Respiratory/Airborne

Tabletop Scenario #1

A 911 call is received for an individual who is having difficulty breathing. This individual has chronic obstructive pulmonary disease (COPD). Police, fire and paramedics arrive on scene and enter the small basement apartment. The individual's shortness of breath continues, and their condition deteriorates. The paramedics attempt to assess the individual's medical history and presenting condition. The individual goes unresponsive, and paramedics begin CPR. During the intervention, fire also assists with compressions and police assist with the surrounding neighbours and family members.

Key takeaways:

- An N95 respirator should be worn when entering a scene where an individual is symptomatic with respiratory symptoms or if unsure what staff are entering.
- If staff are involved in CPR or within 2m of where CPR is taking place, an N95 respirator must be worn as CPR is considered an aerosolizing generating process.
- N95 respirators must be fit tested every 2 years given changes in your face shape (weight loss/gain) and facial hair.
- Always ensure you have access to PPE in your vehicle and enter the call wearing PPE based on your point of care risk assessment.
- Consider all individuals as potentially infectious and wear PPE accordingly to limit risk and prevent spread.
- Never save or reuse PPE. Some eye protection can be reusable. If eye protection is reused, always clean and disinfect before storing for reuse in your vehicle.
- Don't store cleaning/disinfection wipes in your vehicle as they can freeze in the colder months. Restock PPE and wipes on each shift.
- Understand as a designated officer what would constitute an exposure based on each individual situation as you may not know what infection may or may not be present. If prolonged contact within 2m without an N95 respirator, this would constitute an exposure risk. If the individual is later identified with an infectious disease where Public Health completed contact tracing, staff may be contacted, and next steps discussed. To avoid this, always follow your organization's policy regarding N95 respirator use.
    - Prolonged contact (longer than 15 minutes)?
    - Within 2 meters of the individual?
    - Was an N95 respirator worn?

Discussion Questions:

1. What PPE should any of the first responders wear in this scenario based on their initial risk assessment?
    - Paramedics: medical mask or an N95 respirator upon initial entry to the scene based on their point of care risk assessment/work policy, eye protection, gloves (initially)
    - Fire/Police: If not assisting and can physically distance, no PPE required initially. If unable to physically distance given the size of the room or based on their point of care risk assessment, don an N95 respirator.
    - In an emergency situation where a complete assessment is not possible and if there is concern for infection, consider using the highest level of protection (N95 respirator).

2. Does this change during the interaction with the client?
    - Paramedics: N95 respirator once they begin CPR, eye protection and gloves
    - Fire/Police: If assisting with CPR or unable to physically distance from the patient also don an N95 respirator; consider using medical gloves or perform hand hygiene instead

3. Would staff bring PPE in with them or return to their vehicle if they need it?
    - Paramedics often carry their N95 respirators into the call

4. What would your staff do if they are not able to return to the vehicle to get PPE but decide they need it? What is the current process?

5. What should the first responders do with their eye protection once they are finished the call?
    - Disposable – discard and do not reuse
    - Reusable
        - Clean and disinfect after each call, even if they are dedicated to you
        - Use a wipe and not a spray
        - Wipe the inside first then the outside
        - May need to wear PPE when using (look at label)
        - Follow contact time on the product label

2nd part to the scenario:
You later find out this individual was diagnosed with Tuberculosis (TB).

6. What steps would you as the designated officer take if a staff member reported this interaction and they tell you they did not wear an N95 respirator?
    - Assess for signs and symptoms
    - Refer to their physician for follow up as needed
    - Review how to access expectations for N95 respirator use

7. What questions could you ask as a designated officer to determine level of risk and exposure to your team?
    - Review what involvement they had or whether they performed any procedures that put them in direct contact with oral/nasal secretions?
    - How long did they interact with the patient?
    - Were they able to physically distance in their interactions and as a result did not wear an N95 respirator?

Bloodborne Infections/ Animal Exposure

Tabletop Scenario #2

A 911 call was made from the house of a repeat drug offender and a known injection drug user. Paramedics and police arrive on scene and find the individual unconscious on the floor. While performing CPR on the individual, the paramedic feels a sharp pain in his index finger and when he looks at his hand, he notices that his finger is bleeding. The paramedic reaches into the suspect's front pocket and retrieves an uncapped syringe. While the paramedic is managing his injury, the individual's dog continues to bark and bites one of the police officers in the leg.

