

Hair, Nail + Beauty Salons

Work-Related Asthma

ASTHMA PLAN OF
ACTION



THE  LUNG ASSOCIATION™

 Ontario

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Occupational
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The content of this guide is based on current available evidence and has been reviewed by medical experts. It is provided for informational purposes only. The views set out in this guide are those of the authors and do not necessarily reflect those of the Government of Ontario or the Ministry of Health and Long-Term Care. The information is general in nature and is not intended to be a substitute for sound clinical judgment. Seek the advice and expertise of your health care provider with any questions you may have about your health.

Why do I need to know about work-related asthma?

Some work environments can aggravate asthma in people who have this disease; in some cases, employees can even develop asthma because of the conditions they work in.

If you work in a beauty or nail salon, you should know about work-related asthma.

The Workplace Safety and Insurance Board (WSIB) in Ontario notes hairdressers are more likely to get occupational asthma than many other workers. In addition, many countries (Finland, France, Spain, Sweden, Turkey and United Kingdom) have documented an increased risk of work-related asthma for hairdressers and nail technicians.

There are also many reports that the chemicals used in these industries may cause non-respiratory problems in employees — specifically skin problems (dermatitis) and various cancers. (See Table 1)

If recognized early, work-related asthma can be treated and managed. Early recognition prevents the illness from worsening because workers at high risk are removed from further exposure to the source of the problem. It also makes it more likely to be able to reverse the course of the illness and plays an important role in preventing occupational asthma with other workers.

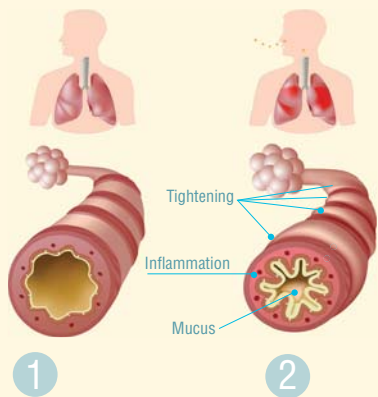
TABLE 1

Comparisons of Results from Untreated Work-related Asthma and a Work-related Asthma Prevention Strategy in the Workplace

UNTREATED WORK-RELATED ASTHMA	WORK-RELATED ASTHMA PREVENTION STRATEGY
<p>Employer:</p> <ul style="list-style-type: none">• Loss of workforce productivity• Staff turnover and decreased morale• Increased insurance costs (including medical and drug-related costs)	<p>Employer:</p> <ul style="list-style-type: none">• Greater productivity• Improved working conditions
<p>Worker:</p> <ul style="list-style-type: none">• Disability (illness and death)• Loss of work and income• Reduced quality of life	<p>Worker:</p> <ul style="list-style-type: none">• Less sick time• Improved quality of life



Airway Comparison



1. Normal airway
2. Asthma – airway inflammation, tightening and mucus

What is asthma?

Asthma is a serious long-term lung disease that makes it difficult to breathe. About 1.7 million children and adults in Ontario suffer from asthma.

People who have asthma have increased sensitivity in their lungs' airways, called hyper-responsiveness. The airways become irritated and inflamed when substances are inhaled that cause or provoke asthma.

Because of this inflammation:

- the muscles around the airway tighten
- the airway tissues swell, and
- they produce excess mucus

All of these events can prevent a person from being able to move air freely in and out of his or her lungs, producing shortness of breath, coughing and wheezing, and chest tightness.

What is work-related asthma?

Asthma is considered work-related when the disease is caused or worsened by an agent or conditions a person comes in contact with at work. These work-related agents usually take the form of dusts, gases, fumes or vapours and are classified as *sensitizers* or *irritants*. The agents are released into the workplace air, and when they are inhaled, can lead to an asthmatic response.

There are two main types of work-related asthma:

- occupational asthma, and
- work-exacerbated asthma.





Occupational asthma

Occupational asthma means newly caused asthma because of a workplace sensitizer or irritant.

