

Personal Protective Equipment COVID-19

The Department of Safety and Professional Services
Law Enforcement Focused
March 27, 2020

Objectives



Train the Trainer –use the Notes view to see the included commentary



COVID-19 as of March 18, 2020 – Law Enforcement PPE Recommendations



Provide information on the selection and use of PPE

This training was developed to provide Personal Protective Equipment (PPE) information and resources for law enforcement.

Resources

Need to check daily for updates

- [Wisconsin Department of Health Services - COVID-19: Health Care Providers](#)
- March 12, 2020: "Interim Guidance for Emergency Medical Services (EMS) Systems, Practitioners and Public Safety Answering Points (PSAPs) Regarding COVID-19" DPH Numbered Memo EMS 20-02

COVID-19: Health Care Providers



Health care professionals are those responsible for treating and working with patients and families affected by COVID-19. This page houses information and resources for health care professionals responding to COVID-19.

🔍 Reporting and Surveillance Guidance	⬆
📍 Testing Criteria for Patients Under Investigation	⬆
🏠 Isolation and Quarantine Guidance	⬆
📄 Memos Issued by DHS	⬆
🏠 Guidance for Long-Term Care Facilities	⬆
🦷 Dental Health Care Professionals Guidance	⬆
📄 Infection Preventionists	⬆
👤 Provider Resources	⬆
🛡️ Preparedness Resources	⬆

Last Revised: March 22, 2020

Check the Wisconsin Department of Health Services website for updates and resources.

Click on the link above to access "Memos Issued by DHS"

📄 Memos Issued by DHS

📄 Memos Issued by DHS

Below is a listing of all memos issued by DHS containing guidance for COVID-19.

Official Number	Description	Issue Date	Attachments	Obsolete Date
BCD 2020-14	Information for Dental Health Care Professionals (DHCP): What You Need to Know about Coronavirus Disease (COVID-19)	March 20, 2020		
BCD 2020-15	Important Information for Recipients of Personal Protective Equipment (PPE) from the Strategic National Stockpile	March 20, 2020		

Resources

Need to check daily for updates

- [What Law Enforcement Personnel Need to Know about Coronavirus Disease 2019 \(COVID-19\)](#) CDC- CS315526-A - 03/16/2020

What law enforcement personnel need to know about coronavirus disease 2019 (COVID-19)

Coronavirus disease 2019 (COVID-19) is a respiratory illness that can spread from person to person. The outbreak first started in China, but cases have been identified in a growing number of other areas, including the United States.

Patients with COVID-19 have had mild to severe respiratory illness.

- Data suggests that symptoms may appear in as few as 2 days or as long as 14 days after exposure to the virus that causes COVID-19.
- Symptoms can include fever, cough, difficulty breathing, and shortness of breath.
- The virus causing COVID-19 is called SARS-CoV-2. It is thought to spread mainly from person-to-person via respiratory droplets among close contacts. Respiratory droplets are produced when an infected person coughs or sneezes and can land in the mouths or noses, or possibly be inhaled into the lungs, of people who are nearby.

Click on the link above to access CDC's resources for Law Enforcement

Law Enforcement Guidance

- Law enforcement who must make contact with individuals confirmed or suspected to have COVID-19 should follow CDC's Interim Guidance for EMS. (DPH Memo 20-02)

- Gloves
- Coveralls
- Respirators/masks
- Face shields/safety glasses
- Goggles
- Different styles of PPE may be necessary based on duty gear

Personal Protective Equipment (PPE)

- Gloves – protect hands
- Coveralls – protect skin and/or clothing
- Respirators/masks – protect mouth/nose
- Respirators protect respiratory tract from airborne infectious agents
- Face shields - protect face, mouth noise and eyes
 - Safety Glasses or goggles must be worn under a face shield
- Goggles – protect eyes from liquid and particles
- Safety glasses – protect eyes from particles

This slide shows the purpose of each kind of personal protective equipment.

Follow CDC guidance as to what PPE is needed for the situation. Is the person confirmed or suspected to have COVID-19?