Key takeaways:

- Anyone who experiences a needlestick injury must report this to their DO and seek immediate medical assistance via the emergency department given the risk of blood borne infections. Baseline BBI testing will be completed, and post-exposure prophylaxis may be initiated
- Wearing PPE when able, may minimize the risk of exposure to a staff member.
- All animal bites/exposures (bites/scratches) must be reported to Public Health as soon as possible to ensure there is no transmission of rabies. The rabies virus is still circulating in our community.
- Let the bite wound bleed freely and seek medical attention for the bite.

Discussion Questions:

1. Is this needlestick injury considered an exposure? Why or why not?
    - Yes, assuming this was a contaminated needle as it punctured the skin. If it was a new, clean needle, it would not be considered an exposure (that may be difficult to determine)
    - A needlestick injury is a penetration of the skin by a needle or other sharp object that has been in contact with another person's blood, tissue, or other body fluid before the injury.

2. What questions could you, as a Designated Officer, ask to determine the level of risk and exposure to your team?
    - Question 1: Did the ESW perform any procedures that put them in direct contact with blood or body fluids?
    - Question 2: Did the ESW have any broken areas on their skin puncture wound with a contaminated needle/sharp object, prolonged body fluid contact with non-intact skin (open wound, cut, abrasion, rash)? Animal bite that breaks the skin?

3. Could PPE have prevented the needlestick injury?
    - Not likely, given that many may not have access to puncture/needlestick resistant gloves

4. What are some ways to reduce your exposure risk?
    - Assume that ALL blood, body fluids may be potentially infectious
    - Get vaccinated for hepatitis B
    - Know your immune status for hepatitis B
    - Safe handling and disposal of needles and sharps
        - Training for needlestick injury prevention
        - Do not recap, cut/break off, or disassemble syringes for any reason
        - Use sharps containers that are closable/have a lid, puncture-resistant, crush-resistant, leak-proof, color coded, labeled to warn of hazardous waste inside the container, and clearly marked with a line that indicates when the container should be considered full.
        - Replace or exchange sharps containers when they reach the full line as labeled by the manufacturer. (Final disposal [e.g., having a company pick up the containers] should be the responsibility of the employer.)
        - **Continue the practice of asking the individual to disclose any sharps prior to a body search if conscious**
        - Use tactical search mirrors and flashlights to search areas that are not readily visible (under mattresses, crevices, edges of shelving, door frames, etc.)
        - Do not pass needles/sharps between officers
        - Do not pass items (evidence/contraband) between officers while handling sharps and needles.
    - Consider using gloves that meet ASTM Standard F2878–19 for puncture resistance to needles for additional protection
      F2878 Standard Test Method for Protective Clothing Material Resistance to Hypodermic Needle Puncture (astm.org)
    - Biohazard safety kit (PPE, wipes, spills kit) in your vehicle
    - Wash needlesticks and cuts (injury site) with soap and water
    - Assessment at emergency ASAP

- Promptly report the needlestick/sharps injury to your designated officer/supervisor, in addition to any needlestick/sharps near-misses (to help prevent future incidents)

RESOURCE:
NIOSH [2022]. Reducing work-related needlestick and other sharps injuries among law enforcement officers. By Hughes SE, de Perio MA, Afanuh SE. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2022-154.https://www.cdc.gov/niosh/docs/wp-solutions/2022-154/pdfs/2022-154.pdf?id=10.26616/NIOSHPUB2022154

