

ENTERIC DISEASES SURVEILLANCE PROTOCOL FOR ONTARIO HOSPITALS

Developed by the Ontario Hospital Association and
the Ontario Medical Association
Joint Communicable Diseases Surveillance Protocols Committee

Approved by
The OHA and the OMA Board of Directors
The Ministry of Health and Long-Term Care –
The Minister of Health and Long-Term Care

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This protocol was developed jointly by the Ontario Hospital Association and the Ontario Medical Association to meet the requirements of the *Public Hospitals Act 1990, Revised Statutes of Ontario, Regulation 965*. This regulation requires each hospital to have by-laws that establish and provide for the operation of a health surveillance program including a communicable disease surveillance program in respect of all persons carrying on activities in the hospital. The communicable disease program is to include the tests and examinations set out in any applicable communicable disease surveillance protocol. The regulation states that the communicable disease surveillance protocols that hospitals must adopt are those "published jointly by the Ontario Hospital Association (OHA) and the Ontario Medical Association (OMA) and approved by the Minister (of Health and Long-Term Care)."

This Protocol has been reviewed since the previous version; changes have been highlighted in yellow for easy identification. Protocols are reviewed on a regular basis, every two years or as required.

The protocol reflects clinical knowledge, current data and experience, and a desire to ensure maximum cost effectiveness of programs, while protecting health care workers and patients. It is intended as a minimum standard that is practical to apply in most Ontario hospital settings. It does not preclude hospitals from adopting additional strategies that may be indicated by local conditions.

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Rationale for Enteric Diseases Surveillance Protocol

Institutional outbreaks of gastroenteritis involving staff have been reported¹ particularly with hepatitis A,^{2,3,4} cryptosporidiosis⁵ and norovirus.⁶ Noroviruses account for up to 24 percent of sporadic gastroenteritis⁷ and are the most common cause of enteric outbreaks in health care facilities.^{8,9}

Health care workers (HCWs) infected with enteric pathogens should be excluded from working with food or patients when they have symptoms, i.e., vomiting and/or diarrhea. Although outbreaks related to possible transmission from an asymptomatic food handler have been described, these are rare in the health care setting.⁹⁻¹¹ Similarly, there is little evidence that asymptomatic personnel excreting *Salmonella* transmit infection to patients,¹² with the possible exception of newborn infants, for whom a very low inoculum may be infectious and the risk of extra-intestinal disease is high.

Asymptomatic carriers of most enteric pathogens in the bowel do not pass these organisms on if they wash their hands after using the bathroom. In studies assessing the potential for transmission of infection from asymptomatic excretors by culturing swabs from hands after a bowel movement, proper hand washing successfully removed organisms from the hands of all carriers.

All HCWs and food handlers must practice good hygiene, including hand hygiene, at all times. Hospitals must emphasize good personal hygiene, proper food handling and proper patient care techniques.

Exceptions in the Protocol

This protocol outlines specific responses for *Shigella* infections, norovirus-like (formerly Norwalk-like) disease, hepatitis A, *Salmonella typhi* and *Salmonella paratyphi* infections.

The known infectious dose is much lower for *Shigella* species than for the other organisms covered by the protocol, making these organisms more easily transmissible person-to-person.

The exceptions for norovirus-like disease and hepatitis A are based on epidemiological evidence of length of carriage and transmissibility.^{13,14}

Salmonella typhi and *paratyphi* (the agents of typhoid fever and paratyphoid fever, respectively) are handled differently because the known infectious dose is much lower and the illness more severe than with other *Salmonella* species.¹⁵ Humans are the only hosts of these organisms. Nevertheless, evidence that these organisms are more likely than other pathogens to be transmitted from asymptomatic carriers in the healthcare setting is limited. Since infection characteristically leads to fever and constipation, rather than diarrhea, transmission is unlikely, even in acute cases.

In a gastrointestinal outbreak, the local public health unit must be involved and management of individuals may be different.

