

Health Hazard Information Sheet Brucellosis

The USDA Food Safety and Inspection Service (FSIS) has developed this Brucellosis Health Hazard Information Sheet (HHIS) to provide guidance for Inspection Program Personnel (IPP) at establishments where feral pigs, reactor pigs or other animals suspected of having Brucellosis are inspected. As a result of the Animal and Plant Health Inspection Service's (APHIS) national Brucellosis Eradication Program, IPP have been at very low risk of contracting the disease. However, Brucellosis is still found in animals such as wild pigs, elk, bison, and deer and in some domestically raised herds.

This HHIS is intended to supplement the information found in FSIS Notice 34-17.

What is brucellosis?

Brucellosis is an infectious disease caused by bacteria of the genus *Brucella*. It is considered a zoonotic disease and can be transmitted to humans through contact with infected animals or contaminated animal products. It primarily affects cattle, swine, sheep, goats, and in rare cases, dogs and horses. It is also found in other animals such as feral swine and free-roaming elk, bison, and deer which can increase the risk of infection of domestic herds.

Brucellosis in humans is very rare. According to the Centers for Disease Control and Prevention (CDC), between 2010 and 2014, the Nationally Notifiable Disease Surveillance System reported 456 cases of brucellosis in the United States and territories averaging only 91 cases per year.

How can FSIS employees potentially be exposed brucellosis?

There are three modes of transmission that can cause IPP to potentially contract the disease.

Direct Contact with Openings in the Skin or Mucus Membranes: *Brucella* bacteria enter the body through open wounds or abrasions in the skin and through the mucus membranes of the eye, nose or mouth.

Inhalation: *Brucella* bacteria can also enter the body by breathing in aerosols or dust particles that contain the bacteria.

Ingestion: Splashes of liquids or touching the face with contaminated hands or personal protective equipment, can result in contact of the lips and mouth with *Brucella* bacteria leading to ingestion.

What are the potential health effects of brucellosis?

Brucellosis can be either an acute (short-term) or chronic (long-term) infectious disease. The initial symptoms of brucellosis are generally nonspecific and often resemble the flu. They include:

- Fever (often fluctuating at regular intervals)

- Chills
- Excessive sweating
- Swollen glands
- Headache
- Fatigue and dizziness
- Loss of appetite or bad taste in mouth
- Pain in muscles, joint and/or back
- Overall discomfort

Symptoms of brucellosis generally appear one to three weeks after exposure. In rare cases, symptoms have appeared after several months following exposure. Symptoms may also disappear for weeks or months, only to reoccur at a later date. This is especially likely when brucellosis is untreated or inadequately treated. In some cases, symptoms may persist for longer periods of time or may never resolve. These chronic symptoms can include:

- Fevers (often fluctuating at regular intervals)
- Arthritis
- Swelling of the testicles and scrotum areas and testicular infections
- Endocarditis (swelling of the lining of the heart)
- Swelling of the liver and/or spleen
- Neurological symptoms
- Chronic fatigue
- Depression

Although rare, brucellosis can cause serious illness especially in pregnant women, immunocompromised individuals, and the elderly. For women of child-bearing age, brucellosis during the course of pregnancy carries the risk of spontaneous abortion or intrauterine transmission to the infant.

What OSHA standards apply to brucellosis?

OSHA does not regulate exposures to zoonotic agents or biological contaminants. However, the use of personal protective equipment for protection against exposure to zoonotic agents is regulated under OSHA 29 CFR 1910, Subpart I – Personal Protective Equipment.

What safety procedures can be used by FSIS employees to protect against exposure to brucellosis?

Personal Protective Equipment (PPE) - When performing ante-mortem and post-mortem inspection on feral swine or other positive or reactor animals, IPP are to wear the following PPE to reduce contact with potentially infectious blood and other body fluids/materials.

- **Aprons:** Aprons add an extra layer of protection from contamination by splashes. They are available through the supply catalog.
- **Face shields:** Face shields provide some protection from exposure through mucus membranes in the eyes, nose and mouth. They also provide some protection from

exposure through ingestion by limiting splashes to the mouth. Face shields are available as a special order through the Material Management Service Center.

- **Nitrile Rubber Gloves:** Disposable nitrile gloves will provide some protection from exposure through cuts or openings on the hands. They are required to be worn over cut-resistant gloves. Nitrile gloves are available through the supply catalog.
- **Slip Resistant Rubber Foot Wear:** Skid resistant rubber footwear is required because it can be effectively sanitized before entering the USDA office. It will also protect IPP from exposure through cuts or openings on the feet.

