

## Work-Related Asthma and You: Prevention in Higher Risk Industries

Asthma is a common lung disease that makes breathing difficult. It can affect your ability to work and your overall quality of life. When asthma is not managed, it can even threaten your life. If you work in certain industries (see the Table), you may be at risk for developing work-related asthma.

### What is Work-related Asthma?

When asthma is caused or triggered by breathing in an agent in the workplace, it is called "work-related" asthma. There are 2 types of work-related asthma: *occupational asthma* and *work-aggravated asthma*.

#### Definitions

- Work-related asthma: a worker breathes in an agent in the workplace that causes or triggers asthma
- Occupational asthma: a worker's asthma is *caused* by exposure to an agent in the workplace (see Table below)
- Work-aggravated asthma: a *worker already has asthma* and the asthma becomes worse because of factors at work

### What Are the Symptoms of Work-related Asthma?

People suffering from work-related asthma often do not realize that their symptoms are related to their work because the symptoms are the same as for regular asthma. They include any or all of the following:

- cough
- shortness of breath
- wheezing, and
- chest tightness.

In work-related asthma, the symptoms usually become worse during the working day and throughout the workweek. They decrease over the weekend, on days off and during vacations.

If you have these symptoms, go to your doctor, or the occupational health department or employee health services at work. If your doctor, or other health care professional, thinks that you may have work-related asthma, it is important to tell your supervisor, union representative and joint health and safety committee (JHSC), right away.

### What Causes Work-related Asthma in Higher Risk Industries?

#### Agents that Cause Occupational Asthma

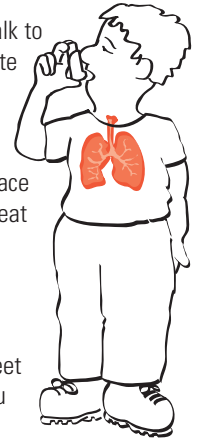
A number of agents commonly used in workplaces can cause occupational asthma. The Table lists some examples.

#### Factors that Can Trigger Work-aggravated Asthma

Irritants and common allergens that are present in many workplaces may trigger work-aggravated asthma. They include:

- cleaning products
- other sources of fumes, vapours, dusts and sprays (e.g., industrial sources, paints, second-hand cigarette smoke)<sup>1</sup>
- other common irritants or allergens (e.g., cement dusts, dust mites or mould/fungal spores)
- respiratory infections you may be exposed to at work that worsen asthma symptoms
- indoor air pollution as a result of poor ventilation, and
- outdoor air pollution and smog (for outdoor workers).

To reduce exposure to irritants and common allergens, talk to your supervisor and/or JHSC about developing appropriate policies and procedures. Examples include the use of "green" cleaning products and programs that reduce exposure to scented products. Good ventilation and proper temperature and humidity controls in your workplace are also important, to avoid extremes in temperatures (heat or cold) that may trigger work-aggravated asthma.



### Material Safety Data Sheets

More than 250 agents can cause occupational asthma in higher risk industries. Check the material safety data sheet (MSDS) of the chemicals and other hazardous agents you use at work. The MSDS for a hazardous product may contain information on asthma in the Health Hazards (or Toxicological) section.

**Table: Common Agents that Can Cause Occupational Asthma**

Sector and Occupation	Agents
<b>Health Care, Food and Agriculture</b>	
Bakery, milling and food production workers	Flour, amylase and other enzymes
Human health, animal health and dental care workers	Psyllium, latex, glutaraldehyde, methacrylates, formaldehyde, antibiotics and other medications, detergent enzymes
Laxative manufacturers and packers	Psyllium
Dental care and plastics workers	Acrylates (resins, glues)
Seafood workers (crab, snow crab and prawn)	Shellfish proteins
Laboratory workers and animal researchers	Animal proteins
Animal breeding, farming and slaughterhouse workers, veterinarians and technicians	Chickens and farm animals
<b>Metals, Mining and Electronics</b>	
Jewellery, alloy and catalyst makers	Platinum and nickel
Alloy, catalyst and refinery workers	Chromium, cobalt
Solderers and electronics workers	Soldering flux (colophony)
Metal platers	Nickel sulphate and chromium
Welders and metallurgy workers	Metal-working fluids, metals
<b>Chemicals, Plastics and Automotive</b>	
Plastics, dye, insecticide and organic chemical makers	Phthalic anhydride, trimetallic trihydride (used in epoxy resins)
Polyurethane, insulation, foam coatings and adhesives producers and end users (e.g., spray painters, and foam and foundry workers)	Diisocyanates
Foam workers, latex makers, biologists and hospital and laboratory workers	Formaldehyde
Textile workers and hairdressers	Dyes
Hairdressers and manicurists	Persulfates and acrylates (artificial nails)
Cosmetics workers	Latex, glutaraldehyde
Detergent formulators	Detergent enzymes such as protease, amylase and lipase
Printers	Gum arabic, reactive dyes and acrylates
<b>Cleaning and Janitorial</b>	
Janitors, cleaning staff and others, such as health care workers, who clean and disinfect	Disinfectants such as quaternary ammonium compounds and chloramine T Pine products (colophony, tall oil)
<b>Construction, Pulp and Paper and Forestry</b>	
Cabinetmakers, woodworkers and furniture makers Pulp and paper, forestry, and construction workers	Red cedar (plicatic acid) and other wood dusts

<sup>1</sup> In Ontario, anti-smoking bylaws have reduced second-hand smoke as a workplace irritant.

