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1.0 PURPOSE

To provide guidelines for the exclusion and microbiological clearance of cases and contacts of cases with enteric infections who are working in or attending high risk settings.

2.0 GOALS

To reduce the risk of enteric disease transmission from cases and their contacts in high risk settings by:

- Providing definitions of high risk settings and occupations to allow consistent application of exclusion guidelines across the province
- Outlining when cases and their contacts should be excluded from a high risk setting
- Setting conditions for cases and their contacts to return to the high risk setting
- Providing documentation to facilitate communication between the case, physician, public health and the employer or administrator of the high risk setting
- Providing a tool for assessing the personal hygiene levels of food handlers

Although the priority was to minimize the risk to public health, a conscious effort was made to avoid unnecessary hardship on cases and their contacts.

3.0 METHODS

Literature search: The scientific literature was searched using Medline and the reference sections of studies that were retrieved. Keywords used in the search included: food handler, food handler illness, food handler outbreak, food handler exclusion, worker exclusion, day care worker, health care worker, *S*. Typhi, *S*. Paratyphi, *Schistosoma*, carriage, excretion.

Policy scan: Existing exclusion policies from British Columbia, other Canadian provinces, the Public Health Agency of Canada (draft) and other countries. Provincial and federal representatives were contacted to obtain copies of existing policies. International policies were found using an Internet search engine.

This policy was initially prepared in 2006. It was reviewed and approved by the BC Enteric Policy Working Group and the Licensing Leadership Council. It was approved by the BC CD Policy Committee on September 19 2006. Past versions were published in 2007, 2013 2019, and 2020.

4.0 RATIONALE

The transmission of enteric infections occurs in high risk settings because of the opportunity for person-to-person transmission or transmission through food. The population in some of these settings may be at higher risk of serious illness or complications from these infections. The setting and the population may contribute to efficient transmission and the occurrence of outbreaks.

The risk of transmission from infected food handlers is documented in an international English language literature review (Guzewich and Ross, 1999). Authors identified 81 documented outbreaks involving 14,712 people, between 1975 and 1998. Hepatitis A (35%), Norovirus (26%), *Shigella sonnei* (6%), *Salmonella* Typhimurium (6%) and *Salmonella* Enteritidis (5%) were the most commonly identified pathogens. Published studies document person-to-person transmission of enteric infections in health care (Carter 1987, McCall 2000) and child care settings (Spika 1986, Belongia 1993, Gouveia 1998, O'Donnell 2002, Galanis 2003).

5.0 RISK ASSESSMENT

The exclusion of a case or contact from a high risk setting is based on a risk assessment of the individual and setting and depends on a number of factors:

- Properties of the infectious pathogen
- Nature of the duties of the case or contact
- Rigor of infection control measures in the high risk setting
- Risk factors of the case or contact and population at risk
- Symptoms of the case or contact
- Level of personal hygiene of the case or contact

The **Medical Health Officer** may decide to exercise his/her discretion outside the recommendations of these guidelines.

6.0 GENERAL PRINCIPLES

- **Based on severity of illness and evidence that continued presence or work in a high risk setting leads to transmission of infection, cases and, in some instances, contacts of cases with Shiga toxin-producing *E. coli*, hepatitis A, *Salmonella* Typhi/Paratyphi and *Shigella* and *V. cholerae* O1 and O139 infections should be excluded from high risk settings and microbiological clearance should be obtained before they return.**

  The purpose of exclusions is to decrease transmission in high risk settings or to high risk people. The principle used for exclusions and microbiological clearance is to apply increasingly restrictive measures for the pathogens that cause more severe disease.

  Follow-up samples should be collected after symptom resolution. Any one of the following results meets the definition of a negative follow-up sample for microbiological clearance:
  - • Negative stool culture (if no PCR done);
  - • PCR-negative result;
  - • PCR-positive result with negative reflex culture.

  Exclusion and microbiological clearance of confirmed and probable cases and symptomatic or asymptomatic contacts of cases of enteric infections due to common causes other than those mentioned above (e.g. *Salmonella* non-

Typhi/Paratyphi, *Campylobacter*, Norovirus, *Giardia*) can be managed as per Section 8.3 or at the discretion of the Medical Health Officer.

The existence of an outbreak in a high risk setting may require case or contact management beyond what is specified in these guidelines (BCCDC 2003).

- High risk workers should not work if experiencing diarrhea and/or vomiting, or fever (if *S.* Typhi is suspected), unless a non-infectious etiology has been diagnosed.
    - Because public health will not be aware of undiagnosed high risk workers or because case investigation is not routinely conducted for some reportable diseases (*Campylobacter*, *Yersinia*), whenever it is possible, educate employers and workers regarding the risks of working while ill. If public health is made aware of a high risk worker with an enteric infection, the case should be contacted and appropriate actions taken. A high risk worker with a chronic enteric disease should be counseled to seek medical attention if their symptoms change.
- Prior to return to work, high risk workers must be educated regarding personal hygiene appropriate to food handling, child or patient care.
    - Soap and water are the standard for hand washing. Most pathogens can be removed from hands by thoroughly washing hands with soap and water and ensuring that hands are dried completely using paper towels (Pether 1982, Coates 1987, Patrick 1997). The benefits of proper hand washing emphasize the need to assess a worker's hand hygiene and provide any necessary education to minimize the risk of disease transmission (see Appendix I: Personal Hygiene Assessment Checklist).
    - Alcohol hand sanitizers may be used when hands are not visibly soiled. However, food handlers should not use alcohol hand sanitizers as a substitute for hand washing. These products are not fully effective against bacterial spores, oocysts, and viruses such as norovirus and hepatitis A. Food handlers' hands are routinely soiled with fatty and proteinaceous materials that render the alcohol products ineffective (FDA 2009).
- Under the *Reporting Information Affecting Public Health Regulation*, the Medical Health Officer can inform the employer or child care facility that their employee or attendee is infected with a communicable disease that can be spread to others and should be excluded from work or attendance until they have met the appropriate criteria.

7.0 DEFINITIONS

High risk setting: A setting where the nature of the high risk case or contact's activities increases the chance of transmission of enteric infections to others, including food premises, child care facilities, and residential and acute health care facilities or other clinical settings.

Child care facility: A community care facility or family day care setting or preschool where children under the age of 5 attend.

High risk worker: A person, paid or unpaid, working in a high risk setting where the MHO or designate determines that the risk of transmission of enteric disease to other workers or the public warrants exclusion.

- Food handler: A person, paid or unpaid, engaged in the preparation, manufacture, storage, serving or sale of food or drink where the food or drink itself is handled. This does not include a person who handles only completely packaged food or drink or a person who only handles food *before* it is cooked.
- Child care worker: A person, paid or unpaid, working in a licensed or unlicensed child care or preschool (full or part time, or after school).
- Health care worker: A person, paid or unpaid, working in direct patient/resident care in an adult day program, residential or acute health care facility or other clinical setting.

Confirmed and probable cases: as per approved agent-specific case definitions http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions

Clinical case of gastroenteritis: A person with 2 or more episodes of diarrhea or vomiting of unknown etiology in a 24 hour period.

Contact: A person working in or attending a high risk setting, who is a household or sexual contact of a confirmed case, or has had a significant opportunity to acquire the infection, e.g. through consumption of a confirmed food source.

Modified exclusion: exclusion from work duties that may present a risk to public health.