5. How and to whom should the dog bite be reported?
   - Fax completed Animal Exposure Reports form (available on WDGPH website under Healthcare Provider tab - Rabies and Animal Bites Information for Health Care provider, Duty to Report) to Reportable Diseases fax line at 1-855-WDG-LINE (1-855-934-5463).
   - Alternatively, can phone WDG Public Health to report animal bite 1-800-265-7293 ext. 4753 or 7006 What steps would you as the designated officer take if a staff member reported animal exposure?
     Advise staff to seek medical attention as needed.
   - Report animal exposure to WDG Public Health
   - Immediately clean the wound with soap and water. The wound should be flushed out for approximately 15 minutes.
   - Is there a specific timeframe that must be followed?
     - Report animal bite as soon as possible for follow up and determine if rabies post-exposure treatment is required.
   - How would the wound be treated? When would you advise the staff member to seek medical attention?
     - Immediately clean the wound with soap and water. The wound should be flushed out for approximately 15 minutes.
     - Suturing the wound is not advised.
     - Viricidal can be applied (such as alcohol solutions or iodine-based solutions).
     - Seek medical attention immediately for any animal exposure that may be conducive to the potential transmission of rabies to persons.

Respiratory/Droplet/Contact

Tabletop Scenario #3

Following a 911 call from a neighbour, first responders attended the home of a young infant under 1 year of age experiencing difficulty breathing. As the first service on scene, several fire fighters make their way into the home to find the child experiencing shortness of breath, fever, and coughing to the point of vomiting. Two fire fighters remain with the child until paramedics arrive and are present when the paramedics arrive to collect vitals and complete their assessment. Fire fighters don't have access to a mask but stay to assist until paramedics arrive.

Key takeaways:

- Always carry and have access to PPE in your vehicle.
- Wear PPE when entering a scene when there is close contact to a symptomatic individual. If you do not have access to PPE for whatever reason, consider physically distancing until staff with PPE arrive. Consider checking your vehicle before starting your shift to ensure your supplies are stocked.
- When deciding what PPE to wear, you can conduct a point of care risk assessment to determine your level of risk based on your task, the individual and the environment you are walking into.
- When an individual has respiratory symptoms, the infection can spread via droplets or droplet/contact. This means that if staff are within the 2m radius of someone coughing for example, they could contract the illness unintentionally.
- As a designated officer, it is important to relay exposure information to your staff, however Public Health will conduct contract tracing to determine who is exposed based on the specific details of the incident.
- In the case of pertussis, it is also important to review your staff member's immunization records. Following a complete primary series (minimum of 3 doses), ESWs should receive a Td booster every 10 years. One of the doses during adulthood should be a 3-in-1 vaccine called Tdap vaccine (for protection against pertussis).

Discussion Questions:

1. Is this considered an exposure for the fire fighters on scene?
    - Yes, as they had face-to-face exposure with the case without PPE.

2. How about for paramedics?
    - Not if they were wearing a mask and eye protection.

2nd part to the scenario:
You later find out this child was diagnosed with pertussis (whooping cough).

3. What PPE should the ESWs have worn?
    - Mask and eye protection for droplet precautions.

4. How could this exposure have been prevented? Could PPE have prevented the exposure?
    - Yes, mask and eye protection.

5. What steps would you as the designated officer take if a staff member reported this? Is there a specific timeframe that must be followed?
    - Check vaccination records, when was the last time the ESW had a pertussis-containing vaccine? The ESW should ensure they are up to date.
    - Is the ESW pregnant in the third trimester and had face-to-face exposure without PPE? Recommend f/u with primary care provider for chemoprophylaxis (antibiotics for 5 days) ASAP after exposure.
        - All pregnant women, regardless of exposure, are recommended to have a pertussis-containing vaccine in the third trimester of every pregnancy (preferably 27-32 weeks) to protect the newborn.
        - Otherwise, be aware of signs and symptoms of pertussis for up to 20 days post exposure (incubation period is usually 9-10 days, can range from 6-20 days).
        - Early symptoms to watch for include mild upper respiratory tract symptoms (cough, runny nose, headache, low-grade fever, sneezing).
        - This is especially important for anyone who has contact with an infant under 1 year of age or pregnant women in the third trimester.
        - Infants are at greater risk for problems like pneumonia, trouble breathing, periods of apnea, needing oxygen and hospitalization, and dehydration.
    - As per the Infectious Disease Protocol, evaluation of all symptomatic health care workers (HCW) for pertussis and provision of appropriate therapy and exclusion during the first 5 days of their therapy is recommended.