

**Dr. Marcus Lem, Senior Medical Advisor**  
**BC Centre for Disease Control**



Dr. Marcus Lem is the Director of the Public Health and Preventive Medicine Residency Program at the UBC and Senior Medical Advisor in Public Health Policy for Addiction and Overdose Prevention and Treatment at the BC Centre for Disease Control. Dr. Lem attended McMaster University Medical School and completed his MHS in Public Health and Epidemiology and residency in Community Medicine at UBC. He was trained in aerospace and diving medicine at the Defence and Civil Institute for Environmental Medicine, and worked as a federal field epidemiologist in the Office of Public Health Security and the TB Prevention and Control Division of Health Canada. He was on the joint Health Canada – Centers for Disease Control and Prevention team investigating SARS in Toronto in 2003, and served as a short-term consultant with UNICEF. From 2004 to 2007, Dr. Lem was the national Communicable Disease Control Specialist and TB Consultant for the First Nations and Inuit Health Branch (FNIHB), and represented FNIHB on the Canadian TB Committee and the National Advisory Committee on Immunization. Subsequently, he held senior medical and executive positions with the Public Health Agency of Canada and Health Canada and was the Medical Health Officer for the Fraser Valley.

## **Fentanyl and First Responders**

### **Q's & A's**

Some First Responders and Health Care Workers (HCWs) are understandably worried about the risk of being exposed to unsafe levels of fentanyl and other opioids as a part of their work. We know that this risk is very small. The following Qs & As will help answer specific concerns.

1. **Q: Have any First Responders or HCWs overdosed from coming in contact with overdose victims or people who use drugs?**

A: Despite media reports, there have been no verified cases of overdose or sickness in First Responders, HCWs, or ordinary citizens who have given first aid, medical care or administered naloxone, despite thousands of overdose reversals.

2. **Q: Does touching an overdose victim put me at risk of overdosing myself?**

A: People who use drugs will make sure that all the drugs they obtain gets into their bodies. It is highly unlikely that there will be any significant amount of drugs on their clothes or skin.

3. **Q: Does fentanyl powder go into the air and get inhaled?**

A: No. Under normal handling, fentanyl crystals in street drugs are too big and heavy to stay in the air. It is possible that very small amounts of fentanyl may fall onto surfaces.

4. **Q: Does dissolving and heating fentanyl for injections (i.e. “cooking”) put fentanyl into the air?**

A: No. Injection drug users only heat drugs enough to dissolve in water.

5. **Q: I have heard that weaponized fentanyl can be airborne. What if I come in contact with weaponized fentanyl?**

A: Weaponized fentanyl was reported to have been used by the Russian government. Creating chemical weapons requires knowledge, processing, additives and equipment which drug dealers do not have. Weaponized fentanyl would be too difficult for dealers to handle and for people to ingest and would provide no benefit or profit to the illicit drug market.

6. **Q: Can fentanyl on surfaces be dangerous to touch?**

A: Fentanyl can be absorbed through the skin however fentanyl crystals on dry skin are not absorbed easily and will take hours to get into the bloodstream. Fentanyl will be absorbed faster through mucous membranes in the eyes, nose and mouth.

7. **Q: Is fentanyl easy to detect?**

A: Yes. Modern portable equipment and labs can detect amounts of drugs that are so small they have no effect on the human body. However, detection equipment that cannot tell you the amount of fentanyl present may make people worried for no reason.

8. **Q: I am worried about bringing fentanyl home on my uniform. What should I do?**

A: Law enforcement officers have reported using ion scanners and detecting fentanyl even on decontaminated items including clothing and personal effects. These devices can detect amounts of drug that are too small to have an effect on the body.

First Responders dealing with any toxic substance should know and follow their organizations' decontamination procedures and make it routine to change clothing and/or wash with soap and water before going home.

9. **Q: What is happening to the First Responders reported by the news to have overdosed?**

A: It is unclear. When thoroughly investigated, these incidents do not appear to be caused by fentanyl or other opioids, and have not been medically serious. Cases reported by the news have described symptoms which are not consistent with an overdose. In BC, testing of the materials and environments involved with reported occupational overdoses have been negative for opioids, including fentanyl. Blood from the reported cases has also been negative.

Police, Firefighters and Emergency Health Services are on the frontlines of the Opioid Crisis and are dealing with extremely stressful situations every day. They are responsible for making life and death decisions under pressure and based on limited information. It is common and normal for repeated and prolonged episodes of extreme stress to have an effect on the body and physical symptoms. In some cases these symptoms, such as palpitations and rapid breathing, are part of the "fight or flight" nervous system which has evolved for survival situations.

**10. Q: What are the symptoms of a fentanyl overdose?**

A: In an overdose from an opioid, such as fentanyl, the victim falls asleep and breathing slows or stops, although the heart is still beating. Signs and symptoms include confusion, nausea, pinpoint pupils, sleepiness or inability to wake up, and skin turning blue from lack of oxygen.

**11. Q: Are dizziness, lightheadedness and narrowing vision symptoms of an opioid overdose?**

A: No. Extremely stressful events may cause overstimulation of the vagus nerve leading to loss of consciousness. This is called syncope. Although syncope is not usually dangerous, head injuries may occur if the person falls. All unexpected losses of consciousness should be evaluated by a doctor.

