

# ASTHMA IN THE WORKPLACE

INFORMATION AND PREVENTION  
RF-531



# GET THE FACTS

## AND WORK SMARTER

Certain training and work environments carry health risks you should know about.

Getting the facts will help you work smarter and avoid certain practices that could lead to occupational asthma and rhinitis.

Because your work involves the use of commercial products you could be at risk of developing these two respiratory diseases, which are often linked to one another.

**Symptoms of asthma can appear within a few hours of a person's exposure to an agent to which he or she has become allergic—even if it is present in very low concentrations.**

# FIND OUT

## ABOUT ASTHMA

**Asthma is a chronic respiratory disease caused by inflammation and constriction in the bronchial passage that makes breathing—especially exhaling—difficult.**

Asthma is usually the result of allergic reactions to certain substances in your environment, such as pollen, dust, mites, chemical substances and others. Its main symptoms are coughing, shortness of breath, wheezing and tightness in the chest.

### Asthma in the workplace can be:

The term "asthma in the workplace" includes occupational asthma (OA) and work-aggravated asthma.

### Occupational asthma (OA) comes under two types:

- **Asthma that has a latency period.** Symptoms appear after several weeks, months or even years of contact with the allergen;
- **Asthma that has no latency period**, also called irritant-induced asthma. Symptoms surface very soon after accidental exposure to high concentrations of harmful substances such as chlorine and ammonia.

Work-aggravated asthma is pre-existing asthma that is aggravated by irritants such as cleaning products or physical factors such as extreme ambient temperatures.

## IMPORTANT FACTS AND FIGURES

Occupational asthma is the most common respiratory disease in most industrialized countries.

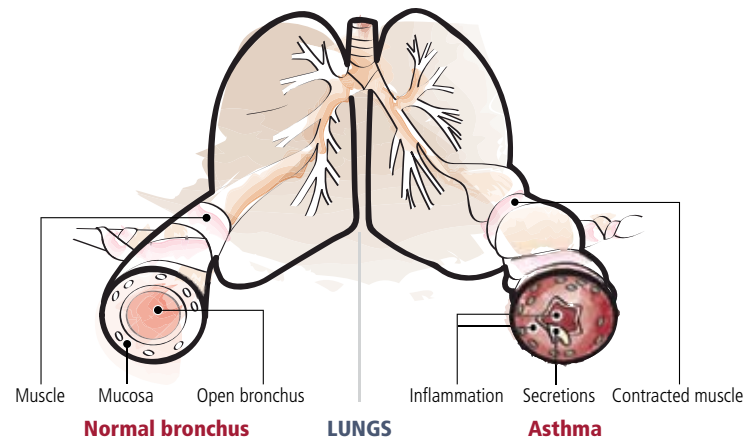
10% of the Québec population, or 700,000 people, suffer from asthma.

10% to 15% of adult onset asthma is work-related.

10% to 25% of the Québec population suffer from rhinitis.

More than 250 hazardous agents\* have been identified in workplaces.

\* [www.asthme.csst.qc.ca](http://www.asthme.csst.qc.ca)



# DIAGNOSING

## ASTHMA

Occupational asthma is suspected when symptoms appear or worsen in training or work environments or within a few hours after leaving these environments, and decrease or disappear on days off and holidays.

An evaluation to diagnose occupational asthma must include:

- a questionnaire on work history and a description of the work environment;
- skin tests for allergies to certain workplace agents (such as proteins from laboratory animals, metals);
- an evaluation of respiratory function;
- a nonspecific bronchial provocation test.

Some specialized hospitals will conduct a specific bronchial provocation test that involves the suspected agent. This test reproduces working conditions under laboratory conditions and is carried under strict controls.

