

# Personal Protective Equipment COVID-19

The Department of Safety and Professional Services

Solid Waste & Wastewater Workers Focused

March 25, 2020

# Objectives



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



COVID-19 as of March 10,2020  
CDC Guidance for Wastewater  
Workers Recommendations



Provide information on the selection and use of PPE

# Resources

Need to check daily for updates

## Water Transmission and COVID-19

- Drinking Water, Recreational Water and Wastewater: What You Need to Know
- <https://www.cdc.gov/coronavirus/2019-ncov/php/water.html>

## OSHA Safety & Health Topics: COVID-19

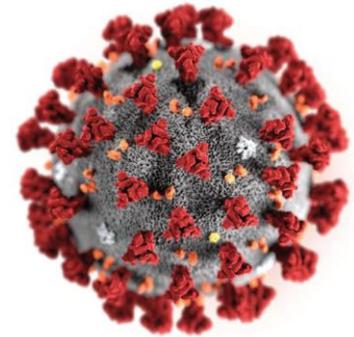
- Solid Waste and Wastewater Management Workers and Employers
- <https://www.osha.gov/SLTC/covid-19/controlprevention.html#solidwaste>

## Wisconsin DHS COVID-19: Business & Employers

- <https://www.dhs.wisconsin.gov/covid-19/employers.htm>

# Wastewater Guidance

- Risk of transmission of COVID-19 from feces of an infected person is expected to be **low** based on data from previous outbreaks of related coronavairuses.
- **No** reports of fecal-oral transmission of COVID-19 to date.



# Common Exposure Routes for Wastewater Workers

## What is the most common cause of infection?

*poor personal hygiene*

Three basic routes that may lead to infection:

- ingestion through splashes, contaminated food, or cigarettes
- inhalation of infectious agents or aerosols
- Infection due to an unprotected cut or abrasion
- **Ingestion** generally the major route of wastewater worker infection.
  - Hand-to-mouth habits
- **At highest risk:** workers who eat or smoke without washing their hands
- Personal hygiene practices including frequent washing of the hands will minimize these potential exposures

[http://www.marianasoperators.org/uploads/1/1/3/5/11353122/biological\\_safety\\_&\\_ppe\\_for\\_wastewater\\_workers\\_-\\_no\\_attachments.pdf](http://www.marianasoperators.org/uploads/1/1/3/5/11353122/biological_safety_&_ppe_for_wastewater_workers_-_no_attachments.pdf)

# Wastewater Safe Practices



Follow routine practices  
to prevent exposure to  
wastewater

Engineering &  
administrative  
controls

Safe work practices

PPE



No additional COVID-19 specific  
protections are recommended



Current disinfection  
methods are expected  
to be sufficient, such as:

oxidation with  
hypochlorite (i.e.,  
chlorine bleach)

peracetic acid

ultraviolet irradiation.

# Basic Hygiene Practices

- Wash hands with soap and water
  - immediately after handling waste
  - *before* eating or drinking
  - *before* and *after* using the toilet
- Avoid touching face, mouth, eyes, nose, or open sores and cuts
- Before eating, removed soiled work clothes and eat in designated areas away from human waste and sewage-handling activities
- Do **not** smoke or chew tobacco or gum while handling human waste or sewage
- Keep open sores, cuts, and wounds covered with clean, dry bandages
- Remove rubber boots and work clothes
- Shower and change into clean clothes before leaving worksite
- Clean contaminated work clothing daily with 0.05% chlorine solution (1 part household bleach to 100 parts water)

# Personal Protective Equipment (PPE)

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**Goggles:** to protect eyes from splashes of human waste or sewage.

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**Protective face mask or splash-proof face shield:** to protect nose and mouth and face from splashes of human waste or sewage.

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**Liquid-repellent coveralls/Apron:** to keep human waste or sewage off clothing.

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**Waterproof gloves:** to prevent exposure to human waste or sewage.

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**Rubber boots:** to prevent exposure to human waste or sewage.

