



Animal &  
Plant Health  
Agency

# National Reference Laboratory for Trichinella and Echinococcus

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# What is Trichinella and Echinococcus



*Trichinella spiralis*

Trichinellosis is caused by nematode worms within the genus *Trichinella*. Domestic (e.g. pigs) and wild animals (e.g. wild boars, foxes and racoon dogs) are natural reservoirs for the infection harbouring microscopic larval worms (known as trichinae) encysted in their muscle tissue. Humans contract the disease through the consumption of raw or insufficiently cooked meat with encysted larvae (e.g. from domestic pigs or wild boars). Depending on the dose and course of the infection, the disease can trigger symptoms ranging from mild to severe in humans. In rare cases it may prove fatal.

A number of herbivorous and omnivorous animals act as intermediate hosts of *Echinococcus*. They become infected through the ingestion of parasite eggs released into the environment in the faeces of definitive hosts. These develop into parasitic larval cysts in their viscera. Carnivores are definitive hosts for the parasite, and are infected through the consumption of viscera of intermediate hosts that harbour the parasite and also through scavenging infected carcasses. Humans become infected through the inadvertent ingestion of parasite eggs.



*Echinococcus* adult worm

## About the National Reference Laboratory

The laboratory forms part of a larger organisation that has well established credentials for its scientific expertise and research and is internationally acknowledged for its representation in global animal health. The York laboratory performs a range of diagnostic testing and has a history of statutory testing on behalf of the Food Standards Agency (FSA) for *Trichinella* and surveillance programs for *Echinococcus multilocularis* in foxes on behalf of the Department of Environment, Food and Rural Affairs (DEFRA).

The York laboratory is ISO 17025 accredited (UKAS) and acts as a reference point for the Official Control laboratories (OCL) in expertise, advice, training and testing achieved through regular contact, consultancy and inspection and quality checks. Testing laboratories are required to participate in a regular external QA scheme initiated from this laboratory. We maintain contact with colleagues in EU countries and represent the UK at the European Union Reference Laboratory for Parasites (EURLP) annual meetings. We report developments and recommendations that may inform technical changes affecting the UK as well as reviewing current methodologies. We collaborate with the EURLP for

improved methods and quality standards by participating in ring trials. Technical projects evaluating novel testing methods are also carried out by the NRL.



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Data Protection:

For information on how we handle personal data visit [www.gov.uk](http://www.gov.uk) and search Animal and Plant Health Agency Personal Information Charter.

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APHA is an Executive Agency of the Department for Environment, Food and Rural Affairs and also works on behalf of the Scottish Government, Welsh Government and Food Standards Agency to safeguard animal and plant health for the benefit of people, the environment and the economy.