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## **Acute Flaccid Myelitis, a Stealth Illness Under Study**

The County of San Luis Obispo Public Health Laboratory (SLOPHL) wants all community health care providers and laboratory staff to receive updated information about a surging illness that is being studied intensely at the national level.

Acute flaccid myelitis (AFM) is a rare neurological condition with sudden onset of limb weakness. Recent media attention has heightened awareness to the cases seen in Colorado, Minnesota, Washington, Illinois, and Pennsylvania this year. Nationally, from January 1-September 30, 2018, the Centers for Disease Control and Prevention (CDC) [reported 62 confirmed cases of acute flaccid myelitis \(AFM\) in patients from 22 U.S. states.](#)

During this same time, California had reports of four suspect AFM cases (not yet classified) compared with 29 confirmed cases in 2016 and nine in 2017. Because AFM is passively monitored, it is unclear whether these data represent a true decrease in cases or if AFM has been under-reported in recent years.

The California Department of Public Health (CDPH) and CDC remain interested in patients with acute flaccid limb weakness of unknown etiology and where other conditions that can mimic AFM (e.g., Guillain-Barré syndrome, spinal cord trauma, spinal mass, stroke, and botulism) are not suspected.

There are several possible causes of AFM, including viruses (e.g., poliovirus, non-polio enteroviruses such as EV-A71, adenoviruses, and West Nile virus), environmental toxins, and genetic disorders. A condition where the body's immune system attacks and destroys body tissue that it mistakes for foreign material may also cause AFM.

Patients with enterovirus PCR positive results are of particular interest, but the following specimens are requested for analysis when a case of AFM is identified.

### ***Recommendations for specimen collection and testing***

CDPH requests that clinicians collect specimens from suspected AFM patients as early as possible in the course of illness, preferably on the day of onset of limb weakness. Early specimen collection offers the best chance of detecting possible etiologies for AFM.

Specimens to collect include:

- CSF (2-3 mL) in cryovial;
- Acute serum, prior to IVIG (2-3 mL) in tiger/red top tube;
- 2 stool specimens collected 24 hours apart; and
- Nasopharyngeal (NP) and oropharyngeal (OP) swabs in viral transport medium

Pathogen-specific testing should continue at hospital laboratories and may include testing of CSF, serum, stool, and respiratory specimens. In addition to testing performed at CDC, the CDPH Viral and Rickettsial Disease Laboratory (VRDL) will perform investigation testing in these cases.

The Public Health Department's [recent advisory to health care providers regarding AFM is available online here.](#)

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## **Mycoplasma genitalium Testing Now Available at SLO Public Health Laboratory**

The SLOPHL announces the availability of the *M. genitalium* (Mgen) amplification test (test # 2870), employing the APTIMA transcription-mediated amplification technology.

Mgen was discovered in the early 1980s as a cause of non-gonococcal urethritis in males, but has resisted detection and control because culture was often the only detection method available. Culture requires several weeks to six months to grow Mgen on special media; it also requires experienced, skilled scientists to identify this agent.

Research demonstrated that this agent was responsible for as much as 25 percent of non-chlamydial/non-gonococcal urethritis and 30 percent of persistent or recurrent urethritis.

Mycoplasmas are unique among unicellular microbes in that they lack a cell wall—rendering ineffective penicillin and cephalosporins that target the synthesis of the bacterial cell wall polymer, peptidoglycan. Instead, mycoplasmas like Mgen have a multilayered elastic and durable membrane, and have no problem enduring challenging osmotic environments: human, animal or environmental.

While there are over 200 recognized species of mycoplasmas, the agents of human disease include *M. pneumoniae*, the cause of atypical pneumonia (and detected by the Respiratory PCR Panel offered by the SLO Public Health Laboratory) *M. hominis*, a controversial agent of infection in pregnant women, and *Ureaplasma* species associated with bacterial vaginosis.

Studies have accumulated that link Mgen with urethritis and epididymitis in males, and infections such as cervicitis (often asymptomatic), endometritis and pelvic inflammatory disease (PID) in females. Insufficient research has been conducted to conclusively identify risk factors that might guide control strategies as yet, but a number of reports have shown that prevalence of Mgen infection often exceeds that of *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (GC) or *Trichomonas vaginalis* (TV), the most common STI agents.

However, the development and introduction of nucleic acid amplification tests has radically altered the approach to diagnosis and treatment of this agent.

The Public Health Laboratory now performs the Mgen amplification test (test # 2870) employing the APTIMA transcription-mediated amplification technology used successfully by the laboratory for the detection of CT, GC and TV. Testing of de-identified patient specimens has shown rates of infection as high as 11 percent of female urines and 3 percent of male urines.

Providers may consider testing to detect Mgen in the setting of chronic cervicitis and PID in females and chlamydia and gonorrhea-negative urethritis or epididymitis in sexually active males. Urine specimens and vaginal specimens collected using the APTIMA collection/stabilization media are suitable for Mgen amplification testing. If multiple tests are ordered for urine testing, please collect and submit a second APTIMA urine collection tube.

**For the period of October 19 to December 31, 2018, Mgen testing will be performed without a charge for non-profit providers to gain a better understanding of the disease burden caused by this emerging pathogen (test # 2780 M gen amplification, fee \$44 ).**

**Mark requisitions: NO CHARGE MGEN SURVEILLANCE.**

**Note that two urine APTIMA collection tubes are requested if Chlamydia, N, gonorrhoeae or Trichomonas amplification tests are ordered together with an Mgen amplification test.**

The most recent CDC Sexually Transmitted Disease Treatment Guidelines (2015) address antibiotic treatment of Mgen infections, recommending 1g single dose of Azithromycin, and cautioning against the use of a 7-day course of doxycycline with a median cure rate of 31 percent. The CDC also advises that resistance to azithromycin is rapidly appearing, with a recommendation that providers consider a longer course of azithromycin (an initial 500 mg dose followed by 250mg daily for 4 days) or moxifloxacin (400 mg daily for 7, 10 or 14 days).

For collection supplies, contact the laboratory at 805-781-5507.

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## **Holiday Hours**

The County of San Luis Obispo Public Health Laboratory will be closed:

- Monday, November 12, Veterans Day
- Thursday and Friday, November 22-23, Thanksgiving
- Tuesday, December 25, Christmas
- Tuesday, January 1, New Year

Our courier pick-up will resume on the next scheduled business day.

Questions? Please contact the Laboratory Director by phone at 805-781-5512 or email at [jbeebe@co.slo.ca.us](mailto:jbeebe@co.slo.ca.us) .

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