8.0 EXCLUSIONS

8.1 Exclusions for Swimming Pool Workers and Patrons

Confirmed cases who work at swimming pools, hot tubs or spray parks, and spend time in the water, should be excluded from being in the water until 48 hours after their symptoms have resolved. Although compliance cannot be ascertained for the general public, the public should be given general advice about exclusion from such facilities until 48 hours after their symptoms have resolved.[1]

8.2 Exclusions for Cases of Hepatitis A and their Contacts

Refer to the Hepatitis A chapter in the Communicable Disease Control in BC manual and to the Biological Product Section in the BC Immunization Manual.

8.3 Exclusions for Viral (non-hepatitis A), Parasitic, specific Bacterial cases (*Campylobacter*, *Salmonella* non-typhi/paratyphi, *Vibrio* noncholerae O1/O139, *Yersinia*) and Clinical cases of gastroenteritis

The lifting of the exclusion for these cases is based on the cessation of symptoms and not on the demonstration of the absence of pathogens in clinical samples.

Assess and *counsel all cases regarding required personal hygiene (Appendix I).*

HIGH RISK WORKERS and CHILD CARE ATTENDEES

Case

- Advise case to seek medical attention, if appropriate, for testing and diagnosis.
    - If test is positive for STEC, *Shigella*, *S*. Typhi or *S*. Paratyphi, *V. Cholerae* O1/O139*, refer to the appropriate section and proceed with necessary steps.
- Exclude a case with diarrhea or vomiting until at least 48 hours after the last loose stool or vomiting episode, whichever comes last.[2]
    - If anti-diarrheal medications have been taken, exclude the case until diarrhea-free for at least 48 hours after the cessation of medications.

Symptomatic Contact

- Exclude as per case

Asymptomatic Contact

- No exclusion required
- Advise that if gastrointestinal symptoms develop, to seek medical attention and exclude as per case

8.4 Exclusions for Cases of Shiga toxin-producing *E. coli* and their Contacts

Assess and counsel cases and contacts regarding required personal hygiene (Appendix I).

8.4.1 HIGH RISK WORKERS

8.4.1.1 Cases

Confirmed Case:
- Laboratory confirmation of infection with or without clinical illness:
  - Culture isolation of *E.coli* O157* from an appropriate clinical specimen OR
  - Detection of a shiga toxin gene by PCR** from an appropriate clinical specimen

*All culture confirmed *E.coli* O157, including shiga toxin gene PCR positive and negative are included.
**Includes cases infected with Shiga toxin producing *E.coli* non-O157

Probable Case:
- Laboratory evidence of infection with or without clinical illness:
  - Detection of *E.coli* O157*** by PCR from an appropriate clinical specimen

***Includes cases where Shiga toxin gene PCR results are pending or negative.

Suspect Case:
Clinical illness in a person who is epidemiologically linked to a confirmed case, which would include persons with hemolytic uremic syndrome (HUS).

***Severe case*[3]**
Cases with one or more of the following characteristics require microbiological clearance for return to a high risk setting:

1. Bloody diarrhea OR
2. Physician-diagnosed HUS OR
3. Epidemiological link with a HUS case OR
4. Culture isolation of *E. coli* O157 OR
5. Detection of shiga toxin gene 2 by PCR OR
6. Detection of *E.coli* O157 by PCR

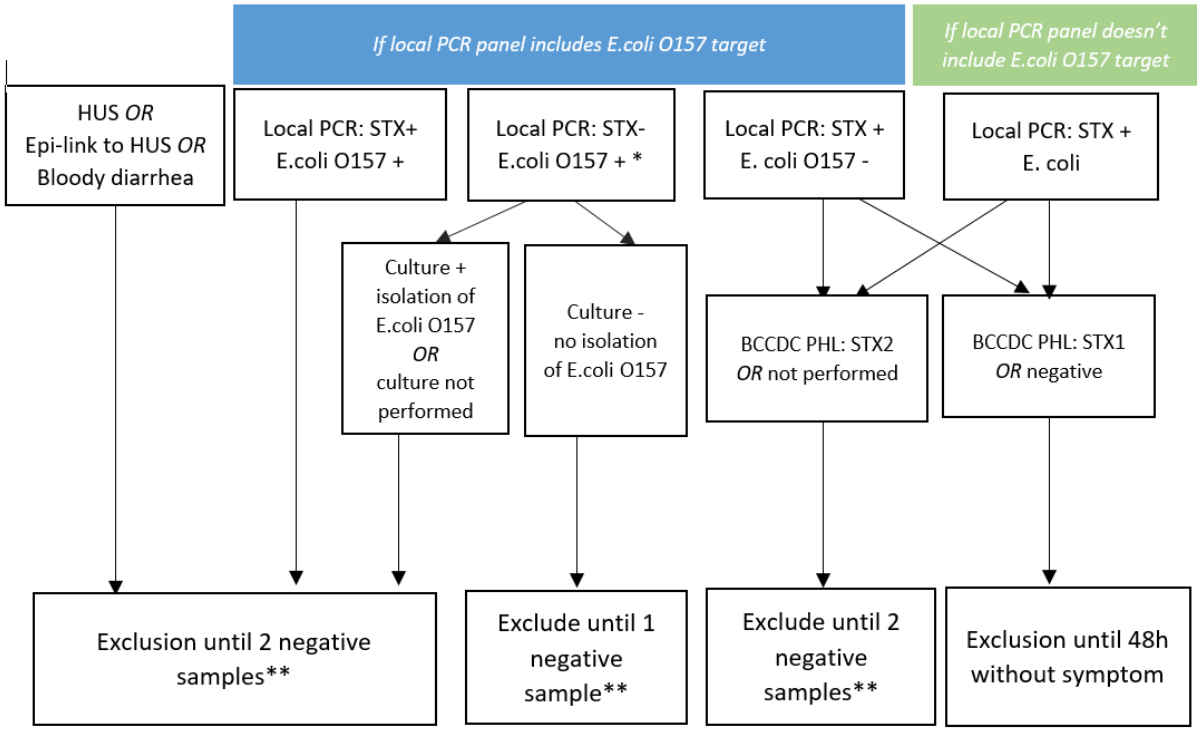
For severity criteria 1 to 5: Exclude until provision of 2 consecutive negative stools[4], taken after symptom resolution, collected at least 24 hours[5] apart and at least 48 hours after the completion of anti-diarrheal medications, if used. [6]
For severity criteria 6 (shiga toxin negative *E.coli* O157 by PCR): If initial stool culture was negative, exclude until provision of 1 negative stool sample[29] after symptom resolution, collected at least 24 hours[5] apart and at least 48 hours after the completion of anti-diarrheal medications, if used. [6].

Mild case
Cases with the following characteristics exclude until 48h after resolution of vomiting and diarrhea, as per 8.3:

- Culture isolation of a *E. coli* non-O157 AND
- *stx*1 gene AND
- no bloody diarrhea AND
- no physician-diagnosed HUS

Case with incomplete information
Cases with unknown, indeterminate or pending information should be treated as severe cases and require microbiological clearance until further results become available. If a case with incomplete results is subsequently found to meet the criteria for a mild case, they can be treated as a mild case.

Figure 1. Exclusion of STEC cases decision-making flowchart



Notes:
*If no culture is performed or case is asymptomatic while culture is pending, treat as case with unknown information and obtain 2 negative samples.
**Clearance samples should be obtained after symptom resolution, collected at least 24 hours apart from a previous sample and at least 48 hours after the completion of anti-diarrheals (or antibiotics, if received).

8.4.2 Contacts

8.4.2.1 Symptomatic contact who works in or attends a high risk setting

Exclude as per confirmed case if contact works in or attends a high risk setting:

- If symptomatic contact of a severe case, regardless of symptom profile: exclude until 2 consecutive negative stools
- If symptomatic contact of a mild case and exhibits mild symptoms: exclude until 48h after resolution of symptoms
  If symptomatic contact of a mild case and exhibits severe symptoms, treat as a case with incomplete results: exclude until 2 consecutive negative stools. If lab results of case and contact are different, situation will be assessed on a case-by-case basis. Consult with MHO.

