Taeniasis

Epidemiology in New Zealand
Cysticercosis, taeniasis and hydatids are a subset of ‘cestode’ (tapeworm infection) and are all notifiable. Cysticercosis and hydatids are discussed in separate chapters.

Tapeworm infection causes two clinical syndromes in humans:
- mature tapeworm infestation in the gut
- larval cysts embedded throughout the body, causing hydatosis, cysticercosis, coenurosis or sparganosis.

Taeniasis refers to intestinal infection by adult tapeworms of the genus Taenia (for example, T. saginatum, T. solium).

More detailed epidemiological information is available on the Institute of Environmental Science and Research (ESR) surveillance website at www.surv.esr.cri.nz

Case definition

Clinical description
Gastrointestinal infestation with Taenia spp. is usually asymptomatic. Cases occasionally suffer nervousness, insomnia, anorexia, weight loss, abdominal pain and digestive disturbances. Long motile proglottids can migrate out of the anus and be seen on the perineum, on clothing or in the faeces.

Laboratory test for diagnosis
Laboratory confirmation requires microscopic identification of proglottids or eggs in the faeces or in the perianal region. However, these are not developed for up to 3 months after infection and even then can be indistinguishable from other species of Taenia. Microscopic identification of gravid proglottids allows species determination.

Possible use of serology should be discussed with ESR on a case-by-case basis.

Case classification
- Under investigation: A case that has been notified, but information is not yet available to classify it as confirmed.
- Probable: Not applicable.
• **Confirmed:** Identification by microscopy.
• **Not a case:** A case that has been investigated and subsequently found not to meet the case definition.

## Spread of infection

### Incubation period
The time from ingestion of larvae until segments are passed in the faeces is 2–3 months.

### Mode of transmission
Taeniasis is acquired by consuming cysts in raw or undercooked pork or beef. *T. saginata* eggs are not infectious to humans.

### Period of communicability
Larvae remain viable in animal tissues for years. Adult tapeworms may live in the human intestine and shed eggs for up to 25 years, growing up to 8 metres in length. *T. saginata* is not directly transmissible from person to person, releasing eggs that are only infectious to cattle. *T. solium* is directly transmissible, having eggs that are infectious both to humans and to pigs. Eggs may remain viable in the environment for months.

## Notification procedure
Attending medical practitioners or laboratories must immediately notify the local medical officer of health of suspected cases. Notification should not await confirmation.

Note: This is a requirement under either section A (conditions arising from occupation) or section B (other conditions) of Schedule 2 of the Health Act 1956.

## Management of case

### Investigation
Obtain a history of travel, possible contacts and consumption of raw or undercooked beef or pork. Ensure laboratory confirmation has been attempted.

### Restriction
Nil before isolation. However, *T. solium* cross-infection could occur via the faecal-oral route.
Counselling
Advise the case and their caregivers of the nature of the disease and its mode of transmission. Educate about hygiene, especially hand cleaning.

Management of contacts

Definition
A person with the same history as the case of consuming raw or undercooked beef or pork. In the case of *T. solium*, contacts also include people potentially exposed to eggs via faecal-oral contamination.

Investigation
Advise contacts to visit their general practitioner to arrange stool testing for eggs and parasites. Normally three samples are required. The laboratory needs to be informed of the history of overseas travel or other risks.

Restriction
Nil.

Prophylaxis
Consider treatment of contacts who are found to have taeniasis, especially *T. solium* infestation, to reduce the risk of cysticercosis and transmission to others.

Counselling
Nil.

Other control measures

Identification of source
If the case contracted taeniasis in New Zealand, liaise with the Ministry for Primary Industries to investigate potential animal sources of infection.

Disinfection
Nil.

Health education
Advise on hygienic food handling and the health dangers of consuming raw or undercooked meat.
Public education may be indicated to prevent faecal contamination of soil, water and food for humans and animals. Avoid the use of sewage effluents for pasture irrigation.

**Reporting**

Ensure that complete case information is entered into EpiSurv.

Medical officers of health should immediately notify the Director of Public Health at the Ministry of Health on receiving a notification themselves regarding a case who may have acquired the infection in New Zealand.

The Ministry of Health will notify the appropriate staff in the Ministry for Primary Industries so that further investigation of a potential animal source can be undertaken.

**References and further information**
