



Visit [pshsa.ca](http://pshsa.ca)

## WORK-RELATED ASTHMA - YOUR BREATHING MATTERS

This PSHSA Fast Fact is intended to provide workplace parties with information on the recognition and prevention of work-related asthma. Asthma is a common lung disease that makes breathing difficult because airways narrow and swell and produce extra mucus. It can affect a worker's ability to work and overall quality of life. When asthma is not well controlled, it can even threaten life.

### WHAT IS WORK-RELATED ASTHMA?

When asthma is caused or triggered by breathing in one or more substances in the workplace, it is called "work-related" asthma.

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

*Occupational Asthma* (OA) occurs when a substance at work causes the worker's asthma. It can occur after a long exposure period and be sensitizer induced, or from a sudden spill or leak (Irritant Induced Asthma or Reactive Airways Dysfunction Syndrome - RADS). Table 1 (see page 2) lists some of the substances that can cause OA.

*Work-Exacerbated Asthma* (WEA) is also called work-aggravated asthma and takes place when a worker already has asthma and it worsens because of irritants or other exposures / factors in the workplace. Table 2 lists the common triggers.

### MANAGEMENT OF WORK-RELATED ASTHMA (WRA)

While increased awareness of WRA has contributed to the reduction of Workplace Safety and Insurance Board (WSIB) allowed claims, the incidence of this occupational

illness continues. It occurs across all employment sectors and jobs, and in the most severe cases of OA, can lead to job change or job loss. WRA is preventable through effective Recognition, Assessment, Control and Evaluation (RACE) practices.

### RECOGNITION

Early hazard recognition by the workplace, prompt worker reporting if symptoms develop, appropriate diagnosis and illness management are important to prevent OA and achieve better outcomes for the worker.

#### What are the Symptoms of Work-Related Asthma?

- Cough
- Shortness of breath, difficulty breathing
- Wheezing, and
- Chest tightness

### ASSESSMENT

If you think you are exhibiting symptoms of asthma, there is a need to assess whether the symptoms are caused by asthma, and if the asthma is work-related. Depending on the setting, this requires a visit to an occupational health, employee health department, the family doctor and / or a

Table 1	Examples of sensitizing substances that can cause occupational asthma <sup>2</sup>
Occupation:	Sensitizers:
Health care workers; paramedics; community care workers	• Glutaraldehyde, latex, certain drugs, sterilizing agents, disinfectants, formaldehyde
Firefighters	• Chemical exposure, fire extinguisher contents, formaldehydes, isocyanates
Pharmaceutical employees	• Enzymes, lactase, glucose oxidase, lysosymes and lactoferrin
Building Maintenance, janitors, cleaning staff and others who clean and disinfect	• Chloramines, amines, pine products, some fungicides and disinfectants, acetic acid
Renovation and construction workers,	• Moulds, red cedar (plicatic acid) and other wood dusts
Metal workers and welders	• Metal working fluids, stainless steel fumes
Painters, insulation installers, foam coatings, adhesives users	• Isocyanates, diisocyanates, formaldehyde, epoxies
Hospital and laboratory workers	• Formaldehyde
Bakery, milling and food production workers	• Flour, amylase and other enzymes
Hairdressers and manicurists	• Dyes, Persulfates and acrylates (artificial nails), glutaraldehydes

Table 2 - Examples of causes of work-exacerbated asthma
Irritants, including dust, smoke, fumes, sprays, perfumes and scented products.
Triggers such as cold temperatures, dry air or exertion at work.

respiratory specialist for the necessary specialized tests. If possible, obtain Safety Data Sheets of the products you are exposed to and bring them to the appointments. The Safety Data Sheets should contain information about the respiratory health effects.

### Typical Questions to Be Asked to Assess Work-Related Exposure

- Did the symptoms of asthma first start, or become worse, after beginning to work in the job or field of work, or when a new product came into the workplace?
- Do the symptoms get worse as the workday or week goes on?
- Do the symptoms decrease on holidays and / or when away from work?
- Is the worker working with or exposed to any asthma causing agents?
- Was there an unusual exposure at work, such as a chemical spill, within 24 hours before symptoms started?
- Do co-workers have symptoms of asthma?

If it is suspected that the asthma is work-related, the employer must submit a Form 7 to the WSIB. The affected worker will also complete a report (Form 6) and inform their supervisor / manager and the joint health and safety committee (JHSC) and / or union representative.

The sooner the symptoms are recognized, the better. With early recognition, accurate diagnosis and treatment, asthma can be managed. The lung function of workers who have sensitizer-induced asthma improves after they are protected or removed from the sensitizer. However, when an affected worker does not have proper protection from the sensitizer, asthma symptoms can become more severe with repeated exposure. Long-term exposure can result in permanent lung changes and disability.