This document does not discuss *Clostridium difficile* as it is not an occupational health and safety issue if HCWs consistently use Routine Practices, including hand hygiene, refrain from eating and drinking in patient care areas¹, and use Contact Precautions for patients with *C. difficile* infection. Readers are referred to the Provincial Infectious Disease Advisory Committee (PIDAC) Best Practices Document for the Management of *Clostridium difficile* in all Health Care Settings.¹⁶ In addition, this document does not address less common causes of diarrhea in health care settings.

This protocol is only one component of an infection prevention and control program; HCWs must consistently adhere to Routine Practices.

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I. Purpose

The purpose of this protocol is to provide direction to hospitals to prevent the transmission of enteric diseases among health care workers (HCWs) and patients.

II. Applicability

This protocol applies to **all persons carrying on activities in the hospital**, including but not limited to employees, physicians, nurses, contract workers, students, post-graduate medical trainees, researchers and volunteers. The term HCW is used in this protocol to describe these individuals. This protocol does not apply to patients or residents of the facility or to visitors.

When training students or hiring contract workers, the hospital must inform the school/supplying agency that the school/agency is responsible for ensuring that their student/contractors are managed according to this protocol.

This protocol is for the use of the Occupational Health Service (OHS) in hospitals. It is expected that OHS collaborate with Infection Prevention and Control and other departments, as appropriate.

III. Pre-placement

There is no need for pre-placement stool screening of any persons carrying on activities in the hospital, including food handlers.^{10,17}

Routine administration of hepatitis A virus vaccine to HCWs¹⁸ including food handlers and plumbers dealing with sewage¹⁹ is not required. Consistent use of Routine Practices should eliminate any risk.

HCWs should be educated:

- **Not to store or consume food or beverages in areas where contamination may occur (such as refrigerators used for specimens, locations where patient care is provided, etc.) as directed under the *Occupational Health and Safety Act, Health Care and Residential Facilities Regulation (O. Reg. 67/93, s.31 and s.32)*.** HCWs who consume food or beverages in care areas (patient environment, nursing station, charting areas) are at increased risk for acquiring serious foodborne gastrointestinal infections. Institutional outbreaks involving staff have been reported, particularly with hepatitis A, cryptosporidiosis, and norovirus.¹⁻³

Not to work with acute gastrointestinal illness of probable infectious etiology, and inform OHS.

IV. Continuing Surveillance

There is no need for routine stool screening of any persons carrying on activities in the hospital, including food handlers.

V. Exposure

HCWs who are exposed to enteric diseases are not restricted from work unless symptomatic, **with the exception of additional requirements related to norovirus outbreaks (see below).**

VI. Acute Disease

Gastrointestinal illness of an acute infectious nature may have serious implications for food handlers and HCWs because of the potential for transmission to patients. Therefore, all such persons experiencing vomiting and/or diarrhea have a responsibility to declare this to the OHS, both when leaving work and prior to returning to work.

Infected HCWs and their personal health care providers are responsible for follow-up care if disease occurs.

Work Restrictions

HCWs, including food handlers, experiencing vomiting and/or diarrhea of a probably infectious nature should be excluded from work until they have been symptom-free for 24 hours. Specific exclusions, where a longer exclusion from work may be required, are addressed under "Exceptions" below.

After symptomatic recovery from a gastrointestinal illness, a food handler or HCW must report to the OHS **prior to return to work**. Return to work is **not** conditional upon submission of stool specimens or results of stool examination, except as outlined under "Exceptions".

Return to work is conditional on good personal hygiene.

In some situations, individuals may be identified as carriers of enteric pathogens (where stools have been submitted for reasons other than return to work criteria). In these cases, known symptom-free carriers of enteric pathogens, including *Campylobacter* species, *Salmonella* species (excluding *typhi* and *paratyphi*), *E. coli* O157:H7, *Entamoeba histolytica* (amebiasis), *Yersinia* and *Giardia* may continue to work **as long as personal hygiene is good.**

Exceptions to these recommendations:¹⁷

(a) **E.coli 0157:H7**: Exclude symptomatic food handlers and healthcare providers until the provision of 2 consecutive negative stool specimens or rectal swabs taken at least 24 hours apart and at least 48 hours after the completion of antibiotic and/or anti-diarrheal therapy medications, if these medications have been used.²⁰

(b) **Hepatitis A**: Acutely infected food handlers or HCWs must remain off work until 7 days following onset of jaundice, or 14 days from onset of symptoms. Hepatitis A vaccine and/or human immune globulin (IG) should be given for post-exposure prophylaxis (PEP) of contacts as soon as possible and preferably within 7 days (but up to 14 days) of exposure to the case^{7,18,21} as follows:

- Healthy children and adults 1-49 years of age: vaccine
- Healthy adults ≥ 50 years of age: vaccine plus IG*
- Immuno-compromised: vaccine plus IG
- Chronic liver disease: vaccine plus IG*.

