Preventing zoonotic disease on the dairy

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Noa Roman-Muniz and David Douphrate Published on 21 May 2014
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Editor's Note: Read the first part of this story, What are zoonotic diseases?

Where are the risks?
While microorganisms able to cause disease can be found anywhere on the dairy, below are a few areas of the operation known to pose zoonotic risks to workers.

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Dairy parlor: Some organisms responsible for mastitis and other potential pathogens shed in feces and urine can be splashed and aerosolized in the parlor. All parlor workers should wear protective clothing, eye protection and gloves to protect mucous membranes and appropriately cover any open wounds or skin lacerations. While spraying water to clean manure and urine, workers should pay attention to the direction of the spray. Water is a great vehicle for disease-causing organisms to gain access to a worker's mucous membranes as well as cows' udders.

Maternity area/abortions: Any female ruminant that aborts should be treated as if she were infected with a zoonotic disease. Although abortions can be caused by a variety of environmental and management factors and infectious causes may or may not be zoonotic, workers must handle the female and aborted fetus, placenta and any secretion as possibly contaminated with a zoonotic organism.

Most cases of bovine abortions go undiagnosed, and workers should be aware that several pathogens able to cause abortions in cattle could have similar reproductive effects in humans, as well as other animal species. When handling aborted tissues as well as reproductive fluids, workers should wear protective clothing, including obstetric sleeves, as well as disinfect any obstetric equipment. Disposing of aborted tissues appropriately and disinfecting the area where the tissues were found are good ways to reduce chances of exposure for people and other animals.

Hospital and special-needs pens: Any time workers handle or treat a sick animal they should take precautions and wear protective clothing in order to minimize the chances of being exposed to pathogens. While cattle diseases have no zoonotic potential, it is important to realize that sick and stressed animals may shed greater numbers of bacteria in their feces and contaminate the environment and people working with them.

In many cases these bacteria are not the primary cause of disease, but are shed in the feces when the immune system is challenged by another disease process. Keep in mind that needles or other instruments and equipment used to treat sick cows can potentially serve as a source of contamination for people and other animals. Disinfecting any reusable equipment and disposing properly of needles and other sharp objects is extremely important in preventing the spread of any infectious disease.

Handling dead animals: Whether or not death was the result of an infection, dead animals may allow for the growth of potentially pathogenic organisms. When performing a necropsy or handling a carcass for disposal, workers should wear personal protective equipment and practice knife-handling safety.

Brain and nervous tissues, such as the spinal cord of downer cattle or animals showing odd behavior prior to death should not be handled by anyone on the dairy. Any method of euthanasia that can aerosolize brain tissue can potentially expose people to serious and fatal zoonotic diseases such as rabies. Any equipment used to euthanize or perform a necropsy should be disinfected or disposed of properly.

Feed and bedding storage areas: Feed and bedding storage areas may be visited regularly by cats, birds and other wildlife. While these animals are not part of the milking herd, they can have an impact on the spread of zoonotic diseases on a dairy operation. Feed or bedding grossly contaminated with feces or dead animals should be discarded. Workers should use personal protective equipment while handling and discarding contaminated feeds and bedding in order to minimize their exposure to aerosolized pathogens.

Raw milk: Even healthy-looking cows can shed organisms in their milk that can cause disease if the milk is ingested before being pasteurized.

Prevention Strategies

Besides wearing appropriate personal protective equipment (e.g., goggles, gloves) and clothing, anyone working on a dairy operation should wear protective footwear. Protective footwear and clothing should be routinely cleaned and sanitized.

Hand washing should happen routinely when hands are grossly contaminated with milk, feces, blood or any other bodily fluids, and before putting anything in your mouth (e.g., food, drinks, gum).

Keeping equipment and working area clean will decrease pathogen contamination and chances of disease spreading to other animals or people.

If possible, workers should change clothes and footwear, and shower before returning home, or at least as soon as they get home and before coming in contact with relatives and pets. Children and the elderly, as well as immunocompromised individuals or those with chronic illnesses are more susceptible to infectious diseases than healthy adults. Even if a zoonotic

pathogen does not cause you to show signs of disease, you could spread that disease to your family and friends. ***PD***

Noa Roman-Muniz, DVM, MS, Colorado State University.

David Douphrate, PhD, MPT, MBA , CPE, University of Texas School of Public Health.