

Taeniasis

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Taeniasis in humans is a parasitic infection (intestinal infection) caused by the tapeworm species *Taenia saginata* (beef tapeworm), *Taenia solium* (pork tapeworm), and *Taenia asiatica* (Asian tapeworm).

Humans can become infected with these tapeworms by eating raw or undercooked beef (*T. saginata*) or pork (*T. solium* and *T. asiatica*). People with taeniasis may not know they have a tapeworm infection because symptoms are usually mild or nonexistent.

Taenia solium tapeworm infections can lead to [cysticercosis](#), which is a disease that can cause seizures, so it is important seek treatment.

Taeniasis

- 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.
- 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.

Mode of Transmission of Taeniasis

- Eggs of *T. saginata* passed in the faeces of an infected person are only infectious to cattle. Humans are infected by ingestion of raw or undercooked beef infected with *Cysticercus bovis*, the larval stage of *T. saginata*. In humans, the adult tapeworm develops in the intestine over 2–3 months. The cycle of infection repeats when infectious eggs are passed in the faeces and later ingested by cattle, slowly migrating into the flesh and transforming into the larval stage.
- Infections by *T. solium* may follow a similar cycle, with consumption of infected pork leading to the subsequent development of adult tapeworms. However, human infection may also occur through the consumption of *T. solium* eggs. This occurs by direct transfer from the faeces of an infected person, or through ingestion of contaminated food or water. When the eggs of *T. solium* are ingested by either humans or pigs, the embryos escape the shells and penetrate the intestinal wall, with subsequent spread of larvae to various tissues to produce cysticercosis.

Infectious agent of taeniasis

- *Taenia solium* (pork tapeworm) causes both intestinal infection with the adult tapeworm and somatic infections with the larvae (cysticerci).
- *T. saginata* (beef tapeworm) causes only intestinal infection with the adult tapeworm in humans.

Clinical features

- *T. saginata* infections are often asymptomatic, apart from the anal passage of tapeworm segments. Infection may be associated with epigastric pain, diarrhoea and weight loss.
- *T. solium* adult worm infections are also usually asymptomatic. Many tissues and organs may be infected by the larval form (cysticercosis). Neurocysticercosis is a serious but rarely fatal complication, which may manifest as headaches, epileptiform seizures, and visual or psychiatric disturbances.

Preventive measures

- The public should be advised to avoid faecal contamination of soil, and human and animal food; avoid the use of raw sewage for irrigation of pasture soil; and cook beef and pork thoroughly.
- Beef and pork should be adequately cooked – for example, at 60 °C for 5 minutes.
- Freezing meat below –5 °C for more than 4 days will kill cysticerci.
- Meat should be routinely inspected for evidence of taeniasis at slaughter

Treatment

- Praziquantel or niclosamide are used for treatment of beef and pork tapeworm infections. Consult the current version of *Therapeutic guidelines: antibiotic*.
- People harbouring adult *T. solium* should be immediately identified and treated to prevent human cysticercosis. For cysticercosis, surgical intervention may relieve symptoms. For central nervous system cysticercosis, praziquantel or albendazole may be used, with corticosteroids if indicated.
- Isolation is not required. The case and relevant caregivers should be advised that the case's faeces may be infectious, and advised on sanitary disposal of wastes