15. Staphylococcus aureus Foodborne Intoxication

(Notifiable)

Description: Staphylococcal foodborne intoxication is a gastrointestinal illness caused by consumption of food contaminated with enterotoxins produced by Staphylococcus aureus.

Annual Numbers: Between 1 and 5 cases per year.

Seasonal Distribution: There is no seasonal pattern of incidence.

Causative Agent: Staphylococcus aureus is a common bacterium found colonising the skin and nasal passages. When introduced beneath the skin, they can form focal, circumscribed infections including styes, abscesses, boils and carbuncles, or diffuse infections such as impetigo. S. aureus has the capacity to produce a range of enterotoxins (toxins that act within the intestine) that damage the mucosal endothelium making the mucosa more permeable to ions and water leading to vomiting and diarrhoea. Enterotoxins are stable at 100°C. Staphylococci replicate in food.

Reservoir: Human skin and nostrils; animal skin and nares.

Transmission: Food handlers who carry staphylococci on their skin and who handle food without washing their hands contaminate food by direct contact. S. aureus can also be found in unpasteurised milk and cheese products (staphylococcal mastitis being an important cause of transmission through milk). Unrefrigerated products that are touched by hand are at the greatest risk including: pastries, cakes, salads, sandwiches, all processed meats, all processed cheeses. S. aureus is salt-tolerant and can grow in ham, sausages and salted beef. As S. aureus multiplies in food, they generate enterotoxins. Staphylococcal enterotoxins are heat-resistant and are not inactivated by cooking.

Outbreak Potential: Staphylococci have moderate outbreak potential if transmitted by food.

Incubation period: The incubation period for S. aureus food poisoning is between 2 and 4 hours (range 30 minutes to 8 hours).

Period of communicability: S. aureus food poisoning is not contagious.

Epidemiology: S. aureus is carried as a commensal in between one quarter and one half of the population.

Exposure-prone groups: Those consuming high risk foods and food handlers.

Clinical Features: Abrupt onset, severe cramping pain, nausea, vomiting, diarrhoea, hypotension and prostration. The duration of illness is 1-2 days. Complications are uncommon.

Clinical Management of Cases
Enteric precautions. Admit to hospital if necessary. 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 Management of Cases
Obtain food history for three days prior to symptoms. Determine if linked cases. Food hygiene re-education is necessary for food handlers.

Public Health Management of Contacts
Clinical surveillance.

Exclusion: Until 48hr after first normal stool (if diarrhoeal presentation).

Microbiological Clearance: None

Notifiable: to the local Medical Officer of Health.