Factors Influencing PPE Selection

- Type of exposure anticipated
 - Splash/spray versus touch
 - Category of precaution, low risk versus high risk
- Durability and appropriateness of the PPE for the task
- Fit, will PPE create a different risk

Gloves

- Limited/no protection when heavily soiled, torn or have holes
- Avoid “touch contamination”
 - Don’t touch your face or adjust PPE with contaminated gloves
 - Don’t touch other surfaces except as necessary
- Change Gloves
 - During use if torn and when heavily soiled
 - When contamination event is over, don’t begin another task until you have decontaminated
- Discard gloves in appropriate receptacle
- Never re-use disposable gloves even if you think that they are clean

Coveralls

- Used to protect skin and/or clothing
- Disposable
- Resistant to fluid penetration, but not impervious

Eye and Face Protection

Eye

- Goggles, should fit snugly over and around eyes
 - Used for liquid splashes and/or particles
- Safety glasses, used for protection against particles

Face

- Face shields protect face, nose, mouth and eyes
- Should cover forehead, extend below chin and wrap around side of face
- Goggles or safety glasses need to be worn under a face shield

Respiratory Protection

- Protects against inhalation of harmful materials
 - Protection is based on the type of respirator selected and the type of cartridges/filters if applicable
 - Protection is also based on the respirator being worn as instructed by the manufacturer
 - Initial fit testing to ensure ability to obtain a face “seal”
 - User seal check (fit check) every time before use to ensure a face seal

Read and follow the manufacturer’s instructions

Tight fitting respirators require the user to be clean shaven for the area where the respirator forms a seal; facial hair and hair styles must not interfere with the respirator sealing area.

Respirator vs. Mask



N95 Respirator

Respirator - N95

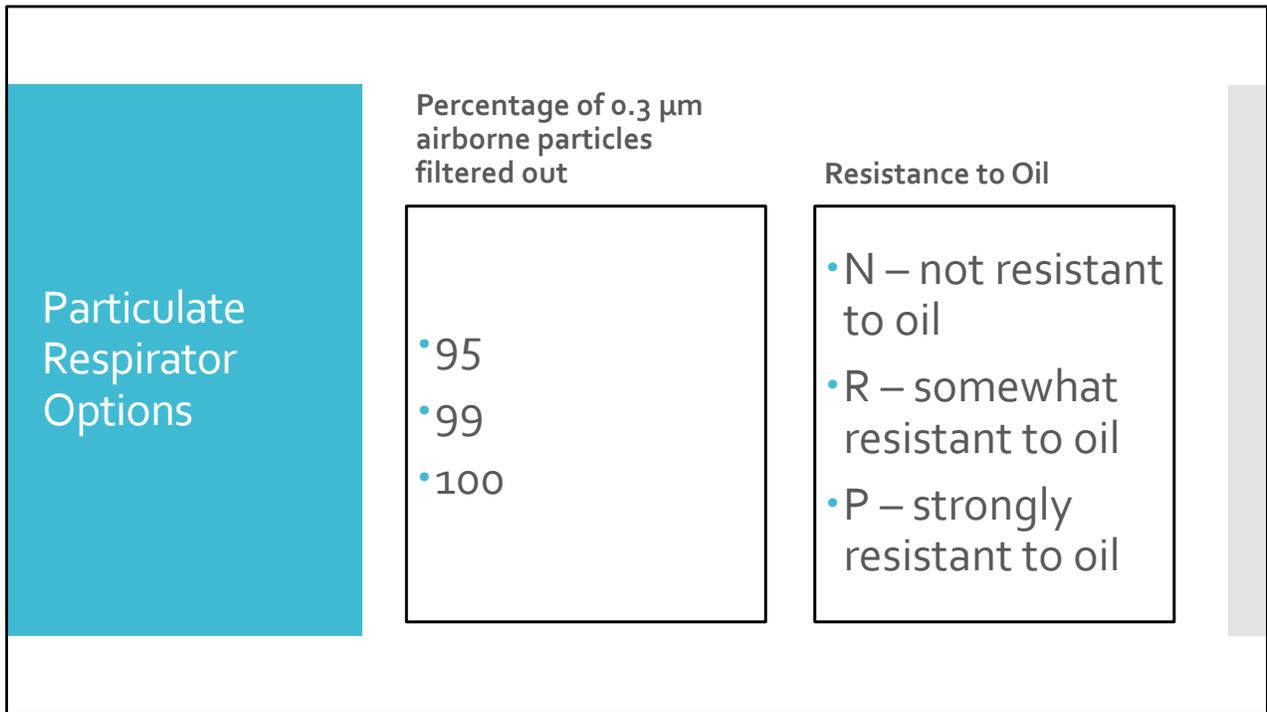
- Evaluated, tested and approved by NIOSH
- Reduces wearer's exposure to particles including small particle aerosols and large droplets
- Tight fitting face seal
- Fit testing required
- User seal check required each time respirator is put on
- Filters out at least 95% of airborne particles including large and small particles
- When properly fitted and worn, minimal leakage occurs around respirator edges when user inhales
- Single use, or replacement if damaged, deformed or soiled



