

ACUTE NEUROLOGICAL ILLNESS WITH FOCAL LIMB WEAKNESS

Acute Flaccid Myelitis (AFM) is a rare but serious condition that affects the nervous system (gray matter area of the spinal cord) which causes muscles and reflexes to become weak. Although AFM is not new, an increase in cases began in 2014, with intermittent increases continuing today. The CDC is providing diagnostic testing, enhanced surveillance and clinical expertise to assist states with the identification and classification of cases, educational materials and clinical management. There is a variety of potential causes of AFM, including viral infections, environmental toxins and genetic disorders, with children mostly affected. The CDC has updated their laboratory testing protocols in order to broaden their laboratory testing capabilities, which will include testing for infectious, non-infectious and post-infectious causes.

CDC testing priorities:

1. **CSF, serum specimens** = Identification of causative agent or mechanism.
2. **CSF, respiratory, stool specimens** = Routine enterovirus (EV) / rhinovirus (RV) identification and typing
3. **Stool specimens** = Poliovirus rule-out testing

I. Appropriate Sample Types – CDC would like to receive EACH of the following:

<u>SPECIMEN</u>	<u>MINIMAL VOLUME</u>	<u>COLLECTION</u>	<u>STORAGE</u>	<u>SHIP TO CDC*</u>	<u>TAT and REPORTING</u>
CSF	1 mL	<ul style="list-style-type: none"> • Spun and processed • Placed in cryovial tube • Collect at same time or within 24hrs. of serum specimen if feasible 	Freeze at -70°C	Ship on dry ice	<ul style="list-style-type: none"> • CSF used for special studies • EV/RV testing is batched and results returned if ample volume
Serum**	0.4 mL	<ul style="list-style-type: none"> • Collect in Tiger or Red top tube • Spun and processed • Collect at same time or within 24hrs. of CSF specimen if feasible 	Freeze at -70°C	Ship on dry ice	<ul style="list-style-type: none"> • Serum used for special studies • No results will be returned
Whole Stool** (2 samples)	≥1 gram	<ul style="list-style-type: none"> • Collect in sterile container - <u>no</u> media • Collect both samples at least 24 hrs apart • Collect early during initial onset <u>and</u> within 14 days of illness • NO RECTAL SWABS 	Freeze at -20°C	Ship on dry ice	<ul style="list-style-type: none"> • Results for EV/RV and poliovirus testing will be returned within 14 days
NP or OP swab	1 mL	<ul style="list-style-type: none"> • Store in viral transport media 	Freeze at -20°C	Ship on dry ice	<ul style="list-style-type: none"> • EV/RV testing and typing will be performed. • Results returned within 10 days

***If dry ice is not available, ship specimens to DCLS frozen on ice packs. DCLS will ship specimens to the CDC on dry ice. **Serum and stool specimens can be stored at -70°C for ease of shipping.**

II. Sample Type in the Event of Death

<u>SPECIMEN</u>	<u>VOLUME</u>	<u>COLLECTION</u>	<u>STORAGE</u>	<u>SHIP TO CDC*</u>	<u>COMMENTS</u>
Fresh-Frozen tissue	---	Direct on dry ice or liquid nitrogen	Freeze at -70°C	Ship on dry ice	Sections of brain/spinal cord (gray and white matter), heart, lung, liver, kidney, etc.
Formalin-fixed Formalin-fixed, paraffin-embedded tissue	---	Fixed in formalin for 3 days, then transferred to 100% ethanol	Room temperature	<ul style="list-style-type: none"> • Ship at room temperature • Place paraffin blocks in carriers to prevent leakage 	

***If dry ice or liquid nitrogen is not available, ship fresh specimens to DCLS refrigerated on ice packs. DCLS will ship specimens to the CDC on dry ice.**

III. Required Documentation

A. Completion of DCLS Submission Form:

- The submission form **must be completed** to prevent testing delays.
- The following information is **required**:
 - Patient Name
 - Date of Birth
 - Collection Date
 - Onset Date
 - Outbreak Number (if applicable)
 - Submitter Information (including contact information)
 - Test Request
 - Sample Type(s)
 - Denote if patient is a PICU case

B. Completion of CDC's AFM Patient Summary Form:

- The patient summary form **must be completed** to prevent testing delays.
- Form should be completed by state or local health department, in conjunction with treating clinicians. **Include date of IV treatment or plasma therapy if serum specimen is collected after treatment or therapy.**

IV. Resources

1. AFM patient summary form: <https://www.cdc.gov/acute-flaccid-myelitis/hcp/data.html>
2. Instructions for completing AFM patient summary form: <https://www.cdc.gov/acute-flaccid-myelitis/downloads/patient-summary-form-instructions.pdf>
3. DCLS Submission form: https://dgs.virginia.gov/globalassets/document-center/dcls-forms/clinical-microbiology_virology-request-form-16857-1.pdf
4. Job Aid for Clinicians: <https://www.cdc.gov/acute-flaccid-myelitis/downloads/job-aid-for-clinicians-508.pdf>

Additional Information: Please dial (804)648-4480 to contact Dr. LaToya Griffin-Thomas (ext. 281); Sean Kelly (ext. 227) or Dr. Heather Masri (ext. 269) for questions regarding sample collection, sample handling, or laboratory testing.

For after-hours assistance, contact DCLS 24/7 Emergency Mobile Number at (804)335-4617.