8.4.2.2 Asymptomatic contact who works in a high risk setting[7]

No exclusion required

8.4.2.3 Asymptomatic contact who attends a childcare facility

- Household contact of severe case or case with incomplete results: Exclude until provision of 1 negative stool[8]
- Household contact of mild case: No exclusion required
- Child care facility contact: No exclusion required

Table 1. Summary of exclusion guidelines for STEC cases and contacts

	Workers in high risk settings			Childcare attendees		
Pathogen	Cases	Symptomatic contacts	Asymptomatic contacts	Cases	Symptomatic contacts	Asymptomatic contacts
Severe case or case with unknown or incomplete information	Exclude until 2* negative stools	Exclude until 2 negative stools	No exclusion	Exclude until 2* negative stools	Exclude until 2 negative stools	Household contact: exclude until 1 negative stool CCF contact: no exclusion
Mild case	Exclude until 48h after symptoms	If has severe symptoms, exclude until 2 negative stools. If has mild symptoms, exclude for 48h	No exclusion	Exclude until 48h after symptoms	If has severe symptoms, exclude until 2 negative stools. If has mild symptoms, exclude for 48h	No exclusion

*For probable cases (detection of E.coli O157 by CIDT without detection of shiga toxin gene) for which the first diagnostic culture was negative, request one negative stool sample taken after symptom resolution and collected at least 24h apart from the first negative culture sample.

8.4.3 OUTBREAK CONSIDERATIONS

If there is >1 severe case or 1 severe case and any number of symptomatic contacts in the child care facility, initiate an outbreak investigation and consider closing the facility.

The rate of infection is higher and illness may be more severe in children under 5 years of age. Outbreaks of STEC occur in child care facilities (Spika 1986, Belongia 1993, Boyce 1995, Gouveia 1998, Fitzpatrick 1999, Wong 2000, O'Donnell 2002, Galanis 2003, BCCDC 2004). If there is a confirmed case in the child care facility, operators should be advised to:

- Consult with public health
- Monitor all children for symptoms and inform all parents, by phone or letter, of a confirmed case in the facility
- Immediately exclude any child with diarrhea from the facility and inform public health. Until the child is picked up by a parent/guardian, move the child to a separate area away from contact with other children. If possible, the child should be cared for by staff that have no or minimal contact with other children. Advise parents that public health will follow-up with them, considering the child to be a symptomatic contact.
- Advise all staff, especially those involved in food handling, diapering or toileting children to be vigilant regarding their own hand washing and supervision of children's hand washing

More information can be found in: Management of Gastrointestinal Illness Outbreaks in Child Care Facilities.

8.5 Exclusions for Cases of Typhoid Fever (*Salmonella* Typhi) and Paratyphoid Fever (*Salmonella* Paratyphi excluding *S*. Paratyphi B Java) and their Contacts

Assess and counsel cases, contacts and excreters regarding required personal hygiene (Appendix I).

HIGH RISK WORKERS and CHILD CARE ATTENDEES

Confirmed Case

Confirmed case definition: A person from whom *S*. Typhi or *S*. Paratyphi is isolated by culture from stool, urine or blood.[9]

- **Exclude until provision of**
  1. **3 consecutive negative stool samples** collected at least 48 hours apart **and**
     - at least 48h after completion of antibiotic treatment (for ciprofloxacin) **or**
     - at least 2 weeks after completion of antibiotic treatment (for ceftriaxone and azithromycin).
     - If the patient is treated with another antibiotic or the antibiotic is unknown, discuss with the MHO and/or the clinician.[10]
  2. If case was treated while traveling and the appropriate medication may not have been prescribed, the case should be referred to a physician for assessment. Sampling should only commence after the appropriate treatment is completed.
     AND
  3. **1 negative urine sample** from a confirmed case who has ever traveled to a schistosomiasis-endemic country and may have been exposed to schistosomiasis. [11]
     - If urine sample is positive for *S*. Typhi or *S*. Paratyphi, advise physician to test case for schistosomiasis.
     - If case is positive for *S*. Typhi or *S*. Paratyphi and schistosomiasis, advise physician to treat case concurrently for both infections, even if this means repeating antibiotic treatment.[12]

- **Collection of stool samples**
  - Submit 3 stool samples at least 48 hours apart. If all 3 samples are negative, end exclusion.
  - If any of the 3 samples are positive, continue sampling at least 48 hours apart for a maximum of 3 more samples. If 3 consecutive samples are negative, end exclusion.
  - If 3 consecutive negative stool samples (after 6 samples collected) cannot be achieved, the confirmed case is classified as an excreter (see below).

If the case's infection is not associated with travel or contact with a confirmed case, discuss with the MHO and notify BCCDC.

Excreter

A. A confirmed case who continues to excrete *S.* Typhi after 6 stool samples are collected, at least 48h apart, and at least 48h to 2 weeks (see above) after completion of antibiotic treatment to which the pathogen is known to be sensitive.[13]

B. Discuss exclusion and further action with the MHO.[14]

Symptomatic Contact

- **Exclude until provision of**
  - **2 consecutive negative stool samples**[15] collected at least 48h apart, and taken after the confirmed case has commenced treatment, AND
  - **1 negative urine sample** from a contact who has ever traveled to a schistosomiasis-endemic country and may have been exposed to schistosomiasis. [11]
  - If any sample is positive, exclude as per confirmed case.

Asymptomatic Contact[16]

- Exclusion of an asymptomatic contact who traveled with a case until 2 negative stool samples taken at least 48h apart after the case has commenced treatment.[17]
- No exclusion required for asymptomatic contacts who did not travel with a case. (If the source of illness in the case is unclear, consider testing contacts to identify the source.)[7, 18]

Outbreak considerations

If there is >1 confirmed case or 1 confirmed case and any number of symptomatic contacts in the child care facility, initiate an outbreak investigation and consider closing the facility.

Cases <u>not</u> working in or attending high risk settings

S. Typhi, and to some extent, *S*. Paratyphi infections can lead to a carrier state. While no exclusion is necessary, public health should educate *S*. Typhi and *S*. Paratyphi cases and their physician about the availability of testing to ensure clearance of the organism.

8.6 Exclusions for Cases of *Shigella* Infection and their Contacts

Assess and counsel cases and contacts regarding required personal hygiene (Appendix I).

Confirmed case: Laboratory confirmation of infection with/without symptoms:
- Culture isolation of Shigella spp. from an appropriate clinical specimen.

Probable case: Laboratory evidence of infection with or without symptoms:
- Detection of Shigella spp. by PCR from an appropriate clinical specimen.

Suspect case: Clinical illness (diarrhea, fever, nausea, cramps, and tenesmus) in a person who is epidemiologically linked to a confirmed case.

- **Exclude all confirmed and probable cases of *Shigella* infection from working or attending high risk settings until the species (by culture) is known.**
- Once the species is identified, complete follow-up accordingly, if the culture is positive. If culture is negative, complete follow-up according to recommendations for probable *Shigella* cases below.
- If culture was unable to identify a species or was not done, complete follow-up as the most severe species.
- Any suspect (epi-linked) case in a high risk setting should be instructed to be tested.

*8.6.*1 Confirmed *Shigella* cases

Shigella sonnei

HIGH RISK WORKERS

Confirmed Case

Exclude until 48 hours after the last loose stool or vomiting episode, whichever comes last. No evidence of microbiological clearance is necessary.[19]

Symptomatic contact

Exclude as per confirmed case

Asymptomatic contact[7]

No exclusion required

CHILD CARE ATTENDEES

Confirmed Case[20]

- Exclude until provision of 1 negative stool sample, collected at least 48 hours after the completion of antibiotics.

