

Enterococcosis

By: Caroline Gillies, MSc and Dr. Anastasia Novy

Etiology

Enterococcosis is caused by the bacterium, *Enterococcus cecorum*. *E. cecorum* is a gram-positive, sphere-shaped bacterium that survives without the presence of oxygen. These bacteria can linger in the environment for long periods of time, as they are able to survive at temperatures of 4°C to 60°C. *Enterococcus spp.* are a part of healthy poultry gut microbiota, with non-pathogenic strains becoming a prominent part of gut flora at 21-days of age. However, pathogenic strains of *E. cecorum* can colonize in the intestines at 7 days of age. Immune system compromise due to stress or other diseases can lead to the bacteria leaving the gut and causing an infection.

Epidemiology and Transmission

Enterococcosis infections have been reported worldwide.

Transmission of the bacteria from parent to off-spring is unclear. Horizontal transmission (i.e. spread between birds) occurs rapidly with the fecal-oral route being the most prominent route of infection. When birds are exposed to pathogenic strains of *E. cecorum* before hatching or early in life, there is a higher risk of colonization of these bacteria in the gut and subsequent infection. Since *E. cecorum* can linger in the environment, transmission between consecutive flocks is common.

Clinical signs

- Lameness, legs splayed in front of bird
- Wing walking
- Swelling of hock joints
- Reduced growth
- Paralysis due to spinal lesions
- Increased condemnations

Treatment

Following veterinary examination, antibiotics may be recommended for treatment of infected flocks.

Prevention

There are currently no vaccines available for the prevention of Enterococcosis. Biosecurity measures, including barn-specific clothing and boots, controlled access points, and mortality and manure management are critical components to reducing the pathogen load on a flock.

Ongoing monitoring of animal health status, water management, and appropriate downtime, cleaning, and disinfection between flocks are essential for disease control and prevention on farm.

Contact GPVS for guidance in barn biosecurity, and how to manage the barn after an Enterococcosis outbreak.

Resources

Dolka, B., Chrobak-Chmiel, D., Makrai, L., Szeleszczuk, P. Phenotypic and genotypic characterization of *Enterococcus cecorum* strains associated with infections in poultry. *BCM Veterinary Research* (2016); 12: 129. doi: <https://doi.org/10.1186/s12917-016-0761-1>

Higuita, J., Arango M., Forga, A., Cortes, D., Graham, D. An updated review of *Enterococcus cecorum* infections in poultry. *Avian Diseases* (2024); 68: 404-411. doi: <https://doi.org/10.1637/aviandiseases-D-24-00098>

Jung, A., Chen, L.R., Suyemoto, M.M., Barnes, J.H., Borst, L.B. A review of *Enterococcus cecorum* infection in poultry. *Avian Diseases* (2018); 62(3): 261-271. doi: <https://doi.org/10.1637/11825-030618-Review.1>

National Avian On-Farm Biosecurity Standard. 2nd Edition. CFIA (2018). [ISBN: 978-0-660-27246-7tps](https://www.cfia.gc.ca/en/publications/otherpublications/avian/ISBN:978-0-660-27246-7tps)