



PPE

Risky Business: How to Avoid Injury When Taking Off Contaminated PPE

James Langford | Nov 16, 2022

If parts of your job require personal protective equipment, chances are you've been told that it won't keep you safe if you don't wear it.

Which is true, as far as it goes.

But depending on the types of hazards you're exposed to, even steps as basic as the order in which you put on and take off different types of PPE can make a critical difference in avoiding injury or illness, as the U.S. Occupational Safety and Health Administration acknowledges in its rule requiring businesses to **provide training** in donning and doffing safety gear.

Read More: *Safety Pro Talks PPE in Manufacturing*

While the steps and the correct order vary by both equipment and situation, safety experts agree that extra care is required when removing safety gear, since the likelihood of it being contaminated is significantly higher.

While donning is typically less risky from a contamination standpoint, the order in which workers put on PPE determines how different pieces are layered and can help or hinder safe removal.

"Employees working with chemicals, hazardous materials, biological materials, and animals" or in "medical and potentially infectious environments need to handle PPE properly when removing it from the body to avoid contaminating themselves and surfaces nearby," the University of Washington's Environmental Health and Safety office warns in **written guidelines** for employees in units from machine shops to labs.

Watch: *Ansell Suits Type 3/4: Donning and Doffing*

Disposable items, such as gloves, sleeves, shoe coverings and aprons should be peeled off and turned inside out in the process so that any contaminants aren't exposed, the office says. Reusable items should be rinsed off first, then peeled off so that the contaminated surface is inside.

Guidelines for donning and doffing PPE correctly are widely available in videos and brochures from the U.S. Centers for Disease Control and Prevention, intended to help users avoid contamination or infection. They include:

Donning Safety Gear

- **Gown**
 - Fully cover the torso from your neck to your knees, cover your arms to the ends of your wrists and wrap the garment around your back.
 - Fasten the gown in back at both your neck and waist.
- **Mask or respirator**
 - Secure ties or elastic bands around your head and/or neck.
 - Fit the flexible band to your nose bridge.
 - Make sure it's snug around the face and chin.
 - Fit-check the respirator.
- **Goggles or face shield**
 - Place over your face and eyes and adjust to fit.
- **Gloves**
 - Pull your gloves up so that they cover the wrist of the gown.

Doffing Safety Gear

- **Gown and gloves**
 - Grasp the gown in front and pull it away from your body so that the ties break, only touching the outside of the gown with gloved hands.
 - While removing the gown, roll or fold it inside out into a bundle.
 - As you remove it, peel your gloves off so that your bare hands touch only the inside of both your gown and gloves. Discard both items in a waste container.
 - If your hands are contaminated during the process, wash them immediately.
- **Goggles or face shield**
 - Remove your goggles or face shield from the back by lifting the headband without touching the front.
 - If they're reusable, place them in a designated receptacle. Otherwise, throw away.
 - If your hands are contaminated during the process, wash them immediately.
- **Mask or respirator**
 - Grasp the bottom ties or elastic bands, then the ones at the top and remove without touching the front.
 - Discard in a waste container.
 - If your hands are contaminated during the process, wash them immediately.
- **Wash hands after removing all PPE**

Manufacturers of safety gear have also published donning and doffing procedures tailored to their equipment.

Watch: *How to don a Tyvek coverall*

In a video on DuPont's Tyvek coveralls, the company suggests starting with protective foot coverings, then—while sitting down—removing the coverall from its packaging and pulling it over existing clothing to about the waist level. Next, workers should put on an inner layer of gloves, pull the coverall over their shoulders and secure it, DuPont says. Afterward, put on an outer layer of gloves.

Watch: *How to remove a contaminated coverall*

Doffing, for which DuPont suggests an assistant, basically reverses the earlier procedure. The assistant

breaks any seals on the coverall, then peels it back, starting from the head, while ensuring that the outside of the coverall only touches other portions of the exterior, keeping any contaminant covered. Outer gloves are removed with the coverall. Next, the assistant helps remove the foot coverings and goggles, if worn. After that, the worker—still wearing the inner pair of gloves—can remove a respirator, if worn, and peel off the inner gloves inside out.

For additional PPE Safety Tips, check out MSC's Safety Guide Book.

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