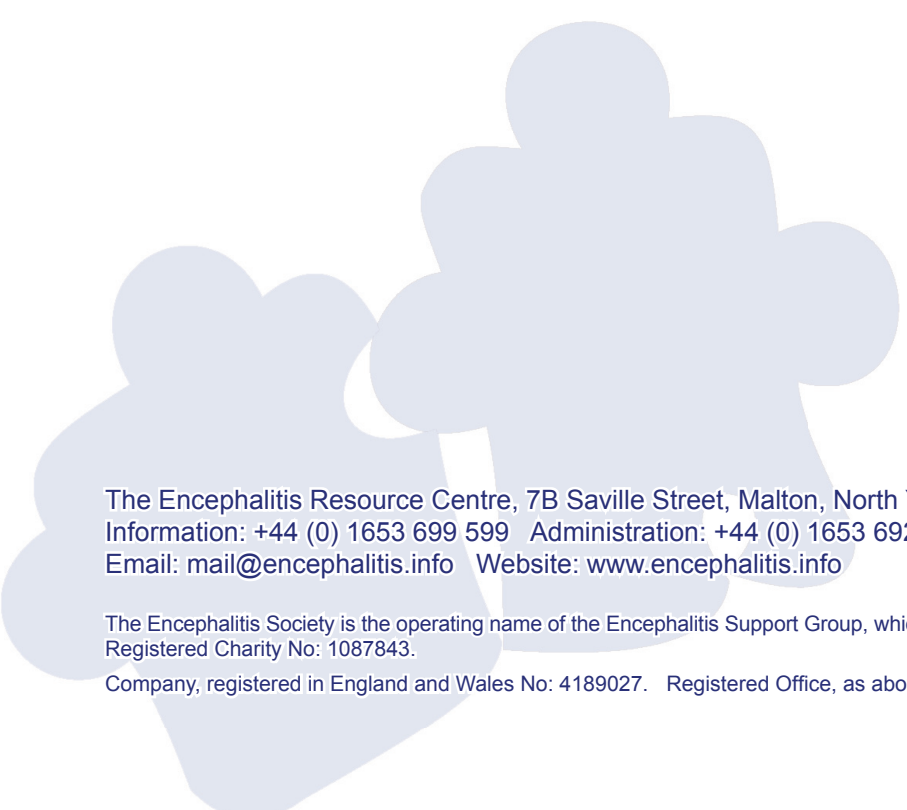
Powassan virus is a distantly related tick borne flavivirus, found principally among small mammals in Canada, that has occasionally caused meningoencephalitis in humans.

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