



Fort McMurray clean-up crew's health in danger

Workers complaining of toxic exposures in wildfire aftermath

It has been four months since a wildfire called the "Beast" began just outside Fort McMurray, Alta. The fire that swept through the community and continued to burn for a month was eventually put out. The fire left a path of destruction visible from space. Premier Rachel Notley articulated her commitment to support the town, the municipality and its residents on May 9 when she said, "The city was surrounded by an ocean of fire only a few days ago. But Fort McMurray and the surrounding communities have been saved. And they will be rebuilt."

The reality of what happened is now becoming more evident. People have finally been allowed to go back home and the town and municipality have put in place plans to start the clean-up and reconstruction. But questions remain regarding the best timing for workers and volunteers to get in there and help get the cleanup done. The exact resourcing needed is difficult to determine. The urge to just get in there and try to make everything right is strong, but it is not as simple as that. We need to approach this with thought, care and caution. The health risks associated with this work are

unusual, and toxic exposures by clean-up crews, volunteers and residents who are unprepared and unsuspecting can be significant.

We learned the hard way from the 9-11 cleanup and the Hurricane Katrina cleanup that the health risk to workers, volunteers and returning residents can be long-lasting. In fact, these risks can become a second wave of tragedy and suffering. A study published in December 2012 in *The Journal of the American Medical Association* suggested the likely association between exposure to the World Trade Center debris and excess cancer risk. Risks for clean-up workers and returning residents to New Orleans after Hurricane Katrina included exposure to toxic and biological contaminants in the hip-deep sludge water.

After disasters like these, asbestos, lead, mould, polychlorinated biphenyls (PCBs) and volatile organic compounds (VOCs) are often present. Further, specific carcinogens associated with uncontrolled burning called polycyclic aromatic hydrocarbons (PAH) are likely contaminants that will be encountered.

We also know wildfire smoke, and ash in particular, can heavily impact

remaining residential dwellings, commercial retail spaces, office buildings, hospitals and schools. These concerns are further exacerbated by the fact that many synthetic household materials and likely commercial chemicals will have been partially burned during the fires resulting in particularly toxic residues. Large blazes leave a legacy of caustic ash, toxic heavy metals (arsenic, lead) and dioxin and furans (potent carcinogens) at elevated levels.

Now it appears that history is repeating itself in the Fort McMurray cleanup. There is evidence that, in many cases, employers are forging ahead with the cleanup without the right knowledge about the hazards. A *Calgary Sun* article reported workers were exposed to ash and ozone gas during a botched cleanup job. A worker working on the cleanup effort for an Abbotsford, B.C.-based company had to return home due to an inflamed bronchi because of poor worker exposure controls and insufficient training or equipment to handle the hazards.

The CBC reported on June 23 the Alberta government had to step in and investigate numerous unusual complaints about work safety violations

in Fort McMurray, after several workers went public with concerns over the working conditions to which wildfire clean-up workers are being exposed. In these cases, the specialized equipment was either not being provided or workers were not being given the necessary education and training to recognize the hazard, understand the health risks and use the equipment properly.

What is needed is a controlled process and a safe system of work. The first step in the process is to recognize the hazards. In the field of occupational hygiene, we also know it is essential to qualitatively and quantitatively evaluate the individual exposure if controls are to be properly prescribed. Inhalation, inadvertent ingestion and skin exposure are all possible routes of entry. The health risks are serious. The concern is that it can be difficult, costly and time consuming to identify the types and levels of contamination. But the risk cannot be ignored. What is needed is a process of assessment such that we can ensure the work methods and controls employed are protective of the health of people working on the cleanup, all building occupants and other residents.

The process for designing a safe system of work for the clean-up crews and volunteers is no different than what is used to ensure the health and safety of people doing regular work. We need to ensure there is good planning in place, including completing field-level hazard assessments and developing health and safety control strategies before work starts. We need good communication and a high-level work plan with sufficient detail to give appropriate guidance right down to the front-line workers. We need a process to educate these people about the hazards, the associated risks of exposure and the need to follow procedures and use the controls specified, including personal protective equipment.

The required resources are being determined and amassed right now for the Fort McMurray cleanup. There is a role for occupational hygienists and all safety professionals to assist. We need to "look before we leap" and properly assess the work to be completed if the health legacies associated with this type of work are to be avoided in Fort McMurray.

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