- Advise all staff; especially those involved in food handling, diapering or toileting children to be vigilant regarding their hand washing and supervision of children's hand washing.

Symptomatic Contact who attends a child care facility

- Exclude until provision of one negative stool sample.
- If positive, exclude as per confirmed case. If negative, exclude from the child care facility until 48 hours after the last loose stool or vomiting episode, whichever comes last.

Asymptomatic Contact who attends a child care facility

No exclusion required.[21]

Shigella dysenteriae, flexneri, boydii

WORKERS IN HIGH RISK SETTINGS AND CHILD CARE ATTENDEES

Confirmed Case and Symptomatic Contact

Exclude until provision of 2 consecutive negative stool samples, after symptom resolution, collected not less than 24 hours apart and at least 48 hours after the completion of antibiotics.[22]

Asymptomatic Contact[7]

No exclusion required

8.6.2 Probable *Shigella* cases

HIGH RISK WORKERS AND CHILDCARE ATTENDEES

Case[27]

- Exclude until provision of 1 negative stool sample, collected at least 48 hours after the completion of antibiotics.
- Advise all staff; especially those involved in food handling, diapering or toileting children to be vigilant regarding their hand washing and supervision of children's hand washing.

Symptomatic Contact

- Exclude until provision of one negative stool sample.
- If positive, exclude as per confirmed/probable case. If negative, exclude from the child care facility until 48 hours after the last loose stool or vomiting episode, whichever comes last.

Asymptomatic Contact

- No exclusion required

Table 2. Summary of exclusion guidelines and clearance requirements for *Shigella* cases and contacts

	Workers in high risk settings			Childcare attendees		
Pathogen/ results	Cases	Symptomatic contacts	Asymptomatic contacts	Cases	Symptomatic contacts	Asymptomatic contacts
Shigella spp. by CIDT and culture negative	Exclude until 1 negative stool	Exclude until 1 negative stool	No exclusion	Exclude until 1 negative stool	Exclude until 1 negative stool	No exclusion
S. sonnei	Exclude until 48h after symptoms	Exclude until 48h after symptoms	No exclusion	Exclude until 1 negative stool	Exclude until 1 negative stool	No exclusion
S. dysenteriae, S. flexneri, S. boydii	Exclude until 2 negative stools	Exclude until 2 negative stools	No exclusion	Exclude until 2 negative stools	Exclude until 2 negative stools	No exclusion

Clearance samples recommended in this table should be obtained after symptom resolution, 48 hours after completion of antidiarrheals or antibiotics and at least 24 hours apart from a previous sample.

8.7 Exclusions for Cases of *V. cholerae* O1 and O139 (excluding *V. cholerae* non-O1 non-O139) Infection and their Contacts

Assess and counsel cases and contacts regarding required personal hygiene (Appendix I).

HIGH RISK WORKERS and CHILD CARE ATTENDEES

Confirmed Case

- Exclude until 48 hours after the last loose stool.[24]
- Microbiological clearance required only if sanitary facilities or personal hygiene are inadequate. Then, exclude until provision of 2 consecutive negative stool samples, taken after symptom resolution, collected not less than 24 hours[5] apart.

Symptomatic Contact

Exclude as per confirmed case.

Asymptomatic Contact[7, 25]

No exclusion required

N.B.: Probable *Vibrio* or *Vibrio cholerae* cases (PCR+, culture negative) are excluded as per section 8.3, as they are most likely not a *Vibrio cholerae O1/O139*[26]. However, if case ascertainment suggests the possibility that it is a *Vibrio cholerae O1/O139* (e.g. epidemiological link with a case or travel to an area with ongong transmission), MHO could require microbiological clearance if sanitary facilities or personal hygiene are inadequate[28].

9.0 EXPLANATORY NOTES

[1] Consensus of the Working Group: The BC Swimming Pool Regulation addresses the issue of patrons not being allowed to use the pool in certain situations, including illness.

[2] Consensus of the Working Group: A 48h interval was determined to ensure the case's symptoms have resolved. Most pathogens can be passed in the stools after symptoms have resolved, but if an individual is asymptomatic, good hygiene practices reduce the risk of transmission.

[3] The main virulence factors of STEC bacteria are *eae* and *stx* genes, the latter encoding for Shiga toxins (Stx1 or Stx2) (Orth 2007). An STEC bacterium may produce Stx1, Stx2, or both toxins. STEC bacteria may be isolated without Stx as the *stx* gene may be lost during infection; *E. coli* O157 *stx* negative strains may produce mild or, rarely, severe illness (Friedrich, 2007). Stx2 is associated with bloody diarrhea and HUS (Boerlin 1999, Ethelberg 2004, Orth 2007, Brandal 2015). STEC O157:H7 is more likely to produce Stx2, which explains this serotype's association with severe disease (Werber 2003, Ethelberg 2004, Hedican 2009).

By 2018, four jurisdictions had updated their exclusion policies to only require evidence of microbiological clearance from cases with STEC O157 infection or infection with STEC non-O157 containing the *stx2* gene (or *stx2* variants) or where the individual developed severe illness (Quebec 2016, Folkehelseinstituttet 2016, Statens Serum Institut 2017, Minnesota 2018). Cases with non-O157 STEC containing *stx1* only can return after a period of time symptom-free. These changes were based on the evidence that non-O157 STEC containing *stx1* infections are less severe. No severe cases or outbreaks were detected following implementation of these policies (personal communications: Caroline Duchesne, May 23, 2018, and Carlotta Medus May 25, 2018).

Consensus of the WG (2018): STEC exclusion recommendations should differentiate based on severity factors including serogroup, *stx* type and clinical profile. This ensures that severe cases are excluded to limit the risk of severe infection transmission but allows return of milder cases to work or childcare setting to minimise the impact on cases and public health authorities.

[4] Shiga toxin-producing *Escherichia coli* (STEC) infected individuals may shed for prolonged and intermittent periods (Karch 1995, Miliwebsky 2007) and both symptomatic and asymptomatic individuals can transmit the infection (Galanis 2003, Gilbert 2008).

In BC, all shiga-toxin positive PCR, STEC isolates and all culture negative bloody stool samples should be sent by private and hospital laboratories to the BC PHL for Shiga toxin stx1 and stx2 gene testing by PCR (BC PHMRL 2012, Chui 2010). If PCR is positive, further culture-based testing and identification are conducted to confirm the presence of STEC and/or to determine which serotype is present (e.g. *E. coli* O26). If PCR is negative, no further testing is done.

Although private BC labs are starting to use PCR-based panels to detect enteric pathogens, including non-O157 STEC, only the BC Public Health Laboratory (PHL) has the validated capacity to detect the majority of non-O157 STEC. **All stool samples tested in the**

assessment of microbiological clearance for non-O157 STEC cases must be submitted to the PHL.

Table 3. Interpretation of microbiological clearance stool testing results

PCR	Culture	Interpretation
Negative	Not done	Negative stool
Positive	Positive	Positive stool
Positive	Negative	Negative stool

A confirmed case who has had 2 negative consecutive stool cultures but remains *shiga toxin* gene positive may return to the high risk setting if asymptomatic and the risk of transmission is considered minimal based on a hygiene assessment. It is likely that STEC is no longer viable or is present in very low numbers (PHE 2018). Continued exclusion based solely on PCR results could cause undue hardship on the case and family.

[5] Consensus of the Working Group: A 24 hour waiting period between samples is based on best practices identified in many jurisdictions. No evidence was found to further support this 24 hour time period.