Sensitizer-induced occupational asthma: When a sensitizer is breathed in, the body builds up its immune defenses against it in a process known as sensitization. This may take from two weeks up to 20 or more years to occur (known as the latency period). After a person has become sensitized, even tiny amounts of the triggering agent can cause an asthmatic reaction, within minutes or hours after exposure.

Irritant-induced occupational asthma: This may show up as Reactive Airway Dysfunction Syndrome (RADS). RADS occurs when high, often accidental, exposure to an agent causes asthma in a person who has never had it before.

Work-exacerbated asthma

Workers who already have asthma (pre-existing asthma) can get work-exacerbated asthma when the asthma is worsened by non-specific triggers in the workplace, such as: sprays, perfumes and fragranced products, smoke, dry air or exertion at work.

An employee with pre-existing asthma needs to pay particular attention to whether symptoms increase during the workday or work week. If so, the employee should see his or her doctor or healthcare provider right away to determine if a non-specific trigger in the work environment may be aggravating the asthma.

WSIB may compensate workers who have work-aggravated asthma.



Who is at risk for work-related asthma in hair and nail salons?

Anyone working in a beauty, hair or nail salon may be at risk for work-related asthma, depending on what chemicals are used in the workplace.

People who spend more of their day exposed to the chemicals have the greatest risk. Anyone who washes, styles, curls/waves, bleaches or colours hair may be at risk, as well as those who apply artificial fingernails. In addition, anyone who wears natural rubber latex gloves for work may be at risk of developing a latex allergy, which can result in asthma.

Some of the tasks and chemicals that are found in hair and nail salons are listed in Table 2.





TABLE 2

**Chemicals that May Cause Work-Related Asthma*
in the Hairdressing, Nail and Beauty Salons Business**

TASK	ASTHMAGENIC CHEMICAL
Washing hair	<ul style="list-style-type: none"> • Sericin (in shampoos, conditioners) • Natural rubber latex
Bleaching hair	<ul style="list-style-type: none"> • Persulfates (e.g. Ammonium, potassium, sodium persulfate) • Natural rubber latex
Colouring hair	<ul style="list-style-type: none"> • Permanent hair dyes containing ethylenediamine, monoethanolamine • Henna • Natural rubber latex
Curling hair (perms)	<ul style="list-style-type: none"> • Permanent wave solutions containing ammonia (rhinitis only*) • Natural rubber latex
Styling hair	<ul style="list-style-type: none"> • Polyvinylpyrrolidone (hair sprays) • Sericin (hair sprays) • Formaldehyde, methylene glycol (hair straighteners)
Applying artificial nails	<ul style="list-style-type: none"> • Methyl methacrylate (MMA) • Ethyl methacrylate (EMA) • Cyanoacrylate • Formaldehyde (nail extenders) • Natural rubber latex
Manicuring, general	<ul style="list-style-type: none"> • Human nail dust (respiratory irritation only) • Formaldehyde (nail polish)

* Nicholson et al state that occupational rhinitis may indicate an increased risk of a worker developing occupational asthma, after the onset of rhinitis. Therefore, occupational rhinitis is included in this table under the use of permanent wave solutions.



How to recognize work-related asthma

Common symptoms of asthma (including work-related asthma) are:

- coughing
- wheezing
- difficulty breathing
- shortness of breath, and
- chest tightness

These symptoms may not occur until early the next morning or towards the end of the work week.

Usually only some of the employees who are exposed to asthma-causing agents develop occupational asthma and they may be affected at different times. However, if one employee is diagnosed with occupational asthma, others may also be affected in the future because they too could be exposed to the asthma-causing agent(s) in the workplace.

If one employee develops occupational asthma, it is a sign to employers to intervene in order to protect other employees.





What can employees do?

