LAHAN
Los Angeles County Health Alert Network

CDC Health Advisory:
Third Case of Rifampin/Penicillin-Resistant Strain of RB51 *Brucella* from Consuming Raw Milk
January 23, 2019

The Centers for Disease Control and Prevention (CDC) issued a health advisory today regarding *Brucella* RB51 exposures from consuming raw milk. The CDC reports on three confirmed cases of brucellosis from *Brucella* RB51 as well as exposures in 19 states, including California.

The full CDC communication is on next page and online.

Local confirmed and suspected cases of human brucellosis should be reported immediately by phone to Public Health.

Los Angeles County DPH Acute Communicable Disease Control:
- Weekdays 8:30 AM – 5 PM: call 888-397-3993.
- After-hours: call 213-974-1234 and ask for the physician on call.
- For consultation: call 213-240-7941.

Long Beach Health and Human Services:
- Weekdays 8 AM – 5 PM: call 562-570-4302.
- After-hours: call the Duty Officer at 562-500-5537.

Pasadena Public Health Department:
- Weekdays 8 AM – 5 PM (closed every other Friday): call 626-744-6089.
- After-hours: call 626-744-6043.

This is an official

CDC HEALTH ADVISORY

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Third Case of Rifampin/Penicillin-Resistant Strain of RB51 *Brucella* from Consuming Raw Milk

Summary
The New York State Department of Health and Pennsylvania Department of Health are investigating *Brucella* RB51 exposures that may be connected to consuming raw (unpasteurized) milk from Miller's Biodiversity Farm in Quarryville, Pennsylvania. Symptoms of brucellosis can include fever, sweats, malaise, anorexia, headache, fatigue, muscle and joint pain, and potentially more serious complications (e.g., endocarditis, hepatomegaly, splenomegaly, and neurologic symptoms). In pregnant patients, *Brucella* infections can be associated with miscarriage. Symptom onset can occur anywhere from five days to six months following exposure. As of January 22, 2019, exposures have been identified in 19 states: Alabama, California, Connecticut, Florida, Georgia, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, and Virginia.

Background
This investigation is associated with the third known case of brucellosis from *Brucella* RB51 due to raw milk acquired in the U.S., since August 2017. A New York resident, who drank raw milk purchased from Miller's Biodiversity Farm in Quarryville, Pennsylvania, was diagnosed with brucellosis in November 2018. Milk samples from the dairy tested positive for *Brucella* strain RB51. People who consumed raw milk or raw milk products from this dairy since January 2016 may have been exposed.

- Patients who are still **within six months** of the date they last consumed the raw milk are at an increased risk for brucellosis and appropriate post-exposure prophylaxis (PEP) is recommended, along with six months of symptom monitoring. Please see diagram below.
- If patients are **outside of the six-month window** following their last consumption of the raw milk and have or develop an illness consistent with brucellosis, a blood culture should be obtained prior to starting any treatment, preferably while the patient is symptomatic.

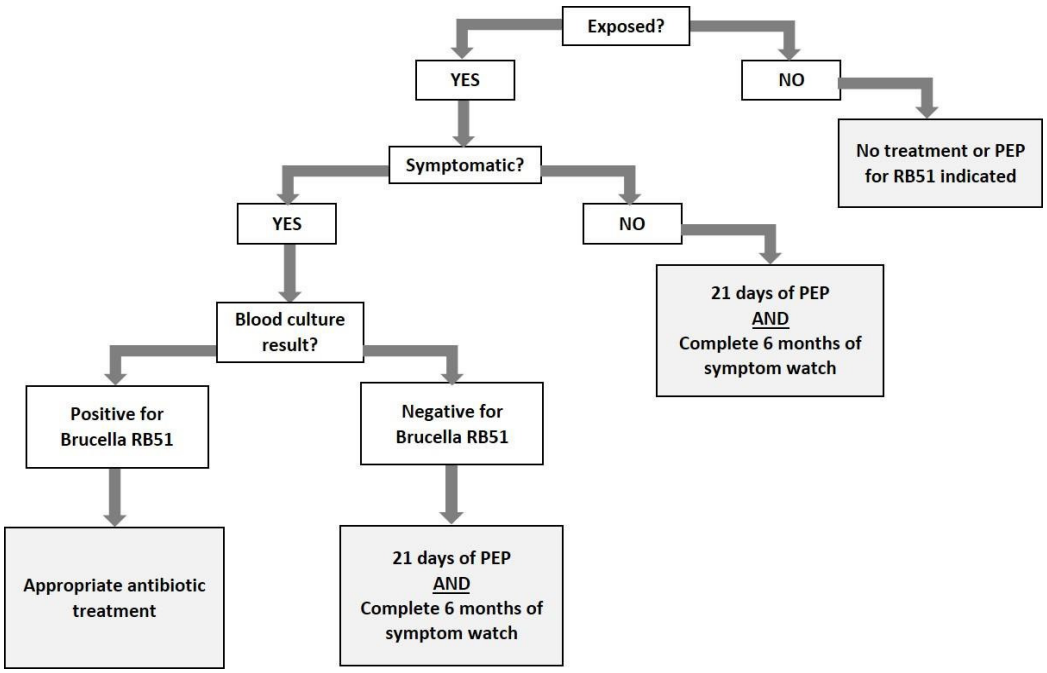
Brucella strain RB51 is a live-attenuated cattle vaccine strain, which can be shed in milk and can cause infections in humans. RB51 is resistant to rifampin and penicillin. There is no serological test available to detect RB51 infection. Blood culture is the recommended diagnostic test for exposed individuals who are symptomatic.[1]