Surgical Mask

Mask

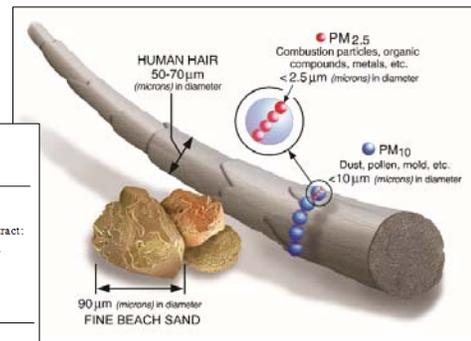
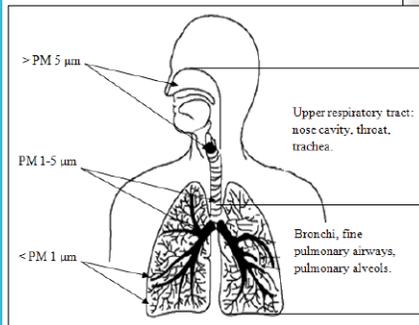
- Cleared by the U.S. Food and Drug Administration
- Fluid resistant and provides the wearer protection against large droplets, splashes, or sprays of bodily or other hazardous fluids. Protects the patient from the wearer's respiratory emissions.
- Loose-fitting
- No fit test required
- No user seal check required
- Does NOT provide the wearer with a reliable level of protection from inhaling smaller airborne particles and is not considered respiratory protection
- Leakage occurs around the edge of the mask when the user inhales
- Disposable



What does N95 or P100 mean? The respirators look similar?

95 means the respirator must capture 95% of the 0.3 μm (0.000012-inch) particles in the air passing thru the respirator.

0.3 μm ??



Particles ranging from 0.3 to 0.9 micron present the greatest health concern because they are small enough to get past the tiny hairs that line our breathing passages and are too large to be easily exhaled.

How big is 0.3 μm ?

Particles that size are about 300 times smaller than the diameter of a human hair, and 25 to 50 times smaller than we can see.

Why does it matter?



Translation

A P100 respirator is resistant to oil and filters out 99.97% of particles 0.3 μm or larger in size

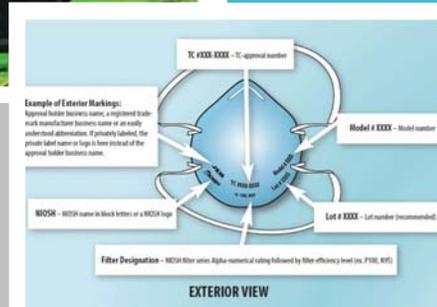
N95 means it filters out 95% of 0.3 μm or larger airborne particles and the mask is not resistant to oil mist.

P100 means it filters out 100% of 0.3 μm or larger airborne particles and the mask is strongly resistant to oil mist.

The photo is of a P100 respirator, notice the large sealing area on the inside of the respirator. This larger sealing area helps the user obtain a better fit which translates into a higher protection factor.

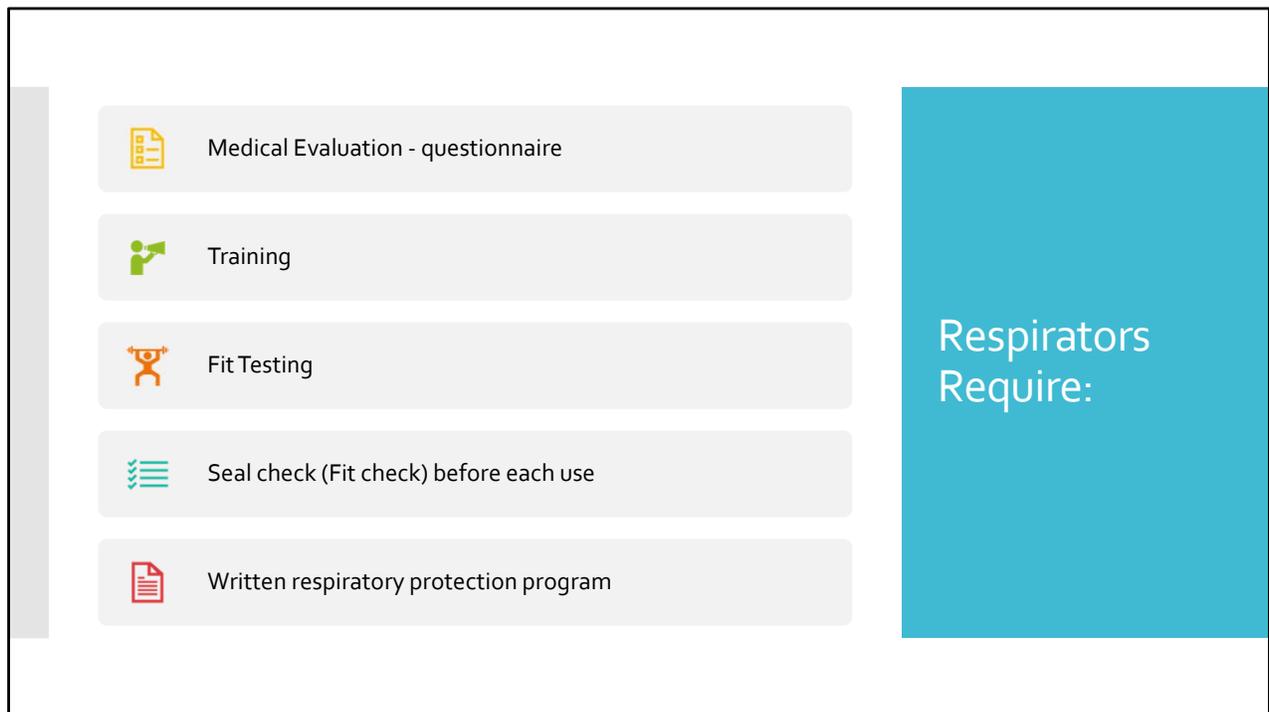
Respirators, cont.

