

Work-related Asthma: What you should know

What is asthma?

Asthma is a disease where the airways in the lungs tighten and clog, making it hard to breathe. It can begin anytime during your lifetime and many different things can trigger asthma symptoms. Symptoms include wheezing, chest tightness, cough, and shortness of breath.

What is work-related asthma and what causes it?



Hospital workers are exposed to harmful disinfectants

Work-related asthma (WRA) is asthma that is caused or made worse by something at work. Studies show that between 15-30% of all adult asthma is caused by conditions or chemicals at work. There are over 320 substances known to cause new asthma in people who did not have it before. A few examples include flour, some cleaning chemicals, certain welding fumes, latex, animal dander, epoxies, chlorine, isocyanates, formaldehyde, wood dust, some disinfectants, and metalworking fluids.

Very low amounts of these substances can cause asthma in some people, even levels that are below Cal/OSHA worker exposure limits (when they exist). Sometimes people can work around a substance for many years without a problem. They can later become sensitized, or allergic, to the substance and get new asthma. Also, any irritating substance or common allergen can worsen asthma symptoms in a person who already has asthma.

A middle school teacher suddenly develops asthma from a student's strong cologne

For 23 years, a 49-year-old art teacher worked in a suburban school district without any breathing problems. But one day, a student came into the classroom wearing extremely strong cologne. The student sprayed more cologne while in the classroom. The teacher had a reaction within seconds, developing chest tightness and wheezing. A year later the teacher still has asthma that flares up whenever she is around many fragrances and other chemicals. She now must carry an inhaler at all times.

Prevent asthma: Create fragrance-free policies in your school, office, or other workplace.

A 44-year-old wood worker develops asthma after 20 years of working with wood dust

A wood worker did carpentry and remodeling work with different kinds of wood, including California Redwood and Western Red Cedar. He did not have dust collection systems on his equipment and noted a lot of dust in the air. He gradually began to have breathing problems at night after work. By the time he received an asthma diagnosis, his asthma bothered him most of the time. Twelve years later, he still has regular breathing problems. He has had to go to the emergency room twice, and takes four different asthma medications.

Prevent asthma: Install dust collection systems when working with wood.

What kinds of jobs can lead to WRA?

Often, it is a particular task or tasks within a job that lead to harmful exposures, such as the use of certain disinfectants or epoxy resins. If a person already has asthma, it can be made worse by many different conditions or substances, even if their job is not considered 'high risk' for asthma. A person does not need to be working directly with a substance to be exposed to it, and can have problems from being nearby where it is being used. Below are some examples of common jobs with exposures known to cause new asthma in workers who did not previously have it.

Type of Worker	Exposures that can cause asthma	Common tasks
Hospital Workers	Glutaraldehyde, disinfectants, latex, drugs, enzymes, formaldehyde	General cleaning, scope processing, wearing latex gloves, working in areas where chemicals are used
Animal Handlers	Animal dander and proteins	Animal care, cleaning cages
Autobody Repair Worker/Painter	Isocyanates, epoxies, acrylate, chromium, styrene	Painting cars, autobody work
Farmers/Farm Workers	Pesticides, pollens, egg protein, grain dust, animal dander, chlorine	Applying pesticides, working in fields, caring for animals, packing/cleaning produce
Beauty Salon Workers	Persulfates, henna, formaldehyde, methacrylates	Bleaching/coloring hair, smoothing hair, applying artificial nails
Custodians/Cleaners	Disinfectants, ammonia, ethanolamines, latex	Cleaning surfaces, disinfecting surfaces, stripping and waxing floors, wearing latex gloves
Bakers	Flour, cinnamon	Mixing flour, sweeping/cleaning flour
Food Processors	Seafood, flour, garlic dust, vegetable gums, powdered egg protein	Mixing, processing, or packaging food
Construction/Wood Workers	Wood dusts, welding fumes, formaldehyde, epoxies	Sawing and sanding wood, welding, gluing
Firefighters	Smoke, wood dust	Fighting fires, sawing wood
Manufacturing workers	Epoxies, metalworking fluids, chlorine, phthalic anhydride, isocyanates	Molding, packing, production involving chemicals, machining

How do I know if I have WRA?