# 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
- Clean/disinfect per manufacturers instructions- wear a disposable glove under reusable gloves
- Never re-use disposable gloves even if you think that they are clean

# Coveralls

- Used to protect skin and/or clothing



# 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



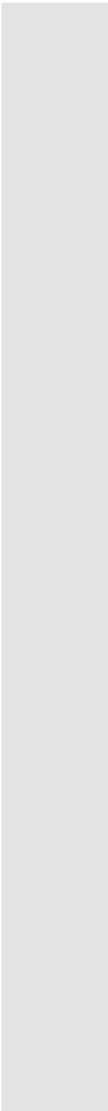
- Face shields protect face, noise, mouth and eyes
- Should cover forehead, extend below chin and wrap around side of face
- Goggles or safety glasses need to be worn under a face shield

# How to safely put on, use and remove PPE



## Key Points About PPE

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- Put on before exposure potential
  - 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
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Example  
Sequence for  
Putting on PPE

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Coveralls

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Goggles

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Face shield

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Gloves

# Putting On Eye and Face Protection

## Eye

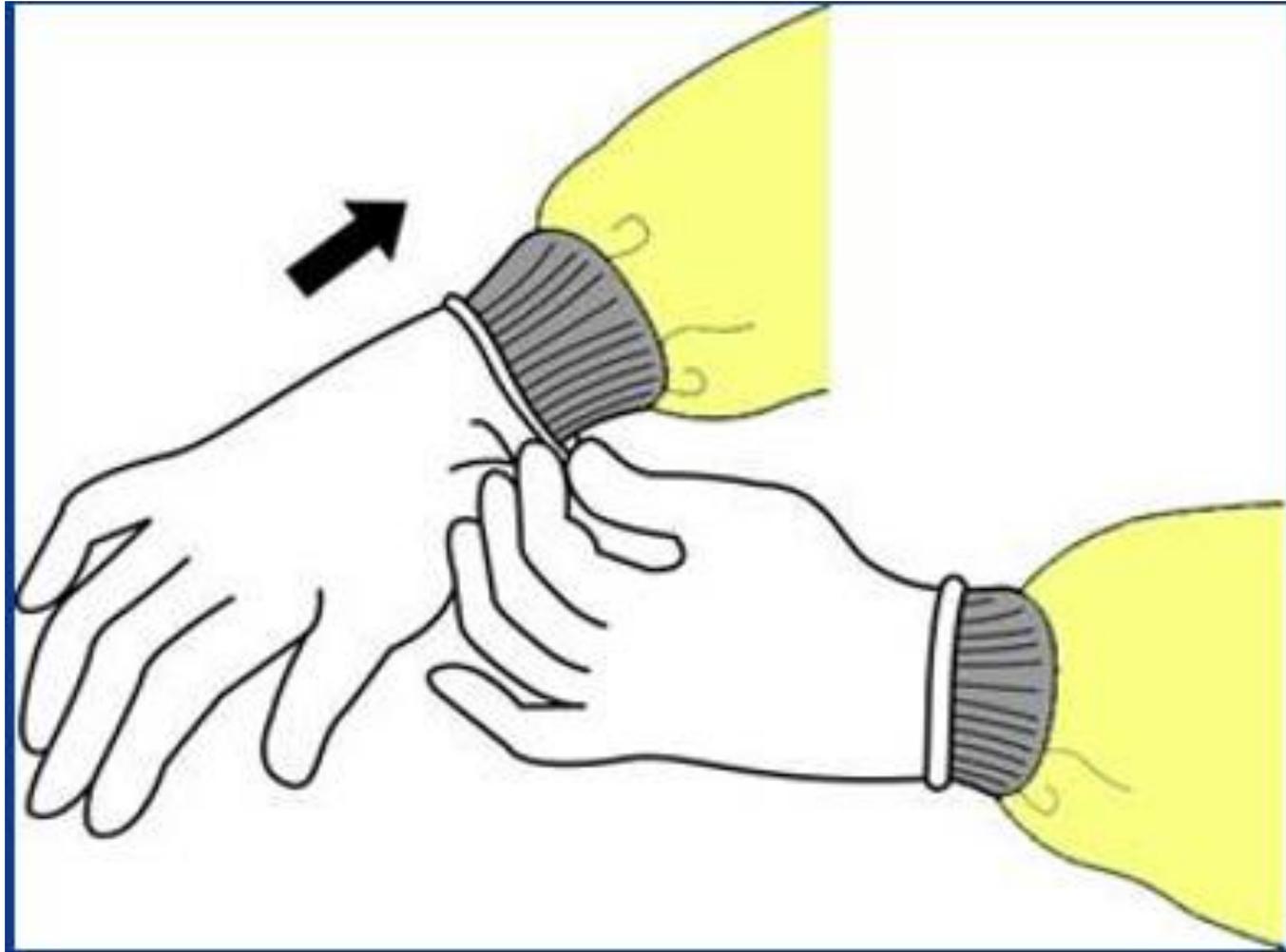
- Position goggles or glasses over eyes and secure to your head using earpieces or headband