Work closely with your employer, JHSC and union to review the proper use, storage and handling of hazardous chemicals and other agents. If you start a new job, or start working with any new agent, make sure that you receive proper training on how to work safely with the new substance before you use it.

### How Can Work-related Asthma be Prevented?

Work-related asthma can largely be prevented by eliminating or reducing exposure to any agents that are known to cause it. Both employers and employees can help to prevent it.

#### Employers

All employers should be taking all reasonable measures to prevent work-related asthma:

- first, try to **eliminate** the asthma-causing agent from the workplace
- if elimination is not possible, **substitute** a less hazardous agent (check MSDSs)
- when substitution is not possible, **control the exposure** by closing off the work processes that release the agent into the air, or installing ventilation systems to capture and contain emissions (e.g., gases or vapours) at the source
- apply **administrative controls**: these include policies, procedures, safe work practices and job rotation to **minimize exposure time of workers**
- **provide personal protective equipment (PPE)**, such as respirators, to employees;

*PPE is the last line of defence and should not be used as the only method of exposure control when exposures are ongoing. PPE should be used when exposures are not already prevented or significantly reduced by elimination, substitution and control. Anyone using PPE also needs training on the proper use, storage and maintenance of this equipment.*

- **train employees** on safe working and housekeeping procedures, and
- **monitor** the exposure level of hazardous agents in the workplace to make sure that workers are not exposed to levels greater than recommended in regulations, standards and guidelines.

Employers are supposed to inform their employees about potential workplace hazards and provide proper training. Employers must make sure that every controlled product has an up-to-date MSDS (one that is less than 3 years old) when it enters the workplace.

Occupational health professionals are available to help employers recognize, evaluate and control workplace hazards and their health effects. They can also provide education and information to employees on work-related asthma and its control measures.

#### Employees

Employees can also help to ensure that they do not get work-related asthma. You can:

- **learn about the hazards in the workplace** by speaking to your health and safety or union representative, an occupational health professional (e.g., a nurse or doctor from your occupational health or employee health department) or your employer
- **attend training courses** provided on work-related asthma and occupational health and safety
- **be aware** of the **symptoms of work-related asthma**
- **follow safe work practices**, policies and procedures, provided by your employer;
- **use the PPE** provided
- **report any problems** with equipment, PPE or ventilation systems, and
- **participate** in all health and safety programs in the workplace.

#### What Should I do if I Have Trouble Breathing?

Act right away if you have symptoms of work-related asthma:

- make an appointment with your family doctor
- tell your doctor your symptoms, where you work, what your job is and what chemicals and materials you work with every day
- take this fact sheet to your doctor, and
- ask your doctor for a referral to an occupational health professional with a good knowledge and understanding of work-related asthma. For example, you could be referred to a respiratory (lung disease) doctor; an allergist, an occupational health doctor or nurse from your occupational health or employee health department, an OHCOW clinic, or an occupational lung disease clinic/doctor.

If your asthma started while you were working and seems worse at work, it is particularly important to have specialized tests arranged to determine whether you have occupational asthma.

If your doctor tells you that you have work-related asthma, report to your supervisor,

occupational health or employee health department, JHSC representative and/or union representative, right away.

Anyone who has work-related asthma needs ongoing protection from asthma-causing agents or triggers at work, even if the asthma is controlled with medication. Steps can be taken to move you away from the exposure, such as changing the duties in your current job or changing your job in your workplace. In some cases, your doctor may indicate that you need to leave the job, especially if you have occupational asthma. The Workplace Safety and Insurance Board (WSIB) provides compensation (payment), if you have to leave a job (even for a short time) due to work-related asthma.

Work-related asthma is a serious illness. If you are not protected from workplace exposures and do not get medical treatment, you may become permanently disabled, which could affect your ability to continue to work in your current job as well as your quality of life. Early recognition and treatment are very important to prevent this illness from getting worse.

#### For more information, contact:

- Occupational Health Clinics for Ontario Workers: [www.ohcow.on.ca](http://www.ohcow.on.ca) or 1-877-817-0336
- Industrial Accident Prevention Association: [www.iapa.ca](http://www.iapa.ca) or 1-800-406-IAPA (4272)
- Ontario Safety Association for Community and Healthcare: [www.osach.ca](http://www.osach.ca) or 1-877-250-7444 (for health care employees)
- The Lung Association's Asthma Action Helpline: 1-888-344-LUNG (5864)
- The Lung Association: [www.on.lung.ca](http://www.on.lung.ca) or 1-888-344-LUNG (5864)
- The Asthma Society of Canada: [www.asthma.ca](http://www.asthma.ca) or 1-866-787-4050
- Workplace Safety & Insurance Board: [www.wsib.ca](http://www.wsib.ca) or 1-800-387-0750
- Ministry of Labour health and safety information: [www.labour.gov.on.ca/english/hs/index.html](http://www.labour.gov.on.ca/english/hs/index.html) or 1-800-268-8013.

Contact the Occupational Health Clinics for Ontario Workers or the Industrial Accident Prevention Association for the brochure, *Work-related Asthma: Preventing Work-related Asthma in Higher Risk Industries*, which accompanies this fact sheet.

Funding for this fact sheet was provided by the Government of Ontario. IAPA/OHCOW would like to thank the Ministry of Labour and the Ministry of Health and Long-Term Care.

This fact sheet is provided for general information purposes only. For further information, consult a doctor or other health care professional. The information provided in this fact sheet has been developed by IAPA/OHCOW and does not necessarily reflect the policies or positions of the Government of Ontario.