Only one dose of monovalent vaccine is indicated for PEP. For long-term immunity, two doses total must be administered 6-12 months apart as per the routine schedule.^{18,21,22}

If the case is a food handler, a risk assessment should inform the need for identification and management of contacts.²²

Routine care of patients with hepatitis A does not constitute exposure, unless an outbreak is suspected.²³

(c) **Norovirus (Norwalk-like Disease)**: HCWs with symptoms suggestive of norovirus disease must remain off work until symptom-free for 48 hours. In norovirus outbreaks (see Glossary), patient-staff cohorting should be implemented; persons working in the affected unit should not work in other units or facilities for 48 hours after last exposure.²⁴

(d) **Salmonella**:

i) For **Salmonella typhi (typhoid fever)**²⁵ and **Salmonella paratyphi (paratyphoid fever)**.²⁶

Symptomatic food handlers or HCWs should be excluded until provision of 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 HCW is treated with another antibiotic or the antibiotic is unknown, the HCW should be referred for physician assessment.

Sampling should only start after the appropriate treatment is completed, as outlined above. If any of the 3 samples is positive, continue sampling at least 48 hours apart for a maximum of 3 more samples. If 3 consecutive negative stool samples (after 6 samples collected) cannot be achieved, the HCW is classified as an excreter, and an assessment by a physician is required to determine the risk of *S. typhi* or *S. paratyphi* transmission.^{25,26}

- ii) For all other ***Salmonella* species**: Symptomatic food handlers or HCWs must be excluded until symptom free for 24 hours, or symptom free for 48 hours after discontinuing use of anti-diarrheal medication.²⁷
- (e) ***Shigella***: Symptomatic food handlers or HCWs must be excluded from work until a negative stool sample or rectal swab collected at least 24 hours after cessation of symptoms **OR** 48 hours after completion of antibiotic therapy.²⁸

VII. Reporting

Infections caused by *E. histolytica* (amebiasis), *Campylobacter* species, *Cryptosporidium*, *Salmonella* species, *Shigella* species, *E. coli* O157:H7, *Yersinia*, *Giardia*, hepatitis A, and any other reportable enteric pathogen (as per Ontario Regs 559/91 and amendments under the Health Protection and Promotion Act) must be reported to the local Medical Officer of Health.

In accordance with the Occupational Health and Safety Act and its regulations, an employer must provide written notice within 4 days of being advised that a worker has an occupational illness, including an occupationally-acquired infection, and/or a Workplace Safety and Insurance Board (WSIB) claim has been filed by or on behalf of the worker with respect to an occupational illness, including an occupational infection, to the:

- Ministry of Labour,
- Joint Health and Safety Committee (or health and safety representative), and
- trade union, if any.

Occupationally-acquired illnesses are reportable to the WSIB.

VIII. Outbreaks

In outbreaks, the OHS must notify the Medical Officer of Health, and the hospital's Infection Prevention and Control service. Food handlers and epidemiologically-linked HCWs may be asked to submit stools for examination.

HCWs must remain off work until at least 24 hours after resolution of symptoms, or for longer as discussed under "Exceptions" above.

Other measures may be directed by Public Health.

IX. Glossary

Food Handler

Food handler is any person involved in the preparation, transport, serving, or handling of food, food supplements, or parenteral nutrition.

Outbreak

Excess numbers of cases, over the expected, that appear to be epidemiologically linked and related to the hospital.

Case definitions for reportable enteric diseases and gastroenteritis outbreaks in institutions can be found in the Ontario Public Health Standards, Infectious Disease Protocols, available online at:

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/infdispro.aspx#p¹⁷

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