Welcome to COVID-19: Preparing Yourself and Your Family. This module will discuss what an N95 mask is, what a surgical mask is, and whether or not the new surge in homemade mask donations is beneficial. My name is Sam Lushtak, owner of Absolute EHS.

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I would like to start by saying that the purpose of this presentation is to educate the public on the various types of facemasks and what they are primarily used for. Additionally, I wanted to make sure everyone understands the procedures for ensuring a facemask is effective, mainly through fit testing. And thirdly, should you decide to make homemade masks, I wanted to remind you that hospitals are putting out specific requests and recommendations regarding what they will accept and how they will accept it. Please reach out to your local hospital on the non-emergency phone number to get specifications.

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Let's start with surgical masks. Surgical masks are made out of paper and other non-woven materials. Their purpose is to catch droplets that might be expelled from a user into the air. Surgical masks are not air filters and will not protect the user from airborne illnesses or pollutants. Surgical masks also have significant failure points, as indicated by the red arrows. They are not form-fitting and tend to gape along the cheek and the nose. For this reason, surgical masks are most effective when a person who is coughing or sneezing is the one wearing the mask – wearing a surgical mask when you are not sick will not significantly protect you. Surgical masks should never be shared and should be disposed of and changed out frequently.

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An N95 mask is a type of half-face mask. Half-face masks, such as an N95, are tight fitting and designed to filter airborne particulates. These masks have to meet stringent quality standards and, in the case of an N95, the mask is tested to prove that it will filter at least 95% of airborne contaminants. Similarly, an N99 mask must filter 99% of contaminants. These masks are only effective if they fit properly, therefore they require fit testing. Additionally, because of the seal created around the users nose and mouth, wearers need to be medically cleared by a physician before wearing these masks. Just like surgical masks, N95 and N99 masks must be discarded between uses and upon contamination. They may not be shared.

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Fit testing is a process many people don't know about so I wanted to describe it here. There are two types of fit test. For a half-face mask we commonly only use qualitative testing. For qualitative testing the user puts on their N95 mask and then puts a hood over their entire head. The tester then asks the wearer to move their head and recite a poem called the Rainbow Passage which is believed to contort the face in every possible way. While the user is moving and speaking, the tester will allow irritant smoke into the hood or they will spray a bitter substance near the mask on the user. If the user can smell the smoke or taste the bitter aerosol, it means that the mask does not fit properly and they need to try a different size. In some cases, people do not pass fit testing and are not approved to wear half-face masks either due to their face shape or their medical evaluation.

Furthermore, fit testing needs to be redone annually or when a person's face changes due to surgery, injury, or weight change – whichever happens first.

For medical clearance, doctors are looking to make sure that the lungs are in good condition, oxygen saturation is acceptable, and that there are no balance or motor function issues. A filtering mask causes heat retention and can add stress on the lungs, these are major concerns when wearing masks.

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For these reasons, surgical masks should be worn by people who are sick and need to interact with others. Please note that surgical masks should not be worn all day nor should they be slept in. If quarantined in a private room, a mask does not need to be worn. Save the surgical masks for when you need to go in public to get food or see a doctor.

N95 masks should only be worn by professionals. They are at the highest risk of being exposed by a COVID-19 carrier who is not wearing a mask. They have also been trained, fit tested, and medically cleared to wear these items.

Ultimately, everyone needs to stay home. If you must go out, protect yourself by trying not to touch common items. Wearing a bandana or scarf over your nose and mouth will be as effective for a layman at keeping sputum off of common surfaces and it will also prevent you from accidentally touching your mouth or nose.

If you have spare masks of any type, please contact your local hospital, ambulance, or urgent care and donate them.

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All that being said, remember that a homemade mask is NOT a surgical mask and it is not an N95 mask. Homemade masks are not going to be made out of the correct materials and they cannot be tested for filtering properties either. Similarly to a bandana, a homemade mask will help prevent the user from accidentally touching their own mouth or nose and that does have it's benefits. Please remember though that without knowing what is being created, a very heavy fabric, for example, could cause over heating or pulmonary issues – particularly with high-risk individuals.

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For front-line professionals, a homemade mask may be their only option. If this is the case, use it and change it out as frequently as possible. Understand that this is not a surgical mask and it's certainly not an N95 mask and every time the masks are disinfected, they will degrade further and further. Some professionals are wearing homemade masks over their N95 masks in an effort to extend the life of the N95 filter. While the idea behind this makes some sense, the homemade masks are still permeable and N95 masks are still supposed to be changed out upon contamination. Additionally, the extra fabric may increase the heat load on your face and the pulmonary effort required to breathe normally.

For those of you who want to make homemade masks for hospitals, call the non-emergent line and see if they are asking for specific fabrics, weaves, or numbers of layers.

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Thank you so much for listening to this module on homemade face masks. Feel free to email me if you have any questions, personal or about this presentation, at Samantha.lushtak@absoluteehs.com. Feel free to also check out my website for a full length, 45 minute, webinar that was previously recorded with a lot more information in it or check out one of my other short modules on the topic.

Finally, please consider supporting my small business at this time, particularly if you found this information or the worksheets and documents on the website helpful. Donations can be made via PayPal or through Venmo to Samantha-Lushtak.

Stay safe and stay home!