Division of Laboratory Systems

OneLab™

A Unified Response to Training Needs

Personal Protective Equipment (PPE) for Point-of-Care Testing

Carrie Anglewicz, M.S.

October 31, 2023

Agenda

- Introduction
  - *Participant Rules of Engagement for the Webinar Chat*
  - *New and relevant OneLab™ Resources*
  - *Today's Presenter*
- Personal Protective Equipment (PPE) for Point-of-Care Testing
- Q&A
- Closing

Participant Rules of Engagement for the Webinar Chat

Please keep the following in mind when using the chat feature:

- **Connect with others!** React to what you're hearing, share experiences, and ask questions of your fellow participants!
- **Have a question for the presenter?** Use the Q&A function, *not* the chat.
- **Show Respect and Professionalism.** Inappropriate language, improper conduct, or any form of discrimination may result in removal from the webinar.
- **Remain on Topic.**
- **Comply with Moderators' Guidance.**
- **Report Issues.**

OneLab **REACH™**

Fundamentals of Communicating the Hazards of Laboratory Chemicals

REGISTER NOW

This basic level course is designed for public health and clinical laboratory staff, safety professionals, and others who work in laboratories where hazardous chemicals are routinely used and stored. It introduces OSHA Standards and their role in providing information to laboratory staff.

P.A.C.E.® credit

This course is 1 contact hour(s)

Slide decks may contain presentation material from panelists who are not affiliated with CDC. Presentation content from external panelists may not necessarily reflect CDC's official position on the topic(s) covered.

Presenter

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Personal Protective Equipment for Point of Care Testing

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Objectives

By the end of the presentation the learner will be able to:

- Describe what is Personal Protective Equipment (PPE)
- Describe how the hazards associated with point-of-care testing (POCT) can affect the choice of PPE
- Identify characteristics of effective PPE
- Describe how to put on and take off PPE properly

What is PPE?

Personal Protective Equipment (PPE)

"Equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses."

- Gloves
- Safety glasses
- Clothes covering (gowns, coats, apron)
- Respirators

Used in conjunction with other safety controls

- When possible

Reduces environmental contamination- infection protection

- Personal Protective Equipment - Overview | Occupational Safety and Health Administration (osha.gov)

OSHA Federal Regulations

- **Bloodborne Pathogen Standard** 1910.1030
  Occupational standards for exposure to blood and other potentially infectious materials
- **Personal Protective Equipment** 1910.132
- Laboratory Safety Guidance (osha.gov)
- Employer Responsibilities
- **Your Responsibilities**