Employees can:

- assess their workplace risk
- make an appointment with their doctor
- get a diagnosis, and
- talk to their supervisor, Joint Health and Safety Committee (JHSC) or health and safety representative, and/or union representative

Assess risk

To help find out whether they may have work-related asthma, employees can ask themselves the following questions:

1	Do I have symptoms of asthma (cough, chest tightness, wheeze and/or shortness of breath)?	<input type="checkbox"/> Y <input type="checkbox"/> N
2	Did my symptoms of asthma first start, or become worse, after I began to work in the job or field of work?	<input type="checkbox"/> Y <input type="checkbox"/> N
3	Do my symptoms get worse as the workday or work week goes on?	<input type="checkbox"/> Y <input type="checkbox"/> N
4	Do my symptoms decrease on holidays and/or when I am away from work?	<input type="checkbox"/> Y <input type="checkbox"/> N
5	Do I work with any asthma-causing agents listed in Table 2 or any other known asthma-causing agent? ^a	<input type="checkbox"/> Y <input type="checkbox"/> N
6	Was there an unusual exposure at work (such as a chemical spill) within 24 hours before my symptoms started?	<input type="checkbox"/> Y <input type="checkbox"/> N
7	Do my co-workers have symptoms of asthma?	<input type="checkbox"/> Y <input type="checkbox"/> N

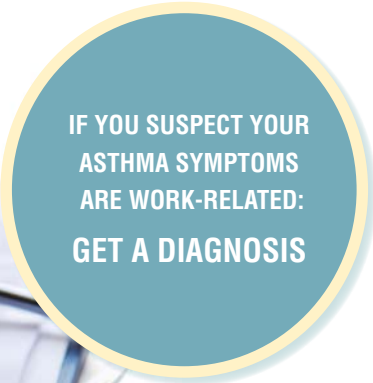
**ANYONE WHO ANSWERS
“YES” TO QUESTIONS
1 AND 2 NEEDS TO
BE ASSESSED BY A
DOCTOR OR HEALTHCARE
PROVIDER.**

^a An occupational hygienist or other occupational health professional can provide information on other known asthma-causing agents.

A doctor or healthcare provider can determine whether the employee's symptoms are work related. If the workplace has an employee health department, the employee should go there as well as going for medical advice.

If a doctor suspects a patient's asthma symptoms are work related, or the employee is concerned they may be work related, the employee should:

- tell his or her supervisor
- complete an employee incident report (as applicable) and
- notify the JHSC or health and safety representative, and/or union representative.



**IF YOU SUSPECT YOUR
ASTHMA SYMPTOMS
ARE WORK-RELATED:
GET A DIAGNOSIS**





Managing work-related asthma

Most physicians will treat work-related asthma with appropriate pharmaceutical means. However proper asthma management also requires specific workplace guidelines that vary depending on the type of work-related asthma involved:

1 Sensitizer-induced occupational asthma

In cases where asthma is confirmed due to a sensitizer in the workplace, **the worker must be removed from any contact to the sensitizing agent**. Ongoing exposure worsens asthma and increases risk of an employee being permanently affected by it. Simply treating the asthma and leaving the worker exposed to the sensitizer is not appropriate. It is important that employers recognize the need for permanent restrictions for affected workers and that strict workplace accommodation is necessary in such cases.

2 Irritant-induced occupational asthma

Efforts should be made to minimize or avoid subsequent exposure to the irritant agent that caused the asthma response. However, unlike sensitizer-induced occupational asthma, a worker may not need to completely avoid the offending agent. Individuals will vary in their ability to tolerate subsequent exposure.

3 Work-exacerbated asthma

Just as they would at home, workers should minimize exposure to common irritants or allergens in the workplace.

Once the worker has told the employer they have work related asthma, the employer is obligated to report to the WSIB. Health care providers should be sure to have the worker's agreement if initiating a claim. Those with work-exacerbated asthma may also consider submitting a WSIB claim.

What can workplaces do?

Review product ingredients

Under the Workplace Hazardous Materials Information System (WHMIS) legislation, all hazardous substances (controlled products) require an MSDS (Material Safety Data Sheet, or Safety Data Sheet). The MSDS provides information about the hazardous ingredients in the product. Employers must ensure all controlled products have an up-to-date MSDS.^b

However, anything packed as a consumer product or considered a cosmetic under the Food and Drug Act is exempt from this requirement; therefore, small containers of shampoo, hairspray, hair dyes, etc., may qualify for this exemption and not have an MSDS provided.

