

Trichinellosis (Trichinosis)

What is trichinellosis?

Trichinellosis, also known as trichinosis, is caused by eating raw or undercooked meat from animals infected with the larvae of a species of roundworm called *Trichinella*. It occurs worldwide, most often in wild animals, but can occur in domestic pigs. It is not common in the United States.

Who gets trichinellosis?

People who eat raw or undercooked meat from animals infected with the *Trichinella* worm. In the US, most cases of trichinellosis occur in people who have eaten undercooked bear meat, but meat from other wild animals (e.g., feral pigs, cougar, fox, dog, wolf, horse, seal or walrus) can carry *Trichinella*. In the past, pork was a common source for *Trichinella*, but pork available at US grocery stores has been produced in a way that decreases the risk of *Trichinella* infection.

How is trichinellosis spread?

The disease is not spread from person to person. Humans become infected after eating raw or undercooked meat containing encysted larvae of the *Trichinella* worm. Digestive action in the stomach frees the larvae, which develop into adult worms in the small intestine. The adult worms mate, and bear offspring. The new larvae penetrate the intestinal wall, enter the lymphatic system, then travel via the bloodstream to muscles, where they encyst and remain unless treated.

What are the symptoms of trichinellosis?

Abdominal pain, nausea, vomiting and diarrhea, fatigue, and fever are often the first symptoms of trichinellosis. Muscle soreness and pain, together with swelling of the upper eyelids, sweating, chills, headaches, cough, itchy skin, and sometimes constipation occur later. The disease may be mild or very severe. Nervous system, heart and breathing problems may occur in cases of severe infection.

How soon after exposure do symptoms appear?

Symptoms usually develop 8-15 days after eating the infected meat, with a range of 5-45 days. Gastrointestinal symptoms (abdominal pain, nausea, vomiting and diarrhea) may occur before the fever, sore muscles and other symptoms, sometimes as soon as 1-2 days after infection.

Does past infection with trichinellosis make a person immune?

After a person has trichinellosis, he/she may be resistant to having it again.

How is it diagnosed?

Trichinellosis is diagnosed by a blood test or by a biopsy of the muscle to identify the encysted worm.

What is the treatment for trichinellosis?

Several prescription drugs are available to treat trichinellosis. The decision to treat is based upon the person's symptoms, a history of exposure to raw or undercooked meat, and laboratory test results. Information for healthcare providers is available at http://www.cdc.gov/parasites/trichinellosis/health_professionals/index.html.

How can trichinellosis be prevented?

The most important precaution is to make sure that all fresh meats, especially pork and pork products and meat from wild animals are properly cooked. Raw and undercooked meat should be avoided. The United States Department of Agriculture (USDA) recommends the following for the preparation of all meats, including wild game:

For Meat

- Cook beef, veal, and lamb roasts and steaks to at least 145° F (63° C).
- Cook pork roasts and chops and wild game to at least 160° F (71° C).
- Cook pork to an internal temperature of 160° F (71° C) for medium or 170° F (77° C) for well done.
- Cook whole poultry to 180° F (82° C) - insert the food thermometer into the thigh for accurate temperature.
- Cook chicken breasts to 170° F (77° C).

For Ground Meat

- Cook ground beef, veal, lamb, pork, and wild game to at least 160° F (71° C).
- Cook ground poultry to 165° F (74° C).

Other Cautions

- Curing (salting), drying, smoking, or microwaving meat alone does not consistently kill infective *Trichinella* worms. (Homemade jerky and sausage were the cause of some cases of trichinellosis reported to CDC in recent years.)
- Freeze pork less than 6 inches thick for 20 days at 5°F (-15°C) to kill any worms.
- Freezing wild game meats, unlike freezing pork products, may not effectively kill all worms because some worm species that infect wild game animals are freeze-resistant.
- Clean meat grinders thoroughly after each use.

Where can I find more information about trichinellosis?

More information about trichinellosis is available at: <http://www.cdc.gov/parasites/trichinellosis/>.