

## ***California Encephalitis Project ⇒ Enhanced Diagnostic Testing & Epidemiology***

**Project Introduction:** Encephalitis can be a devastating neurologic condition with significant morbidity and mortality. Over 100 different infectious agents are associated with encephalitis, yet no satisfactory algorithm for testing exists. Few studies have characterized the spectrum of disease and little is known about risk factors, long-term prognostic indicators and optimal clinical management.

The purpose of this project is to provide rapid, state-of-the-art diagnostic testing for human encephalitis at the State Viral & Rickettsial Disease Laboratory (VRDL). Through enhanced diagnostic testing we will be able to better understand encephalitis in humans, including risk exposures, symptomatology, and clinical features. Validation of an effective testing algorithm for encephalitis will be a critical component.

◆ **Reminder: Cases of encephalitis must be reported to the patient's local health jurisdiction** ◆

**Proposal:** for encephalitis cases meeting the clinical definition (see attached case history form), VRDL will provide comprehensive diagnostic testing at no charge to patient, hospital, or insurance company.

**Case Criteria:** Case patients must be **hospitalized** with encephalopathy (depressed or altered level of consciousness  $\geq$  24 hours, lethargy, or change in personality) or ataxia, **AND** have 1 or more of the following: fever ( $T \geq 38C$ ), seizure(s), focal neurologic findings, CSF pleocytosis, abnormal EEG or neuroimaging study. **Case patients must be  $\geq$  6 months of age and immunocompetent.**

### **Testing & Testing Requirements**

1. **Core Testing** – see CORE TESTING ALGORITHM. Priority testing will be performed as specimens AND completed case history forms are received by VRDL. Exposure history and clinical symptomatology obtained on the case history form will determine further testing.
2. A completed **case history form will be required** from the physician before any testing is performed. No exceptions!! Note: A consult may be used as a supplement, but not a substitute for a completed case history form.
3. The project will also provide advanced testing (e.g., PCR testing other than for herpes and enterovirus, pathogen discovery, Balamuthia testing,) and obtain outcome information on patients enrolled. These latter components will require that we obtain **informed consent** from any patients enrolled. The project has already obtained state and federal IRB approval for these activities.

### **Encephalitis Specimens Required**

**Properly label all specimens with patient name, specimen type, and date of collection**

- ◆ **CSF** -  $\geq$  2cc CSF. (*If lumbar puncture is not performed, CSF is not needed*)
- ◆ **Serum** -  $\geq$  3cc serum collected during **acute** period ( $\leq$  7 days after onset).
- ◆ **NP or throat swab** (in viral transport media)
- ◆ **Case history form and specimen submittal form** – REQUIRED!

### **Also required**

- ◆ **Serum  $\geq$  3cc** serum (1 red/tiger top) during **convalescent** period (10-14 days after onset).  
If specimens cannot be delivered within 48 hrs to the State Lab, freeze CSF, NP/throat, & rectal swabs & send frozen.
- ◆ **Coroner's cases:** send the following tissue samples **fresh-frozen**: brain (cross-sections of hippocampus, right & left cerebral & cerebellar cortexes, & gray matter of brain stem) liver & lung.

4. **Shipping** – send samples by overnight delivery directly to VRDL at the following address:

**Specimen Receiving  
Encephalitis Project  
850 Marina Bay Parkway, Richmond, CA 94804  
Questions? Call Heather Sheriff at (510) 307-8608**

***Note: For testing unrelated to this project, specimens must be sent through your local health department***