According to the Act, the MSDS must be readily available to:

- the employees who are exposed to the controlled product, and
- the JHSC or health and safety representative.

MSDS and asthma

The MSDS should explicitly indicate if a product can cause asthma. WHMIS legislation requires that any sensitizer be listed as hazardous if it is present in the product at a concentration of 0.1% or more.

In such cases, the MSDS should indicate:

- the product is a respiratory tract sensitizer or causes respiratory sensitization, and asthma is a possible health effect.

The MSDS is an important resource to workers and employers for identifying potential asthma-causing agents. It has been found that MSDS do not always contain all the information about ingredients in a product.

^b MSDS should be less than three years old, or replaced as new information is available, such as a change in legislated occupational exposure levels, health effects, etc.



Use a prevention strategy

The costs of unmanaged work-related asthma are high for both employers and employees. If it is left untreated, work-related asthma can result in disability and job loss for employees, and loss of productivity for employers.

The related financial and health costs of work-related asthma can be largely prevented by including a prevention strategy in the workplace (See Table 1).

All employers and employees need to work toward preventing work-related asthma in their workplaces. This preventative approach requires the cooperation of employers, employees, and JHSCs or health and safety representatives.

A comprehensive prevention strategy consists of three parts:

1. an exposure-control program (including training and education)
2. possible medical surveillance, and
3. management of work-related asthma.

Ask for a worksite evaluation

Trained occupational health professionals can be invited to a workplace to do a worksite evaluation. You can ask the Occupational Health Clinics for Ontario Workers (OHCOW) or Workplace Safety & Prevention Services (WSPS) for an occupational hygienist to speak about product safety, safer alternatives and how employees can be properly protected when preparing or using a product.

A worksite evaluation can help:

- identify the least hazardous (safest) products for the job
- identify any other sensitizers and/or irritants in the workplace, and
- provide recommendations for the worksite to reduce exposures that may be causing work-related asthma

Worksite evaluations should be considered when:

- there is even one new case of sensitizer-induced occupational asthma, or
- there are increasing cases of work-aggravated asthma.

OHCOW can provide free workplace consultations. The WSPS regional consultant can also do an on-site assessment. Whether a referral is required from the employer or the JHSC before staff from OHCOW or WSPS can respond will be discussed when contacted. Check the back page of this booklet for contact information.



Exposure control

The risk of work-related asthma is directly related to the level of workplace exposures: the higher (and longer) the exposure level, the greater the risk to employees. Controlling exposure to sensitizers and irritants in the workplace is the most important step in preventing work-related asthma.

Exposure control is a step-by-step process. Below are general guidelines that can be used by employers and JHSCs/health and safety representatives.

- 1 With the help of an occupational health professional, **identify** all the substances known to cause or worsen asthma in the workplace. Table 2 lists many of the most common chemical triggers in hair and nail salons.
- 2 Try to **eliminate** each substance that is a known sensitizer from the workplace.
- 3 If a sensitizer cannot be eliminated, **substitute** a product known to be less likely to cause sensitization leading to asthma. See Table 3 for alternate substances or products that can substituted for some of the more hazardous substances or tasks. The use of a “safer” product should be reviewed closely to ensure that it really is safer (i.e., that it has been well tested or researched for occupational hazards.) For example, while ethyl methacrylate is regarded as safer than methyl methacrylate, it is still hazardous and a potential cause of asthma. Check the MSDS and ask for additional help from the product’s supplier, your JHSC/health and safety representative, or a qualified professional (i.e. OHCOW or WSPS.)
- 4 Control exposures to sensitizers and irritants by using appropriate engineering designs in the workplace. These types of controls protect all employees, employers and clients. For example:
 - ▶ Improve general ventilation in all work areas where hazardous products are used and in all areas where there are uncontrolled exposures to fumes, smoke, fragrances, dusts, and other irritants or common allergens. See the **Salon Air Quality Checklist** below to help you decide if you need better general ventilation.





