



Ontario Emergency Medical Services Section 21 Sub Committee

Emergency Medical Services Guidance Note #8

Issue: Infection Prevention and Control

PREAMBLE

Paramedics, as front line health care providers, often work in relatively uncontrolled environments and may encounter patients that have been exposed to infectious, communicable diseases. An effective Infection Prevention and Control (IPAC) program is necessary to protect the health and safety of Emergency Medical Services (EMS) workers. When properly developed and implemented, such programs will serve to protect not only paramedics, but also patients, other first responders, other health care workers (e.g. workers at the receiving hospital), and the public.

BACKGROUND

A number of “Best Practice” guideline documents have been developed by the Public Health Agency of Canada (PHAC) and Public Health Ontario (PHO). These documents provide reference material that can be utilized by EMS employers to facilitate the development of a robust IPAC program.

OCCUPATIONAL HEALTH AND SAFETY PRECAUTIONS AND CONTROL MEASURES

Performing a Risk Assessment Related to Routine Practices and Additional Precautions

An individual assessment of each patient’s potential risk of transmission of infectious diseases should be made by paramedics who come into contact with them. Based on that risk assessment and a risk assessment of the task, the paramedic may determine appropriate intervention and interaction strategies, such as hand hygiene, waste management, and use of personal protective equipment (PPE) that will reduce the risk of transmission of infectious diseases to and from the individual.

The knowledge of three factors is necessary to conduct an effective risk assessment:

1. potential consequence of the hazard,
2. likelihood of exposure to the hazard, and
3. the number of people regularly exposed to the hazard.

To assess the risk of infectious diseases, it is important to have the knowledge of:

- the signs and symptoms of the disease
- the significance of the infectious agent
- the epidemiology involved such as reservoir, mode of transmission, incubation periods, infectious periods, and transmission factors.



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Designated Officer

The *Exposure of Emergency Service Workers to Infectious Disease Protocol, 2008*, published by the Ministry of Health and Long Term Care, requires each EMS provider to have a Designated Officer. A Designated Officer is a person identified in an emergency service that is responsible for receiving and assessing reports regarding the possible exposure of an emergency service worker to an infectious disease of public health importance and then contacting the Medical Officer of Health or designate.

The Designated Officer should be someone who has received training regarding:

- communicable diseases
- the required and recommended immunizations to prevent spread of vaccine preventable diseases (Note: Clause 6 (1)(h) of O. Reg. 257/00 under the *Ambulance Act*, refers to the immunization requirements for paramedics as listed in Table 1 of the “Ambulance Service Communicable Disease Standards”, published by the Ministry of Health and Long Term Care)
- appropriate use and disposal of personal protective equipment (PPE)
- the proper methods and procedures for effective cleaning and disinfection of reusable equipment and the patient environment.

The Designated Officer has a role in:

- the investigation of exposure incidents
- assessing the risks to the worker
- advising about medical follow-up if required
- liaising with the local Public Health Unit as necessary.

EMS employers should:

- 1) Assign at least one Designated Officer for communicable diseases, and ensure that the Designated Officer is appropriately trained.
- 2) Have written procedures in place to recognize situations with the potential for occupational exposure or transmission of infectious diseases based on evidence based guidelines.
- 3) Ensure that policies are reviewed at least annually.
- 4) Ensure that supervisors and workers are trained to assess and recognize communicable diseases, to know the appropriate PPE to use, and proper PPE donning and doffing and disposal techniques.
- 5) Ensure that workers are immunized for vaccine preventable diseases according to current recognized guidelines (in accordance with Clause 6 (1)(h) of O. Reg. 257/00 under the *Ambulance Act*).
- 6) Obtain a health assessment of new workers to determine the history of previous or present infectious diseases.



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- 7) Consider tuberculosis testing upon hire of new workers to establish a base line in accordance with recognized guidelines and potential risk factors in the community.
- 8) Have policies and procedures in place regarding worker health records consistent with legislative requirements.
- 9) Review all infectious disease exposure reports to determine if revisions to control measures such as personal protective equipment, policies or procedure are indicated.
- 10) Review and remain current with infectious disease literature and best practice guidelines.
- 11) Establish and maintain communications with allied departments and agencies regarding their infection prevention and control programs.
- 12) Develop and implement a program to monitor rates of exposure within their EMS service and any increase in illnesses that may require a cluster/outbreak management plan and reporting to the local Public Health Unit.