[6] Antibiotics and anti-diarrheal medications are not currently recommended in the treatment of STEC because of their potential association with an increased risk of HUS (Wong *et al* 2000, Safdar *et al* 2002, Tarr *et al* 2005).

[7] As a general rule, asymptomatic contacts do not need to be tested nor excluded. They have a low risk of infection and a low risk of transmission. Testing and excluding someone from their work place or from attending child care also has important adverse societal and medical costs. Contacts should be educated on the nature of the disease and the steps to reduce their risk of infection and transmission to others in the event they become infected; they should be advised to exclude themselves from work or child care if they become symptomatic and to report to public health immediately.

[8] Consensus of the Working Group: Exclusion until microbiological clearance using one stool sample is suggested based on best practices in at least one other jurisdiction (PHE 2018) and the anecdotal evidence of spread from an asymptomatic child to other children in a child care facility. The WG does not require two stool samples because there is no strong evidence to support this and does not want to apply undue pressure on families.

The UK (PHE 2018) recommends exclusion of contacts until two negative stools taken 48 hours apart and does not differentiate between symptomatic and asymptomatic contacts. Most other jurisdictions don't recommend exclusion of asymptomatic contacts. No supporting evidence is available either way. Intermittent shedding of STEC is uncommon (Belongia 1993). Asymptomatic infection in children is uncommon (Belongia 1993, Galanis 2003).

[9] All cases may be shedding in their stool and therefore be at risk of infecting others in high risk settings. In urine positive cases, there is no need to test the blood or stool before starting the exclusion and/or testing post treatment.

[10] Consensus of the BC Enteric Policy Working Group (2013): Although practices vary internationally, the requirements in this section are in line with practices in other jurisdictions (HPA 2012).

The requirements for the number of samples collected, the time between collection of samples, and the period before sample collection begins are based on the prolonged and intermittent shedding of *S*. Typhi. Collecting fewer samples or collecting them too closely together could result in false negatives samples and the assumption that a case is clear of the infection. Collection of stool at least 48h apart should allow intermittent shedders to be identified.

Since *S.* Typhi infections do not clear without treatment, collection of samples should start after the completion of treatment. Antibiotics recommended for the treatment of *S*. Typhi and *S*. Paratyphi include ciprofloxacin (half-life=4h), ceftriaxone (half-life=8h) and azithromycin (half-life=68h) (Bayer 2009, Roche Canada 2010, Pfizer Canada 2012). It takes approximately 5 half-lives for any antibiotic to clear. This would be equivalent to less than 48h for ciprofloxacin.

Ceftriaxone is cleared from plasma after about 48h. However, it reaches high concentrations in bile and is excreted in the gastrointestinal tract over a prolonged period. This period is not known but believed to be between 48h and 2 weeks (Maugdal 1982, Hayton 1986, Arvidsson 1988).

To determine the point in time when antibiotic concentration falls below the level necessary to inhibit bacterial growth and allow the re-growth of bacteria, we need the half-life, maximum serum concentration and minimum inhibitory concentration (MIC) of the antibiotic for a given bacterium (personal communication: Dr. F. Marra 2012). Azithromycin accumulates in tissue; serum concentration of azithromycin often remains below the MIC for *S*. Typhi (personal communication: Dr. D. Prurych 2012). It is therefore not possible to calculate the time it takes for azithromycin concentration to fall below the MIC. Based on limited MIC data, it is believed this point is reached between 1-2 weeks after completion of antibiotics.

For other antibiotics, the waiting period can be calculated using the half-life, maximum serum concentration and minimum inhibitory concentration (MIC) of the antibiotic for a given bacterium. The outer limit would be 5 half-lives. For an unknown antibiotic, the WG recommendation is to use the most conservative waiting period of 2 weeks. Other jurisdictions use a waiting period of 48h to 21 days for any antibiotic; no rationale was found (HPA 2012, Heymann 2008, Queensland 2011, Alberta Health and Wellness 2011, Washington State 2012).

No evidence or best practices could be found pertaining to cases infected in blood or urine only therefore the same apply to all confirmed cases of S. Typhi and Paratyphi, regardless of site of isolation.

[11] *S*. Typhi bacteria can adhere to the surface of *Schistosoma* during bacteremia if both pathogens are present concomitantly. This symbiotic relationship can occur with all species of *Schistosoma*. It leads to the intermittent, often asymptomatic release of *S*. Typhi in the urine and can confer antimicrobial resistance to *S*. Typhi (Gendrel 1993).

Schistosomiasis endemic areas include Africa, China, India and some countries in South America, the Caribbean, the Middle East and South East Asia. [cited 2006 Mar 18]. Available

from: http://www.cdc.gov/ncidod/dpd/parasites/schistosomiasis/factsht_schistosomiasis.htm. For a current list of endemic countries see the CDC website.

A person can be exposed to *Schistosoma* larvae when swimming or wading in fresh water, in a country where schistosomiasis is endemic.

[12] Treatment solely for schistosomiasis in people with concurrent infection with *S.* Typhi or *S*. Paratyphi will cause the release of *Salmonella* bacteria from *Schistosoma* and shedding in the urine (Bourée 2002, Penaud 1983).

S. Typhi can also rarely cause symptomatic urinary tract infections, independent of *Schistosoma* infections (Mathai 1995).

[13] Consensus of the Working Group: There is no scientific evidence stating the number of samples or the length of time that is required before classifying a case as an excreter.

[14] Further exclusion and testing should be determined by the Medical Health Officer based on an individual risk assessment.

[15] Based on best practices (Heymann 2004, Public Health Agency of Canada 2003, Working Group of the former PHLS Advisory Committee on Gastrointestinal Infections 2004). Two samples (rather than one) are required because *S.* Typhi is shed intermittently. The attack rate in household contacts is relatively low; in one study, only 2% of 1000 contacts were positive for *S*. Typhi (Braddick 1991).

[16] *S.* Typhi/Paratyphi infection symptoms include fever, headache, malaise, anorexia, constipation and/or diarrhea. The long incubation period for *S.* Typhi means that an asymptomatic person may test negative but may become ill at a later date.

[17] Consensus of the Working Group: The requirement in this section is in line with best practices in other countries. The UK (PHLS 2004) recommends exclusion of contacts who may have had similar exposure to case with 2 negative stool 48h apart after the case has commenced treatment. A contact who traveled with a case to an endemic country is likely to have been exposed to similar sources and is at a higher risk of infection. Testing of asymptomatic contacts is recommended because although asymptomatic infection is uncommon, carriage occurs in about 5% of infection individuals. Two samples are recommended because intermittent shedding is common (5-20% in Buchwald 1984).

[18] Only 2.6% of contacts have been found to be infected (Braddick 1991).

[19] *S. sonnei* infection is generally of moderate severity and of lower severity than *S. flexneri* and *S. dysenteriae* (McCrickard 2018, Khan 2013, Niyogi 2005).

A jurisdictional scan of enteric exclusion guidelines conducted in 2019 found that about half of the jurisdictions reviewed did not require microbiological clearance for *Shigella sonnei* cases and contacts prior to return to work in high risk settings.[1] In Jan 2020, by consensus, the

[1] Alberta 2005, Manitoba 2011, Quebec 2016, Ontario 2017, Minnesota 2015 and 2018, California 2017, Western Australia 2015, Ireland 2016, UK 2017

BCEPWG continued to recommend exclusion for 48h after symptoms. “The weight of evidence suggests that although the infectious dose is small, asymptomatic *Shigella* carriers practicing good personal hygiene pose minimal risk of spread of the infection” (Food Handlers with Potentially Foodborne Diseases Subcommittee 2004).

