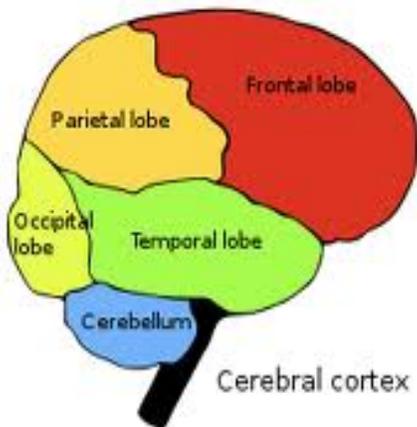


**E** is for encephalopathy.

Encephalopathy is a term for any diffuse disease of the brain that alters brain function or structure. The abnormality may be transient, recurrent, or permanent. The loss of brain function may be reversible, static and stable, or progressive with increasing loss of brain activity.

Different locations in the brain specialize with respect to function, for example, vision function is located in the occipital lobes, speech production in the lower part of the frontal lobe, speech recognition is located in the temporal lobe, and the motor strip in the parietal lobes of each hemisphere. The brain also requires blood flow to provide oxygen and glucose to function. Other chemicals, nutrients and vitamins are needed for long term normal function.



Encephalopathy may be caused by an infectious agent (bacteria or virus), metabolic or mitochondrial dysfunction, brain tumor or increased pressure in the skull, prolonged exposure to toxic elements (including solvents, drugs, radiation, paints, industrial chemicals, and certain metals), chronic progressive trauma, poor nutrition, or lack of oxygen or blood flow to the brain. The hallmark of encephalopathy is an altered mental state.

Diagnostic testing will depend upon the patient's history and symptoms and/or the information the health care practitioner has gathered as to likely potential diagnoses. Routine blood tests such as a complete blood count (CBC) may provide information about possible infection, anemia, or vitamin deficiency. Chemistry tests can evaluate electrolytes, glucose levels, kidney function, and liver function. Other tests may be ordered to access for different types of vitamin deficiencies. If appropriate, drug and alcohol screening may be suggested.

Imaging studies such as X-rays, computerized tomography (CT), and magnetic resonance imaging (MRI) may be useful depending upon the clinical situation. Lumbar puncture (spinal tap) may be helpful in evaluating for infection, bleeding, and / or inflammation. The cerebrospinal fluid can also be analyzed for abnormal proteins, chemicals, and cells.

Encephalopathy can occur at any age. Symptoms may present as a form of altered mental status including confusion and loss of memory, or a physical problem such as weakness or numbness of a body part, loss of muscle, uncoordinated movements, seizure, or any combination of the above. The symptoms depend on what part of the brain is being affected, and how much or how little it continues to function.

The key to treatment of any encephalopathy is to understand the basic cause and thus design a treatment scheme to reduce or eliminate the cause(s). In static encephalopathy (an altered mental state or brain damage that is permanent), the best that can be done is, if possible, to prevent further damage and implement rehabilitation to allow the individual to perform at his or her highest possible functional level.

Suggested resource: The National Institute of Neurological Disorders and Stroke.

