Work-Related Lung Diseases

Most types of lung disease can be caused by work exposures including: asthma, chronic obstructive pulmonary disease (COPD), interstitial lung diseases, lung cancer, pulmonary infections (including COVID-19), and pleural disease. It has been estimated that work-related exposures contribute to COPD, adult asthma, and often cases of idiopathic pulmonary fibrosis. It is important to recognize whether exposures in your workplace are contributing to your lung disease because steps can be taken to prevent the lung disease or keep it from getting worse.

The most common work-related lung diseases include:

- **Work-related Asthma:** Asthma may be caused or made worse by many different exposures in the workplace. People with work-related asthma often have more symptoms at work and improve away from work (on weekends and vacations). Many different exposures at work can cause occupational asthma. In addition, people who already have asthma may have asthma that is worsened by asthma triggers at work, such as irritants, allergens, and temperature or humidity extremes.
- **Chronic obstructive pulmonary disease (COPD):** Breathing in airborne substances at work can cause COPD or worsen the condition in people who already have COPD. This can happen to both smokers and non-smokers. Chronic exposure to inhaled mineral dusts, metal fumes, organic dusts (e.g. wood, grains), diesel exhaust fumes, and/or chemical gases or vapors can lead to COPD.
- **Interstitial or fibrotic lung diseases:** Inhalation of mineral dusts such as silica, asbestos, coal dust, and/or various metals can cause inflammation and scarring that can lead to interstitial lung disease, such as asbestosis, silicosis or coal workers pneumoconiosis. Beryllium can cause chronic beryllium disease (CBD). Other metals such as indium, used to produce computer monitors, and cobalt, in tungsten carbide tools, can also cause lung disease.
- **Hypersensitivity pneumonitis (HP):** Inhalation of certain substances can trigger an immune inflammatory reaction in the lungs called acute hypersensitivity pneumonitis. Symptoms including fever, chills, and shortness of breath develop after you breathe in substances such as certain molds, bacteria, and bird proteins, or certain chemicals such as isocyanates. Hypersensitivity pneumonitis can become chronic, leading to scarring and interstitial lung disease.
- **Lung Cancer:** While tobacco smoke exposure is the leading cause of lung cancer, it can also develop from workplace exposures such as asbestos, silica, and diesel exhaust fumes. Work exposures can increase the risk of lung cancer in both smokers and non-smokers.
- **Lung infections:** You could develop an infection related to your workplace. You might be in contact with other people who are ill or you might be infected from a source at work, such as a contaminated air conditioner. Influenza (flu), SARS-CoV-2 (COVID-19), and other infections such as tuberculosis or legionella can be occupational infections.
- **Bronchiolitis obliterans / airway destruction:** Damage to the very small airways (bronchioles) can occur with inhalation of certain flavoring chemicals, like diacetyl butter flavor, resulting in chronic airflow obstruction that can progress to airway scarring and severe obstructive lung disease. These flavorings are also used in vaping products.

Do work-related lung diseases still occur in the United States and other developed countries?

Yes! While some diseases such as asbestosis are less frequent than they once were, other occupational lung diseases such as work-related asthma and coal-workers' pneumoconiosis are being seen more often now. Reasons occupational lung diseases still occur include:

- Inadequate regulations or inadequate enforcement of regulations fail to assure that workplaces are safe,
- New technologies and work exposures,
- Greater exposures for people working in indoor environments such as schools and hospitals.

Which jobs are at high risk? Who is most likely to get work-related lung disease?

Almost anyone who works outside the home can develop work-related lung disease. For example, the most common setting for work-related asthma in the US are non-industrial workplaces such as schools, hospitals and office buildings, likely due to exposures such as cleaning agents, mold and construction dusts.

