

THE PERSONAL PROTECTION STRATEGY TEACHING AID

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Summary

- Police officers, firefighters, paramedics and justice service workers have a responsibility to prevent the transmission of communicable disease within their work environments and into the communities they serve
- Immunization and hand hygiene are the foundation of the model
- The assessment phase involves critical thinking about the risks of communicable disease both to and from the client, and from the environment
- The actionable steps of using Personal Protective Equipment, controlling your location, duration, proximity and interaction (LDPI) and decontaminating (cleaning) and disinfecting all reusable equipment are fluid and do not need to be used linearly
- All emergency service workers (ESWs) and justice service workers (JSWs) are an integral part of Infection Prevention and Control (IPAC) in their own work environments

Introduction

Despite police officers, firefighters, paramedics and justice service workers all performing different roles and functions, they serve the same client base and share the same risks of exposure to communicable disease. Emergency service workers and justice service workers participate in three-tiered 911 emergency response services, with the expectation that the first emergency service on-scene is responsible for initiating immediate interaction with the client, medical or otherwise. Uniformity and consistency between services in applying infection prevention and control strategies, however, have been lacking. In the case of JSWs their duties and functions are inextricably linked to their clients who have been widely acknowledged and identified as a population vulnerable to communicable disease. Clients can interact with a wide variety of ESWs and JSWs as they move through the medical and judicial continuums of care before eventually returning to the community. There is a significant onus of responsibility therefore, for police, fire, paramedics and justice service workers to prevent the transmission of communicable disease within their work environments and into the communities they serve.

Traditionally, pre-hospital Infection Prevention and Control (IPAC) education has been disease-focused and exposure-driven, causing the information to be foreign, unfamiliar, and difficult for ESWs to understand and apply. As a result, IPAC awareness and compliancy among ESW have been lacking. Ineffective education and training has resulted in preventable exposures as well as unwarranted feelings of anxiety, jeopardy and sometimes even panic.

JSWs have the benefits of ministry IPAC policies and procedures and have access to health care staff in each institution. They are also trained in the medical model of Routine Practice. However they can also benefit from an IPAC training strategy that is not as focused on the medical model of infection control, and is consistent with the training received by their emergency service peers.

The purpose of the Personal Protection Strategy (PPS) model is to create and develop a mechanism for delivery of IPAC training that has the ability to introduce unfamiliar information regarding communicable disease and infection control to ESWs and JSWs in an organized and structured format to be readily understood and translated into critical thinking and practical application.

Central to the model's layout is its key-hole shape, accompanied by the tag line: "*Infection Control the key is YOU*". The purpose is to have each individual user project themselves into the model in order to understand they are an integral part of IPAC in their work environment. An individual's choice to participate and engage the model is the "key" to having the model's protective principles be effective and personally beneficial to the user. Without engagement, the model offers no protection.

The principles of the initial PPS were modelled after the Ontario [Use of Force Model](#), which is a deeply entrenched and widely established Provincial teaching aid used to train police officers in how to manage traditional notions of risk associated with criminal assailants. Those principles of risk assessment and strategic response are directly transferable to infection prevention and control.

The components of the model are in three phases:

Phase One – Building a Foundation of Protection: Immunization & Hand Hygiene

Immunization

Immunization is one of the most important steps ESWs and JSWs can take to ensure that they are protected against vaccine-preventable diseases (VPD). Immunization makes exposures to VPDs a nuisance rather than a potentially debilitating health-hazard. While paramedics are required to have all provincially scheduled vaccines before hire as per the [Ambulance Act - O. Reg. 257/00](#), police, fire and JSWs do not have the same pre-hire requirements. For those ESWs and JSWs who are not covered by the *Ambulance Act*, the decision to become immunized is a personal one, which requires accurate information about vaccines and awareness of the hazards of VPDs themselves.