- ▶ **Centralize** areas to a few key locations where sensitizers are used and **isolate** or **enclose** these areas; provide local exhaust or dedicated ventilation system when possible. For example, carry out hair bleaching and colouring in a separately ventilated room.
- ▶ **Provide local exhaust ventilation systems** or a closed ventilation system to reduce exposure to **airborne vapours** from the sensitizer. In nail salons, for example, use a ventilated downdraft table similar to the one illustrated and described in www.cdc.gov/niosh/docs/2003-111/pdfs/2003-111j.pdf.
- ▶ **Implement administrative controls** (i.e. policies, procedures, job rotation, and safe work practices such as those listed in Table 4, to minimize exposure time for employees.

Provide **personal protective equipment (PPE)**. PPE is the last line of defence and should not be the only method of exposure control when exposures are ongoing. PPE should only be used when exposure cannot be prevented or significantly reduced by elimination, substitution and control. All employees using PPE should receive training in its proper use and care.

In hair and nail salons, employees may use natural rubber latex gloves for many tasks, and in this case, the PPE can actually contribute to the development of asthma. In nail salons, dust masks should be worn to prevent inhalation of dust from human or acrylic nails. Employees must understand that these masks provide no protection against vapours from chemicals.

Consider an exposure-monitoring program to measure exposure levels to sensitizers and irritants and the effectiveness of your controls.

An occupational hygienist can help to set up a thorough exposure-monitoring program. From time to time, review your program to assess its effectiveness.

It is not possible to completely avoid all potential asthma triggers (e.g., physical exertion, cold air, dusts, perfumes, common allergens.) To reduce exposure to irritants and common allergens, make sure the salon has good ventilation and humidity control. In addition, consider policies and procedures such as the use of non-scented products whenever possible.

TABLE 3

Substitutions	
Methyl methacrylate	<ul style="list-style-type: none"> • Methyl methacrylate (MMA) is banned for cosmetic use in Canada • Use ethyl methacrylate instead (EMA) (Note that EMA may still cause sensitization)
Acrylic nails	<ul style="list-style-type: none"> • Use plastic tips or linen strips instead • Use light cured gel preparations rather than those requiring use of methacrylates when possible
Natural rubber latex gloves	<ul style="list-style-type: none"> • Use vinyl or low protein powder-free gloves rather than natural rubber latex, as they are less likely to cause allergies
Aerosol spray products	<ul style="list-style-type: none"> • Use pump dispensers for hair sprays or other pressurized aerosol products
Chemical hair	<ul style="list-style-type: none"> • Chemical hair straightening • Use heat straightening instead of chemicals



TABLE 4

Safe Work Practices in the Hairdressing and Nail Salon Business

<p>Hairdressing</p>	<ul style="list-style-type: none"> • Mix chemicals in a separately vented room if possible (bleaches, perm solutions, dyes). • Clean up all spills promptly.
<p>Applying artificial fingernails</p>	<ul style="list-style-type: none"> • Use a ventilated downdraft table when working with EMA, with air exhausted to the outdoors (not filtered). • Use dispenser bottles with small openings only large enough for an application brush to enter. • Use pressure sensitive (spring-loaded) stoppers to decrease the amount of evaporation of nail liquid. • Close product containers immediately after use. • Clean dirty brushes on a paper towel or gauze pad; dispose immediately in a sealed waste bin. • Remove waste from bin several times a day to minimize exposure to vapours. • Wear dust masks when filing acrylic or natural nails for protection against dust. <i>Note that dust masks provide NO protection against vapours.</i>



Training and education

Employers, in consultation with the JHSC/Health and Safety Representative should provide training and education to employees to help prevent and manage work-related asthma. A thorough training program should help employees:

- identify the agents that can cause work-related asthma
- follow safe work practices to reduce exposure to these agents
- recognize the symptoms of work-related asthma, and
- understand the process of reporting concerns in the workplace and of seeking immediate medical attention.