Risk Control Measures

Control measures are used to prevent worker exposure to infectious disease. They include:

Equipment and Waste Management

The employer, in consultation with the Joint Health and Safety Committee or Health and Safety Representative, should ensure:

- That all equipment intended to reduce worker exposure and improve safety is reviewed regularly and maintained in good condition.
- The availability of hand washing sinks (to be used when hands are visibly soiled) with single use hand towels, and/or 70-90% alcohol-based hand rub (ABHR) for effective hand hygiene (Note: ABHR is the preferred method to decontaminate hands when not visibly soiled). Moistened towelettes/wipes can be used when visible soil is present and running water is not immediately available, to be followed by the use of ABHR.
- That adequate equipment and supplies are available to provide protection for the worker (i.e. safety engineered needles, needleless IV systems, various sizes of appropriate and readily available PPE).
- The availability and accessibility of an adequate number of appropriate puncture proof sharps containers and bio hazardous material drop-off sites.
- A waste management system has appropriate design and function and meets with the local and legislative requirements.
- The availability of agents for cleaning and disinfection of patient care equipment, vehicles and conveyances.



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Policies and Procedures/Information and Instruction

The employer, in consultation with the Joint Health and Safety Committee or Health and Safety Representative, should ensure that:

- 1) Infection prevention and control policies, procedures and practices:
 - Are consistent with relevant legislation and standards and based on sound scientific knowledge.
 - Are reviewed and updated on a regular basis.
 - Are linked to educational programs and action plans for implementation.
 - Include a system for monitoring and improving staff adherence with IPAC program requirements.
- 2) There are immunization programs to prevent the spread of vaccine preventable diseases.
- 3) Follow up procedures for an exposed worker(s) should include:
 - a. Ensuring that all required reports are completed and forwarded to the appropriate agencies.
 - b. Ensuring that there is a referral process for the confirmation of diagnosis and clinical management prophylaxis, treatment (note that for suspected blood borne pathogen exposure, the optimum timeframe for initial physician assessment is within two hours of exposure), and counselling.
 - c. Ensuring paramedic/support staff are informed of the requirements for the self-application process under the *Mandatory Blood Testing Act, 2006* (if applicable) due to the strict timelines and specific eligibility criteria. (Note: This legislation is administered by the Ministry of Community Safety and Correctional Services.)
 - d. Ensuring that a process is developed and followed for post exposure management, work restrictions/return to work, and outbreak management.
 - e. Surveillance strategies that are able to determine rate of exposure/disease transmission in order to monitor for possible outbreaks within the workplace.
- 4) Maintenance of a clean and safe 'health care environment' is essential for infection prevention and control. This should include strategies for Hand Hygiene, Routine Practices/Additional Precautions, Terminal Cleaning and Routine Cleaning.



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EMS services should provide appropriate training for all workers to ensure:

- An understanding and application of policies and procedures for IPAC.
- An understanding of the chain of transmission and the risks associated with communicable/infectious diseases.
- An understanding of the concepts and application of Routine Practices and why and when to use Additional Precautions.
- The proper selection, donning, doffing and disposal of appropriate PPE.
- A robust environmental cleaning and disinfection process for equipment, PPE, vehicles, and stations.

Personal Protective Equipment

Personal Protective Equipment (PPE) that protects a worker against infectious materials (blood, body fluid, secretions, excretions, droplets or airborne infectious agents) includes gloves, safety eyewear/goggles, gowns or coveralls, hoods, boot covers, procedure masks, respirators (N95 or higher), and face shields that may be worn by the worker to provide a barrier against potentially infectious microorganisms. PPE reduces the risk of exposure to the worker however PPE may not be 100% effective (e.g. the use of gloves does not negate the requirement for effective hand hygiene).

To be most effective, PPE must be put on (donned) and taken off (doffed) and disposed of in a proper manner. Some recommendations from Public Health Ontario's *Routine Practices and Additional Precautions in All Health Care Settings – November 2012* include:

- 1) Processes to purchase and maintain an adequate supply of appropriate sizes of the most appropriate PPE to be used.
- 2) Ensuring that health care providers receive regular practical training on proper selection and use of PPE including the sequence of donning and doffing as well as proper disposal.
- 3) The development and maintenance of a respiratory protection program that ensures proper selection, training, fit testing (qualitative or quantitative), seal checking, and procedures for donning and doffing of respirators that are in accordance with the current Canadian Standards Association (CSA) Standard (CSA Z94.4-11 Selection, Use, and Care of Respirators).
- 4) The use of PPE appropriate for the task should be worn for cleaning and/or handling of potentially contaminated equipment/devices upon completion of the task for which they were utilized.