## Face Shield

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





## 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

## 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

## Sequence for Removing PPE

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Coveralls

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Gloves

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Face shield, goggles, safety  
glasses



Outside of area



Ensure that hand washing facilities are available at point of removal

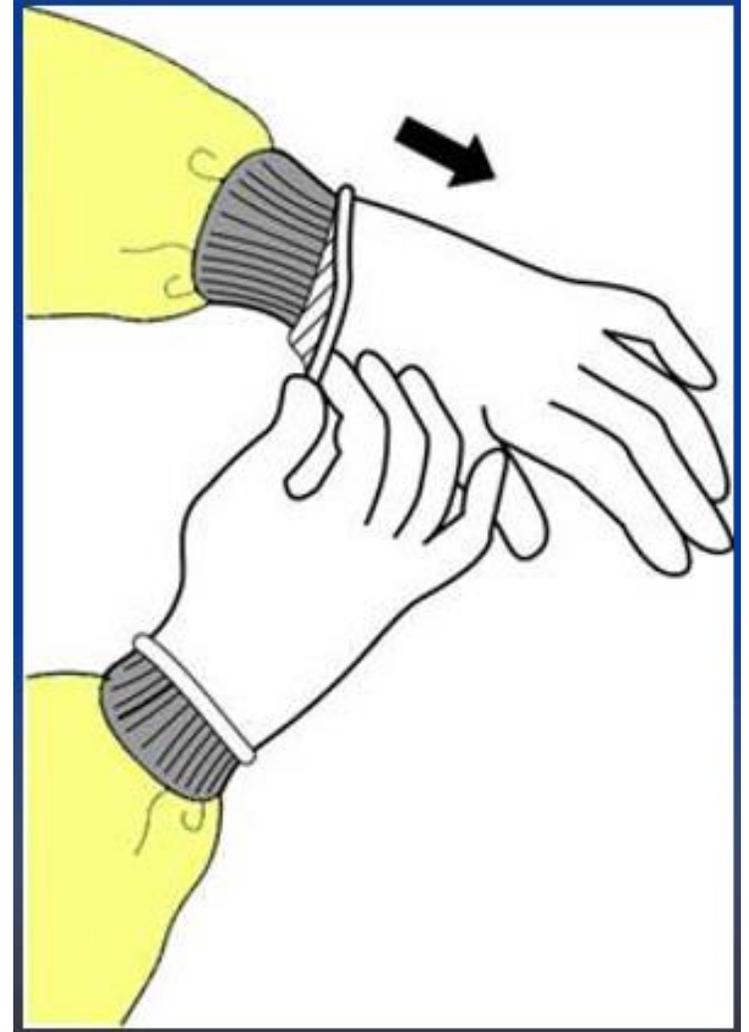
Where to Remove PPE

## Order of Removing PPE

1. Coveralls/Apron
2. Gloves  
**Wash Hands**
3. Face Shield/Eye Protection  
**Wash Hands**

## Removing Gloves

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

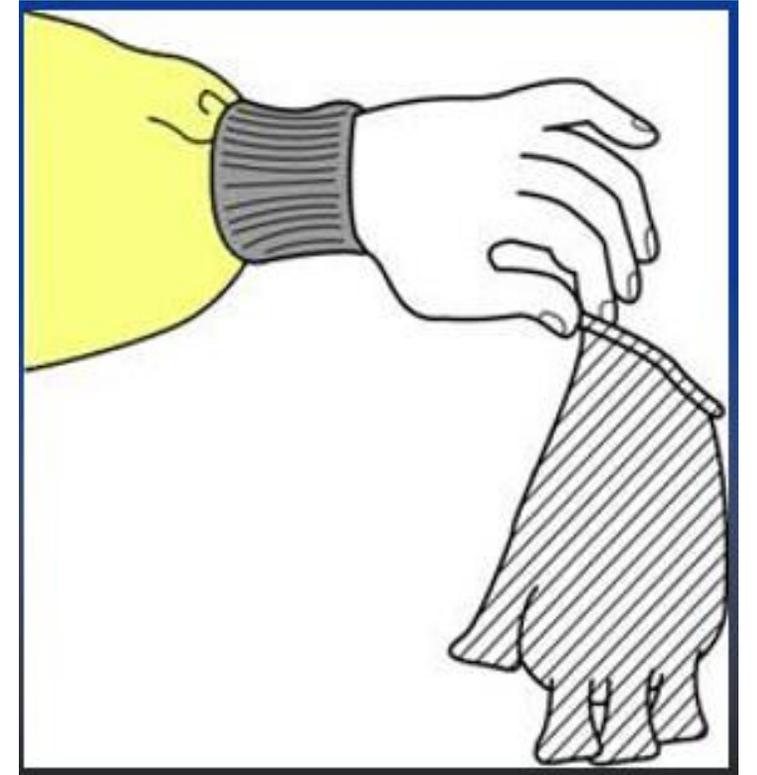
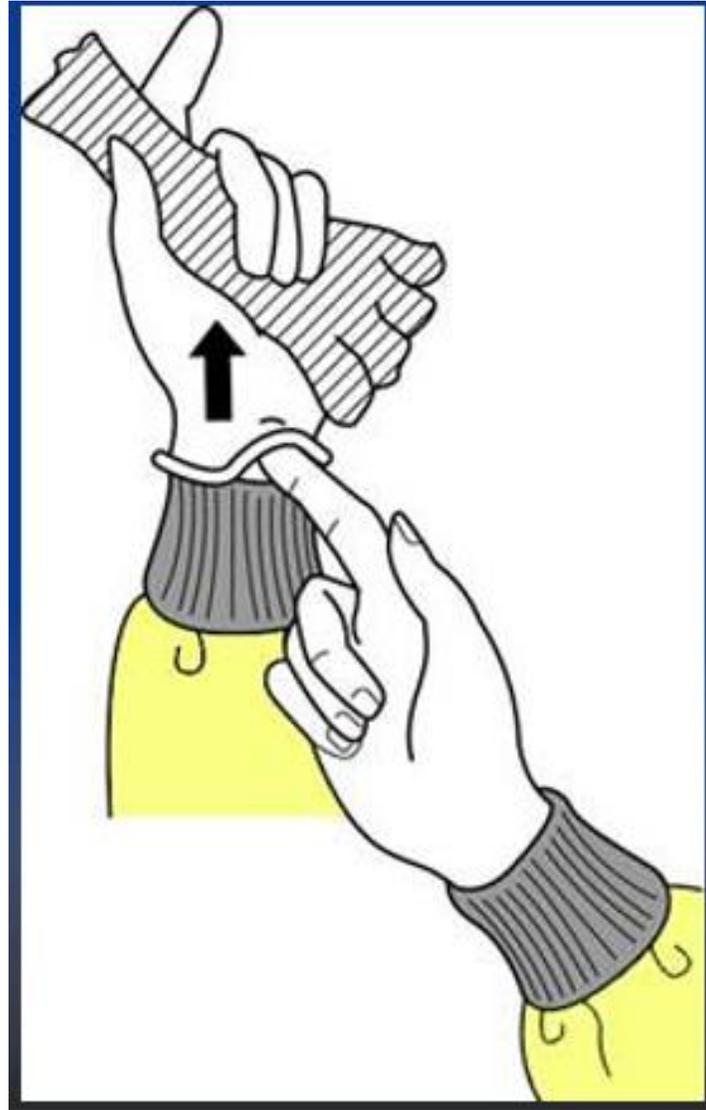


# Removing Gloves, cont.

Slide ungloved  
finger under the  
wrist of the  
remaining glove

Peel off from  
inside, creating a  
bag for both  
gloves

Discard gloves



# Clean & Disinfect PPE

## Clean

Clean PPE first

Note: If soiled clothes do go home, they should be washed separately from family clothes.

## Disinfect

Disinfect PPE

- Use disinfectants available as EPA-certified formulations
- Use at recommended concentrations or dilutions

# Resources

## OSHA Safety & Health Topics/COVID-19, Solid and Wastewater Management Workers and Employers

- <https://www.osha.gov/SLTC/covid-19/controlprevention.html#solidwaste>

## Water Transmission and COVID-19

- <https://www.cdc.gov/coronavirus/2019-ncov/php/water.html>

## Memos Issued by Wisconsin Department of Health Services

- <https://www.dhs.wisconsin.gov/covid-19/providers.htm>

## Guidance for Reducing Health Risks to Workers Handling Human Waste or Sewage

- [https://www.cdc.gov/healthywater/global/sanitation/workers\\_handlingwaste.html](https://www.cdc.gov/healthywater/global/sanitation/workers_handlingwaste.html)

# Questions?

[DSPSSBHealthandSafetyTech@wi.gov](mailto:DSPSSBHealthandSafetyTech@wi.gov)

Or contact your District Occupational Safety and Health Inspector:

[Public Sector District Safety Inspectors](#)

