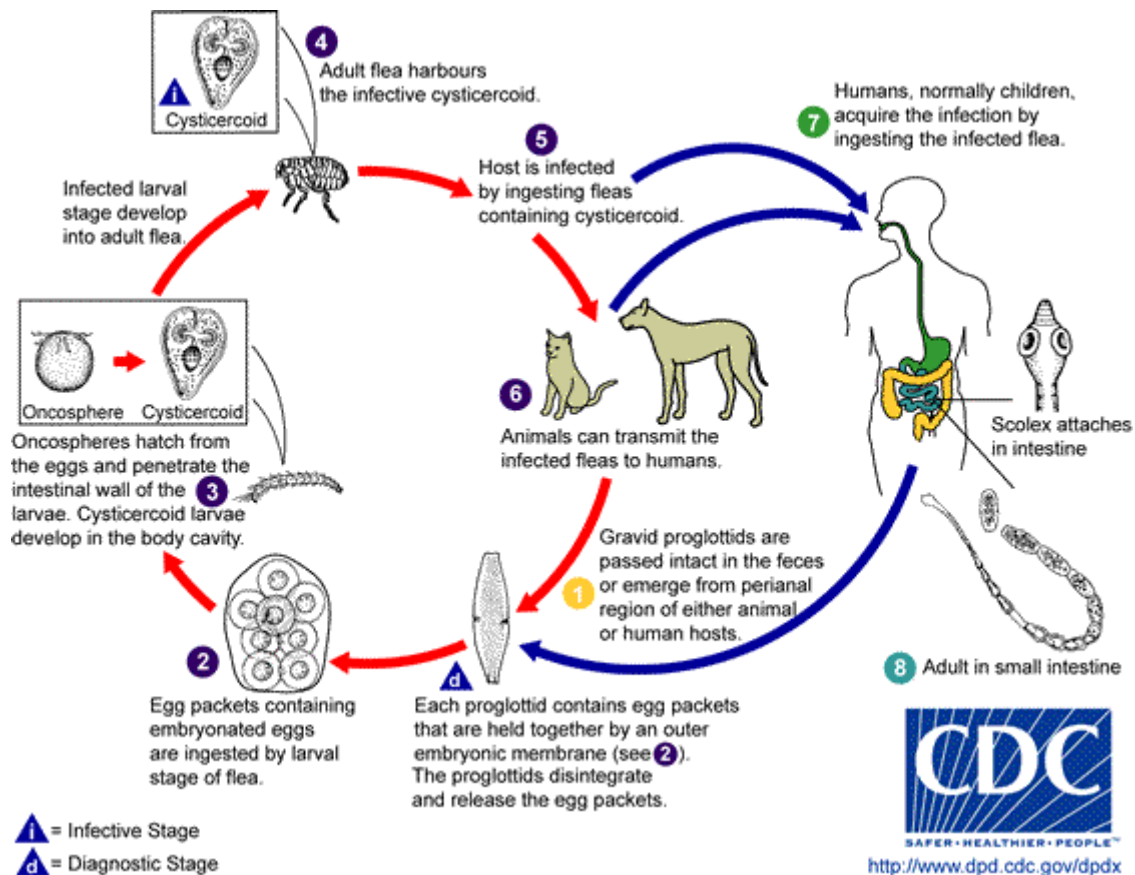


Dipylidium caninum infection

Causal Agent:

Dipylidium caninum (the double-pored dog tapeworm) mainly infects dogs and cats, but is occasionally found in humans.

Life Cycle:



Gravid proglottids are passed intact in the feces or emerge from the perianal region of the host **1**. Subsequently they release typical egg packets **2**. On rare occasions, proglottids rupture and egg packets are seen in stool samples. Following ingestion of an egg by the intermediate host (larval stages of the dog or cat flea *Ctenocephalides* spp.), an oncosphere is released into the flea's intestine. The oncosphere penetrates the intestinal wall, invades the insect's hemocoel (body cavity), and develops into a cysticeroid larva **3**. The larva develops into an adult, and the adult flea harbours the infective cysticeroid **4**. The vertebrate host becomes infected by ingesting the adult flea containing the cysticeroid **5**. The dog is the principal definitive host for *Dipylidium caninum*. Other potential hosts include cats, foxes, and humans (mostly children) **6**, **7**. Humans acquire infection by ingesting the cysticeroid contaminated flea. This can be promulgated by close contact between children and their infected pets. In the small intestine of the vertebrate host the cysticeroid develops into the adult tapeworm which reaches maturity about 1 month after infection **8**. The adult tapeworms (measuring up to 60 cm in length and 3 mm in width) reside in

the small intestine of the host, where they each attach by their scolex. They produce proglottids (or segments) which have two genital pores (hence the name "double-pored" tapeworm). The proglottids mature, become gravid, detach from the tapeworm, and migrate to the anus or are passed in the stool ①.

Geographic Distribution:

Worldwide. Human infections have been reported in Europe, the Philippines, China, Japan, Argentina, and the United States.

Clinical Features:

Most infections with *Dipylidium caninum* are asymptomatic. Pets may exhibit behavior to relieve anal pruritis (such as scraping anal region across grass or carpeting). Mild gastrointestinal disturbances may occur. The most striking feature in animals and children consists of the passage of proglottids. These can be found in the perianal region, in the feces, on diapers, and occasionally on floor covering and furniture. The proglottids are motile when freshly passed and may be mistaken for maggots or fly larvae.

Laboratory Diagnosis:

The diagnosis is made by demonstrating the typical proglottids or egg packets in the stool or the environment.

Diagnostic findings

- Microscopy
- Macroscopy
- Morphologic comparison with other intestinal parasites

Treatment:

Treatment for both animals and humans is simple and very effective. Praziquantel is given either orally or by injection (pets only). The medication causes the tapeworm to dissolve within the intestines. Since the worm is usually digested before it passes, it may not be visible in the dog's stool. These drugs are generally well tolerated.