Ongoing protection from asthma sensitizers or triggers at work will be necessary, even if the asthma is controlled with medications. Ontario Health and Safety laws require employers to take every precaution reasonable in the circumstances for the protection of a worker. Control of Exposure to Biological or Chemical Agents and Designated Substance regulations (O. Reg 833) provide exposure limits and medical surveillance program requirements for workers.

### CONTROL:

Work-Related Asthma Can be Prevented!

### Strategies to reduce and prevent work-related asthma?

- Employers, Health and Safety Associations and system partners, workers, unions, Joint Health and Safety Committees or representatives and health-care professionals need to work together to prevent work-related asthma and its consequences.

- Incorporate sustainable procurement guidelines within the organization for responsible acquisition of goods and services that have minimal environmental and health impacts. (e.g. cleaning products and interior furnishing products with low chemical emissions)
- Ensure that each agent or chemical product in the workplace has an available Safety Data Sheet and that precautions for handling, storage and use of the product are incorporated into workplace health and safety policies and worker training programs
- Try to eliminate the use of asthma causing agents, or if not possible, substitute for a less harmful product. For example, use latex-free gloves and allergen free cleaning products; eliminate mould; enclose systems to eliminate contact with the agent; improve general ventilation, etc. If the agent is a designated substance, such as isocyanates, ensure that the Ontario Designated Substances Regulations are followed and that a medical surveillance program is in place.
- Ensure that workplace training programs detail the hazards and the prevention methods that must be maintained.
- Conduct regular workplace inspection, including inspection for chemical use, water leaks and mould growth, and talk to employees to ensure that they know and are following the policies and procedures where respiratory hazards are present.
- Ensure that an exposure control program is in place to reduce all exposures to asthma triggers, including adequate personal protective equipment, adequate ventilation, closed systems and a scent-free workplace policy. Where appropriate, conduct exposure monitoring tests to ensure acceptable air quality is maintained.
- Encourage and support employees with asthma to work with medical professionals for proper assessment, care, treatment and follow-up.

Employees who have a *diagnosis of sensitizer-induced asthma* must be accommodated by completely removing them from all exposure to the sensitizer. These workers have been sensitized; therefore, inhaling even small amounts of the subject agent can start an asthmatic response. Removal from the exposure involves either 1) changing the affected worker's duties in the current job to eliminate exposure to the offending agent or 2) changing jobs to one where he or she is not exposed to the agent. Each situation is different and needs to be discussed between the worker, union representative (as applicable), employer and doctor.

Workers who have *work-exacerbated asthma* or RADS may also need workplace accommodations or job modifications to reduce exposure to aggravating irritants in the workplace.

## WHERE CAN I FIND MORE INFORMATION?

### Research Expertise in Occupational Disease (CREOD)

- Occupational Lung Disease - <http://creod.on.ca/occupational-lung-disease/>

**PSHSA Fast Facts** - Occupational Illness: Requirements to Report to the Ministry of Labour

**PSHSA Fast Facts** - Physician OH&S Roles and Responsibilities <http://www.pshsa.ca/products/physicians-occupational-health-safety-roles-and-responsibilities/>

**Ontario Lung Association Helpline** 1-888-LUNG(5864) and website resources at <http://www.on.lung.ca/work-related-asthma>.

**PSHSA Fast Facts** - WHMIS 2015 - <http://www.pshsa.ca/products/whmis-2015-fast-fact/>

**PSHSA Fast Facts** Cleaning and Disinfecting - [http://www.pshsa.ca/wp-content/uploads/2013/03/Cleaning\\_And\\_Disinfection.pdf](http://www.pshsa.ca/wp-content/uploads/2013/03/Cleaning_And_Disinfection.pdf)

**PSHSA Fast Facts** - New and Young workers: <http://www.pshsa.ca/new-young-workers/>

**PSHSA Fast Facts** - Occupational Skin Disease: <http://www.pshsa.ca/products/occupational-skin-disease-it-is-more-than-just-a-rash/>

## REFERENCES:

1. Lists of reported asthma causing agents:
  - a. Global Atlas of Asthma published by the European Academy of Allergy and Clinical Immunology, 2013: <http://www.eaaci.org/attachments/Global%20Atlas%20of%20Asthma.pdf>
  - b. Quebec publication: Commission de la santé et de la sécurité du travail: [http://www.asthme.csst.qc.ca/document/Info\\_Med/IdCauses/Bernstein/AgentsAnglais.pdf](http://www.asthme.csst.qc.ca/document/Info_Med/IdCauses/Bernstein/AgentsAnglais.pdf)