Information on recommended vaccines for adults can be found in the section on immunization, and on the [Canadian Coalition for Immunization Awareness and Promotion](#) website. ESWs and JSWs who are unsure of their vaccination status are advised to consult with their family doctor. This is especially pertinent for those ESWs/JSWs who were not born or raised in Canada and who may have participated in different vaccine schedules, as they may not be fully protected against VPDs.

Hand Hygiene

Hand hygiene is another important step ESWs and JSWs can take to ensure they are routinely and consistently protected from communicable disease. Hand hygiene has two parts. The first is ensuring that the skin of the hands is cleaned regularly and that moisturizer is used to protect the skin against breakdown from excessive dryness. The second involves daily inspection of the skin of the hands for areas that require water-resistant dressings because they are non-intact. Cuts, scrapes, scratches or abrasions can compromise the skin's natural barrier to communicable disease and must be covered.

Phase Two – Situational Assessment

Assess, Plan, Act

Whether dealing with a victim, suspect, witness, complainant, patient, inmate or resident, ESWs and JSWs are urged to perform situational risk assessments for IPAC in order to assist them with creating a strategy of protection from communicable disease.

The cyclical centre of the model is representative of the fluidity of the situational assessment. ESWs and JSWs are reminded to focus on the situation with the intention of first assessing, then creating a plan from the assessment which includes the actionable steps from the model, and then acting on this plan.

The situational assessment does not stop with one singular action however. The circular direction of the arrows is representative of the fluidity of the assessment, and implies a continual flow from assessment to planning to action and back to assessment where the process may start again. Situations may change several times before the incident is completed, and each change requires a new and appropriate strategic response to protect both the ESW/JSW and the client from exposure.

Looking for signs and symptoms of illness in the client is an extremely important step in the situational assessment. Signs are measured by mechanical means, such as blood pressure or temperature. Symptoms are physical changes in the body usually observed by the worker or reported by the client, which can include fever, chills, swelling, pain or redness. Signs and symptoms are clues that allow the worker to better assess the client's presenting situation, however it is important to remember that not all clients will present with signs and/or symptoms of illness.

Assessment of the situation should start as soon as information is given via 911 dispatch and through both the everyday and emergency internal communications at the Correctional or Youth Centre.

Examples:

- a. A **police officer** is dispatched to a scene where an assault is in progress. The worker should:
 - Be aware that this situation has the potential for violence and/or clients acting erratically
 - Be aware that blood and/or body fluid may be present
- b. A **firefighter** is dispatched to a motor-vehicle collision involving personal injury. The worker should:
 - Consider the possibility that body fluids might be present prior to arriving on scene and that immediate medical aid might be required
- c. A **paramedic** is dispatched to an “unknown medical.” The worker should:
 - Consider potential risks when approaching the client, as the client’s condition is unknown
- d. A **justice service worker** is dispatched on a “code blue.” The worker should:
 - Be aware that the situation may involve multiple parties who are acting unpredictably and are potentially violent
 - Be aware that blood and/or body fluids may be present

Situational Factors

Environment

Risk from communicable disease may be present in the work environment even without the presence of another person. The ESW/JSW is encouraged to go about their work environments considering all IPAC risks. All high-touch surfaces and items such as sharps or previously used equipment can serve as a reservoir for communicable disease without another person being there.

Any communal, shared and reusable equipment from both medical and judicial continuums of care that is used for patient or client care will require decontamination (cleaning) and disinfection between uses.

Examples:

- a. A **firefighter** attends a medical call where the client has been symptomatic with nausea, vomiting and diarrhea for several days. The worker should be:
 - Aware that the environment around the client may be contaminated
 - Wearing medical gloves and performing diligent hand-hygiene before and after use
 - Ensuring all reusable equipment that was used is decontaminated (cleaned) and disinfected before reuse
- b. A **police officer** searches a house during the execution of a search warrant where there are signs of intravenous drug use. The worker should:

- Be aware there may be a risk of injury from contaminated sharps (such as used needles)
 - Never put hands anywhere that is not visible, such as inside garbage cans, between cushions and under car seats (if a vehicle is involved)
- c. A **paramedic** is dispatched to a call for a person with influenza-like illness. The worker should:
- Be aware that any part of the environment that has been within one to two metres of the sick client can be contaminated with infected droplets
 - Be aware that any respiratory interventions chosen should minimize the aerosolization of droplets into the air
 - Wear appropriate PPE, such as medical gloves, eye protection and his issued face masks or respirator (if face masks are not issued) and perform diligent hand-hygiene before putting on and after removal
 - Ensure all reusable equipment that was used has been decontaminated (cleaned) and disinfected before reuse
- d. A **justice service worker** is searching a cell. The worker should:
- Consider that environmental surface areas in the cell can be contaminated
 - Inspect her hands and cover any breaks in her skin with a water-resistant bandage
 - Wear disposable gloves and perform diligent hand hygiene before putting on the gloves and after the search has been completed and gloves have been removed
 - Clean hands and put on a new pair of gloves before searching the next cell

Cooperative Person – Non-Visible Symptoms

The majority of clients fall into this category of situational factors. Persons exhibiting cooperative behaviour are those who are willing and able to follow the instructions of the ESW/JSW and are acting in a predictable and compliant manner and are not considered to pose any physical threat. These clients may include victims, patients, residents, complainants, witnesses, suspects and everyone else involved in routine interactions, including co-workers. Of paramount importance however, is the understanding that compliant people may still pose an unintentional risk of communicable disease. Individuals not presenting with symptoms can still be colonized or infected with communicable disease, and may be able to spread disease to others.

ESWs and JSWs should be aware that clients who have a communicable disease may not disclose this fact for a variety of reasons. There are several possible barriers for a client to disclose communicable disease status to an ESW or JSW. A client who is infected with a communicable disease may not disclose because:

- They do not have a need/reason to share personal health information

- They know they are infected, however, are unable to communicate due to injury or language barrier
- They know they are infected but are unwilling to disclose due to embarrassment, fear of social stigmatization, fear of deportation or negative impact on immigration or fear of improper disclosure of personal health information
- They know or think they are infected and will not disclose due to a deliberate intent to harm the ESW/JSW
- They don't know they are infected

In Correctional and Youth Centres health care staff obtains a medical history from all clients. This information cannot be shared with non-health care staff, but if indicated, staff will be advised as to what additional precautions may be required. Communicable disease risks are ever present and need to be considered in every interaction regardless of its innocuousness or the demeanor of the client.

Examples:

- a. A **police officer** is approached by a young child and kneels down to have a conversation. The worker should be:
 - Aware that even seemingly healthy individuals not presenting with symptoms may pose communicable disease risks
 - Performing diligent hand hygiene after contact
 - Decontaminating (cleaning) and disinfecting any reusable equipment the client may have contacted
- b. A **firefighter** is asked to pose for a photograph by a group of tourists and he puts his hand on one of the tourist's bare shoulders. The worker should be:
 - Aware that even seemingly healthy individuals that are not presenting with symptoms may have a communicable disease
 - Performing diligent hand hygiene after contact
- c. A **paramedic** is offered a coffee by an elderly man. She shakes the man's hand afterwards. The worker should be:
 - Aware that even seemingly healthy individuals that are not presenting with symptoms may have a communicable disease
 - Performing diligent hand hygiene after contact
- d. A **justice service worker** accepts a drive with a colleague to work and touches the door handle and radio controls of the vehicle. The worker should be:
 - Aware that even seemingly healthy individuals that are not presenting with symptoms may have a communicable disease
 - Performing diligent hand hygiene after contact

Cooperative Person – Visible Symptoms

Discretionary Time/ Non-Discretionary Time

Cooperative persons with signs and/or symptoms of illness or injury may pose a risk to the ESW/JSW even if the client is acting predictably and being compliant. Visible symptoms, including fevers, coughing, sneezing, rashes, bleeding or loss of other body fluid should immediately alert the ESW/JSW to engage the principles of the PPS. They should assess their situation and then develop a plan for self-protection such as: diligent hand hygiene before and after client interaction, use of appropriate PPE, controlling for their location, duration, proximity and interaction (LDPI), as well as decontaminating (cleaning) and disinfecting as required during and after the situation been resolved.

