

Appendix B: Provincial Case Definitions for Diseases of Public Health Significance

Disease: Paralytic Shellfish Poisoning (PSP)

Effective: February 2019

Paralytic Shellfish Poisoning (PSP)

1.0 Provincial Reporting

Confirmed and probable cases of disease

2.0 Type of Surveillance

Case-by-case

3.0 Case Classification

3.1 Confirmed Case

Clinically compatible signs and symptoms **AND**

- Detection of saxitoxin in samples of consumed shellfish or other seafood (e.g., whole scallops, crabs and lobsters).

OR

- Detection of high levels of dinoflagellates associated with shellfish poisoning in water from which epidemiologically related shellfish were gathered.*

OR

- Detection of PSP toxins in a urine or fecal sample.†.

3.2 Probable Case

Clinically compatible signs and symptoms with onset within 12 hours following consumption of a potential source of Paralytic Shellfish Toxins (e.g., shellfish or other seafood, such as whole scallops, crabs and lobster; see section 7.0).

4.0 Laboratory Evidence

4.1 Laboratory Confirmation

A diagnosis of PSP should be based on clinically compatible signs and symptoms, in the context of a history of recent shellfish/seafood consumption. Confirmation of the diagnosis can be made by detection of the biotoxin (i.e., saxitoxin, or its analogues) at concentrations sufficient to cause symptoms in the shellfish remaining from the same lot or harvest area as the shellfish consumed/implicated in the illness.

* Saxitoxins are produced by dinoflagellates of the *Alexandrium* genus.

† Testing not currently available in Canada but can be carried out in partner labs if clinically and epidemiologically warranted.

4.2 Approved/Validated Tests

- Screening analysis of the implicated shellfish using the mouse bioassay.
- Analytical/confirmatory analysis of the implicated shellfish using an analytical confirmatory technique equivalent to AOAC 2011.02, Post-Column Oxidation Method for PSP.

4.3 Indications and Limitations

- Various other seafood biotoxins may cause positive results with the mouse bioassay (or equivalent) screening method. Confirmation of the Paralytic Shellfish Toxins (saxitoxin or related toxins) is necessary.

5.0 Clinical Evidence

Clinical illness is characterized by neurological symptoms (e.g., paresthesia and/or paralysis of the mouth, neck, face or extremities) with onset within 12 hours following ingestion of potentially contaminated food, which may or may not be accompanied by gastrointestinal symptoms (e.g., nausea, vomiting, diarrhea, and abdominal pain).

6.0 ICD 10 Code(s)

T61 Toxic effect of noxious substances eaten as seafood

T61.2 Other fish and shellfish poisoning

7.0 Comments

Consumption of bivalve mollusk shellfish (e.g., oysters, clams, mussels) has been most frequently linked to PSP cases. However, occasionally, PSP cases have also been linked to non-traditional sources of saxitoxin, which may be present in harmful concentrations in non-bivalve shellfish (e.g., whelks, moon snails and dogwinkles), or the tomalley of crustaceans (e.g., crabs, scallops, lobster).

Laboratory testing and confirmation of PSP toxins in food specimens is conducted by the CFIA laboratory.

8.0 Sources

Alberta Health. Public Health Disease Management Guidelines: Shellfish Poisoning. Edmonton, AB: Government of Alberta; 2018. Available from: <https://open.alberta.ca/publications/shellfish-poisoning>

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Canadian Food Inspection Agency. Canadian Shellfish Sanitation Program [Internet]. Ottawa, ON: Her Majesty the Queen in Right of Canada; 2016 [updated July 6, 2016];

cited February 15, 2018]. Available from: <http://www.inspection.gc.ca/food/fish-and-seafood/shellfish-sanitation/eng/1299826806807/1299826912745>

Government of Canada. Health Canada reminds Canadians about the consumption of lobster tomalley [Internet]. Ottawa, ON: Her Majesty the Queen in Right of Canada; 2013 [updated May 27, 2013; cited February 15, 2018]. Available from: <http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2013/33625a-eng.php>

Heymann DL, editor. Control of Communicable Diseases Manual. 20 ed. Washington, D.C: American Public Health Association; 2015.

9.0 Document History

Table 1: History of Revisions

Revision Date	Document Section	Description of Revisions
September 2013		New document.
February 2019	General	Minor revisions were made to support the regulation change to Diseases of Public Health Significance.