**12. Q: Are shortness of breath, chest pain and heart palpitations symptoms of an opioid overdose?**

A: No. These symptoms may be something serious, such as a heart attack, however they may also be a temporary reaction to extreme stress. Cases of chest pain should be evaluated by a doctor.

**13. Q: Can a fentanyl overdose cause multiple organ failure or dysfunction?**

A: Not in a healthy person who is resuscitated in a timely fashion. Organ failure and dysfunction can result from chronic conditions, including long-term use of drugs. An overdose victim who has been lying on a hard surface for several hours can also get muscle breakdown, leading to kidney failure. In a healthy individual, an overdose would primarily affect the brain. Currently, a significant proportion of transplant organs are obtained from overdose victims who registered for organ donation programs.

**14. Q: What kind of Personal Protective Equipment (PPE) should I be using to protect against fentanyl exposure?**

A: For all health care situations, including resuscitation of overdose victims, non-permeable gloves (eg. Nitrile or vinyl gloves) are mandatory. Barrier precautions such as gloves will protect you regardless of the type, quantity or potency of drug which may be present.

**15. Q: Other jurisdictions are recommending N95 masks and eye protection to protect against fentanyl. Why isn't BC?**

A: N95 respirators and eye protection are standard equipment for paramedics in most jurisdictions, including BC. However, they are worn to protect against fluid splashes and respiratory diseases, not fentanyl.

The fentanyl recommendations of other jurisdictions have been made to be cautious but do not reflect either the known physical properties of the drug or recent evidence from studies performed in BC by the Health Canada Drug Analysis Services (DAS) Laboratory and the BC Centre for Disease Control (BCCDC). These studies show that fentanyl does not remain suspended in the air.

Laboratory workers in the DAS lab handle and process opioid samples submitted by law enforcement all day, with routine PPE and no special ventilation, and have a much higher exposure risk than First

Responders working on the street. Although extremely low and biologically insignificant levels of fentanyl were found on the gloves of lab workers, no fentanyl was found on the masks or eye protection of the workers. The DAS study results were shared with the BCCDC and reviewed by experts in occupational and environmental health. This review concluded that no fentanyl was reaching the air space of high-risk workers.

The BCCDC developed the provincial Overdose Prevention Service (OPS) Guideline and has done personal air sampling for workers and environmental surface sampling in OPS sites and Supervised Consumption Service (SCS) sites across BC. Because paramedics, nurses and Peers working in OPS and SCS sites are in the same room when clients open flaps, crush pills, etc., they are also at much higher exposure risk than First Responders working on the street. While fentanyl was detectable in extremely small amounts in the air of some sites, no workers were exposed to levels which could have any effects. The results of these studies have not yet been published however the BCCDC is in contact with other jurisdictions and is working towards harmonizing PPE recommendations.

**16. Q: What should I do if I respond to a call at a previously unknown drug operation?**

A: Clandestine drug labs and processing facilities are often located in private homes so there is a small possibility of this happening. First Responders wearing no PPE have emerged from these situations safely. Labs and processing are often set up in the kitchen but may be in any room. They can be recognized by the presence of trays of powders, containers of chemicals, and ordinary kitchen utensils, equipment and blenders used for mixing.

Although there is more fentanyl in these environments, it will be on surfaces and will not pose an immediate risk unless it is disturbed or you accidentally rub fentanyl into the mucous membranes of your eyes, nose or mouth. During all calls you should maintain situational awareness. If you suspect that you are in a drug operation, do not touch or disturb your surroundings. Calmly exit the premises and call for advice and backup.

**17. Q: Why are the PPE recommendations for me different than my colleagues on the drug squad?**

A: PPE recommendations for all professions and organizations have different levels of protection based on risk assessments and classifications determined by the worker's tasks and the environments and contexts in which they are working at a particular time. If the task, environment or context changes, then PPE may be upgraded or downgraded to reflect the revised risk assessment.

Law enforcement officers who are busting clandestine labs and other drug operations need to handle materials, collect evidence and do things which will disturb settled materials. Consequently, they require an enhanced level of PPE.

Police, Firefighters and Emergency Health Services working in the capacity of First Responders are not exposed to the same risks. Overestimation of risk and overly restrictive PPE in low risk situations can affect the comfort level of the First Responders as well as their speed, effectiveness and performance.

**18. Q: What could be the harm of telling First Responders and HCWs to use higher levels of PPE when dealing with people who use drugs?**

A: Appropriate risk assessment improves safety and effectiveness. However, overestimation of the risk of fentanyl exposure increasingly stigmatizes people who need our help and compassion by telling the public that they are “untouchable”. A similar situation happened with HIV-AIDS patients in the 1980’s and 90’s.

The biggest danger of this attitude is that people will be too afraid to provide life-saving care to overdose victims including artificial respiration or breaths and naloxone. This is already happening.

**19. Q: People who use drugs know the risks they are taking. Why should I place myself at risk treating them?**

A: All First Responders have a professional and ethical duty to serve and protect the public. As trained and experienced professionals you are the front line in any emergency and your organizations have a responsibility to give you the knowledge, training and equipment to do your jobs safely and effectively.

**20. Q: Where can I get more answers?**

A: This document will be updated regularly. Question can be directed to: [marcus.lem@bccdc.ca](mailto:marcus.lem@bccdc.ca)