Acute Flaccid Myelitis (AFM)

1. **Agent**: The agent is unknown, but most likely viral. The specific cause(s) are still under investigation and may include: Polio Enterovirus, Non-polio Enteroviruses (e.g. Enterovirus EV-D68, EV-A70, EV-A71), Flaviviruses (e.g. West Nile Virus, Japanese Encephalitis Virus, Saint Louis Encephalitis Virus), Herpesviruses (e.g. Cytomegalovirus and Epstein-Barr virus), and Adenoviruses. AFM may also be linked with environmental toxins and genetic disorders.

2. **Identification**:

   a. **Symptoms**: Most patients have a preceding febrile illness 1–2 weeks before the onset of acute flaccid limb weakness, and may also have respiratory or gastrointestinal illness (GI) with symptoms of fever, rhinorrhea, cough, vomiting or diarrhea. Acute flaccid limb weakness may include loss of muscle tone and reflexes with the following additional symptoms in some patients: facial droop/weakness, difficulty moving the eyes, drooping eyelids, difficulty with swallowing and slurred speech. Rare symptoms include: numbness/tingling in the limbs, inability to pass urine, respiratory failure due to muscle weakness requiring ventilator support and serious neurological complications such as body temperature changes and blood pressure instability that could be life threatening.

   b. **Differential Diagnosis**: Synovitis, Neuritis, Limb Injury, Guillain-Barré syndrome, Transverse Myelitis, Stroke, including spinal stroke, Tumor, Acute cord compression, Conversion disorder, Enterovirus infections including Poliovirus infection.

   c. **Diagnosis**: Clinical diagnosis is made by reviewing neurological symptoms, examining MRI of the brain and spinal cord, CSF testing and testing of nerve speed and response of muscles. Specimens should be collected as soon as possible after onset of limb weakness.

3. **Incubation:** Varies with the specific infectious agents.

4. **Reservoir**: Varies with the specific infectious agents.

5. **Source**: Varies with the specific infectious agents.

6. **Transmission:** Varies with the specific infectious agents.

7. **Communicability**: Varies with the specific infectious agents.

8. **Specific Treatment**: Varies with the specific infectious agents.

9. **Immunity:** Varies with the specific infectious agents.

REPORTING PROCEDURES

1. AFM is a reportable disease in Los Angeles County. In other jurisdictions, it is reportable under *California Code of Regulations*, Section 2500 as a disease of unusual occurrence. Report within 24 hours of identification.

2. **Report Form**: **Patient Case Summary Form.**

3. **Epidemiologic and Clinical Data**:

   a. History of respiratory and gastrointestinal symptoms in the 4 weeks prior to onset of limb weakness.

   b. Limb weakness and muscle tone in the affected limbs.

   c. Travel history in the 4 weeks prior to onset of limb weakness.

   d. Polio vaccination history

   e. Exposure history to persons with recent travel to areas with polio risk

   f. Lumbar puncture dates and results.

g. MRI results of brain and spinal cord.

CONTROL OF CASE, CONTACTS & CARRIERS

CASES: The recommended management of patients with AFM is Standard + Contact + Droplet precautions which is consistent with CDC's recommendations for EV-D68. There are no pathogen specific recommendations.

CONTACTS: No restrictions.

CHRONIC/CARRIERS: Not applicable.

PREVENTION-EDUCATION

Varies with the specific infectious agents.

For prevention of AFM regardless of etiology, observation of good hand hygiene is recommended.

For known etiologies such as poliovirus, being current on all vaccinations is recommended. For additional poliovirus information, refer to the B73 poliovirus chapter.

For protection against West Nile virus (WNV) associated AFM, refer to the B73 WNV chapter.

DIAGNOSTIC PROCEDURES:

Collect all suspect AFM specimens (nasopharyngeal/oropharyngeal swabs, CSF, serum, stools) as early as possible and irrespective of laboratory results**.** All testing is conducted at California Department of Public Health (CDPH) Viral and Rickettsial Disease Laboratory (VRDL). Specimens can be stored frozen for shipping to VRDL Monday through Friday.

ACDC approval of specimen testing is required before submitting any specimens to the Public Health Laboratory (PHL) or VRDL.

1. **Material**: Serum. Acute and convalescent specimens collected **prior** to treatment with IVIG.

   Amount: 2-3 cc.

   Container: Red/tiger top tube.

   Storage: Freeze at -20°C.

   Shipping: Dry ice or cold pack.

   Laboratory Forms: **Test requisition form (H-3021)**

   CDPH VRDL General Purpose Specimen Submittal Form

   Exam Requested: AFM Testing

2. **Material**: CSF.

   Amount: 2-3 cc.

   Container: Sterile collection tube.

   Storage: Freeze at -20°C.

   Shipping: Dry ice or cold pack.

   Laboratory Form: **Test requisition form (H-3021)**

   CDPH VRDL General Purpose Specimen Submittal Form

   Exam Requested: AFM Testing

3. **Material:** Two stool samples collected 24 hours apart, both collected as early in the illness as possible.

   Amount: Two quarter sized amounts**.**

   Container: Sterile wide mouth container, no special medium required.

   Storage: Freeze at -20°C.

   Shipping: Dry ice or cold pack.

   Laboratory Form: **Test requisition form (H-3021)**

   CDPH VRDL General Purpose Specimen Submittal Form

   Exam Requested: Enterovirus/rhinovirus (EV/RV) testing and typing.

4. **Material:** Nasopharyngeal and oropharyngeal swabs or nasopharyngeal wash/aspirate.

   Container: Viral transport media for nasopharyngeal and oropharyngeal swabs. Sterile collection tube for nasopharyngeal wash/aspirate.

   Storage: Freeze at -20°C.

   Shipping: Dry ice or cold pack.

   Laboratory Form: **Test requisition form (H-3021)**

   CDPH VRDL General Purpose Specimen Submittal Form

   Examination Requested: Enterovirus/rhinovirus (EV/RV) testing and typing.