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General Safe Work Practices:

Safe work practices include actions intended to decrease the risk of worker exposures.

- 1) Practice cough/sneeze etiquette (cough into elbow, sleeve or disposable tissue), dispose of tissues promptly, and perform hand hygiene.
- 2) Ensure policies are developed and monitored to prohibit eating, drinking or smoking in areas where direct patient care is/has been performed.
- 3) Ensure appropriate environmental cleaning procedures/policies are developed, followed and monitored/audited for effectiveness. Such procedures/policies should be accompanied by disinfection strategies for reprocessing health care equipment and restoring the patient environment (note that cleaning is always required prior to disinfection).
- 4) Ensure policies and procedures are developed and monitored for the clean-up and decontamination of spills of blood/body fluids.
- 5) Soiled equipment, devices and/or laundry should be handled in a manner that reduces risk of exposure to self and others, including the contamination of other environmental surfaces along the path.
- 6) Workers are responsible to ensure safe handling and immediate disposal of all sharps.
- 7) Ensure proper care when handling and disposing of trash and bio hazardous waste in accordance with local, municipal and provincial by-laws and/or legislation.

SOME RELEVANT OCCUPATIONAL HEALTH AND SAFETY ACT REQUIREMENTS

Employers are required by the Occupational Health and Safety Act (OHSA) to:

- Take every precaution reasonable in the circumstances for the protection of a worker – OHSA Clause 25 (2)(h)
- Provide information, instruction and supervision to a worker to protect the health and safety of the worker – OHSA Clause 25 (2)(a)



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- Acquaint a worker or person in authority over a worker to protect the health or safety of the worker – OHS Act Clause 25 (2)(d)
- Ensure that the equipment, materials and protective devices provided by the employer are maintained in good condition – OHS Act Clause 25 (1)(b).

Supervisors are required by the OHS Act to:

- Ensure that a worker uses or wears the equipment, protective devices or clothing that the worker's employer requires to be used or worn – OHS Act Clause 27 (1)(b)
- Advise a worker of the existence of any potential or actual danger to the health or safety of the worker of which the supervisor is aware – OHS Act Clause 27 (2)(a)
- Take every precaution reasonable in the circumstances for the protection of a worker – OHS Act Clause 27 (2)(c).

Workers are required by the OHS Act to:

- Use or wear the equipment, protective devices or clothing that the worker's employer requires to be used or worn – OHS Act Clause 28 (1)(b).

REFERENCES AND RESOURCE MATERIALS

Legislation/regulations

[Occupational Health and Safety Act](#)

[Needle Safety Regulation \(O. Reg. 474/07\)](#) (made under the OHS Act)

[Health Protection and Promotion Act](#)

[Mandatory Blood Testing Act, 2006](#)

[Public Health Ontario Resources](#)

[Best Practices for Hand Hygiene in All Health Care Settings](#), (April 2014).

[Best Practices for Infection Prevention and Control Programs in Ontario in All Health Care Settings](#), (May 2012)

[Routine Practices and Additional Precautions in All Health Care Settings](#), (November 2012)



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Ministry of Health and Long Term Care Resources

Ambulance Service Communicable Disease Standards, Version 2.0, August 2015

[Exposure of Emergency Service Workers to Infectious Diseases Protocol](#), (2008).

Other Resources

Association for Professionals in Infection Control and Epidemiology, Inc. (APIC),
[Guide to Infection Prevention in Emergency Medical Services](#), (2013)

Canadian Patient Safety Institute, [Infection Prevention and Control \(IPAC\)](#),

Public Health Agency of Canada, [Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings](#),

This document should be shared with the workplace Joint Health and Safety Committee or Health and Safety Representative, incorporated into the workplace occupational health and safety policy and program where appropriate, and posted on the Public Services Health & Safety Association website and the websites of other interested stakeholders.

This Guidance Note has been prepared to assist the workplace parties in understanding some of their obligations under the Occupational Health and Safety Act (OHSA) and the regulations. It is not intended to replace the OHSA or the regulations and reference should always be made to the official version of the legislation.

It is the responsibility of the workplace parties to ensure compliance with the legislation. This Guidance note does not constitute legal advice. If you require assistance with respect to the interpretation of the legislation and its potential application in specific circumstances, please contact your legal counsel.

While this Guidance Note will also be available to Ministry of Labour inspectors, they will apply and enforce the OHSA and its regulations based on the facts as they may find them in the workplace. This Guidance Note does not affect their enforcement discretion in any way.