Examples:

- a. **Paramedics, firefighters and police officers** are dispatched to a motor-vehicle collision (MVC) involving personal injury. The clients have open fractures. The ESWs should be:
 - Aware that the client's non-intact skin puts the client at risk from infection
 - Aware that there may be a threat of splash or spray from blood and/or body fluid from the open wound
 - Performing hand hygiene before and after putting on and removing PPE
 - Ensuring all reusable equipment has been decontaminated (cleaned) and disinfected after use
- b. **A justice service worker** is admitting a client who is feeling unwell, coughing and complaining of a fever and health care staff are not on duty. The JSW should:
 - Be aware that any part of the environment that has been within one to two metres of a client's face can be contaminated with infected droplets
 - Wear a surgical mask and eye protection (if available) if working within two metres of the client and a physical barrier does not exist
 - Performing hand hygiene before and after putting on and removing PPE

Non-Cooperative Person – Regardless of Symptoms

When a client is non-cooperative, acting erratically or engaging in violent behaviour, the ability of the ESW or JSW to effectively plan their strategy against communicable disease will be limited. Non-cooperative clients force workers into a non-discretionary time component of the model. Parallel risk assessments need to occur with little or no time between protecting oneself from physical harm and harm from communicable disease. Personal Protection Strategy options need to be engaged to ensure adequate protection against communicable disease, as the probability of close contact with body fluids, (i.e., blood, saliva, spit) is high.

Ensuring that they are completely and appropriately immunized, the ESW/JSW will have successfully engaged the foundation of the PPS model, and have given themselves powerful pre-exposure protection. As well, if the ESW/JSW has received

dispatch information that suggests the situation that may be violent or unpredictable, they may be able to develop an adequate Personal Protection Strategy before they engage the situation and client. Proactively putting on certain pieces of PPE, such as eye protection and medical gloves and forming a plan will help prevent exposure should a client's behaviour change suddenly.

Examples:

- A **justice service worker** is “intaking”/“logging” a client who begins to struggle and resist. The client suddenly turns and spits in his eye. The worker should be:
 - Confident and comfortable regarding his safety from hepatitis B because he has ensured all his immunizations are up to date, including hepatitis B vaccine
 - Flushing his eye thoroughly to ensure no bacterial contaminants from the spit remain on his mucous membranes
 - Filling in appropriate paperwork and seeking medical aid if his eye develops signs and symptoms of infection
- A **police officer** attends a violent domestic. The husband, who is cut and bleeding, is found assaulting his wife. The worker should be:
 - Aware of communicable disease risks while performing this non-discretionary component to his job function
 - Confident and comfortable regarding his safety from hepatitis B because he has ensured all immunizations are up to date, including hepatitis B vaccine
 - Using all the necessary PPE at his disposal along with his use of force tools to safely take control of the bleeding and non-compliant client
 - Performing excellent hand hygiene after client interaction
 - Prepared to decontaminate (clean) and disinfect all reusable equipment after use
- A **paramedic** or a **firefighter** is rendering medical assistance to a patient with a head injury when the patient suddenly begins to struggle. They should be:
 - Aware of communicable disease risks while performing this non-discretionary component to their job function
 - Confident and comfortable regarding their safety from hepatitis B because they have ensured all their immunizations are up to date, including hepatitis B vaccine
 - Using all the necessary PPE and medical supplies at their disposal to safely take control of the bleeding and non-compliant client
 - Performing excellent hand hygiene before and after client care
 - Prepared to decontaminate (clean) and disinfect all reusable equipment after use

Phase Three – Strategic Action

From the information collected in the situational assessment phase of the PPS (described above), the ESW or JSW will select the most appropriate actionable steps to protect themselves from exposure to communicable disease. The strategic action phase is both linear and fluid, allowing the ESW/JSW to move “up” and “down” the steps as required to maximize their self-protection.

