

8. Giardiasis

(Notifiable)

Description: Giardiasis is a parasitic infection of the upper small intestine prevalent across the world. It is a common cause of “traveller’s diarrhoea” and probably the most important cause of parasitic gastroenteritis in the developed world.

Annual Numbers: Between 50 and 70 cases are notified in Ireland each year.

Seasonal Distribution: Peak seasonal incidence is between July and October.

Causative Agent: *Giardia lamblia* (more correctly *Giardia intestinalis*) is the causative flagellated protozoan parasite. *Giardia* cysts contaminate ground water and are highly environmentally resistant, surviving until ingestion.

Reservoir: Humans are the primary reservoir but they are readily identified in many mammals including beaver (“beaver fever”), dogs, cats, cattle, chickens, rats. In the US it is estimated that 10-15% of companion dogs and cats carry *Giardia*.

Transmission: Transmission is by the faeco-oral route involving ingestion of *Giardia* cysts, most frequently associated with consumption of contaminated water (or contact with recreational water), or direct contact with colonised animals or their faeces. Person to person contact accounts for about one quarter of cases.

Outbreak Potential: *Giardia* has relatively low outbreak potential if transmitted by person to person spread but

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high outbreak potential if transmitted through water. *Giardia* cysts are quite resistant to chlorination, making water filtration a crucial element of

effective water treatment to prevent giardiasis. Waterborne outbreaks are generally as a result of consumption of untreated surface water (particularly that from an unfiltered supply) or of sewage contamination of drinking water.

Incubation Period: Generally 7-10 days (range 3-25 days).

Period of communicability: *Giardia* is transmissible throughout the period that a patient is infected. This can be up to a number of months in duration (average duration 2-6 weeks).

Epidemiology: It is estimated that *Giardia lamblia* may be carried in the intestines of 2-3% of healthy subjects in developed countries (although a recent study in the UK

found a carriage rate of 0.5 per 1000 healthy subjects) and in up to 30% of people in developing countries. Children are more affected than adults.

Exposure-prone groups: Residents in institutions, children in day centres, childcare staff, overseas travellers and men who have sex with men.

Pathogenesis: Ingestion of cysts leads to their hatching into trophozoites in the upper small intestine and leading to attachment to the enterocytes of the microvilli of the duodenum leading to tissue damage through a number of different pathways.

Clinical Features: Typically abdominal pain, flatulence, foul-smelling greasy stools, bloating nausea and anorexia. Chronic carriage is not uncommon with steatorrhoea, malabsorption syndrome and weight loss. About three quarters of cases are asymptomatic.

Clinical Management of Cases

Enteric precautions.

Metronidazole and tinidazole are effective antimicrobial agents against *Giardia* and treatment of individual cases forms the basis of control of giardiasis. There is some evidence that treatment of asymptomatic carriers can limit outbreak size in congregate settings (such as crèches). The case should be notified to the local Department of Public Health. It is important to determine if the case is aware of similar cases suggesting the possibility of an outbreak. Determine if case is in a risk category.

Public Health Management of Cases

Most cases are paediatric. Determine if linked cases. Linked cases are most likely to be associated with paediatric settings.

Food Hygiene Implications: Food hygiene re-education is necessary for food handlers.

Public Health Management of Contacts

Screen household contacts to identify additional symptomatic cases requiring treatment. If the index is in Risk Group 3 and there are reports of diarrhoeal illness in the previous two weeks in a childcare facility attended by the index, consideration should be given to screening symptomatic classmates.

Exclusion: Until 48hr after first normal stool.

Microbiological Clearance: Not required.

Notifiable: to the local [Medical Officer of Health](#).