- Must be NIOSH certified
- Beware of fraudulent respirators



Not all respirators are the same. Especially now, “knock-off” respirators may enter the market. The CDC has a list of approved respirators.

https://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/



The DSPS website has resources, under the program area “Public Sector Employee Safety”.

Respiratory Protection Program Template:

<https://dsps.wi.gov/Documents/Programs/PublicSafety/TemplateRespiratoryProtection.pdf>

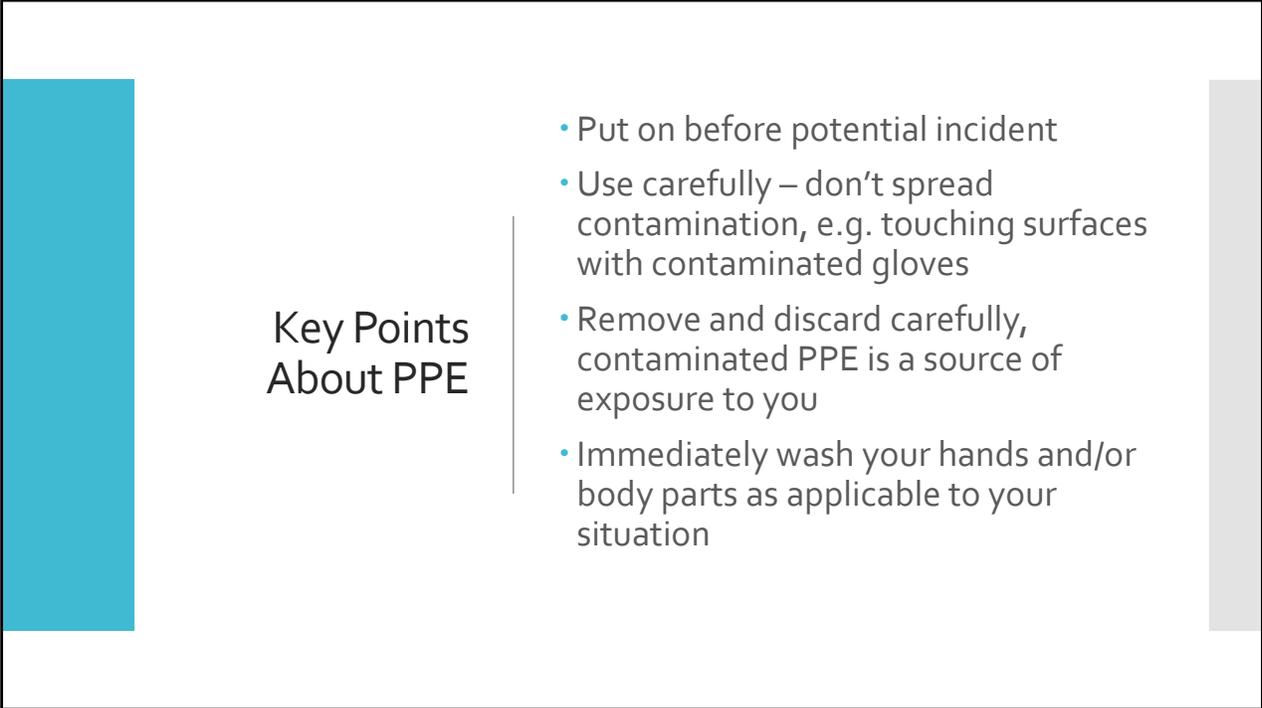
Respiratory Protection Checklist

<https://dsps.wi.gov/Documents/Programs/PublicSafety/RespiratoryProtectionChecklists.pdf>



