

Cysticercosis/Taeniasis

What is cysticercosis?

Cysticercosis is an infection with the larval stage of the pork tapeworm, *Taenia solium*. This occurs when a person eats the microscopic (tiny) eggs of the tapeworm. The eggs hatch in the small intestine and migrate to muscles, organs, or other tissue and form cysts known as cysticerci.

How do I get it?

Tapeworm (*T. solium*) eggs are passed in the feces of an infected person. (The eggs are too small to be seen.) You get cysticercosis by eating these eggs. This may happen directly (for example, by having eggs on your hand and touching your mouth). It can also happen indirectly (for example, by eating food or drinking water that has had contact with human feces containing the eggs).

What are the symptoms?

In many cases a person with cysticercosis does not have any symptoms. However, when the cysticerci are located in the eye, heart, or central nervous system (CNS), the results can be serious. Infections of the eye may affect the person's vision and could lead to blindness. Cysticerci in the CNS can result in seizures, headache, and dementia (reduced mental function).

Can it be treated?

Yes, cysticercosis can be treated. You need to see a doctor to find out if you have this condition and to have it treated.

How can it be prevented?

Detecting pork containing cysticerci is important in preventing people from getting the adult tapeworm. In addition, treating people infected with the adult form of the tapeworm will reduce its spread to other people.

Good sanitation (cleanliness) is important in the prevention of cysticercosis. Anybody who handles food should always wash his or her hands after going to the restroom and before preparing food. Hand washing before eating is important for everyone in case you have handled something that had *T. solium* eggs on it. For the same reason, if you smoke, you should wash your hands before smoking.

What is taeniasis?

Taeniasis is an intestinal infection with the adult form of the beef tapeworm, *Taenia saginata*, or the pork tapeworm, *T. solium*. Adult *T. saginata* can be as long as 12 meters and contain 2,000 proglottids or segments. *T. solium* is about half this size. Taeniasis due to *T. saginata* occurs more often in the United States than that

caused by *T. solium*. Infections with *T. solium* are more common in Mexico, Latin America, southern Africa, and Southeast Asia.

How do I get it?

You get beef or pork tapeworms from eating raw or undercooked meat that is infected with the larval form of the worm. The encysted larvae are sometimes referred to as beef or pork "measles." The infected meat is often called "measly" beef or pork.

What are the symptoms?

People who have the adult *T. solium* or *T. saginata* often do not have any symptoms. Most infected people only become aware that they have a tapeworm after seeing the segments passed in their feces. Other symptoms may include nausea, intestinal upset, or chronic indigestion.

Can it be treated?

Yes, taeniasis can be easily treated with almost 100% success. You need to see a doctor to find out if you have this condition and to have it treated.

How can it be prevented?

There are several control methods for taeniasis. Federal or state meat inspectors must inspect all commercially processed beef and pork in the United States. This way, any meat found to contain *Taenia* larvae will be properly handled. For instance, the meat must either be disposed of or frozen at minus five degrees centigrade for four days. This, or a similar approved freezing process, will kill the larvae. Irradiation will also kill larval cysts. All meat should be thoroughly cooked, as this will kill any living larvae. These methods are used to prevent people from getting the parasite from infected meat. There are also control measures that can be taken to prevent cattle and swine from becoming infected.

How do cattle and swine get infected?

Cattle and swine are infected when they graze on a pasture contaminated (made impure) with human feces containing *Taenia* eggs. The animal eats the eggs, which hatch into larvae and migrate to the animal's muscle. Animals may also become infected in feedlots where the feed, hay, or feed bunks are contaminated.

The eggs are shed in the feces of people carrying an adult tapeworm. To prevent contamination of animal feedstuffs in feedlots, it is important that restrooms and hand-washing facilities be

provided and that employees be required to use them. It is also necessary to find and treat infected livestock workers. If the cattle and swine never come into contact with human feces then the cycle will soon be broken.

What is the difference between cysticercosis and taeniasis?

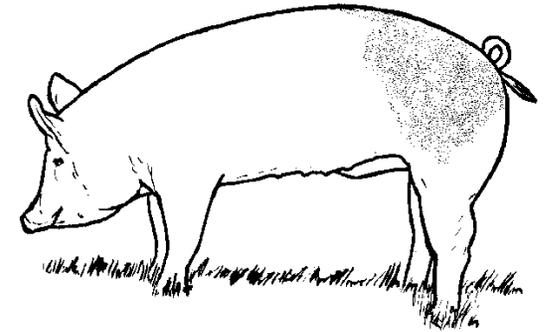
Remember, taeniasis is the infection of a human with the adult form of the beef or pork tapeworm. Cysticercosis is the infection of a human with the larval stage of the pork tapeworm, *T. solium*, only. (The larval stage of the beef tapeworm, *T. saginata*, cannot infect people.) Cysticercosis can only be acquired from a person infected with an adult *T. solium*. A human with an adult *T. solium* that is shedding eggs can pass those eggs to another person, directly or indirectly.

Who do I call if I have questions?

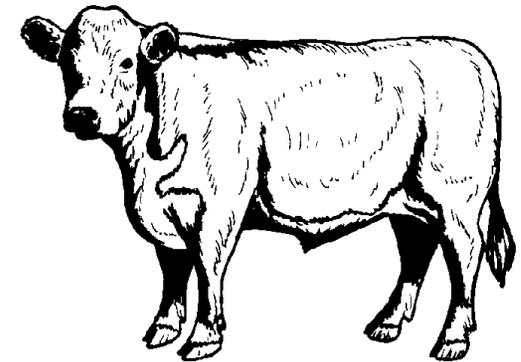
Contact your doctor, local health department, or the Texas Department of Health's Zoonosis Control Division if you have any questions.

Texas Department of Health, Zoonosis Control
Division 5/2002

Cysticercosis



&



Taeniasis