



NC DEPARTMENT OF  
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HUMAN SERVICES**

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To: NC Clinicians

From: Carl Williams, DVM, DACVPM, State Public Health Veterinarian

**Alert: Increase in Brucellosis Cases in Johnston County**

The North Carolina Division of Public Health (NC DPH) is alerting clinicians to a recent increase in brucellosis cases in Johnston County. Three individuals in Johnston County have tested positive for brucellosis since October 2024, all of whom have reported consuming unpasteurized goat cheese. All three of these individuals have been hospitalized. While cases have only been identified in Johnston County to date, clinicians statewide should be aware of the recent increased incidence of this disease and its association with consumption of raw dairy products.

**Background**

Brucellosis is a bacterial disease, caused by various *Brucella* spp., which spreads to people through contact with infected animals or contaminated animal products. Laboratory exposures can also occur and are most often associated with handling clinical specimens or enriched material (e.g., pure *Brucella* culture) without appropriate use of personal protective equipment (PPE) or a Class II biosafety cabinet. Person-to-person transmission of brucellosis is rare.

Symptoms of brucellosis can vary. Initial symptoms may include fever, malaise, headache, and joint pain. If left untreated, recurrent fever, arthritis, spondylitis, and/or focal organ involvement (e.g., endocarditis, orchitis/epididymitis, hepatomegaly, splenomegaly) may occur. *Brucella* infections in pregnant women can cause pregnancy loss, especially during the first and second trimesters. Symptoms can start anywhere between 5 days to 5 months after exposure, but usually appear after 1 to 2 months.

**Testing and Reporting**

Consider brucellosis as a possible diagnosis in patients who present with fever and/or nonspecific symptoms such as joint/muscle pain, fatigue, or malaise, and who report consuming unpasteurized dairy products, undercooked meat, or close contact with infected animals. Recommended diagnostic tests for *Brucella* spp. include culture or PCR of blood,

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tissues, or body fluids, or serological evaluation using an agglutination-based antibody test (standard agglutination test [SAT] or *Brucella* microagglutination test [BMAT]).<sup>1</sup>

These tests are available through hospital-based or commercial laboratories. The NC State Laboratory of Public Health (NCSLPH) can facilitate serological specimen transport to CDC for BMAT evaluation. NCSLPH also performs confirmatory testing and speciation of *Brucella* spp. isolates. Please contact the BTEP Unit (919-807-8600) if you have specimen submission questions.

If brucellosis is suspected in a patient, clinicians should consult with an ID physician and inform the clinical laboratory conducting testing to reduce the risk of laboratory acquired infection.

Suspect cases of brucellosis should be reported to your [local health department](#).

### **Prevention and Control**

All cases identified in Johnston County to date have reported consuming unpasteurized cheese, which is the most likely route of transmission; for this reason, avoiding unpasteurized dairy products, including milk and cheese, is the primary prevention message. Patients should be advised to only consume milk labeled as “pasteurized” and dairy products with “pasteurized milk” listed in the ingredients. The sale of raw milk for human consumption is [prohibited](#) in North Carolina. Milk and dairy products purchased locally from grocery stores are safe to consume. Unlabeled milk and dairy products purchased locally or elsewhere should NOT be considered safe to consume.

### **Precautions for Clinical Personnel**

Most clinical procedures are considered low risk for *Brucella* transmission when standard precautions are followed. Personal protective equipment (PPE) including gloves, gowns, eye protection, and masks should be utilized to prevent contact with infected blood and body fluids through mucous membranes or breaks in the skin.<sup>1</sup> Higher-risk activities in clinical settings include handling tissues with a high concentration of *Brucella* organisms (e.g., placental tissues) and performing aerosol-generating procedures. Additional respiratory protection (e.g., N95) should be utilized when there is a risk of aerosol transmission of *Brucella* organisms.

If you have questions regarding testing, reporting, or occupational exposures, please contact the Communicable Disease Branch epidemiology on-call line at 919-733-3419 for guidance.

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<sup>1</sup> Centers for Disease Control and Prevention. Brucellosis Reference Guide: Exposures, Testing, and Prevention. <https://www.cdc.gov/brucellosis/pdf/brucellosi-reference-guide.pdf>. February 2017.