Work-Related Asthma

What is work-related asthma?
Work-related asthma (WRA) is a chronic lung disease that is caused or worsened by environmental exposures to things like chemical fumes, gases, or dust in the workplace. The symptoms of asthma can include wheezing, chest tightness, and shortness of breath.

The term WRA includes occupational asthma (OA) or asthma that has been caused by an exposure at work, and work-exacerbated asthma (WEA) where the existing condition of asthma is worsened by exposures in the workplace.

Why do some people develop asthma?
No one knows for sure what causes some people to develop asthma when others do not. Researchers think some genetic and environmental factors interact to cause asthma, most often early in life. You may be more likely to get asthma if you have:

- An inherited tendency to develop allergies, called atopy
- Parents who have asthma
- Certain respiratory infections during childhood
- Contact with some airborne allergens or exposure to some viral infections in infancy or in early childhood when the immune system is developing

If asthma or atopy runs in your family, it may be more likely that an exposure to irritants such as smoke or substances in the work place may make your airways more reactive. Some factors might be more likely to cause asthma in certain people than in others.

Researchers continue to explore what causes asthma.

How do I know if I have WRA?
In recent years it has become more widely accepted that exposures to some chemicals in the work place, even at levels within the Occupational Safety and Health Administration (OSHA) limits, can cause WRA. Some substances capable of causing WRA do not have OSHA standards. It is also recognized that a single high exposure can cause WRA. This may occur during a leak or spill.

WRA can be caused by substances in your work place or simply made worse by substances in your work place. You might suspect you have WRA if:

- your breathing problems are worse at work;
- your symptoms improve or are better when away from work;
- you got asthma after you started a new job;
- you are an adult with new-onset asthma; or
- you had asthma already but it has gotten worse in your adult life.

It is not known exactly how many people have WRA. According to the American Thoracic Society, the percentage of adults with WRA ranges from 4-58% with a median of 15%. In 2008, 30.6% of Minnesota adults with asthma reported that exposures to chemicals, smoke, fumes or dust in their current job had worsened their asthma.

From what kinds of jobs or industries can I get WRA?
Many jobs and industries involve the use of chemicals, plants, or animals which can cause or worsen asthma. There are more than 350 substances in the workplace that can cause asthma to develop or make asthma worse. These substances are called asthmagens. Some of the more common jobs that require working with asthmagens include cleaners, laboratory animal workers, hospital workers, food processing workers, auto and auto parts manufacturing, farmers and grain handlers, bakers, and beauty shop workers. These are all examples of jobs in which people have developed asthma from exposures at work.

Can asthma be prevented?
You can take steps to reduce your chance of developing asthma or having an asthma attack. Always know what chemicals or products you are working with. Safety Data Sheets (SDS) are available for the products you work with in your job. Use the information provided in the SDS to help keep you safe and learn about the health problems that can be associated with working with those chemicals and products. Obtain and use the personal safety equipment suggested in the SDS.

Be aware that many times not all ingredients are listed on the SDS, nor is there always information on chemicals or substances that can cause asthma or make asthma worse. Read and follow instructions provided by your employer, keep dust levels down, and use personal protective equipment as required.

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Both smokers and non-smokers can get asthma. However, smoking can irritate the lungs and put you at greater risk of developing other lung diseases such as emphysema. If you smoke, work with your doctor to quit smoking.

What if I think my asthma is related to my work?
If breathing becomes difficult while you are at work, you should see your doctor or an occupational health physician. There are breathing tests that can be done to see if there is a relationship between your work and your asthma. Ask your doctor about peak flow meter tests both before and after your work shift, and pulmonary function testing. It is good to monitor your health and breathing patterns before and after going on vacation to see if symptoms improve when you are away from your workplace.

What can I do if a substance at work is causing or making my asthma worse?
Talk to your employer about your concerns and possible solutions. The safest thing you can do is to avoid working with or around the material that is causing or making your asthma worse. This is called elimination. If this is impossible, there are steps that can reduce your exposure to those asthmagens. Sometimes a new chemical can be switched for a problematic chemical or substance. This is called substitution. In some cases, engineering controls may be used and equipment can be installed or modified to reduce exposures. Finally, administrative controls may be used to move the employee with asthma to a different shift or location. Once someone has developed asthma, personal protective equipment such as respirators or dust masks often do not provide enough protection for the worker.

What can my workplace do to make sure no one else gets asthma?
Companies can do the following:
- Stay current in knowledge about substances that can be asthmagens and work to reduce their use;
- Implement changes based on the hierarchy of controls: elimination, substitution, engineering, and administrative controls.
- Provide information and resources to workers about work-related asthma and substances that are asthmagens.
- Work with your local work association or your union to promote and support a safe and healthy workplace.

How can I get my workplace evaluated?
An employer can voluntarily contact MN OSHA Workplace Safety Consultation, to request a hazard assessment of your workplace. The assessment is confidential, free of cost, and does not result in citations or monetary penalties. To request a consultation visit, call 1-800-657-3776 or go on-line at: http://workplace.doli.state.mn.us/consultation/.
Learn more about Workplace Safety Consultation at: http://www.dli.mn.gov/WSC.asp.

An employee can file a formal complaint with Minnesota OSHA compliance to inspect your work place, if you feel safety and health conditions have not been adequately managed. Anonymity of those filing a formal complaint is maintained. To file a formal complaint, call MNOSHA at 1-877-470-6742 or go online at: http://www.dli.mn.gov/osha/FileComplaint.asp.

For more information, contact:
MDH Asthma Program
www.health.state.mn.us/asthma
651-201-5909

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