[20] *S. sonnei* is the most common *Shigella* species in BC and Canada, particularly in infants and preschool children, although illnesses are generally mild. Infected children 5 years or younger have an increased risk of transmission in child care facilities because of close contact with other children (especially those who are diapered), poor hand washing, and mouthing of toys. Exclusion and microbiological clearance are recommended by others (Aronson 2005, Pickering 2003, Public Health Agency of Canada 2003).

Several studies reported that all *S. sonnei* or *Shigella sp.* infected cases tested for microbiological clearance who had 1 negative convalescent stool culture also had a second negative stool culture in a consecutive sample (Turabelidze 2010, Shane 2003, Tai 2016). Based on this evidence, in Jan 2020, the BCEPWG determined that 1 negative stool was sufficient for *S. sonnei* cases who were childcare to return to the facility

[21] Consensus of the Working Group achieved in Jan 2020: Although shedding can occur after recovery (up to 4 weeks) (Heymann 2015), transmission from asymptomatic cases has rarely been reported. A scan of enteric exclusion guidelines showed a wide variety of practices but several jurisdictions recommend no stool testing or exclusion for asymptomatic contacts of *Shigella* cases.[1]

[22] *S. dysenteriae, flexneri, boydii* infection cases require microbiological clearance prior to return to a high risk setting because they can lead to severe infections and complications (Pickering 2003, McCrickard 2018, Khan 2013, Niyogi 2005). Little evidence is available for *S*. Boydii. In addition, unlike for *S. sonnei*, no evidence was identified on the likelihood of continued excretion after 1 negative stool for these *Shigella* species. Given shedding of *Shigella* is possible, the BCEPWG agreed in Jan 2020 to continue recommending 2 negative stools for these cases and contacts.

[23] Consensus of the Working Group achieved in Jan 2020: Although shedding can occur after recovery (up to 4 weeks) (Heymann 2015), transmission from asymptomatic cases has rarely been reported. A scan of 9 enteric exclusion guidelines from the UK, Australia, US states and Canadian provinces shows a wide variety of practices but several jurisdictions recommend no stool testing or exclusion for asymptomatic contacts of *Shigella* cases.

[24] Most jurisdictions including WHO, UK, Ireland and Western Australia all exclude until 48h after symptoms; microbiological clearance with 2 negative stools is required only if hygiene is inadequate. Secondary spread is rare where hygiene and sanitary facilities are adequate. Usually, stools remain positive for only a few days after recovery. Transmission via food from infected foodhandlers has been documented internationally but no secondary cases have been reported in Canada. Person-to-person spread is rare; a large inoculum is necessary (PHLS 2004).

[25] Asymptomatic carriage of *V. cholerae* is possible but rare.

26. There are few *Vibrio cholerae* O1/O139 cases (0-1 cases per year) in BC, compared to 38-61 cases of *Vibrio* cases between 2015-2019.

27. Consensus of the Working Group achieved in November 2022: As PCR cannot speciate, a significant proportion of cultured *Shigella* cases in BC are not *S. sonnei,* and a new sampling workflow for culture will be implemented, it was decided to recommend an additional sample for probable *Shigella* cases. A jurisdictional scan showed a variety of practices from no microbiological clearance to two negative samples, with many jurisdictions not precising specific modalities for CIDT cases. Although some studies suggest a lesser severity from culture negative *Shigella* cases (Quinn, 2018; Van den Beld, 2019), outbreaks have been described from cases who were initially culture-negative (Tai, 2016).

28. Current PCR panels cannot distinguish *Vibrio* serotypes. It is therefore theoretically possible that a probable Vibrio case is a *Vibrio cholerae* O1/O139 case. However, incidence of *Vibrio cholerae* non-O1/O139 is far higher *Vibrio cholerae* O1/O139, respectively[26]. Therefore, exclusion recommendations for the vast majority of probable *Vibrio* cases are based on the presence of symptoms only. If epidemiologic or clinical elements suggest the possibility that a probable *Vibrio* case is a *Vibrio cholerae* O1/O139 case, a MHO could recommend microbiological clearance.

29. Consensus of the Working Group achieved in November 2022: A jurisdictional scan showed difference in the reportability of *E.coli* O157 STX- detected by CIDT. Few jurisdictions cover this specific scenario. In the US, DoPH in Minnesota requests 2 negative samples for E.coli O157 CIDT cases (Personal communication, 2022) while Nebraska includes the first negative culture sample as among the 2 clearing samples (DHHS, 2021). As literature suggests that some shiga-toxin negative *E.coli* O157 can cause severe illness and outbreaks (Friedrich, 2007; Bielaszewska, 2007) but culture-negative cases may indicate a lower infectious dose (PHE, 2018), the Working Group agreed to require one additional sample taken after symptom resolution for probable STEC cases, until further evidence becomes available.

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11.0 APPENDICES

11.1 Appendix I: Personal Hygiene Assessment Checklist for High Risk Workers

This checklist is useful for assessing all high risk workers, however some questions may not apply to all high risk workers.

PERSONAL HYGIENE ASSESSMENT CHECKLIST FOR HIGH RISK WORKERS

Date of assessment:

Premises name: **Type of high risk setting:**

Inspector: **Consulted MHO:** **Consulted LO:**

Name of worker: **Name of disease:**

OWNER RESPONSIBILITY

Discuss with the owner, operator and/or supervisor their responsibilities re: exclusion of workers with diarrhea and/or vomiting and ensuring workers follow required personal hygiene procedures.

1. ASSESSMENT OF WORKPLACE COMPLIANCE

- **Are past inspection reports FREE of the following infractions?**

  Dates of inspection reports under review: _____

	Yes	No	DK
○ Lack of access to the hand washing sinks	___	___	___
○ Failure to supply running water, liquid soap or paper towels	___	___	___
○ Workers not washing hands when necessary	___	___	___
○ Workers not washing hands properly	___	___	___
○ Owner failing to exclude ill workers	___	___	___

  Comments: _____

  _____

- **Review hand washing stations. Are the following available?**

	Yes	No	DK
○ Dedicated hand washing stations in work areas	___	___	___
○ Adequate number of hand washing stations	___	___	___
○ Evidence that hand washing stations are being used	___	___	___
○ Accessible location of stations	___	___	___
○ Hand washing sink is free of clutter	___	___	___
○ Adequate maintenance of washrooms	___	___	___
○ Hot and cold running water	___	___	___
○ Liquid soap and paper towels	___	___	___

  Comments: _____

2. ASSESSMENT OF WORKER COMPLIANCE

➢ What are the worker's duties? _____

_____

What is the health status of the worker? _____

_____

Is there a language barrier? _____

➢ **Observe the worker's practices in the workplace. Is the worker**:

	Yes	No	DK
○ Washing hands properly:	___	___	___
➢ Lathering with liquid soap			
➢ Washing hands for at least 20 seconds			
➢ Rinsing hands well			
➢ Drying hands thoroughly with paper towel			
➢ Turning off the tap with paper towel			
• Washing hands when returning to the kitchen or duties	___	___	___
• Washing hands after coughing, sneezing, touching hair, face or nose, eating, drinking or smoking, or otherwise contaminating hands	___	___	___
A. Washing hands prior to preparing ready-to-eat foods	___	___	___
B. Refraining from wearing a dirty uniform/apron or wiping hands on it ___			___
C. Refraining from wearing jewelry or fake/long nails ___		___	___

Comments: _____

_____

11.2 Appendix II: Letters and Orders to Cases, Contacts & Employers

A. Letter to a case of STEC: Exclusion from work (modify for other diseases)
B. Letter to a case of typhoid/paratyphoid: Exclusion from work
C. Letter to a contact of typhoid/paratyphoid: Exclusion from work (modify for other diseases)
D. Letter to a case: Return to work
E. Letter to employer: Exclusion of an employee who is a confirmed case
F. Letter to employer: Exclusion of an employee who is a contact
G. Order to case: Exclusion from work
H. Letter to parent: Exclusion from child care

In the letters, exclusion requirements for cases and contacts should be modified depending on the enteric infection, according to the sections in the guideline. They can be further modified at the discretion of the Health Authorities and in accordance with HA privacy policies, but the basic elements should be retained.