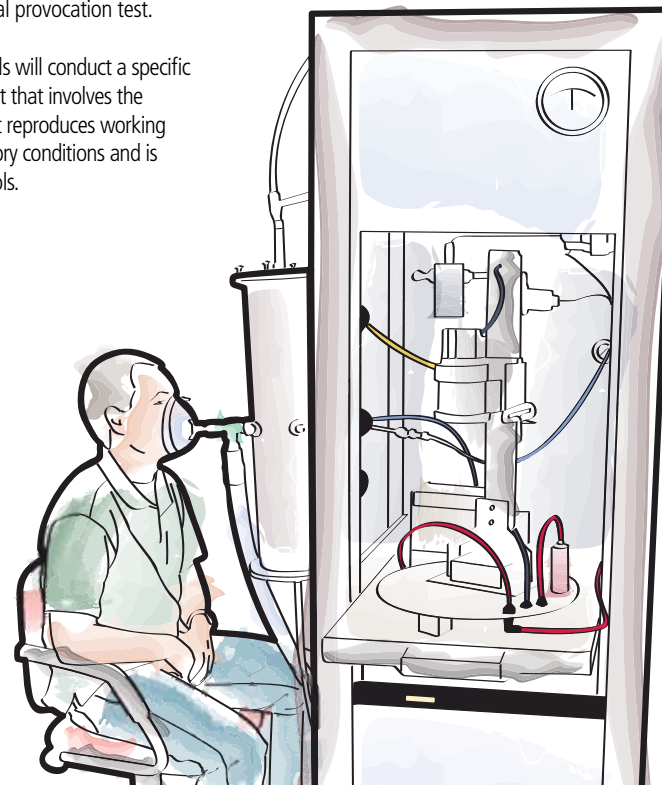
# TREATING

## ASTHMA

For occupational asthma with a latency period, eliminating exposure to the sensitizing agent can reduce symptoms or even lead to a complete cure. However, if symptoms persist, inhaled medication (pumps) can be used.

For asthma without a latency period (irritant-induced asthma), a shock treatment based on anti-inflammatory medications can prevent long-term effects. There is no need to stop working if the accidental emissions stop.

**The diagnosis must be made as soon as possible following the onset of respiratory symptoms.**



AGENT ORIGINATING  
FROM ANIMAL PROTEIN

AGENT ORIGINATING  
FROM PLANT PROTEIN

AGENT OF  
MICROBIAL ORIGIN

CHEMICAL AGENT

IT IS IMPORTANT TO KNOW WHAT ARE  
THE AGENTS AND WORKPLACES THAT  
CARRY A HEALTH RISK OF DEVELOPING  
OCCUPATIONAL ASTHMA AND RHINITIS.



**WORKPLACE AT RISK**

ANIMAL HEALTH CARE	Laboratory animals			
VETERINARY MEDICINE	Large animals			
FOOD INDUSTRY (processing, restaurant/institution kitchen)	Shellfish and seafood			Persulfate
VETERINARY MEDICINE, SLAUGHTERHOUSE WORK, BREEDING	Chicken and farm animals			
BAKING, PASTRY MAKING, FOOD INDUSTRY, COOKING, MILLING INDUSTRY	Flour			
HEALTH CARE, ANIMAL HEALTH, DENTAL CARE	Latex			Formaldehyde, glutaraldehyde
BAKING, FOOD INDUSTRY, DETERGENT MANUFACTURE			Enzymes	
AUTOMOBILE PAINTING, INSULATING AND PLASTIC INDUSTRIES				Isocyanates (polyurethanes)
JOINERY, CABINET WORK, CONSTRUCTION				Wood dust (wood acids)
PLASTERING, CONSTRUCTION				Irritant dusts (cement)
TEXTILE INDUSTRY, HAIRDRESSING				Dyes
COSMETIC INDUSTRY				Formaldehyde, glutaraldehyde
HEALTH CARE, PHARMACEUTICAL INDUSTRY				Drugs
WELDING, METALLURGY, PLUMBING				Metals
PLASTIC INDUSTRY, DENTAL CARE				Acrylates (resins, glues)

INFORMING AND TRAINING STUDENTS, APPRENTICES AND EMPLOYEES ON THE RISKS OF EXPOSURE TO SUBSTANCES IN THEIR LEARNING OR WORK ENVIRONMENT, THE SOURCES OF EMISSION, THE MOST HAZARDOUS TASKS, METHODS OF CONTROL (INCLUDING WORK PRACTICES AND METHODS) AND PERSONAL PROTECTIVE EQUIPMENT ARE KEY TO CONTROLLING EXPOSURE.

