PPE 101: The do's and don'ts of donning and doffing

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Proper use of personal protective equipment (PPE) has always been part of medicine, but the COVID-19 pandemic has shed light on how vital it is to do it properly to stop the spread of infection. That fact has been made clear to new residents who have gone through intense training on the topic at the outset of beginning their graduate medical education.

“When I was pulled from rotations [during medical school], I wasn’t even wearing N95s,” said Liz Southworth, MD, a first-year ob-gyn resident at Michigan Medicine. “It’s been a new experience, but I feel like my colleagues and I have made sure we are actively engaged in this process [of training to use PPE].”

What are some of the key takeaways regarding PPE training? Here’s a look.

Do: Pay attention to your hands

How many times a day will residents wash their hands? In COVID-19 hot spots they may not have the bandwidth to keep track. Proper PPE use requires health care workers to wash their hands before donning or after doffing PPE, and essentially anytime they enter or exit a room with a patient.

It also is important for residents to be mindful of what they are touching and the order in which they remove safety equipment. Consider the glove removal process when gloves are contaminated, which should be done in the following order:

- Grasp outside of glove with opposite gloved hand and peel off.
- Hold removed glove in gloved hand.
- Slide fingers of ungloved hand under remaining glove at wrist.
- Peel glove off over first glove.
- Discard gloves in waste container.
Perform hand hygiene.

Don’t: Ignore mask fit

According to Dr. Southworth, making sure a facemask fits was a large portion of the PPE curriculum in her residency orientation. With N95s and other respirator masks, fit testing examines three key elements according to the Centers for Disease Control and Prevention: proper respirator use, filtration, and fit.

“Fit testing is something we always have had to do,” Dr. Southworth said. “But this year was clearly different. My colleagues and I are were really asking questions about how to take off our N95s. We are more actively engaged in a process that was already in place because we might need this information at the drop of a hat.”

Do: Be mindful of mask re-use

If you are re-using an N95, your program has likely put procedures in place related to reuse. Generally, they call for residents to keep masks in a plastic bag and disinfect the mask between uses.

A recent study in *JAMA Otolaryngology–Head & Neck Surgery* shed some light on the risks of the practice.

“The major risk of N95 respirator reuse is the possibility of contact transmission through health care professionals touching the N95 respirator,” the study’s authors wrote. “Human coronaviruses can survive for hours at a time, even on surfaces such as fabric and gloves, rendering PPE as an additional method of infection transmission. As a result, decontamination would be a necessary component in situations of extending N95 respirator use.”

Don’t: Feel pressured to work without adequate PPE

At the pandemic’s outset, equipment shortages created unsafe situations for health care workers. As a result, the AMA created guidance for protecting residents and fellows.

“We have heard anecdotal reports of residents being asked to see patients who haven’t been screened [for COVID-19] or to evaluate patients in the absence of adequate personal protective equipment,” said John Andrews, MD, the AMA’s vice president for GME Innovations. “It’s a concern
residents have, so we need to articulate clearly that it is our expectation that they have appropriate access to personal protective equipment and instruction in its use.”

The AMA has curated a selection of resources to assist residents, medical students and faculty during the COVID-19 pandemic to help manage the shifting timelines, cancellations and adjustments to testing, rotations and other events at this time.

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