You might have work-related asthma if:

- your breathing problems are worse at work
- your breathing problems are better when you are away from work for a few days, like on weekends or during vacations
- your breathing problems started after you began a new job
- you have new asthma that started as an adult
- you have had asthma but it has become worse as an adult

Ask your doctor and tell your supervisor if you think that your breathing problems could be related to your work. Your supervisor may send you to see a doctor who focuses on work-related health problems. Write down the exact names of the chemicals or products you work with or that are used in your work area.



Teachers are exposed to many substances that can cause or trigger asthma, including cleaning products

If you can, bring in the products' Safety Data Sheets (SDSs) to show the doctor. They may help identify a reason for your WRA and suggest things you can do to reduce your symptoms. Your employer is required to provide you with an SDS for each of the substances you use at work. If your employer does not give you the SDS, you or your doctor may be able to find the SDS on the internet.

The SDS will tell you what chemicals are in the products, what health effects they can have, and how to use them safely. Some ingredients may not be listed if they are in very small amounts, even though they may cause asthma. Some SDSs may not be complete and may not include all the health effects, such as asthma, that can be caused by a chemical. In that case, your doctor may need to do more research to find out if the chemical can cause asthma. See the Resources/Links below for more information.

Tell your doctor when your symptoms happen and give your doctor as much detail as possible about what you do at work. Your doctor may want to do simple tests that measure your breathing at work and away from work.

A young car painter develops asthma after two months, along with co-workers

After working at a car paint and body shop for only two months, a 19-year-old worker developed severe wheezing from painting cars. He wore a respirator when he painted the cars in booths, but the respirator did not fit his face and had old, ineffective cartridges in it. He did not know his employer was supposed to show him a Safety Data Sheet (SDS) and train him about the dangers of the chemicals at work. Shortly after his asthma diagnosis, he quit his job because he was so sick and worried about his health. Two of his three co-workers also reported breathing problems like his.

Prevent asthma: Get trained to safely work with harmful chemicals. For example, review the SDS, wear properly fitted protection, and maintain safety equipment.

What can I do at work if I have WRA?

Your doctor can help treat your asthma. Studies show that the sooner your exposure stops, the more likely your asthma will get better. If your asthma is related to specific exposures at work, the most important thing is to avoid working with or near those substances that make your asthma worse.

What can my employer do to prevent WRA?

Most effective (best choice) ↓ Least effective (last resort)	Get rid of the exposure (Elimination)
	Use a safer chemical (Substitution)
	Physically separate worker from asthma-causing chemical (Engineering Controls)
	Limit or prevent exposure through rules or procedures (Administrative Controls)
	Provide personal protective equipment (PPE)

Your company is required to provide you a safe place to work. Your employer might need to put in place some of the options mentioned above or find a different task that is safer for you. Your company should check to see that other workers are not also getting sick from using substances known to cause asthma.

Work-related asthma in California

About 900,000 adults in California are estimated to have WRA. The Work-related Asthma Prevention Program (WRAPP) tracks the causes and amount of WRA throughout the state and works to prevent it. WRAPP has found cases in many different jobs and industries and from many different types of exposures.

For more information about WRA or WRAPP, call 1-800-970-6680 (CA Relay Service: 711). To obtain a copy of this document in an alternate format, please contact us at (510) 620-5757. Allow at least 10 days to coordinate alternate format services.

Resources/Links

Work-related Asthma Prevention Program (WRAPP)
California Department of Public Health
www.cdph.ca.gov/programs/ohsep/Pages/Asthma.aspx

National Institute for Occupational Safety and Health
www.cdc.gov/niosh/topics/asthma/

Association of Occupational and Environmental Clinics (AOEC) list of substances known to cause asthma (asthmagens)
www.aoecdata.org/ExpCodeLookup.aspx