How to safely put on, use and remove PPE

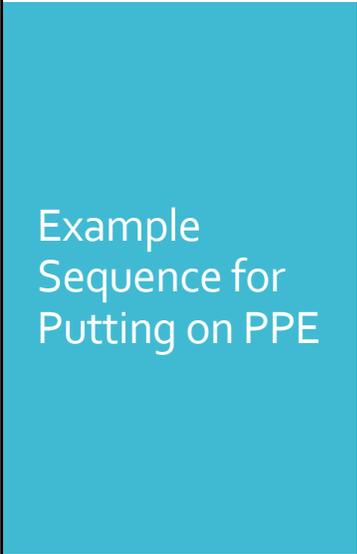
PPE manufacturers will provide instructions and warnings for their equipment. These instructions and warnings must be followed in order for the equipment to be effective.



Key Points About PPE

- Put on before potential incident
- Use carefully – don't spread contamination, e.g. touching surfaces with contaminated gloves
- Remove and discard carefully, contaminated PPE is a source of exposure to you
- Immediately wash your hands and/or body parts as applicable to your situation

Kindly and effectively provide feedback to your co-workers if you notice that they are not properly wearing their PPE.



Example
Sequence for
Putting on PPE

1. Coveralls
2. Respirator
3. Goggles
4. Face shield
5. Gloves

While PPE provides protection, you need to be careful when selecting PPE to ensure that the PPE doesn't create a greater hazard than the one you are protecting against.

Check manufacturer's instructions and warnings to ensure you know the protection limitations of the PPE you have selected.

Coveralls

- Select appropriate size
- Fully zip up
- Remove immediately if become soiled



Shoe coverings, booties or coveralls with feet, may create a slip/trip hazard. Consider the risk of slips/trips and the ability to decontaminate shoes/boots when considering shoe coverings.

Respirator

- Use the same model/size respirator that you have been fit tested for
- Follow Manufacturer's instructions for putting on
- Perform a user seal check (fit check) EVERY TIME you put on the respirator
 - The respirator manufacturer's instructions will tell you how to perform this check

Links to respirator training video's, a sample written program and checklists are provided on the "Resources" slide at the end of this presentation.

Sperian P100

How to Don and Fit Check Your Sperian® Filtering Facepiece Respirator

How to Don the Respirator

Follow these instructions each time respirator is worn.



STEP 1

Cup the respirator in the hand, allowing the head straps to hang freely.



STEP 2

Hold the respirator under the chin with the nosepiece facing outwards.



STEP 3

Place the lower head strap around the neck below the ears.



STEP 4

Holding the respirator against the face with one hand, place the top head strap above the ears, around the crown of the head.



STEP 5

Respirators with adjustable head-straps only: adjust tension by pulling head-straps with both hands (tension may be decreased by pushing out on the back of the buckle).



STEP 6

Mold the nose area to the shape of the face, running the fingertips of both hands from the top of the nosepiece down both sides while pressing inward. Always use both hands.

These instructions are for the Sperian P100 respirator

Sperian P100

Fit Check the Face-Seal as Follows:



FIT CHECKING

- Place both hands over the respirator without disturbing its position.
- If the respirator is not fitted with an exhalation valve, exhale sharply (a positive pressure should be felt inside the respirator).
- If the respirator is fitted with an exhalation valve, inhale sharply (a negative pressure should be felt inside the respirator).
- If you detect air-leaks, readjust the head straps and/or the nose-piece.

Use Limitations:

1. **DO NOT** use the respirator or enter or stay in a contaminated area under the following circumstances:
 - Atmosphere contains less than 19.5% oxygen
 - Atmosphere contains oil aerosols if using N protection class respirator
 - For protection against gases or vapors
 - Contaminants or their concentrations are unknown or immediately dangerous to life or health
 - Concentrations or contaminants exceed maximum use concentrations in applicable OSHA standards or applicable government regulations or 10 times the PEL (Permissible Exposure Limit), whichever is lower
 - For sandblasting, paint-spray operations, asbestos
2. **DO NOT** modify or misuse the respirator.
3. **DO NOT** use the respirator with beards or other facial hair that interferes with direct contact between the face and the edge of the respirator, or any other conditions that may prevent a good face-seal.
4. Some of these respirators offer relief from the irritating effects of gases/vapors at nuisance levels (i.e. levels less than the OSHA PEL). Respirators against **nuisance odors / organic vapors** are so designated by the mark "OV" on the respirator's packaging and/or on the respirator. Respirators against **nuisance acid gases** (e.g. Hydrogen fluoride, Chlorine) are so designated by the mark "AG" on the respirator's packaging and/or on the respirator. **DO NOT use if levels exceed the PEL.**

Warning

This respirator helps protect against certain contaminants. It may not eliminate the risk of contracting disease or infection. Misuse may result in sickness or death.