Protection from Aerosols - Due to the potential hazard of exposure through inhalation, IPP should avoid working or standing in areas where aerosols can be generated and directly in front of or downwind from a fan that is positioned near processes that can create aerosols. Some situations that can produce aerosols include:

- Cleaning or rinsing the kill floor with water buckets
- Cleaning or sanitizing the kill floor with high power hoses
- Cutting carcasses with power saws or other power tools

Cut/Puncture Safety - To decrease the chance for exposure through cuts/punctures by knives, node hooks, bones or other sharp objects, IPP should take the following steps:

- Sanitation - Ensure knives and equipment are sanitized and cleaned before returning to USDA office.
- Storage – Knives should be stored in a scabbard or sheath to prevent injury.
- Cuts/Punctures – IPP should seek medical attention if cut or punctured during inspection of an animal infected with Brucellosis.

Decontamination and Sanitation

- Practice good, general hygiene through frequent hand washing and equipment decontamination.
- Keep all open wounds (cuts and scratches) covered with water-proof bandages.
- If splashes occur on the face, immediately wash the affected area with soap and water.
- Nitrile gloves are to be disposed of after each use.
- Before returning to the USDA office, IPP are to ensure knives, scabbards and PPE are cleaned with soap and water and sanitized with 70% isopropyl alcohol. Supervisors (or their designees) are to obtain 70% isopropyl alcohol (IPA) and will be reimbursed through procedures described in FSIS Directive 3510.3. IPA is to be used to sanitize PPE by wiping the surface and allowing time to dry (typically less than a minute).
- Animal tissue from suspect animals should never be handled in the USDA office.

Is there Medical Testing and Treatment for brucellosis?

IPP who work in slaughter facilities with animals that are potentially infected with brucellosis and develop flu-like symptoms with a fever are encouraged to seek medical attention.

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Because the symptoms for brucellosis are non-specific, *IPP should tell their physician that they work with animals that might carry the Brucella bacteria.*

Brucellosis can be effectively treated using antibiotics initiated and monitored by a health care provider. Treatment is most effective when started as early as possible after symptoms develop and when taken for the appropriate length of time.

FSIS has an agreement with Federal Occupational Health (FOH) for IPP to have testing done if they believe they have been exposed. FOH clinics (and subcontracted service centers) are available in many locations throughout the country.

To schedule an appointment, contact Ms. Abbey Ampon at (415) 436-7916 or by E-mail at ABBEY.AMPON@FOH.HHS.GOV. If she is unavailable, contact Ms. Judy Ma at (415) 436-8050 or by E-mail at Judy.MA@FOH.HHS.GOV. When making an appointment, specify that it is for an FSIS Employee and provide the city and state of the establishment.

At any time, IPP can discuss concerns about brucellosis, ask general questions or get interpretation of laboratory test results with the FOH Occupational Health Physician, Dr. Lee Wugofski by calling (415) 436-7969 or by E-mail at Lee.Wugofski@FOH.HHS.GOV

If an employee believes they have become injured or ill due to a workplace exposure and they want to file a workers' compensation claim they can contact Workers' Compensation Group (WCG) at 800-370-3474, extension 5 or send an email to askworkerscomp@fsis.usda.gov.

What can supervisors do to minimize the risk of exposure for IPP?

Supervisors are to notify their employees when they are aware that the plant is bringing *Brucella* positive, reactor animals, or exposed animals from a positive herd to slaughter.

Before IPP begin inspection duties, supervisors are to ensure that IPP have read the following documents:

- FSIS Notice 34-17 (available at this [link](#))
- This Health Hazard Information Sheet (available at this [link](#))
- PPE training document about face shields (available at this [link](#)).

Where can FSIS employees get additional information on brucellosis?

For additional information regarding Brucellosis, see the CDC Brucellosis web-page: <http://www.cdc.gov/brucellosis/>

How should training for this Health Hazard Information Sheet be recorded?

Training is to be recorded in AgLearn using the attestation course titled, "Inspection Procedures Related to Feral Swine and Reactor Pigs."

Questions

For more information about brucellosis contact the Occupational Safety and Health Specialist for your district. Contact information can be found on the public FSIS safety site at:

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<https://www.fsis.usda.gov/wps/portal/informational/aboutfsis/audience-employees/employee-safety>