Shigellosis
(Notifiable)

Description: Shigellosis produces a classical gastroenteritis with pronounced, occasionally bloody, diarrhoea. About one third of cases are foodborne.

Annual Numbers: Between 40 and 80 cases per year.

Seasonal Distribution: There is no seasonal pattern of incidence.

Causative Agent: The causative agents of shigellosis are Shigella sonnei, Shigella boydii, Shigella dysenteriae and Shigella flexneri. S. sonnei and S. dysenteriae each account for about 40% of cases. About 40% of cases report recent travel to Africa. Fewer than 10% of cases did not travel outside Ireland.

Reservoir: The gastrointestinal tracts of humans and (occasionally) apes.

Transmission: Spread is usually by the faeco-oral route. Person to person and waterborne spread comprise the major modes of transmission. Spread may also take place by means of contaminated food, usually fresh produce and ready to eat foods, especially if they have been in contact with contaminated water. Cases are occasionally reported in men who have sex with men, particularly of S. sonnei, anal sex being recognised transmission route of a number of faeco-oral pathogens.

Outbreak Potential: Shigella has moderate outbreak potential if transmitted person to person and via food, and high outbreak potential if transmitted by water.

Incubation period: generally 1-3 days (range 12 hours – 4 days). The incubation period for S. dysenteriae Type 1 can be as long as one week.

Infectivity: While organism is present in the stool, but much more infectious whilst symptomatic. Infectivity generally lasts up to 4 weeks.

Epidemiology: Shigellosis is a worldwide infection. S. sonnei is the only recognised endemic Shigella strain in Ireland; the other three strains are found in subtropical and tropical zones. Asymptomatic carriage is very common. Most cases are paediatric. Those at greatest risk of infection include children in child care centres and their parents, overseas travellers, institutionalized people and men who have sex with men. The infectious dose depends on the strain; low (< 10 organisms for S. dysenteriae Type 1 but 500 organisms for S. sonnei.

Exposure-prone groups: Residents in institutions, men who have sex with men, food handlers, children in day centres, staff in such centres.

Clinical Features: Bloody diarrhoea, fever, abdominal pain. Infection with S. sonnei is generally mild symptoms lasting about a week. The tropical forms cause more severe illnesses. Symptoms usually last 2-4 weeks. Infection with S. dysenteriae tends to be severe and prolonged and requiring hospital admission. Toxic megacolon is occasionally seen in disease caused by S. dysenteriae Type I. Infection with S. flexneri can lead to Reiter’s Syndrome (reactive post-infectious arthropathy). HUS is a recognised complication of bacillary dysentery (it is closely associated with infection due to S. dysenteriae Type I) and is more likely to develop if amoxicillin is given during the diarrhoeal phase. The case fatality rate with S. dysenteriae Type I is between 20 and 40% even in developed countries.

Clinical Management of Cases
Enteric precautions including hygiene advice. 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
Enteric precautions including hygiene advice. Obtain one week travel and food history for S. boydii, S. dysenteriae and S. flexneri. Determine if there are linked cases.

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

Public Health Management of Contacts
Clinical surveillance for non-risk groups
Contacts of S. boydii, S. dysenteriae or S. flexneri cases in risk groups should be screened. Supervision of handwashing by children recommended.

Exclusion: For S. sonnei infection exclude until 48hr after first normal stool
For S. boydii, S. dysenteriae or S. flexneri exclude until microbiological clearance

Microbiological Clearance: None for S. sonnei. Two negative stool samples taken not less than 48 hours apart for S. boydii, S. dysenteriae or S. flexneri.

In Crèche Settings: Cases and contacts (especially those in Risk Groups) of S. boydii, S. dysenteriae or S. flexneri should be managed in the same way as VTEC cases.

Notifiable: to the local Medical Officer of Health.

Shigella sonnei is the only serogroup readily found in the environment in Ireland, other serogroups are almost invariably imported