Materials which may come into contact with the wearer's skin could cause allergic reactions to susceptible individuals.

Sperian P100 respirator instructions, continued.

Fitting Instructions: Must be followed each time respirator is worn.



1. Cup the respirator in your hand, with the nosepiece at your fingertips, allowing the headbands to hang freely below your hand.
2. Position the respirator under your chin with the nosepiece up. Pull the top strap over your head resting it high at the top back of your head. Pull the bottom strap over your head and position it around the neck below the ears. Make certain hair, facial hair, jewelry and clothing are not between your face and the respirator as they will interfere with fit.
3. Place your fingertips from both hands at the top of the metal nosepiece. Using two hands, mold the nose area to the shape of your nose by pushing inward while moving your fingertips down both sides of the nosepiece.
⚠️ Pinching the nosepiece using one hand may result in improper fit and less effective respirator performance (Use two hands).
4. Perform a User Seal Check. To check the respirator-to-face seal, place both hands completely over the respirator and exhale. Be careful not to disturb the position of the respirator. If air leaks around nose, readjust the nosepiece as described in step 3. If air leaks around the respirator edges, adjust position of straps and make certain respirator edges fit snugly against the face. **If you CANNOT achieve a proper seal, DO NOT enter the contaminated area. See your supervisor.**



Health Care Particulate Respirator and Surgical Mask 1860/1860S

User Instructions

IMPORTANT: Keep these *User Instructions* for reference.

⚠️ WARNING

This respirator helps protect against certain particulate contaminants but does not eliminate exposure to or the risk of contracting any disease or infection. **Misuse may result in sickness or death.** For proper use, see supervisor, or *User Instructions*, or call 3M Health Care Helpline at 1-800-228-3957. In Canada, call 3M Helpline at 1-800-563-2921.

These instructions are specific to a 3M 1860/1860S respirator.

Putting On Eye and Face Protection

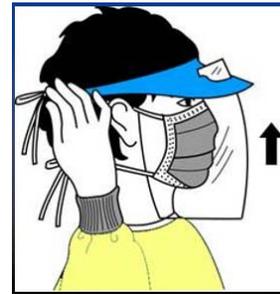
Eye

- Position goggles or glasses over eyes and secure to your head using earpieces or headband

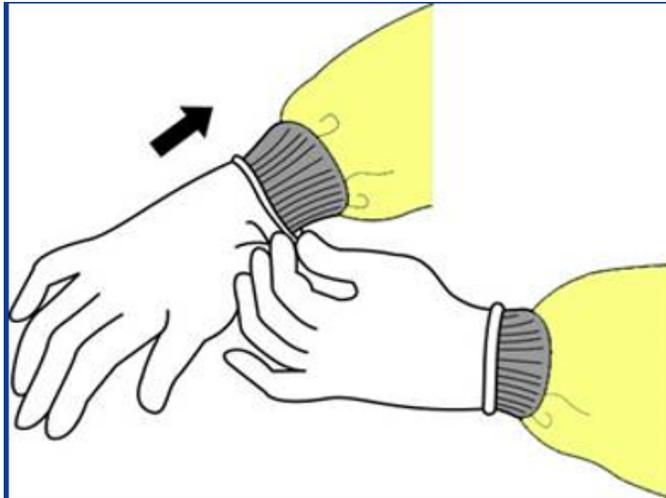


Face Shield

- Position face shield over face and secure on brow with headband
- Adjust to fit comfortably



It's important to make sure that your eye and face protection is put on properly and comfortably so that you are not adjusting it with your contaminated hands or that it falls off during use.



Putting on Gloves

- Put on gloves last
- Select correct type and size
- Insert hands into gloves
- Extend gloves over arm protection cuff if present or under coverall arm sleeve

Gloves that are too big or small have the potential to decrease protection by breaking, tearing or falling off

How to Safely Use PPE

- Keep gloved hands away from your face
- Avoid touching or adjusting other PPE
- Remove gloves if they become torn, perform hand washing before putting on new gloves
- Limit surfaces and items touched

Learning not to touch your face or adjust your PPE is a difficult habit to learn, kindly assist your fellow co-workers in learning the “don’t touch” habit

Contaminated and Clean Areas of PPE

Contaminated – Outside Front

- Areas of PPE that have or are likely to have been in contact with body sites, materials or environmental surfaces where the infectious organism may reside

Clean - Inside

- Areas of PPE that are not likely to have been in contact with the infectious organism

It is safest to treat all of your used PPE as if it were contaminated.

Sequence for
Removing PPE

Coveralls

Gloves

Face shield, goggles, safety glasses

Respirator

This specific sequence is important to avoid contaminating yourself.



Outside of area



Ensure that hand washing facilities are available at point of removal

Where to Remove PPE

Bring a garbage bag for PPE disposal



Frequent hand washing and/or use of hand sanitizer can result in dry or cracked hands. Make sure to use hand lotion based on your skin needs to avoid dry or cracked hands. Many people find that limited ingredient and non scented products work best for them. Some examples are No-Crack or Udder Balm and other products that are focused on occupations that required frequent hand washing or harsh conditions.

If Hand Washing Facilities Are Not Available

- If soap and water are not readily available and illicit drugs are NOT suspected to be present, use an alcohol-based hand sanitizer with at least 60% alcohol

Order of Removing PPE

1. Coveralls
2. Gloves
Wash Hands
3. Face Shield/Eye Protection
4. Respirator
Wash Hands

The order is important to reduce potential contamination

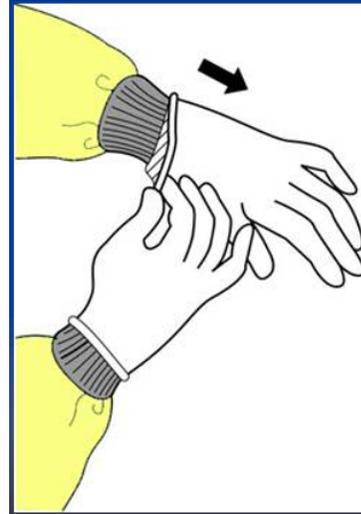
Removing Coveralls

- Unzip coveralls
- Remove arms from sleeves
- Roll down, so clean inside is facing outward
- Discard

Be careful not to touch your skin/clothing when removing your coveralls. Grossly contaminated or wet coveralls should be removed as soon as possible.

Removing Gloves

- Grasp outside edge near wrist
- Peel away from hand, turning glove inside-out
- Hold in opposite gloved hand



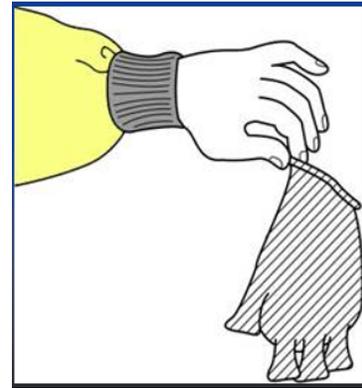
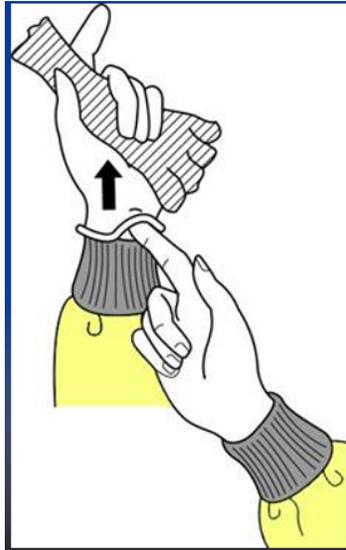
It takes a bit of practice to do this correctly. To save resources you can practice with reusable gloves such as dishwashing gloves to master the process

Removing Gloves, cont.

Slide ungloved finger under the wrist of the remaining glove

Peel off from inside, creating a bag for both gloves

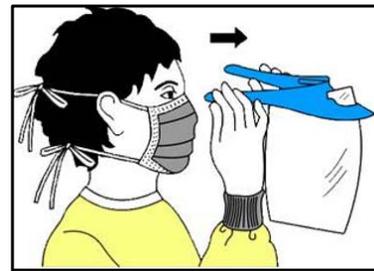
Discard gloves



Be careful to only touch the inside of the remaining glove

Remove Goggles or Face Shield

- Grasp ear or head pieces with ungloved hands
- Lift away from face
- Place in designated receptacle for reprocessing or disposal



If your safety glasses, goggles or face shield is grossly/visibly contaminated such as what might occur if you were splashed with a liquid, have a co-worker wearing PPE remove the items for you, or put on a clean pair of gloves and remove the items yourself.

Removing Respirator

- DO NOT TOUCH the front of the respirator – it may be contaminated



The nature of filtering face pieces, i.e. the “cloth” type material, means that the surface can NOT be decontaminated by wiping or spraying.

The filtering media is considered porous and a disinfecting solution is not able to reach all the surface areas unless the material is soaked entirely as in laundering, which is not feasible for this type of respirator. Filtering facepieces are not made to be laundered and will more than likely have limited or no protection if not destroyed if laundered.

Removing Respirator, cont.

- Without touching the respirator -
Remove by pulling the bottom strap over
the back of your head, followed by the
top strap
- Discard respirator
- **WASH YOUR HANDS**



These are general removal instructions; your respirator manufacturer is required to provide specific instructions for their product. You must follow the respirator manufacturer's instructions.

3M N95 - 1860

Removal Instructions:



1. Without touching the respirator, *slowly* lift the bottom strap from around your neck up and over your head. Then lift off the top strap. Store or discard according to your facility's infection control policy. Dispose of used product in accordance with applicable regulations.

Storage Conditions and Shelf Life:

Before use, store respirators in the original packaging, away from contaminated areas, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals. When stored in original packaging between temperatures from -4°F (-20°C) to +86°F (+30°C) and not exceeding 80% RH, the product may be used until the date specified on packaging located next to the "Use by Date" symbol.

You must also follow the storage and shelf life instructions. A damaged respirator will not provide protection.

Hand Hygiene

- Perform hand hygiene immediately after removing PPE
 - If hands become visibly contaminated during PPE removal, wash hands before continuing to remove PPE
- Wash hands with soap and water or use an alcohol-based hand sanitizer with at least 60% alcohol

As previously mentioned, frequent hand washing and/or use of hand sanitizer can result in dry or cracked hands. Make sure to use hand lotion based on your skin needs to avoid dry or cracked hands. Many people find that limited ingredient and non scented products work best for them. Some examples are No-Crack or Udder Balm and other products that are focused on occupations that required frequent hand washing or harsh conditions.

Respirator Fit Test vs. User Seal Check

Fit Testing Is Performed:

- After medical clearance and training
- Before respirator is used in the field
- Annually
- Whenever:
 - Weight gain/loss
 - Facial scarring
 - Dental changes
 - Cosmetic surgery

User Seal Check (Fit Check) Is Performed By The User

- Every time respirator is worn
 - The respirator manufacturer's instructions will tell you how to perform this check

A fit test determines your ability to achieve an adequate seal with that specific brand/model/size of respirator. If you are unable to pass a fit test, a different size, model or style of respirator may need to be tested/used.

A user seal check makes sure that you have properly put on the respirator and have achieved an adequate seal for this instance. If the seal is broken or the respirator is damaged, you must leave the area and remove your respirator safety.

A proper seal is important, imagine snorkeling with a facemask and/or breathing tube that leaks.

Basic Disinfecting Guidelines

- Air out vehicle/area if possible
- PPE – required to be listed on label or product sheet
- EPA N List
 - FOLLOW directions
 - Contact times must be followed for disinfection to occur
 - Clean before disinfect, remove visible dirt/debris
- Adequate ventilation when using disinfectant

The product label and instructions are controlled by the Environmental Protection Agency (EPA) and are based in part on scientific data submitted by the manufacturer that demonstrates the products effectiveness. If the product is not used according to the manufacturer's instructions, the product may not be as effective.

“More is better” is NOT applicable when using disinfecting solutions, in fact sometimes using a greater concentration makes the product less effective.

The product label will specify the “contact time” needed for the solution to be used as a disinfectant. The contact time is the minimum time needed for the solution to destroy bacteria/viruses.

Resources

- [Wisconsin Department of Health Services - COVID-19: Health Care Providers](#)
- [What Law Enforcement Personnel Need to Know about Coronavirus Disease 2019 \(COVID-19\)](#)
- [OSHA "Respiratory Protection in General Industry"](#), 10-minute video that can be used to provide basic respiratory protection training – workplace specific training must also be provided to employees
- [OSHA Respiratory Fit Testing](#), 12-minute video on fit testing that can be used to provide basic respiratory protection training – workplace specific training must also be provided to employees
- [CDC/NIOSH - Understanding the Difference Between Surgical Masks and N95 Respirators](#)
- [CDC/NIOSH - Required Labeling of NIOSH-Approved N95 Filtering Facepiece Respirators](#)
- [Template Written Respiratory Protection Program](#) provides a basic template that needs to be modified to reflect your program/practices
- [Respiratory Protection Checklists](#), provides checklists for the different aspects of a respiratory protection program

The listed resources are from recognized sources. Be cautious of resources that you use, there is a lot of misinformation out there.

The first two resources should be checked daily for updates.

Examples of Fit Testing Products

- [3M Quick Reference Guide: Qualitative Fit Testing](#), if you are using another brand of a fit testing kit, you must refer to that manufacturer's fit testing kit instructions
- [Moldex Qualitative Fit Test Kit](#)

These are only two product examples; your respirator manufacturer may be able to provide you with additional fit testing resources.

Questions?

DSPSSBHealthandSafetyTech@wi.gov

Or contact your District Occupational Safety and Health Inspector:

[Public Sector District Safety Inspectors](#)

