



Touch me not

By Robin Brunet



A Fraser Health study looks at reducing exposure risks for health care workers who handle dangerous drugs.

When Laura Mercer found out she was pregnant in early 2010, she promptly found ways to keep her workday risks at bay. “I minimized my exposure to the cytotoxic drugs we use to treat cancer patients,” says the oncology nurse educator at Abbotsford Regional Hospital. “I was fine working in chemotherapy administration, but I decided to handle the chemo drugs as little as possible.”

Mercer was galvanized by the danger of cytotoxic drug exposure, which has been associated with higher incidences of cancer, miscarriages, and birth defects. And her managers supported her decision, allowing her to take on other duties whenever she was in a setting that required the administration of chemotherapy.

“Hospitals have so many safeguards that I probably would’ve been okay,” she says. “Still, I didn’t want to take any risks.”

Mercer’s comments are interesting in light of the fact that when she isn’t working with oncology nurses and patients, she’s chair of the Fraser Health Authority’s hazardous drugs working

group, which was formed in 2009 to standardize handling practices of hazardous drugs across various health care disciplines and to determine ways of reducing cytotoxic exposure in the health care sector. “Although only trained professionals mix and administer cytotoxic drugs, exposure can occur throughout a health care facility,” she says. “For example, the bodily fluids of chemotherapy patients are considered cytotoxic 48 hours after drug administration, which means waste management staff could be exposed.”

Health care group expands exposure prevention practices

Fraser Health defines cytotoxic drugs as medications that inhibit function and potentially kill body cells. “Going by name, perhaps 70 to 80 such hazardous drugs are widely used,” says Marianne Tofan, parenteral (intravenous) services coordinator for Fraser Health’s pharmacy department. Health care workers at risk of exposure include receiving and transport staff, pharmacists and pharmacy technicians, physicians, nurses, housekeepers, waste

management workers, and laundry staff. Exposure occurs by inhalation, absorption through the skin, and ingestion through contact with contaminated food or drink.

Prescillia Chua, a member of the hazardous drugs working group, is one of the principal investigators who obtained funding in 2007 from the WorkSafeBC Research Secretariat program to study how to protect workers from cytotoxic exposure. “Health care facilities already have the proper controls in place in terms of engineering controls, safe work practices and procedures, and personal protective equipment,” Chua says. “But we wanted to focus on where and how the drugs were being used and examine the effectiveness of the products that clean contaminated surfaces.”

The study found that none of the cleaning agents used in health care facilities eliminated cytotoxic contamination on stainless steel surfaces. “When our findings were published, we recommended more stringent compliance with personal protective equipment protocols, and we also recommended updated training policies for workers who handle cytotoxic drugs or come into contact with contaminated surfaces,” says Quinn Danyluk, Fraser Health’s program lead for safety and prevention. “Most interesting was our subsequent discovery that bleach was by far the most effective cleaning agent, and its use quickly became standardized throughout our jurisdiction.”

Since then, Fraser Health has determined that Surface Safe is an even better product. “It’s a bleach agent that is easy to handle and, because it comes pre-packaged, has a long shelf life,” says Danyluk, adding that “regular bleach starts to degrade after a month, which is not good for inclusion in spill kits.”

Health authority restricts cytotoxic waste handling

For the record, the scientific community has yet to determine a safe exposure standard for cytotoxic drugs. In Fraser Health, exposure to cytotoxic drugs is kept as low as possible by using safe work practices and controls. Therefore, employees who come into contact with cytotoxic drugs or with bodily waste from patients who have received cytotoxic drugs within a 48-hour period should wear, as follows:

- Two pairs of cytotoxic-approved gloves (MicroTouch, Nitrile)
- Fluid-resistant gowns with long sleeves

- Protective eyewear if there is a risk of eye contact

Fraser Health’s policy dictates that during drug preparation, cytotoxic exposure should be controlled through the use of a biological safety cabinet. Disposable cytotoxic waste must be discarded in a cytotoxic waste container, and all sharps used for preparation and administration of cytotoxic medication must be placed in a dedicated sharps container that is clearly labelled with a cytotoxic hazard symbol.

Furthermore, patient waste should be discarded in a hopper or toilet and its opening should be covered (double flushing is recommended). Also, when rinsing contaminated waste receptacles, the lowest possible water pressure should be used to avoid generating aerosols. Fraser Health staff who regularly prepare and handle cytotoxic drugs have the option to request protective reassignment and a temporary modification of duties if they are pregnant, breastfeeding, or intending to conceive.

Despite Fraser Health’s comprehensive approach to managing cytotoxic drugs, Chua points out that the process of cytotoxic contamination remains, to some extent, a mystery. As a result, Fraser Health is taking part in a new study funded by WorkSafeBC’s Research Secretariat program and in concert with Vancouver Coastal Health, Providence Health Care, the Occupational Health and Safety Agency for Healthcare in B.C., and the University of British Columbia. “We’re trying to determine to what degree hazardous drugs are inadvertently absorbed into the body, by closely tracking people who prepare, administer, and dispose of the drugs,” Chua says. “The goal is to strengthen existing control measures for all health care workers.”

Unfortunately, the quantity of cytotoxics that can be absorbed before health problems develop is still unknown, which is why professionals like Mercer take it upon themselves to determine what rate of exposure is acceptable in the workplace. “Erring on the side of caution is a good rule of thumb, no matter what you do in a health care setting,” she says. “Remember to consider your right to say ‘no’ to any duty or practice you might deem hazardous, providing you follow the right-to-refuse process outlined in the Regulation (3.12), available at WorkSafeBC.com.”

For more information on the WorkSafeBC Research Secretariat program, go to WorkSafeBC.com, and look under Research.