The letters to employers should *not* include the name of the enteric infection. Authority to disclose this information to a third party (e.g. employer) is in the Freedom of Information and Protection of Privacy Act section 33.2(a).[2] It is recommended that the case or contact be sent a copy of the letter sent to the employer and to document that the case or contact has been notified.

The legislation that gives the MHO authority to exclude (Public Health Act sections 27, 28 and 29*)* should always be cited in an order.

[2] It is recommended that whenever FoIPPA is referenced in a BC guideline, Health Authorities (HA) inform the head of their HA under FoIPPA.

A. Letter to a case of STEC: Exclusion from work (modify for other diseases)

Date

Name
Address

Phone #

Method of delivery:
Date & time of delivery:

Dear '**Case Name**':

RE: EXCLUSION FROM WORK – SHIGA TOXIN-PRODUCING *E. COLI*

As required by the *Reporting Information Affecting Public Health Regulation*, it has been reported to (health authority name) that you have a Shiga toxin-producing *E. coli* infection. This type of *E. coli* can be spread to others through preparation of food and drink and direct contact with people. To decrease the risk of spread to others, you need to stay away from work until you have cleared the infection. It is safe for you to return to work once you have

- 2 consecutive negative stool samples, taken after symptoms have stopped, collected not less than 24 hours apart and at least 48 hours after the completion of a prescribed course of antibiotics and/or anti-diarrheal medications, if these medications have been used.

In order to submit 2 stool samples, please contact (HA specific information re: sample kit collection and delivery, and laboratory results). In the meantime, if you are well enough to work, it may be possible for you to carry out some duties that will not create a risk to public health. You must have medical health officer approval for this. See contact details below.

It is your responsibility to follow-up with your environmental health officer in order to obtain clearance to return to work. Once you are cleared, your environmental health officer will provide you with a letter from this office, addressed to you and your employer, advising that it is safe for you to return to work.

Please note that you may only be cleared to return to work by a medical health officer. A letter from your physician to your employer **will not** clear you to return to work.

If you have any questions, please contact your environmental health officer, 'name' at 'phone number'.

Sincerely,

Health Officer

B. Letter to a case of typhoid/paratyphoid: Exclusion from work

Date

Name
Address

Phone #

Method of delivery:
Date & time of delivery:

Dear '**Case Name**':

RE: EXCLUSION FROM WORK – TYPHOID/PARATYPHOID CASE

As required by the *Reporting Information Affecting Public Health Regulation*, it has been reported to (health authority name) that you have a typhoid/paratyphoid infection. Typhoid/paratyphoid is easily spread to others through the preparation of food and drink and direct contact with people. To decrease the risk of spread to others, you need to stay away from work until you have cleared the infection. It is safe for you to return to work once you have

- 3 consecutive negative stool samples collected at least 1 week apart and at least 2 weeks after completion of antibiotic treatment. If you were treated while traveling and it is possible that the appropriate medication was not prescribed, you will be referred to your physician for assessment of re-treatment. Sampling can only commence after re-treatment is completed.

- 1 negative urine sample if you traveled to a country where you may have been exposed to schistosomiasis (a parasitic infection).

In order to submit these samples, please contact (HA specific information re: sample kit collection and delivery, and laboratory results). In the meantime, if you are well enough to work, it may be possible for you to carry out some duties that will not create a risk to public health. You must have medical health officer approval for this. See contact details below.

It is your responsibility to follow-up with your environmental health officer in order to obtain clearance to return to work. Once you are cleared, your environmental health officer will provide you with a letter from this office, addressed to you and your employer, advising that it is safe for you to return to work.

Please note that you may only be cleared to return to work by a medical health officer after the required lab results are received. A letter from your physician to your employer **will not** clear you to return to work.

If you have any questions, please contact your environmental health officer, 'name' at 'phone number'.

Sincerely,

Health Officer

C. Letter to a contact of typhoid/paratyphoid: Exclusion from work (modify for other diseases)

Date

Name
Address

Phone #

Method of delivery:
Date & time of delivery:

Dear '**Contact Name**':

RE: EXCLUSION FROM WORK – TYPHOID/PARATYPHOID CONTACT

As required by the *Reporting Information Affecting Public Health Regulation*, you have been identified to (health authority name) as a contact of an individual with a typhoid/paratyphoid infection. Being a contact puts you at risk for getting typhoid/paratyphoid yourself. Typhoid/paratyphoid is easily spread to others through preparation of food and drink and direct contact with people. To decrease the risk of spread to others, you need to stay away from work until you have shown that you are not carrying the infection. It is safe for you to return to work once you have:

- (Refer to Section 8.5 and insert requirements depending on whether contact is symptomatic or asymptomatic.)

In order to submit these samples, please contact (HA specific information re: sample kit collection and delivery, and laboratory results). In the meantime, if you are well enough to work, it may be possible for you to carry out some duties that will not create a risk to public health. You must have medical health officer approval for this. See contact details below.

It is your responsibility to follow-up with your environmental health officer in order to obtain clearance to return to work. Once you are cleared, your environmental health officer will provide you with a letter from this office, addressed to you and your employer, advising that it is safe for you to return to work.

Please note that you may only be cleared to return to work by a medical health officer after the required lab results are received. A letter from your physician to your employer **will not** clear you to return to work.

If you have any questions, please contact your environmental health officer, 'name' at 'phone number'.

Sincerely,

Health Officer

D. Letter to a case: Return to work

Date

Name
Address

Phone #

Method of delivery:
Date & time of delivery:

Dear '**Case or Contact Name**':

RE: RETURN TO WORK

The (health authority name) has received test results indicating that you ('no longer have a communicable disease' OR 'have been confirmed as being clear of infection, as a contact').

As a result, it is safe for you to return to work. You may provide a copy of this letter to your employer as verification that it is safe for you to perform your regular duties. Please remember that careful and frequent hand washing is critical to preventing the spread of this and many other infectious diseases.

If you have any questions, please contact your environmental health officer, 'name' at 'phone number'.

Sincerely,

Health Officer

E. Letter to employer: Exclusion of an employee who is a confirmed case

Date

Name
Address

Method of delivery:
Date & time of delivery:

Phone #

Dear '**Employer Name**':

RE: EXCLUSION OF EMPLOYEE – (Name)

As authorized by the *Public Health Act*, and in order to protect the public's health, your employee (name), has been advised to stay away from work involving (list of duties to be specified by the Health Authority), because he/she:

- Has a communicable disease that can be spread to others through preparation of food and drink and direct contact with other people.

(Name) has been given both verbal and written information about the criteria that must be met before returning to work. When the necessary criteria are met, the environmental health officer will provide you and (name) with a letter from this office, advising him/her that it is safe to return to work. In the meantime, if he/she is well enough to work, it may be possible for him/her to carry out some duties that will not create a risk to public health. You must have medical health officer approval for this. See contact details below.

Please note that (name) may only be cleared to return to work by a medical health officer. A letter from your employee's physician to you or your employee **will not** clear your employee to return to work.

If you have any questions, please contact your environmental health officer (name and number).

Sincerely,

Health Officer

cc. Case at last known address.