Examples:

- a. A **paramedic, firefighter, police officer** or **justice service worker** provides care to a client who has symptoms of an acute respiratory illness (ARI). They move through the PPS model by:
 - Selecting appropriate PPE such as eye protection and N95 respirator or mask, as per service protocol, to protect against droplet transmission
 - Controlling their LDPI (described below) by maintaining a one to two metre distance when first assessing the client for signs and/or symptoms of an ARI
 - Performing excellent hand hygiene before and after client care
 - Decontaminating (cleaning) and disinfecting all their reusable equipment after use

Personal Protective Equipment (PPE)

PPE is useless unless it is available, easily accessible and worn properly. Each ESW and JSW should ensure that they wear personal-issue PPE and that other PPE is available to them to use when warranted by the situational assessment. Each service (police, fire, paramedic and justice services) provides their workers with different PPE, since each service performs different duties, roles and functions in the medical and judicial continuums of care.

It is the personal responsibility of the ESW and JSW to know and understand how and when to use each piece of PPE per the policies and procedures of their service.

Location, Duration, Proximity & Interaction (LDPI)

The effective management of LDPI is an important principle in IPAC. This section offers direction on what available options an ESW or JSW has to choose from when interacting with clients in various situations. In some instances, when there is discretionary time, the ESW/JSW will have more capacity to manipulate the LDPI than in those involving non-discretionary time.

a. Location

- Refers to the place where the interaction with the client is occurring. In some instances in firefighter, paramedic and JSW work environments, this will be difficult to control due to the nature of the job
- The ESW/JSW should change closed and confined spaces to open, well-ventilated areas whenever possible or increase space between worker and client.

Examples:

- A **police officer** moves a cooperative client exhibiting symptoms of a respiratory illness from a cramped, stuffy basement apartment to outside the building before beginning his interview
- A **justice service worker** is interviewing an inmate in a small office and the inmate begins coughing and complains of feeling unwell. The JSW discontinues the interview and refers the client to health care for assessment
- A **paramedic** decides to complete her patient assessment in the back of the ambulance, as the patient's residence is heavily contaminated with animal feces
- A **firefighter** helps move a patient from a small bathroom into the larger bedroom to help minimize unnecessary skin-to-skin contact

b. Duration

- Refers to the length of time spent with the client. In some instances in firefighter and paramedic work environments, this will be difficult to control due to the nature of the job
- Minimize the duration of time spent with a client exhibiting signs and symptoms of a communicable disease whenever possible

Examples:

- A **police officer** is about to take a statement from a witness in the witness' small apartment. The witness has a deep pronounced cough. Instead of taking a lengthy statement, the officer collects the pertinent information out in the hallway and schedules to meet the witness for an in-depth interview at a later date when the client's symptoms have resolved

c. Proximity

- Refers to the physical distance maintained between the ESW/JSW and the client
- Proximity of no less than one to two metres should be maintained for any client with signs and symptoms of ARI until PPE is put on whenever possible
- Consideration should be given to larger/bigger clients who have the physical ability to project droplets at least two metres

Examples:

- A **police officer** recognizes that the victim they are interviewing is showing signs and symptoms of an ARI, and they choose to maintain a one to two metre distance from the victim while taking the statement
- A **paramedic** asks a patient if he has had a “new or worsening cough and/or a fever” from a distance of at least two metres before approaching to continue his assessment
- A **justice service worker** puts on a mask and eye protection when walking with a client exhibiting signs and symptoms of an ARI when escorting the client to the health care unit
- A **firefighter** crew sends in only one member to assess a patient in order to minimize risk to the whole crew

d. Interaction

- Refers to the type of contact between ESWs, JSWs and their clients
- Controlling and managing the types of interactions performed with clients to minimize contact that might cause exposure to communicable disease

Examples:

