

## 15. *Staphylococcus aureus* Foodborne Intoxication

(Notifiable)

**Description:** Staphylococcal foodborne intoxication is a gastrointestinal illness, caused by consumption of food contaminated with toxins 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 passageways. 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 mucosae 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](#).