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Facial hair and respirator use

An estimated 5 million workers are required to wear respirators in 1.3 million workplaces throughout the United States. Respirators protect workers against insufficient oxygen environments, harmful dusts, fogs, smokes, mists, gases, vapors, and sprays. These hazards may cause cancer, lung impairment, diseases, or death. Compliance with the Occupational Safety & Health Administration (OSHA) Respiratory Protection Standard could avert hundreds of deaths and thousands of illnesses annually.

Respirators protect the user in two basic ways. The first is by the removal of contaminants from the air. Respirators of this type include particulate respirators, which filter out airborne particles, and air-purifying respirators with cartridges/canisters which filter out chemicals and gases. Other respirators protect by supplying clean respirable air from another source. Respirators that fall into this category include airline respirators, which use compressed air from a remote source, and self-contained breathing apparatus (SCBA), which include their own air supply.

But, what if an individual wants to have facial hair? Campaigns such as No-Shave November are working hard to raise money for important causes such as cancer research, education, and awareness. These increasingly



popular campaigns are a great way to demonstrate your support ... unless you need to wear a tight-fitting respirator for your job.

It's all about the seal!

So, you want to grow out your beard, but wear a tight-fitting respirator at work? Ensuring the respirator seal is a vital part of respiratory protection practices. Without proper mask fit, the respirator will not give you protection. Facial hair that lies along the sealing area of a respirator, such as beards, sideburns, or some mustaches, will interfere with respirators that rely on a tight facepiece seal to achieve maximum protection. No facial hair may come between the sealing surface of the facepiece and your skin, or interfere with valve function in any way. Facial hair is a common reason that someone cannot be fit tested.

The reason for this is simple – gases, vapors, and particles in the air will

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**National Institutes of Health
Office of Research Services
Division of Occupational
Health and Safety**

Providing a safe and healthy environment for employees, patients and visitors.

“Safe science and good science go hand-in-hand.”

The articles in this Newsletter are intended to provide general summary information to the National Institutes of Health (NIH) community. They are not intended to take the place of either the written law or regulations. It is not NIH's intention to provide specific advice to readers of this Newsletter, but rather general information to help better understand how to prevent or reduce workplace injuries and illnesses. Reference in this Newsletter to any specific commercial products, process, service, manufacturer, or company does not constitute its endorsement or recommendation by the U.S. Government or NIH. This is not an NIH publication.

Facial hair and respirator use *(continued from page 1)*

take the path of least resistance and bypass the part of the respirator that captures or filters hazards out. So then, why can't facial hair act as a crude filter to capture particles that pass between the respirator sealing area and the skin? While human hair appears to be very thin to the naked eye, hair is much larger in size than the particles inhaled. Facial hair is just not dense enough and the individual hairs are too large to capture particles like an air filter does; nor will a beard trap gases and vapors like the carbon bed in a respirator cartridge. Therefore, the vast majority of particles, gases, and vapors follow the air stream right through the facial hair and into respiratory tract of the wearer. In fact, some studies have shown that even a day or two of stubble can begin to reduce protection. Research tells us that the presence of facial hair under the sealing surface causes 20 to 1000 times more leakage compared to clean-shaven individuals.

“Soul patch” to the rescue!

For those who want to wear a respirator properly, but also want to sport some cool facial hair, there may be options. Again, the key is that there's no hair around the sealing

area of the respirator. Soul patches, small mustaches, and sideburn whiskers may all be perfectly fine, if they don't interfere with the seal of a particular respirator.

Workers should always ask their respirator program administrator what is acceptable. Aside from creative trimming approaches, there may be other options, such as loose-fitting respirators.


Safety doesn't always have to be a drag! In fact, it can be quite stylish with a little effort and thought ... and a good trimmer!

Not sure what kinds of facial hairstyles will work with a tight-sealing respirator? The Centers for Disease Control and Prevention (CDC) and the National Institute for Occupational Safety & Health (NIOSH) have provided a chart below with facial hairstyles, complete with a line representing a typical sealing surface. This chart should help you determine if the facial hair you currently have will meet the fit-testing requirements while keeping you protected from the hazards you face on the job. Again, check with your respirator program administrator to be sure.

Facial Hairstyles and Filtering Facepiece Respirators

***If your respirator has an exhalation valve, some of these styles may interfere with the valve working properly if the facial hair comes in contact with it.**

Source: OSHA Respiratory Protection Standard
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=12716
 Further Reading: NIOSH Respirator Trusted-Source Webpage
https://www.cdc.gov/niosh/npppt/topics/respirators/disp_part1/respsources3fittest.html


 Centers for Disease Control and Prevention
 National Institute for Occupational Safety and Health

Safety focus: Avoid improper use of forklifts and pallets

Incident description

A warehouse worker was fatally injured after falling seven feet from a wooden pallet elevated by a forklift. The warehouse inventory was stored on steel storage racks with the highest shelves about eight feet above the concrete floor. It was common practice for warehouse workers to place one foot or both feet on a pallet and move inventory on the top shelf while a coworker lifted them to the top shelf using the forklift, even though the equipment was not designed for this purpose. At the time of the incident, the worker slipped on the pallet while moving inventory and fell. The worker was taken to the hospital where he died from his injuries a few days later.

