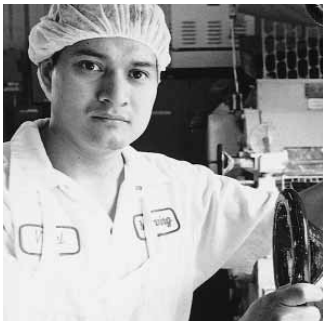
Occupational Health Clinics for Ontario Workers Inc.

OCCUPATIONAL ASTHMA

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OCCUPATIONAL ASTHMA

THE MOST COMMON LONG TERM DISEASE IN BOTH CHILDREN AND ADULTS IS ASTHMA. ABOUT 5% OF ADULTS AND 7-10% OF CHILDREN HAVE ASTHMA WITH MANY NEW PEOPLE FINDING OUT THEY HAVE ASTHMA EACH YEAR. In Canada, occupational asthma is considered the most common occupational lung diseases. It is also one of the most common diseases that goes through the Workers Safety and Insurance Board. There are over 300 chemicals in the workplace that are known to cause occupational asthma. Because this list is still growing it is important to find the causes of work related asthma so that it can be controlled and prevented.

Occupational asthma, or work related asthma, is asthma that happens for the first time because of exposure to some type of agent at the work place. The auto parts, foam and plastic manufacturing industries have the highest rates of work related asthma. It is important to identify this type of asthma to help control the symptoms and prevent it from happening again, or to someone else. It is important to note that people who have asthma before may also have symptoms that get worse because of something at work.

WHAT EXACTLY IS ASTHMA?

Asthma is when your small air ways narrow and make is hard to breath. This means that the air ways have become smaller but can return to normal either on their own or with the use of some medications.

Some symptoms include:

- Cough
- Chest tightness
- Difficulty breathing
- Wheezing
- With Occupational asthma there may also be nasal irritation

WHAT CAN CAUSE ASTHMA?

One of the main groups of chemicals that cause occupational asthma in automotive and foam/plastic parts manufacturing sectors are isocyanates.

Isocyanates are a group of highly reactive chemicals that are used in the automobile industry for production of foam, automotive body parts and paint.

Other agents which can cause occupational asthma are anhydrides, metals and metalworking fluids and lubricants.

WORKERS AT RISK

- Spray painters, manufacturers of plastic, rubber and foam
- Plastics and epoxy resins workers
- Welders and metal parts manufacturing and fabricating
- Metal parts manufacturing and fabricating
  (example: cutting, grinding, drilling, drawing, stamping)

There are a couple of ways that an asthma response starts. It can be the result of an allergy *(allergic occupational asthma)* or just to a chemical that irritates the airway.

Allergic Occupational Asthma is an allergic reaction to something in the workplace. It might be a chemical or material. With this type of asthma the symptoms are worse at work and better when off or at home. Some people may have little or no symptoms when they are off work. Allergies develop over time, may be months or years, they are not an instant response. The term latency period is the time from the first exposure to the development of asthma.

Non-allergic occupational asthma or RADS: this type of asthma is caused by a high exposure to a chemical that irritates the airway. This can be from a chemical spill,

leak or a fire. This type of asthma usually develops quickly and often symptoms stay for a long period of time. There is no latency period and this type is not an allergic reaction.

This type of asthma is also called RADS or Reactive Air ways Dysfunction Syndrome. A diagnosis of RADS is based on the following conditions:

1. There is no asthma or breathing symptoms before the exposure
2. Symptoms begin after a one time exposure
3. Exposure to gas, smoke, fumes, vapor that is an irritant at high concentrations
4. Symptoms start within 24 hours of the exposure and last for at least 3 months
5. Symptoms are asthma like and include cough, wheeze and trouble breathing
6. There is some airflow problems shown on a pulmonary functions test
7. All other lung/breathing related disease has been ruled out.

CLINICAL HISTORY

With occupational asthma a pattern usually develops that can show how symptoms are caused by something in the workplace. This pattern may look like:

- Wheezing at the start of the work week can happen sometimes within minutes of starting to work or with in one to two hours
- Relief from wheezing after stopping work or after returning home
- The symptoms get worse or increase as the work week goes on, usually with relief over the weekends or after days off
- Sometimes symptoms that occur while at work may be worse late in the evening or may wake you up from your sleep during the night.

Sometimes it is hard for a doctor to confirm this diagnosis because they only see the worker away from the work place, such as days off or after some time off work. Because symptoms are often less or gone the physician does not have proof to support a diagnosis of occupational asthma. It is very important to tell you doctor where you work, or if you think your asthma might be related to work

ASSESSING THE WORK ENVIRONMENT

It is important to take a detailed work history of the workers present and past employment. Sometimes it is hard to pin point the exact chemical or material that is causing the problem so many questions should be asked about what the workers uses at work as well as the workplace in general. Sometimes an occupational hygienist may visit the workplace to help identify hazardous chemicals. It is also important to see if any other workers are having the same symptoms. Symptoms among several workers in a specific area or may give a clue as to what is causing the problem.

LUNG FUNCTION TESTING

There are a couple of test used to help diagnose occupational asthma.