# KNOWING

## WHAT RHINITIS IS

Rhinitis is another respiratory disease that inflames the nasal mucosa. It can be caused by allergens or irritants in the air. Rhinitis causes nasal congestion, runny nose, itching and sneezing. It is sometimes accompanied by eye symptoms such as itchy or runny eyes.

Like work-related asthma, work-related rhinitis is the result of the onset of symptoms in the training or work environment. The symptoms decrease or disappear outside of these environments. Another common link with asthma is that there are two types of rhinitis: the "occupational" type with or without a latency period, and the type "aggravated" by the training or work environment.

# DIAGNOSING

## RHINITIS

If left untreated, occupational rhinitis can develop into asthma; hence the need for early diagnosis and treatment. Rhinitis can worsen the health of someone who is already asthmatic. This is why rhinitis must be considered a risk factor for developing occupational asthma.

If symptoms of occupational rhinitis are present, a diagnostic evaluation must include:

- a questionnaire on work history and a description of the work environment;
- skin tests to determine allergies to some suspected agents;
- a physical examination of the nose (rhinoscopy).

Specialized hospitals may investigate further by performing a specific nasal provocation test.

## TREATING RHINITIS

The best way to reduce the symptoms of occupational rhinitis is to avoid contact with the allergen or irritant as much as possible. If you still have symptoms, consult your physician to find out if you need medication.

# PREVENTING

## ASTHMA AND RHINITIS

The best prevention is to avoid exposure to allergenic or irritant agents. Some ways to minimize the risk of occupational asthma and rhinitis are:

- Where possible, replace allergenic and irritant products with ones that are less harmful;
- Handle potentially harmful products in a closed-circuit environment;
- Install an exhaust system at the emission source;
- Use personal protective equipment (as a last resort), such as a respirator.

### A surgical mask is not a respirator



In obvious cases of these two occupational diseases, the layout of the workstation must be changed, the affected person must be assigned to another workstation or they can be removed from the training or work environment and steered into a reorientation program.

In high-risk training environments and industries, a screening program should be established for the early diagnosis of asthma and rhinitis.

Clic Research  
[www.irsst.qc.ca](http://www.irsst.qc.ca)



## TO LEARN MORE

For more information about these respiratory diseases, see your physician or contact the occupational health team nurse at your CLSC. You can also visit the following sites:

### **IR SST**

<http://www.irsst.qc.ca>

### **Info CSST**

<http://www.csst.qc.ca/portail/en>

### **Asthme professionnel, CSST**

<http://www.asthme.csst.qc.ca>

### **Center for Asthma in the Workplace**

<http://asthma-workplace.com/en>

### **Québec Lung Association**

<http://www.pq.lung.ca>

### **Réseau québécois de l'asthme et de la MPOC**

<http://www.rqam.ca>

### **Asthme au quotidien**

<http://www.asthme-quebec.ca/eng/index.html>

### **Asthma Society of Canada**

<http://www.asthma.ca>

### **Institut national de santé publique**

<http://www.inspq.qc.ca>

### **Réseau public québécois en santé au travail**

<http://www.santeautravail.net>

### **Asthma and allergic rhinitis**

<http://www.asthma.ca/allergies/index/html>

You can also consult the following prevention fact sheets on some hazardous professions:

### **Baking and Pastry-making**

<http://www.irsst.qc.ca/files/documents/pubirsst/RF-532.pdf>

### **Carpentry and Joinery**

<http://www.irsst.qc.ca/files/documents/pubirsst/RF-533.pdf>

### **Dental Hygiene**

<http://www.irsst.qc.ca/files/documents/pubirsst/RF-534.pdf>

### **Plastering**

<http://www.irsst.qc.ca/files/documents/pubirsst/RF-535.pdf>

### **Animal Health**

<http://www.irsst.qc.ca/files/documents/pubirsst/RF-536.pdf>

### **Plumbing and Heating**

<http://www.irsst.qc.ca/files/documents/pubirsst/RF-537.pdf>

## AUTHORS

Denyse Gautrin and Sylvie Daigle, Asthma in the Workplace Center and Respiratory Health Research Theme,  
Hôpital du Sacré-Cœur de Montréal  
Nicole Goyer, IRSST