F. Letter to employer: Exclusion of an employee who is a contact

Date

Name
Address

Method of delivery:
Date & time of delivery:

Phone #

Dear '**Employer Name**':

RE: EXCLUSION OF EMPLOYEE - (Name)

As authorized by the *Public Health Act*, and in order to protect the public's health, your employee (name), has been advised to stay away from work involving (list of duties to be specified by the Health Authority), because he/she is undergoing investigation to determine if (he/she) has a communicable disease that can be spread to others through preparation of food and drink and direct contact with other people.

(Name) has been given both verbal and written information about the criteria that must be met before returning to work. When the necessary criteria are met, the environmental health officer will provide you and (Name) with a letter from this office, advising him/her that it is safe to return to work. In the meantime, if he/she is well enough to work, it may be possible for him/her to carry out some duties that will not create a risk to public health. You must have medical health officer approval for this. See contact details below.

Please note that (name) may only be cleared to return to work by a medical health officer. A letter from your employee's physician to you or your employee **will not** clear your employee to return to work.

If you have any questions, please contact your environmental health officer, 'name' at 'phone number'.

Sincerely,

Health Officer

cc. Case at last known address.

G. Order to case: Exclusion from work

Date

Name
Address

Method of delivery:
Date & time of delivery:

Phone #

To '**Case Name**':

RE: EXCLUSION FROM WORK – (Name of Disease)

As required by the *Reporting Information Affecting Public Health Regulation*, it has been reported to me that you are infected with (name of disease). This infection can be spread to others through the preparation of food and drink and direct contact with people. Since your work involves one or more of these potential methods of spread, I believe that you are a person infected with _____, and that it is necessary to protect the public health that you remain off work until you are no longer infected.

THEREFORE, pursuant to the authority vested in me by sections 27, 28 and 29 of the *Public Health Act* [SBC 2008] Chapter 28 (see over),

> I HEREBY ORDER YOU TO REMAIN OFF WORK AS (NAME OCCUPATION) UNTIL A MEDICAL HEALTH OFFICER CONSENTS TO YOUR RETURN.

This order excluding you from work will remain in effect until you provide evidence to the environmental health officer named below that you have cleared the infection, specifically:

- (Name whatever conditions apply.)

In order to provide evidence that you have cleared the infection, you must
(name the conditions), (HA specific information re: sample kit collection and delivery, and laboratory results), or contact your environmental health officer. (See contact details below.)

It is your responsibility to follow-up with your environmental health officer in order to obtain clearance to return to work. Once you are cleared, your environmental health officer will provide you with a letter from this office, addressed to you and your employer, allowing you to return to work.

You may only be cleared to return to work by a medical health officer. A letter from your physician to your employer **will not** clear you to return to work.

Take note that you may apply for reconsideration of this order, pursuant to section 43 of the *Public Health Act*:

43 *(1) A person affected by an order, or the variance of an order, may request the health officer who issued the order or made the variance to reconsider the order or variance if the person*

(a) has additional relevant information that was not reasonably available to the health officer when the order was issued or varied,

(b) has a proposal that was not presented to the health officer when the order was issued or varied but, if implemented, would

(i) meet the objective of the order, and

(ii) be suitable as the basis of a written agreement under section 38 [may make written agreements]*, or*

(c) requires more time to comply with the order.

(6) An order is not suspended during the period of reconsideration unless the health officer agrees, in writing, to suspend it.

If you have any questions about this order, contact your environmental health officer, 'Name' at 'Phone Number'.

_____
[MHO Name and Title]

Given under my hand, the _____ day of _____, 20___.

_____
[EHO Name and Title]

Note: In a cover letter, can put additional advice or information, such as: "In the meantime, if you are well enough to work, it may be possible for you to carry out some duties that will not create a risk to public health. You must have my approval for this."

On the back of the order, put sections 27, 28 and 29 of the Public Health Act:

27 (1) A medical health officer may issue an order under this Division only if the medical health officer reasonably believes that

(a) a person

(i) is an infected person, or

(ii) has custody or control of an infected person or an infected thing, and

(b) the order is necessary to protect public health.

(2) An order may be issued based on clinical findings or a person's or thing's circumstances or medical history, even if the person or thing has been examined and the examination did not reveal the presence of an infectious agent or a hazardous agent.

(3) For greater certainty, this section applies even if the person subject to the order is complying with all terms and conditions of a licence, a permit, an approval or another authorization issued under this or any other enactment.

28 (1) If the circumstances described in section 27 *[when orders respecting infectious agents and hazardous agents may be made]* apply, a medical health officer may order a person to do anything that the medical health officer reasonably believes is necessary for either or both of the following purposes:

(a) to determine whether an infectious agent or a hazardous agent exists, or likely exists;

(b) to prevent the transmission of an infectious agent or a hazardous agent.

(2) A medical health officer may, in respect of an infected thing,

(a) make any order, with any necessary modifications, that can be made under this Division as if the infected thing were an infected person, and

(b) direct the order to any person having custody or control of the infected thing.

29 (1) An order may be made under this section only

(a) if the circumstances described in section 27 *[when orders respecting infectious agents and hazardous agents may be made]* apply, and

(b) for the purposes set out in section 28 (1) *[general powers respecting infectious agents and hazardous agents]*.

(2) Without limiting section 28, a medical health officer may order a person to do one or more of the following:

(a) remain in a specified place, or not enter a place;

(b) avoid physical contact with, or being near, a person or thing;

(c) be under the supervision or care of a specified person;

(d) provide to the medical health officer or a specified person information, records, samples or other matters relevant to the person's possible infection with an infectious agent or contamination with a hazardous agent, including information respecting persons who may have been exposed to an infectious agent or a hazardous agent by the person;

(e) be examined by a specified person, including

(i) going to a specified facility for examination, and

(ii) being examined before a particular date or according to a schedule;

(f) submit to diagnostic examination, including going to a specified facility or providing the results to a specified person;

(g) take preventive measures, including

(i) going to a specified facility for preventive measures,

(ii) complying with preventive measures set out in the order, specified by a medical practitioner or nurse practitioner, or both, and

(iii) beginning preventive measures before a particular date, and continuing until a particular date or event;

(h) provide evidence of complying with the order, including

(i) getting a certificate of compliance from a medical practitioner, nurse practitioner or specified person, and

(ii) providing to a medical health officer any relevant record;

(i) take a prescribed action.

H. Letter to parent: Exclusion from child care

Date

Name
Address

Phone #

Method of delivery:
Date & time of delivery:

Dear '**Parents or guardians of Case Name or Contact Name**':

RE: EXCLUSION FROM CHILD CARE – NAME OF DISEASE

As required by the *Reporting Information Affecting Public Health Regulation*, it has been reported to (health authority name) that (name) has a (name of disease) infection OR (separate letter) it has been confirmed that (name) is a contact of a case of enteric infection. This type of infection can be spread to others through direct contact. Therefore, (name) should be kept home from child care, because of the risk of spreading the infection to other children, or the staff. It is safe for (name) to return to child care once he/she has:

- (Name the details for successful test-of-cure or negative PCR/culture.)

In order to establish that (name) has cleared the infection, you need to (provide test-of-cure/confirmation of negative culture), (HA specific information re: sample kit collection and delivery, and laboratory results), or contact your environmental health officer.

It is your responsibility to follow-up with your environmental health officer in order to obtain clearance for (name) to return to child care. Once (name) is cleared, your environmental health officer will provide you with a letter from this office, addressed to you, advising that it is safe for (name) to return to child care.

Please note that (name) may only be cleared to return to child care by a medical health officer. A letter from your physician will **not** clear (name) to return to child care.

If you have any questions, please contact your environmental health officer, 'name' at 'phone number'.

Sincerely,

Health Officer