PULMONARY FUNCTION TEST (PFT'S)

Sometimes called a breathing test, this lung test is used to see how well your lungs are working. This test is done by taking a big breath and blowing forcefully and as quickly as possible into a device called a spirometer. The test can be used to show any lung disease or trouble in breathing that may have been caused by something in the workplace. This test can catch a problem that you might not be aware of yet if you are symptom free. It may also show a problem that cannot yet be seen on a chest x-ray. Results that reflect changes caused by the workplace should happen before a shift, after a shift or at the start or end of the work week.

PEAK FLOW MEASUREMENTS

You might need to test lung function during a normal working day. The doctor will give you a small, machine called a peak flow meter and show you how to blow in it and record your results. The best of three readings is usually taken and noted every two hours between working and sleeping. I may take several days to establish a pattern.

This test will not show what specific materials or chemicals are causing your symptoms. It is important to know the exact source of the problem because once you develop asthma due to a reaction to a specific material or chemical, any other material or chemical you are in contact with may bring on an attack. This is where an occupational hygienist can be of help.

METHACHOLINE CHALLENGE

This test measures how sensitive your airways are. People with asthma usually have more reactive airways. You will need to leave the workplace exposure area for 3 to 4 weeks so doctors may gather results.

SPECIFIC CHALLENGE TESTING

This is a test where you are challenged with materials that are used in your workplace. This test usually takes place in a hospital.

CHEST X

A chest x-ray is not useful in testing to see if you have occupational asthma. Chest x-rays of persons with asthma are often normal.

HOW CAN OCCUPATIONAL ASTHMA BE PREVENTED?

AN EMPLOYER SHOULD KNOW:

- Getting rid of the cause of work related asthma is the best answer. This means working in a place where you can substitute a material/chemical with a different one or work in a place where there are no substances that can cause asthma.
- If working in a place where changing materials is not possible, exposure should be minimized using engineering controls. Good, safe enclosures and local exhaust should be provided at all points where dust, vapors, gases and fumes are released. It is also important to know that engineering controls need regular care and should be tested often in order to prevent work hazards such as spills or leaks.
- Providing training to employees on safe working and housekeeping methods is a great way to prevent injuries.
- Good handling procedures and work practices should be developed. Showers and company laundered coveralls may be needed. This is important to protect workers who may be exposed.
- Giving personal protective equipment (PPE) to workers and training them on how to use them well is also a good way to help reduce illness and injuries.
- If all of the options for controlling the dangers have been looked at and there is still a problem, you may have to wear protective gear like a respirator. All workers should be trained how to use and care for their respirators.
- There are safe ways to handle sensitizing materials. Telling workers about dangers in the work area is important and proper training should be given so people can stay safe at work.
- Consult an occupational hygienist.

EMPLOYEES SHOULD:

- Learn about the hazards in the workplace by talking to your health and safety agent
- Follow safe work practices
- Use PPE
- Report any problems with equipment or ventilation systems
- Join in health and safety programs in your workplace.
- Be aware of the early signs of occupational asthma

TREATMENT

The treatment of work related asthma starts with control of workplace exposures that have caused or keep making your asthma worse. Long-term medical treatment of occupational asthma may not be needed if your workplace exposures are controlled. Sometimes, occupational asthma does not go away even after the exposures are removed. If this is the case, medical treatment is the same as that for any other asthma.

Drugs that you breathe in (like puffers) are common treatment for asthma. There are different types of these drugs including ones that decrease inflammation and ones for quick, sometimes emergency use. If you need to use lots of these types of drugs your asthma is not being controlled.

WHERE TO GO FOR HELP?

- Let your joint health and safety committee member know about your concerns.
- Visit your family doctor
- Contact the Occupational Health Clinics for Ontario Workers in your area if you wish to see a health expert who can assess your problems.
- Consult your union staff about your options before telling the company of a health reason for changing work.

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If you need further assistance, call the Occupational Health Clinic for Ontario Workers Inc. closest to you:

Toll Free 1-877-817-0336

HAMILTON
848 Main Street East
Hamilton, ON L8M 1L9
(905) 549-2552
Fax: (905) 549-7993
E-mail: hamilton@ohcow.on.ca

SARNIA-LAMBTON
171 Kendall Street
Point Edward, ON N7V 4G6
(519) 337-4627
Fax: (519) 337-9442
E-mail: sarnia@ohcow.on.ca

SUDBURY
84 Cedar Street
2nd Floor
Sudbury, ON P3E 1A5
(705) 523-2330
Fax: (705) 523-2606
E-mail: sudbury@ohcow.on.ca

THUNDER BAY
1151 Barton Street
Suite 103B
Thunder Bay, ON P7B 5N3
(807) 623-3566
Fax: (807) 622-5847
E-mail: thunderbay@ohcow.on.ca

TORONTO
970 Lawrence Ave. West
Main Floor
Toronto, ON M6A 3B6
(416) 449-0009
Fax: (416) 449-7772
E-mail: toronto@ohcow.on.ca

WINDSOR
3129 Marentette Avenue
Unit #1
Windsor, ON N8X 4G1
(519) 973-4800
Fax: (519) 973-1906
E-mail: windsor@ohcow.on.ca

PROVINCIAL OFFICE
#601 – 15 Gervais Drive
Don Mills, ON M3C 1Y8
(416) 510-8713
Fax: (416) 443-9132
E-mail: info@ohcow.on.ca

Website: http://www.ohcow.on.ca
Facebook: http://www.facebook.com/ohcowclinics
Twitter: http://twitter.com/#!/ohcowclinics
Youtube Channel: http://www.youtube.com/at6lee

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