Media Backgrounder: Work-related asthma

What is newsworthy about work-related asthma?

- In Canada, work-related asthma is the most common on-the-job lung disease.
- It’s estimated that as many as 25% of adults with asthma have symptoms that are work-related.\(^1\)
- Doctors believe that about 10 to 15% of new cases of asthma in adults can be blamed on something in their workplace.\(^2\)
- Any worker is at risk, but some jobs put workers at higher risk.
- Canadian researchers have played a leading role in better understanding work-related asthma.

What is work-related asthma?

Work-related asthma (WRA) is a serious breathing disease that is caused by, or worsened by, something in the workplace. Many things can cause work-related asthma, including dust, mould, fumes and chemicals.

There are two kinds of work-related asthma: occupational asthma (OA) and work-exacerbated asthma (WEA).

**Occupational asthma** is asthma caused by exposure to something (allergenic or irritating substances) in the workplace. In some cases, occupational asthma develops slowly, over many months or years. In other cases (for example, if there’s a chemical spill), people can develop occupational asthma quickly, in a few days.

**Work exacerbated (or work-aggravated) asthma** occurs when someone with pre-existing asthma is exposed to something in the workplace that makes their symptoms worse (e.g., cold, dry air, dusts, irritants, physical exertion or extreme changes in temperature) People may notice work-aggravated asthma their first day on the job. It doesn’t need time to develop.

Who gets work-related asthma?

Any worker can get work-related asthma, but some jobs put workers more at risk. These are jobs where workers are most likely to handle or breathe in things that are known to cause asthma. More than 300 compounds have been indentified as causes of occupational asthma.\(^3\)
World Asthma Day 2009

For health-care workers, latex gloves have been identified as one cause of work-related asthma. For animal handlers, animal protein from dander or other sources can be a problem. For bakers, exposure to flour dust can be a problem. For industrial workers, welding fumes and smoke and fumes from soldering (colophony) can be a trigger. For lab workers, both latex gloves and animal dander can be problematic.

In the Maritimes, “crab asthma” is a problem for seafood processors. In Ontario and Quebec, isocyanate exposure from car manufacturing and painting is a common cause of work-related asthma. In British Columbia, breathing in western red cedar dust can put lumber workers at risk. To learn more about high-risk jobs and substances that can cause occupational asthma, visit: www.lung.ca/workasthma.

**Signs and symptoms of work-related asthma**
Someone with work-related asthma may have the usual asthma symptoms of:

- coughing
- wheezing
- feeling short of breath
- chest tightness

He or she may also have:

- runny or itchy nose
- stuffed up nose
- red, irritated or swollen eyes
- skin rash

Workers should watch for these red flags:

- Do your symptoms get worse at work or after work hours during the week?
- Do your symptoms go away when you are away from work for several days or on holidays?
- Did your symptoms start after working with a new substance (for example, a new kind of paint or flour)?
- Do your co-workers have similar symptoms?
What you should do if you think you may have work-related asthma:
1. **See your doctor.** Your doctor will examine you, test your breathing, and ask you questions about your symptoms and how they developed. After examining and testing you, the doctor can diagnose your breathing problem and tell you if it’s caused by your work.

2. **Get treatment.** Your doctor can recommend treatment to manage your symptoms. Follow your doctor’s advice to protect yourself from getting sicker.
Early treatment is key
The good news about work-related asthma is that if it is identified early, it can be well managed. In the case of occupational asthma, early removal from exposure can cure asthma. For work-exacerbated asthma, preventive measures can be taken to protect workers at risk and adequate medications proposed.

Treatment for work-related asthma

- **Avoid the things that make your asthma worse.** If you have work-exacerbated asthma, you may be able to get relief by cutting down on your exposure or by wearing protective equipment. If that doesn’t work, you may have to switch jobs to get away from the things that trigger your asthma. If you have occupational asthma, it’s best to completely avoid the thing that caused your asthma. Protective equipment is usually not enough. If you have occupational asthma, it’s usually best to switch to a new job, away from the thing that caused your asthma.

- **If your doctor prescribes them, take asthma medications** to control your symptoms.

- **Follow your asthma action plan.** It contains written instructions from your doctor that tell you what to do and what to take if your symptoms get worse. Your healthcare team can teach you how to manage your asthma symptoms.

Leading Canadian research in asthma in the workplace

In the late 1970s and 1980s, Canadian researchers were the first to report that asthma can persist even after the affected worker is removed from exposure (in studies on workers exposed to western red cedar dust in B.C. and snow crab processing plants in Atlantic Canada). This concept was considered innovative at the time because doctors used to think that asthma may be cured if a worker was no longer exposed to the substance that caused his or her asthma.

In 1988, The Canadian Thoracic Society published the first consensus guidelines for diagnosing occupational asthma. Led by Dr. Susan Tarlo of the University of Toronto, these guidelines were updated in 1998. In 2008, a Consensus Statement for the American College of Chest Physicians was recently updated and expanded from a previous 1990 publication to cover work-exacerbated asthma.

Dr. Tarlo and Dr. Gary Liss, of the University of Toronto, have also studied ways of preventing occupational asthma, showing benefit from medical surveillance measures for isocyanate-induced asthma, and for product changes in the case of natural rubber latex allergy and asthma in health care workers. They also have studied the effects of workplace irritant exposures on asthma.
Dr Jean-Luc Malo, of Hôpital du Sacré-Coeur de Montréal and the Centre for Asthma in the Workplace, has contributed in improving means to diagnose occupational asthma by exposing worker to the suspected workplace agent and has proposed scales to assess permanent disability. He also proposed a pre-placement questionnaire as an easy tool that can give accurate prediction of the incidence of occupational sensitization and symptoms.\(^8\)

Dr. Catherine Lemiere, a colleague of Dr Malo’s in Montreal, has shown that the airway inflammation that occurs in work-related asthma can be studied using induced sputum samples and can be a useful adjunctive test in diagnosis.

Other researchers in the Centre for Asthma in the Workplace have also shown major contributions to the area: Dr. André Cartier, studying asthma in snow-crab workers, and Dr. Denyse Gautrin studying the development of occupational asthma in apprentices.

**Work-related asthma experts who are available for media interviews**

**English:** Dr. Susan Tarlo  
**French:** Dr. Jean-Luc Malo

Dr Susan M Tarlo, MB BS FRCP(C) is a professor in the Department of Medicine and in the Department of Public Health Sciences at the University of Toronto. She is a respiratory physician at the University Health Network, Toronto Western Hospital, and at the Gage Occupational and Environmental Health Unit of St Michael’s Hospital in Toronto. Her main areas of clinical practice and research are in occupational and environmental lung diseases and allergic responses, especially occupational asthma.

To read some of Dr. Tarlo’s papers on occupational asthma, visit:  

Dr. Jean-Luc Malo is the director of the Center for Asthma in the Workplace, a group of researchers and scientific and strategic partners who carry out research on the relationship between asthma and the work environment to improve the health of Canadian workers. The Center for Asthma in the Workplace receives financial support from The Canadian Lung Association in partnership with the Association pulmonaire du Québec, the Canadian Institutes of Health Research and the Institut de recherche Robert-Sauvé en santé et sécurité du travail du Québec,

Dr. Malo is also a professor at Université de Montréal and is a chest physician and researcher in the Department of Chest Medicine, Hôpital du Sacré-Coeur de Montréal.

To read some of Dr. Malo’s papers on occupational asthma, visit:  
References


