COUNTY OF SAN LUIS OBISPO
PUBLIC HEALTH LABORATORY

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Mycoplasma genitalium, an Emerging STI Agent: Testing Coming Soon to SLO Public Health Laboratory

The County of San Luis Obispo Public Health Laboratory (SLOPHL) announces that a new test will be available soon: the M. genitalium (Mgen) amplification test, 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 cephalosporims 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 will soon perform 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.

Special notice will be sent to announce when orders will be accepted. For the first two months that testing is available, testing will be performed without a charge for non-profit community providers to gain a better understanding of the disease burden caused by this emerging pathogen.

Note that two urine APTIMA collection tubes are requested if chlamydia, N gonorrheae 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).

Influenza Virus Variant Detected by SLO Public Health Laboratory

Specimens submitted by local clinical laboratories in late July and the first week of August were tested by Public Health Laboratory scientists using the CDC-developed reverse transcription real-time polymerase chain reaction for influenza virus (RT-PCR) test. The specimens had unusual results that were then confirmed by the state laboratory.

The CDC Influenza Division Laboratory conducted advanced testing to verify the identity of this influenza strain as influenza A (H1N2v).

Patients had prolonged contact with pigs exhibited at the recently concluded California Mid-State Fair in Paso Robles. Specimens from one pig that died from illness at the fair was tested by the California Animal Health and Food Safety (CAHFS) lab in Tulare. An influenza type A (H1N2) specimen was recovered and referred to the National Veterinary Services Laboratory (NVSL).

Conclusive proof of pig-to-human transmission of the this probable variant virus will require joint analysis of the results of both the CDC and NVSL laboratories.