Education on work-related asthma management and prevention is available from OHCOW clinics and/or WSPS as well as other occupational health and respiratory clinics. You may also want to speak with a certified asthma educator by contacting the Ontario Lung Association's Asthma Action™ Helpline at 1-888-344-LUNG (5864).

If you are self-employed or work in a workplace that does not have a JHSC or Health & Safety Representative, contact OHCOW and/or WSPS for more information on occupational health and safety.



Summary

Work-related asthma can be largely prevented. Employers, industry agencies, employees, unions, JHSCs/Health & Safety Representatives and healthcare professionals need to work together to help prevent work-related asthma and its consequences in hair and nail salons.

For more information

For more information on occupational asthma in higher risk industries refer to OHCOW (www.ohcow.on.ca) and WSPS (www.wsps.ca) or at the addresses shown on page 17.

Our primary goal for this booklet is to improve the health and working conditions for all employees in hairdressing and nail salon businesses. Using awareness and prevention strategies, we want to help you reduce the number of people affected by work-related asthma in these industries.

This booklet is designed to provide general guidelines for helping to reduce work-related asthma. If you have symptoms, see your family doctor or healthcare provider right away.

To speak with an occupational health professional about questions or concerns specific to your workplace, contact the OHCOW clinic or WSPS office closest to you (See addresses on page 17.)

For more information about MSDSs, refer to the Ministry of Labour's, Workplace Hazardous Materials Information System: A Guide to the Legislation.



Resources

On the web: www.ohcow.on.ca or by telephone at these locations:

Hamilton Clinic
848 Main Street East
Hamilton L8M 1L9
Tel: 905-549-2552 or 1-877-817-0336
Fax: 905-549-7993
Email: hamilton@ohcow.on.ca

Sarnia-Lambton Clinic
171 Kendall Street
Point Edward N7V 4G6
Tel: 519-337-4627 or 1-877-817-0336
Fax: 519-337-9442
Email: sarnia@ohcow.on.ca

Sudbury Clinic
84 Cedar Street
Sudbury P3E 1A5
Tel: 705-523-2330 or 1-877-817-0336
Fax: 705-523-2606
Email: sudbury@ohcow.on.ca

Thunder Bay Clinic
1151 Barton Street, Suite 103B
Thunder Bay, ON P7B 5N3
Tel 807-623-3566 or 1-877-817-0336
Fax 807-622-5847
Email: thunderbay@ohcow.on.ca

Toronto Clinic
970 Lawrence Avenue West, Suite 110
Toronto M6A 3B6
Tel: 416-449-0009 or 1-877-817-0336
Fax: 416-449-7772
Email: toronto@ohcow.on.ca

Windsor Clinic
3129 Marentette Avenue, Unit #1,
Windsor N8X 4G1
Tel: 519-973-4800 or 1-877-817-0336
Fax: 519-973-1906
Email: windsor@ohcow.on.ca

Workplace Safety & Prevention Services A Health & Safety Ontario Partner

On the web at www.wsps.ca

Head Office

Centre for Health & Safety Innovation
5110 Creekbank Road
Mississauga L4W 0A1
Tel: 905-614-1400 or
1-877-494-WSPS (9777)
Fax: 905-614-1414

For further information on work-related asthma, contact:

The Ontario Lung Association's Asthma
Action Helpline: 1-888-344-LUNG (5864)
www.on.lung.ca

Workplace Safety and Insurance Board
(WSIB): www.wsib.on.ca or
1-800-465-5606

Workers Health and Safety Centre:
www.whsc.on.ca or 1-888-869-7950

Ministry of Labour health and safety information:

www.labour.gov.on.ca or 1-877-202-0008

For references, go to
www.olapep.ca/wra/resources.

Work-Related Asthma



For further information on work-related asthma, contact:

The Ontario Lung Association's Asthma
Action Helpline: 1-888-344-LUNG (5864)
www.on.lung.ca

