



Listeria monocytogenes infection in Hedgehogs

Agent

Listeria monocytogenes is a bacterium that is widely distributed in the environment, particularly in soil and decomposing plant material.

Signs of disease

Listeriosis, the disease caused by this bacterium, is most often reported in ruminant livestock (e.g. sheep or cattle), but is also known to affect people and occasionally wildlife. The signs of disease vary but may include generalised illness as a result of septicaemia, neurological signs if the central nervous system is affected, and abortion in pregnant animals. *Listeria monocytogenes* can also be carried in the gastrointestinal tract of individuals without apparent disease.

Disease surveillance has detected a small number of cases of *L. monocytogenes* infection in British hedgehogs, although it was not possible to determine whether these hedgehogs were suffering from listeriosis or simply carrying the bacterium without clinical disease. Infection has been confirmed in both male and female hedgehogs of a range of age groups. All cases have however been of individual animals, with no evidence of disease outbreaks involving multiple hedgehogs being caused by this bacterium. Further surveillance is needed to understand how this infection affects the health of hedgehogs in Great Britain.

Disease transmission

In hedgehogs

In a recent study, molecular characterisation of *L. monocytogenes* isolates cultured from British hedgehogs was conducted and several different types were found to be present. Each of the bacterial strains identified in this study were distinct, which means that there was no evidence of an epidemiological link between the affected hedgehogs. Whilst the isolates were of types also known to cause illness in humans, none of the hedgehog strains were genetically identical to those identified in human cases from England and Wales by Public Health England. These findings suggest that hedgehogs are contracting sporadic infection from the environment, perhaps through eating soil-dwelling invertebrates such as earthworms.

In people

Listeria monocytogenes infection **in people** is usually contracted through ingestion of contaminated food and rarely via contact with infected animals or their faeces. The bacterium can grow in temperatures that occur in domestic refrigerators (i.e. below 5°C), but is killed by thorough cooking of food and pasteurization.

Distribution

Listeria monocytogenes is a ubiquitous bacterium with a widespread distribution in Great Britain.

A recent study detected *L. monocytogenes* infection in five of 266 hedgehogs examined post mortem in Great Britain over a four-year period, which corresponds to 2% of the animals examined, indicating the infection to be relatively uncommon. However, further monitoring is required to compare how frequently hedgehogs are infected with *L. monocytogenes* in comparison to other British wildlife species.

Risk to human health

In people, listeriosis is a rare but potentially life-threatening disease that typically affects pregnant women, neonates, and other immunocompromised individuals. Healthy adults are likely to experience only mild infection, causing flu-like symptoms or gastroenteritis.

The disease is usually contracted through ingestion of contaminated food and rarely via contact with infected animals or their faeces.

Immunocompromised people and pregnant women should always take particular care when in contact with hedgehogs, as with all wild animals. The risk to immunocompetent people of contracting listeriosis from hedgehogs is considered very low to negligible.

Risk to domestic animal health

A range of domestic animals are susceptible to listeriosis, although the infection and subsequent disease are rare. As with people, the disease is mainly contracted through ingestion of contaminated food, e.g. silage. Ruminant livestock are the species most frequently known to be affected.

Diagnosis

Diagnosing *L. monocytogenes* infection or the disease listeriosis in hedgehogs requires specialist laboratory testing (e.g. microbiological culture and histological examination).

If you wish to report finding a dead hedgehog, or signs of illness in a hedgehog, please visit www.gardenwildlifehealth.org. Alternatively, if you have further queries or have no internet access, please call the **Garden Wildlife Health** vets on **0207 449 6685**.

Control

Whilst antibiotic medicines are available to treat domestic animals, effective and targeted dosing of free-living hedgehogs is not possible.

Suitable commercial products, such as disinfectants, should be used to clean and disinfect equipment and contaminated surfaces. When disinfectants are used, please follow the manufacturer's instructions.

While reporting sick animals to **Garden Wildlife Health** helps us to learn more about hedgehog health across Great Britain, we cannot advise on their treatment. If you find an unwell hedgehog, contact your nearest veterinary surgery or wildlife rehabilitation centre for further advice and use sensible hygiene precautions if handling of the animal is considered necessary (see *Prevention* below).

Prevention

Although little can be done to prevent the infection of hedgehogs with *L. monocytogenes* in the wild, the disinfection of any bowls or plates used to feed wild hedgehogs should be routinely carried out as follows:

- Clean surfaces, bowls or plates using a suitable disinfectant (for example, a weak solution of domestic bleach (5% sodium hypochlorite) or other product following the manufacturer's instructions). Always rinse thoroughly and air-dry before re-use.
- Brushes and cleaning equipment should not be used for other purposes and should not be brought into the house, but be kept and used outside and away from food preparation areas.
- Wear rubber gloves and thoroughly wash hands and forearms afterwards with soap and water, especially before eating or drinking.

If you need to handle a hedgehog, please use thick gardening or rubber gloves and wash your hands thoroughly with warm water and soap afterwards.

Further information

More advice on hedgehogs in your garden can be found on the Garden Wildlife Health website: www.gardenwildlifehealth.org

More general information about hedgehogs and what you can do to make your garden hedgehog-friendly can be found on the Hedgehog Street website: www.hedgehogstreet.org

For information on *Listeria* infection in people, see Public Health England 'Listeria: guidance, data and analysis': <https://www.gov.uk/government/collections/listeria-guidance-data-and-analysis>

Scientific publications

Hydeskov HB, Amar CFL, Rodriguez-Ramos Fernandez J, John SK, Macgregor SK, Cunningham AA, Lawson B (2019) *Listeria monocytogenes* infection of free-living Western European hedgehogs (*Erinaceus europaeus*). *Journal of Zoo and Wildlife Medicine*. **50(1)**:183-189. [doi:10.1638/2018-0093](https://doi.org/10.1638/2018-0093)

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Ferroglio E. *Listeria* Infections. In: Gavier-Widén D, Duff JP, Meredith A (eds.) (2012) *Infectious Diseases of Wild Mammals and Birds in Europe*. Chichester, United Kingdom: Blackwell Publishing p. 413-416.

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