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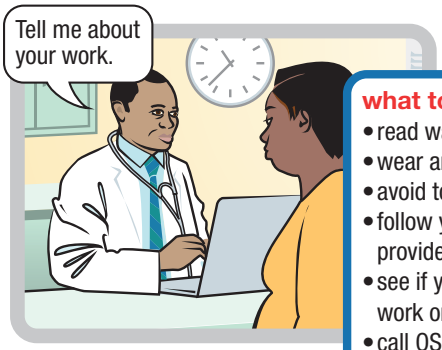

what to do:

- read warnings posted at the workplace
- wear an appropriate mask or respirator
- avoid toxic exposures
- follow your healthcare provider instructions
- see if your symptoms occur at work or improve away from work
- call OSHA for more information
- file a claim

How would I know if I have work-related lung disease?

You may have work-related lung disease if:

- You have been diagnosed with a lung disease, such as asthma, COPD, interstitial lung disease or lung cancer, or if you have symptoms such as cough, wheeze or shortness of breath.
- You work or have been employed in the past.

Sometimes lung disease develops slowly over time. If you have symptoms, think about these three questions that may help you decide if something in your workplace is causing your breathing problems:

- Are your symptoms worse while at work?
- Are your symptoms better on the weekend or vacation away from work?
- Did your symptoms start after getting a new job or a change in your work?

What should I do if I think I may have an occupational lung disease?

Tell your healthcare provider (HCP) about your symptoms, what type of job you do, and what substances you are exposed to at your current workplace or prior jobs. If you know a specific material you have been exposed to, bring any available Safety Data Sheets (SDS) (https://www.osha.gov/Publications/OSHA3514.html) and other work exposure information to your healthcare provider. Ask your Human Resources Manager or Safety Officer for the SDS (previously called MSDS) and further exposure information.

If a work-related lung disease is suspected, you should be referred to a healthcare provider who specializes in pulmonary and/or occupational medicine. The Association of Occupational and Environmental Clinics (AOEC) provides a list of occupational medicine providers http://www.aoec.org/directory.htm.

You may report unsafe conditions to the Occupational Safety and Health Administration (OSHA) https://www.osha.gov/. If you and other workers are concerned about a health problem at work, you can also request a Health Hazard Evaluation (HHE) from the National Institute for Occupational Safety and Health (NIOSH). http://www.cdc.gov/niosh/hhe/request.html.

If your breathing problem is strongly suspected to be due to work, you may file a workers' compensation claim. In the U.S., workers' compensation is a state-based program for workers with work-related injuries or illnesses. For some jobs, there are also some federal programs. It can pay for medical care and provide salary support if work-related disease prevents or reduces your work ability. You should contact the workers' compensation office in your own state to file a claim.

You may ask about getting a job accommodation. This is an adjustment to a job or work environment that makes it possible for an person with a health issue or disability to perform their job duties. Examples of accommodations could include:

- Creating a smoke and fragrance-free work environment.
- Modifying a workstation to accommodate a wheelchair, scooter, or the use of oxygen therapy equipment.
- Providing personal protective equipment, including masks to employees who work in at-risk areas.

How can work-related lung diseases be prevented?

Most work-related lung diseases can be prevented by reducing or eliminating exposures to substances at your workplace that may be causing disease or making your disease worse. Examples of things that can be done to control exposures include:

- Reducing work exposures, such as making sure the exhaust ventilation system pulls fumes away from you and provides good air exchange,
- Replacing dangerous materials being used with safer ones,
- Wearing a respirator (protective mask) whenever you may be at risk of exposure to hazards in your work environment. Wear an appropriate face covering mask when around other people and follow guidelines for personal protective equipment (PPE) during the COVID-19 pandemic.

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Resources:

American Thoracic Society

- www.thoracic.org/patients/
  - Work-related Asthma
  - Hypersensitivity Pneumonitis
  - COPD
  - COVID-19 related material
  - Tobacco and Vaping related materials

American Lung Association
http://www.lung.org/policy-advocacy/public-policy-positions/public-policy-occupational-health.pdf

Centers for Disease Control, National Institute for Occupational Safety and Health
http://www.cdc.gov/niosh/topics/surveillance/ords/