Recommendations
The Centers for Disease Control and Prevention (CDC) recommends the following:

1. A 21-day course of both doxycycline and trimethoprim/sulfamethoxazole for first-line PEP for RB51 exposure.[2] If brucellosis occurs despite prophylaxis, treatment should be pursued; alternative options should be considered for those with contraindications to the stated PEP and treatment regimens.[2] Please note that RB51 is resistant to rifampin and penicillin.
2. When ordering blood cultures to diagnose brucellosis, please advise the laboratory that blood culture may grow *Brucella* and that appropriate laboratory containment and precautions should be observed.[3]
3. Advise patients to discard any leftover or stored, raw milk or raw milk products from this dairy farm.

Please see the diagram below for information on developing an evaluation and treatment plan for patients who consumed raw milk or raw milk products from Miller's Biodiversity Farm since January 2016, and are **still within the six-month window following their last known exposure**.

Treatment Decision Tree for Patients Who Consumed Raw Milk or Raw Milk Products from Miller's Biodiversity Farm in Quarryville, Pennsylvania



Note: Testing for asymptomatic patients is not recommended.

References

[1]Laboratory Diagnostics – RB51

- Schurig GG, Roop RM, 2nd, Bagchi T, Boyle S, Buhrman D, Sriranganathan N. Biological properties of RB51; a stable rough strain of *Brucella abortus*. Vet Microbiol. 1991 Jul;28(2):171-88.
- Cossaboom CM, Kharod GA, Salzer JS, Tiller RV, Campbell LP, Wu K, et al. Notes from the Field: *Brucella abortus* vaccine strain RB51 infection and exposures associated with raw milk consumption - Wise County, Texas, 2017. MMWR Morb Mortal Wkly Rep. 2018 Mar 9;67(9):286.

[2]Treatment of Brucellosis

- Ariza J *et al*. 2007. Perspectives for the treatment of brucellosis in the 21st century: the Ioannina recommendations. PLoS Med. 4(12): e317. http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.0040317
- Al-Tawfiq JA. 2008. Therapeutic options for human brucellosis. Expert Rev Anti Infect Ther. 6(1): 109-120. http://www.ncbi.nlm.nih.gov/pubmed/18251668
- Solera J. 2010. Update on brucellosis: therapeutic challenges. Intl J Antimicrob Agent. 36S, S18–S20. http://www.ncbi.nlm.nih.gov/pubmed/20692127

[3]Biosafety in Microbiological and Biomedical Laboratories https://www.cdc.gov/labs/pdf/CDC-BiosafetyMicrobiologicalBiomedicalLaboratories-2009-P.pdf

For More Information
Risks from Unpasteurized Dairy Products
https://www.cdc.gov/brucellosis/exposure/unpasteurized-dairy-products.html

Exposure to RB51 through Raw Milk or Milk Products: How to Reduce Risk of Infection
https://www.cdc.gov/brucellosis/clinicians/rb51-raw-milk.html

Symptoms of Brucellosis
https://www.cdc.gov/brucellosis/symptoms/index.html

Brucellosis and Expecting Mothers
https://www.cdc.gov/brucellosis/exposure/expecting-mothers.html

Raw Milk Questions and Answers
https://www.cdc.gov/foodsafety/rawmilk/raw-milk-questions-and-answers.html

Brucellosis Reference Guide
https://www.cdc.gov/brucellosis/pdf/brucellosi-reference-guide.pdf

For general, non-urgent inquiries during business hours (8:00 AM to 8:00 PM EST):
CDC-INFO
https://www.cdc.gov/cdc-info/index.html or 1-800-232-4636

For emergencies, 24/7:
CDC Emergency Operations Center (EOC)
770-488-7100

For clinicians and health departments during business hours (8:30 AM to 4:30 PM EST):
Bacterial Special Pathogens Branch
bspb@cdc.gov or 404-639-1711

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.

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Health Advisory	May not require immediate action; provides important information for a specific incident or situation
Health Update	Unlikely to require immediate action; provides updated information regarding an incident or situation
HAN Info Service	Does not require immediate action; provides general public health information

##This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations##