

# ENCEPHALITIS

(includes primary viral, post-infectious, arboviral [La Crosse, St. Louis, Eastern equine, Powassan])

## REPORTING INFORMATION

- Arboviral: Class A(2); report by end of next working day
- Other viral, post-infection: Class A(3); report by close of work week
- [Confidential Case Report Card](#) (3812.11, rev. 12/81), [lab report](#) (3833.11), or telephone
- The [Mosquito-borne Encephalitis Investigation Worksheet](#) is for local health department use in epidemiological case reporting. The completed form should be sent to the Vectorborne Disease Program, 900 Freeway Drive North, Columbus, OH 43229.

## AGENT

There are many different agents. The three categories that are reportable (See Case Definitions) are:

1. Primary encephalitis (viral)
2. Postinfectious (or parainfectious) encephalitis
3. Arboviral, which in Ohio is primarily [La Crosse \(California\) encephalitis \(LAC\)](#), but can also be [St. Louis encephalitis \(SLE\)](#), [Eastern equine encephalitis \(EEE\)](#), or Powassan encephalitis

## CASE DEFINITIONS

**Encephalitis, Primary Viral** (not a CDC definition; for use in Ohio)

### Clinical description

An illness in which encephalitis is the major manifestation. Symptoms are due to direct invasion and replication of the infectious agent in the central nervous system, resulting in objective clinical evidence of cerebral or cerebellar dysfunction. Postinfectious (or parainfectious) encephalitis is excluded.

### Case classification

Confirmed: A clinically compatible illness diagnosed as primary viral encephalitis by a physician. However, see Comment.

### Comment

This category includes arboviral encephalitis and primary viral encephalitis of unspecified cause.

Laboratory studies are important in clinical diagnosis, but are not required for reporting purposes. However, determination of arboviral etiology requires specific laboratory testing. Arboviral serologic testing is available *free of charge* at the Ohio Department of Health Laboratory. See details on arboviral testing at the ODH Laboratory under sections on [La Crosse](#), [St. Louis](#), and [Eastern equine encephalitis](#).

Primary encephalitis is no longer used for reporting to the CDC, but is maintained as reportable in Ohio. Arboviral encephalitis is reportable to the CDC and in ODH.

**Encephalitis, Postinfectious (or Parainfectious)**

### Clinical description

Encephalitis or meningoencephalitis that follows or occurs in combination with other non-central nervous system (CNS) viral illnesses, or after vaccine is administered. Symptoms are thought to be due to hypersensitivity reaction. Primary encephalitis is excluded.

### Case classification

Confirmed: A clinically compatible illness diagnosed by a physician as postinfectious (or parainfectious) encephalitis.

### Comment

Laboratory studies are important in clinical diagnosis, but are not required for reporting purposes.

## **Encephalitis, Arboviral**

Arboviruses causing encephalitis in the United States include the following. These are also known as vector-borne encephalitides because each is transmitted by a mosquito or tick vector.

1. [St. Louis encephalitis](#) (Mosquito-borne)
2. Western equine encephalitis (Mosquito-borne)
3. [Eastern equine encephalitis](#) (Mosquito-borne)
4. California encephalitis: includes infections from the following viruses: [La Crosse](#), Jamestown Canyon, Snowshoe Hare, and California viruses (Mosquito-borne)
5. Powassan encephalitis (Tick-borne; rare)
6. Other central nervous system (CNS) infections transmitted by mosquitoes, ticks, or midges (Venezuelan equine encephalitis, Cache Valley encephalitis).

In Ohio, La Crosse, St. Louis and Eastern equine encephalitis are the primary ones of concern. Refer to their respective write-ups for detailed case definitions and information.

## **SIGNS AND SYMPTOMS**

See case definitions. Mild cases may occur as febrile headache or aseptic meningitis.

## **DIAGNOSIS**

In the absence of other determined etiology, physicians, hospital infection control personnel, and laboratorians are encouraged to consider arboviral etiology during the mosquito season in Ohio, or if the patient has recently traveled to a locale where mosquitoes and other biting insects were active, and order the appropriate serological tests.

## **EPIDEMIOLOGY**

See the respective write-ups.

## **PUBLIC HEALTH MANAGEMENT**

### **Case**

#### Treatment

Treatment is directed at the respective etiological agent and is generally supportive.

#### Isolation

Isolation is not necessary for the encephalitis portion of the illness. Isolation is necessary only if the primary viral infection requires it.

### **Prevention and Control**

Prevention and control measures are directed at the etiological agent or vector, especially in the latter case of arboviral encephalitis. Prevention and control of mosquito and tick-borne encephalitis requires laboratory identification of the specific agent. Laboratory testing for arboviral encephalitis etiology is therefore critical to successful public health management of these diseases.