

An extremely important consideration when dealing with *Salmonella* Dublin (S. Dublin) is that it can infect humans and lead to severe disease, especially in immunosuppressed and older (65 years of age or more) people. Infected humans can present with septicemia, osteomyelitis, and meningitis with 75 per cent of infections requiring hospitalization⁵. Making treatment of humans more difficult is the high level of antimicrobial resistance, with 55 per cent of S. Dublin isolates being resistant to multiple antimicrobials and 32 per cent being resistant to seven or more different types of antimicrobial drugs. In addition, compared to other *Salmonella*, S. Dublin has a high case fatality rate, with four to 13 per cent dying due to illness^{1,5}.

A recent study conducted in the United States and another in Canada have highlighted that the incidence of S. Dublin infections is rising steadily through time in humans^{5,4}. In fact, in Canada, there has been a clear increase in cases since 2012. Most of the human cases in Canada occurred in Québec, followed by Ontario and New Brunswick⁴. Clearly, due to the impact on human health and its rising occurrence, it is critical to control this bacterium.

How does it spread from cattle to humans?

Transmission of S. Dublin from cattle to humans usually occurs after consumption of improperly pasteurized or unpasteurized milk from infected animals but also from insufficiently cooked meat^{2,3}. In addition, contact with infected cattle has also been found to be associated with S. Dublin infection in humans⁶.

What should producers do to protect themselves and their staff when an animal is diagnosed with S. Dublin?

To prevent transmission of S. Dublin from cattle to people, it is critical to minimize the chance that producers and their employees come into contact with the bacteria. To prevent contact, consider:

1. If on a dairy farm, do not consume raw milk or cheese made from raw milk from the herd as infected cows can shed bacteria in their milk
2. Minimize the risk of transmission of the bacteria from feces by:
 - a. Wearing gloves and washing hands thoroughly whenever working with animals
 - b. Have designated areas to eat which have cleaned and disinfected surfaces
 - c. Wear clean coveralls and leave dirty coveralls in barn

Take home messages

Salmonella Dublin is becoming a more common zoonotic disease, causing severe illness in humans. When dealing with an outbreak of S. Dublin, ensuring that human health is well-protected is critical. Preventing infection requires not consuming raw, unpasteurized dairy products and raw or undercooked meat and having excellent hand hygiene.

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For more information:

References available upon request.

This fact sheet does not replace medical advice. Producers are encouraged to discuss preventative measures to limit the risk of S. Dublin occurring on their farm with their veterinarian, and work with them to accurately assess and diagnose any sick animals, especially if S. Dublin is suspected. New resources on S. Dublin will be made available for veterinarians to access in the Vet Portal on calfcare.ca.

Disclaimer: This resource is for educational purposes only. Veal Farmers of Ontario is not responsible for any business or management decisions made by consulting this resource.

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YouTube: [Calf Care Corner](https://www.youtube.com/Calf-Care-Corner)

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