

## The Brain and Encephalitis

By Dr Ava Easton, Encephalitis International and reviewed by Dr Mark Ellul, Clinical Infection, Microbiology and Immunology, University of Liverpool, and Dr Ashik Mohamed Babu, Royal Liverpool University Hospital

In order to understand the effects of encephalitis on the brain, it can be helpful to understand how the brain works and interacts with infectious organisms and the immune system. Of course, this is a very complex subject but here we have tried to put together a basic summary to guide you.

### The brain

The brain is an amazing organ: it controls everything you think, feel and do. The brain is made up of billions of nerve cells (neurons). A neuron has a cell body containing a nucleus and an axon which carries the impulse away from the cell body. Each neuron makes thousands of connections to other neurons. This 'neural network' is similar to the way roads connect to make road networks. In some instances, the axons of neurons are encased in a substance called myelin. This coating acts like the insulation around a wire, making impulses faster and more precise.

The brain has several areas with different functions and damage to these discrete regions give rise to certain symptoms. These areas of the brain are called lobes. The frontal lobe is involved in decision making, personality and movement. The parietal lobe is responsible for sensation and the occipital lobe for vision. The temporal lobe is responsible for memory and aspects of language. Each of these lobes are made up of the neurons described above and act as the computer processing unit, sending and receiving information from all over the body and interacting with other brain areas.

### Human Brain Anatomy

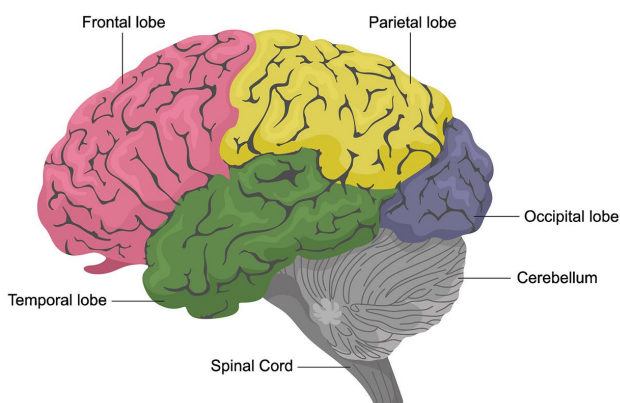


Image source: Johns Hopkins Medicine

### Quick brain facts:

1. The brain uses 20% of the body's energy.
2. The brain has 86 billion neurons.
3. The brain's left and right hemispheres have different functions.
4. Quadrillions of synaptic connections exist.
5. The brain remains active even at rest.

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### **Thank you!**

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**Encephalitis International**, 32 Castlegate, Malton, North Yorkshire, YO17 7DT, UK

**Administration:** +44 (0) 1653 692583 **Support:** +44 (0) 1653 699599

**Email:** [mail@encephalitis.info](mailto:mail@encephalitis.info) **Website:** [www.encephalitis.info](http://www.encephalitis.info)

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