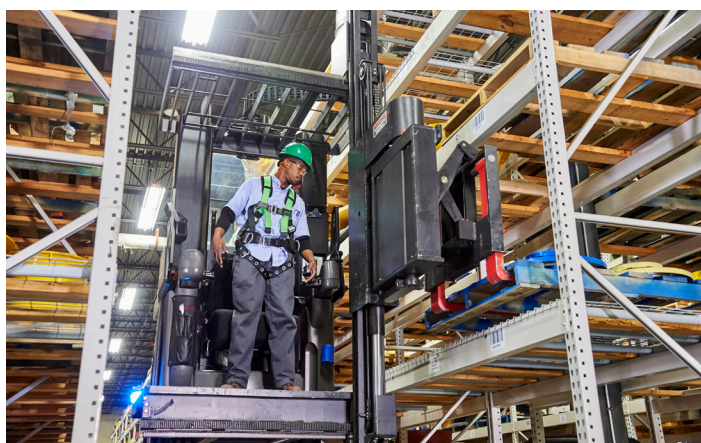
Incident prevention

Accessing warehouse storage shelves by lifting workers on pallets presents serious fall hazards. In the incident described above, controls were not in place to prevent workers from improperly using equipment and falling to the ground.

Employers must implement safe procedures and provide the proper equipment and training to prevent injuries and fatalities. Pallets are not designed for sitting or standing, nor should they be used for lifting workers with a forklift. Instead, employers should use manufacturer-approved personnel lifting platforms.

To prevent a similar incident from occurring:

- Do not allow workers to ride on or occupy pallets lifted by forklifts.
- Provide workers with the proper tools and equipment for each task, including accessing working surfaces (e.g., elevated storage shelves in a warehouse).
- Equipment designed for lifting workers in a warehouse include:
 - High-lift order pickers, a powered industrial truck class equipped with personal fall arrest equipment that are designed to lift the operator alongside the forks.



- Manufactured personnel platforms, designed for lifting workers on a forklift, which incorporate fall protection (i.e., guardrail systems). This option requires prior written approval from the forklift manufacturer (29 CFR 1910.178(a)(4)).

- Provide training on forklifts to workers who operate and work near them. Training should include formal instruction and hands-on training at a level and in a language workers understand. Employers must ensure that workers do not operate a forklift with another worker on the pallet, and that they follow manufacturers' instructions (29 CFR 1910.178(l)(1)).



- Provide workers with fall protection and ensure their proper use in accordance with the Walking-Working Surfaces rule, and personal fall protection system standards.

Follow safety procedures – Don't take shortcuts!

As an employee, when the job calls for you to reach items from a rack, it's likely you'll operate a high-lift order picker. You're no longer just a few inches off the ground when performing your job. That means there's a higher level of precautions you need to take with pickers. Working at heights requires you to be trained in the proper use of fall protection or fall restraint gear.

Unlike order pickers, which are designed to lift workers, forklifts are designed to lift only materials. However, if the proper platform is installed, workers may be lifted with a forklift using proper safety measures:

- The platform must be designed as a personnel platform; a pallet is NOT an approved platform for lifting workers.
- The platform must have built-in fall protection railings, or else workers are required to wear a properly adjusted personal fall protection system.
- The platform must be securely attached to the lifting carriage or forks.

Always follow safety procedures. Don't take shortcuts!

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The purpose of this newsletter is to provide a forum for the dissemination of health and safety information. It is intended to enhance communication to National Institutes of Health (NIH) employees, raise awareness of current safety policies and procedures, and provide guidance on relevant issues. It is provided as a service by the NIH, Office of Research Services, Division of Occupational Health and Safety. This is not an NIH publication.

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Could reheating those leftovers impact your cancer risk?

"To keep the body in good health is a duty ... otherwise we shall not be able to keep our mind strong and clear."

~ Buddha



Check your container before putting leftovers in the microwave.

Popping a dish into the microwave and pressing start is an easy way to heat leftovers or a meal from the deli. But could microwaving food in a plastic container increase your risk of cancer?

Although the link between plastic and cancer is a popular urban myth, it's highly unlikely that exposure to plastic containers will lead to cancer.

Concerns about plastic likely stem from misinformation that they contain dioxins. While dioxins have been linked to cancer, plastic does not contain them. They're only created when it's burned.

Because of this, it's improbable that dioxins would enter your body because of food reheated in the microwave.

There are other health concerns about plastic containers that contain the chemical bisphenol A (BPA) in relation to health effects on children. However, the Food and Drug Administration (FDA) states that BPA is safe at current levels occurring in foods.

If you are concerned about this chemical, however, you can take these steps to reduce your exposure:

- Choose products that are labeled BPA-free.
- Look at the recycling code. Some plastics marked with a recycle code 3 to 7 may be made with BPA.



- Some takeout trays are for one-time microwave use; be sure they follow the directions on the package.
- Keep in mind that plastic tubs that hold butter, yogurt, whipped topping, and foods such as cream cheese or mayonnaise, are not microwave-safe. Check the recycle codes listed earlier to see if these containers are made with BPA.
- Don't use old, cracked, or scraped-up plastic containers, or those that have been microwaved many times, may leach out more plasticizers.

Your best alternative for heating food in the microwave is to use a microwave-safe glass or ceramic container or a plastic container that is labeled as safe for microwave use.