- A **paramedic** takes appropriate care and attention with the epi-pen he takes from a patient to ensure he does not receive a needlestick injury
- A **police officer** or a **justice service worker** makes a deliberate attempt to de-escalate and control a non-cooperative client who is bleeding from the nose, through use of tactical communication to avoid engaging use of force options that would require close contact
- A **firefighter** carefully observes the area around a patient for broken glass before kneeling to perform an assessment of the patient

Limitations due to the necessity of certain client interactions may make it difficult for ESWs and JSWs to control the LDPI to best prevent exposure to communicable disease. In some instances, one group of ESWs or JSWs may be in a position to maintain a safe distance while performing their required functions, while others may not, such as police acting as crowd-control at a MVC while paramedics and firefighters render care. ESWs and JSWs should always be aware of the LDPI in their everyday work environments and their power to manipulate it to their advantage in creating and promoting a safe work environment whenever possible.

Decontamination & Disinfection

Decontamination and disinfection is the process of cleaning any visible dirt and/or soiling off of reusable equipment, and then disinfecting the equipment to render it safe for further use. “Decontamination” is another term for cleaning. Cleaning must

be performed consistently and well in order to ensure disinfection can take place. Each ESW/JSW should check the policies and procedures of their organization and manufacturers' instructions to ensure they are using the supplied cleaner/disinfectant properly.

Examples:

- a. A **police officer** touches her radio with bloody medical gloves after a violent altercation with a client. She should:
 - Take off her medical gloves, perform hand hygiene, and put on new gloves
 - Wipe down the radio once with the supplied disinfectant wipes to decontaminate (clean) the radio
 - Wipe down the radio again with new disinfectant wipe to disinfect it
 - Remove gloves and perform hand hygiene with either ABHR or soap and water before continuing work
- b. A **firefighter** uses her pulse oximeter on the finger of a patient. After the paramedics take over care she should:
 - Take off medical gloves, perform hand hygiene and put on new gloves
 - Observe the pulse oximetre both inside and out to see if there is visible dirt
 - Wipe down the pulse oximetre once with the supplied disinfectant wipes to decontaminate (clean) and disinfect the pulse oximetre in one step
 - Remove gloves and perform hand hygiene with either ABHR or soap and water before continuing work
- c. A **paramedic** has just taken over use of the ambulance for the day shift. She should:
 - Perform hand hygiene and put on clean medical gloves.
 - Wipe down the high-touch surfaces on the inside of the cab and back of the ambulance with the supplied accelerated hydrogen peroxide (AHP) wipes
 - Remove gloves and perform hand hygiene with either ABHR or soap and water before beginning work
- d. A **justice service worker** is taking over duties from a colleague, including using a communal desk-top computer. She should:
 - Wipe down the keyboard, mouse, telephone and other high-touch areas of the workspace with supplied disinfectant wipes
 - Perform hand hygiene with either ABHR or soap and water before beginning work

The Personal Protection Strategy Model for Infection Prevention & Control

The PPS model is designed to be an effective educational tool to assist police, fire, paramedics and justice service workers in protecting themselves from communicable disease that may exist in their shared client base and overlapping work environments. The PPS model is an interactive, fluid and dynamic system to enable ESWs and JSWs to conceptualize protective strategies they can adopt while engaging their work environments to include IPAC. Consistent use of the PPS is the most important step ESWs and JSWs can take to protect themselves, their families, friends, co-workers and communities from communicable disease.

Ensuring proper immunization against vaccine-preventable diseases, caring for skin on hands and performing hand hygiene regularly, using issued PPE, being mindful of their location, duration, proximity and interaction while with any member of the public or with clients in their custody, as well as routinely decontaminating (cleaning) and disinfecting all reusable equipment, will help ensure a safe work environment free from communicable disease.

There is a significant onus of moral and ethical responsibility involved in practicing safe and responsible IPAC strategies that sits squarely on the shoulders of each and every ESW and JSW in everything they do. Whether a police officer, firefighter, paramedic, correctional officer or youth justice worker, the key to infection control is you.