Hazards and Choice of PPE

Hierarchy of Controls

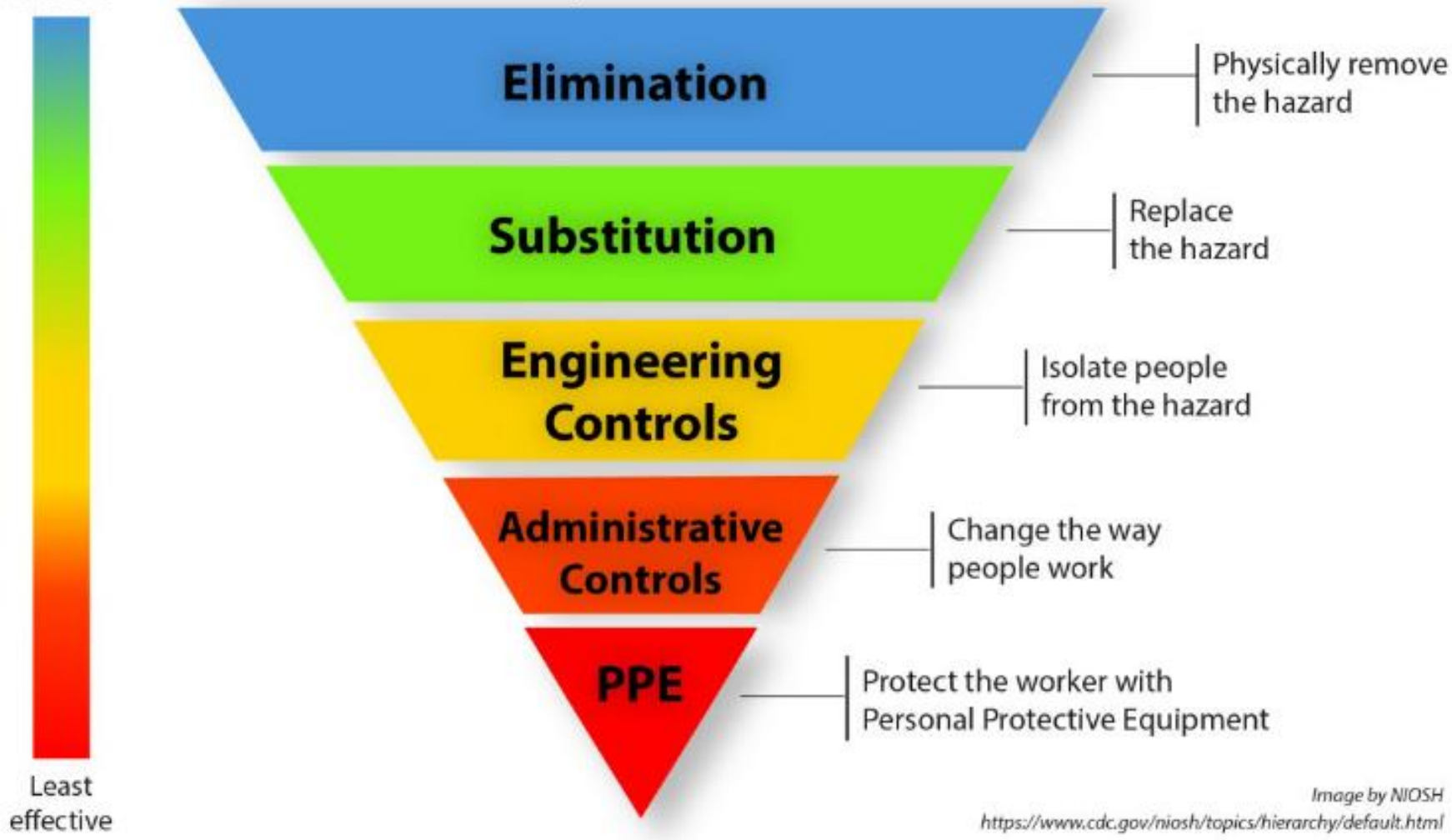
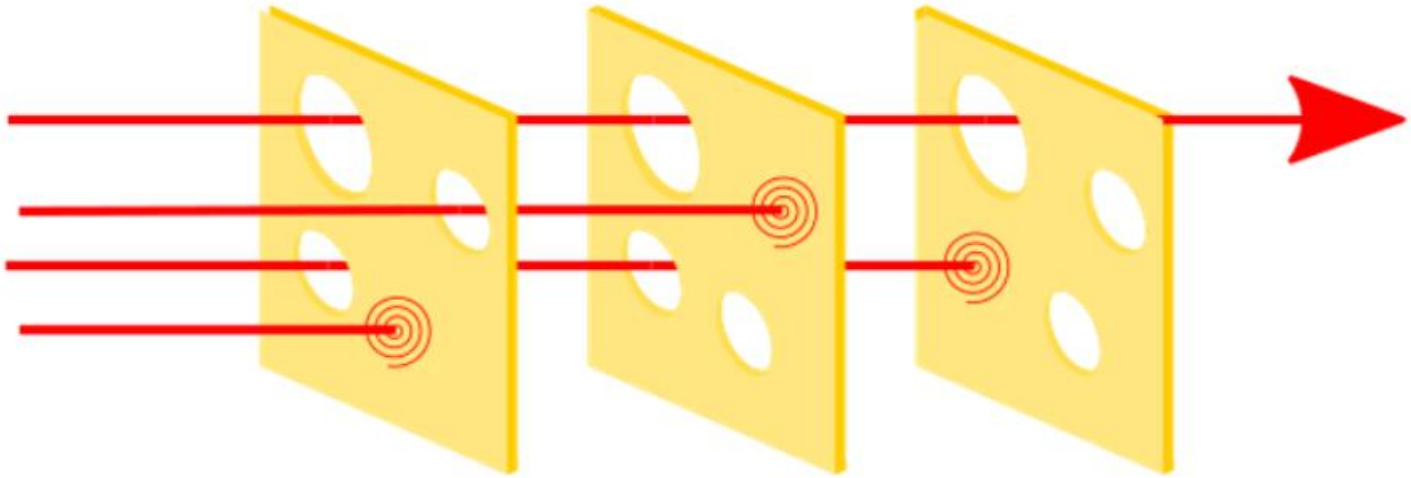


Image by NIOSH
https://www.cdc.gov/niosh/topics/hierarchy/default.html

The Swiss Cheese Model



[The Swiss Cheese Risk Management Model for BSL-2 Laboratories (linkedin.com)]

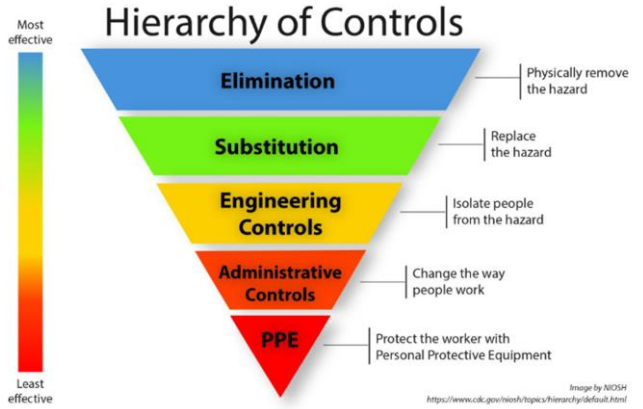
What PPE is Necessary?

- **Risk Assessment**
  How likely is exposure? What are the consequences?

- **Know the Hazards**: what actions, equipment, infectious items (transmission) could cause injury or illness from exposure to infectious substances?

- **What other controls are already in place?**

- **Read the package insert**



Hazards

- **Infectious substances** (human material)
- **Chemicals**
- **Heat**
- **Ergonomic**
- **People**

Infectious Substances

Routes of infection

- Mucous membrane
- Non-intact skin- pokes from needles or open cuts/wounds
- Respiratory
- Ingestion

Activities:

- Centrifuging blood
- Mixing
- Pouring/ aliquoting
- Use of sharps- needles, lancets

Choosing Effective PPE

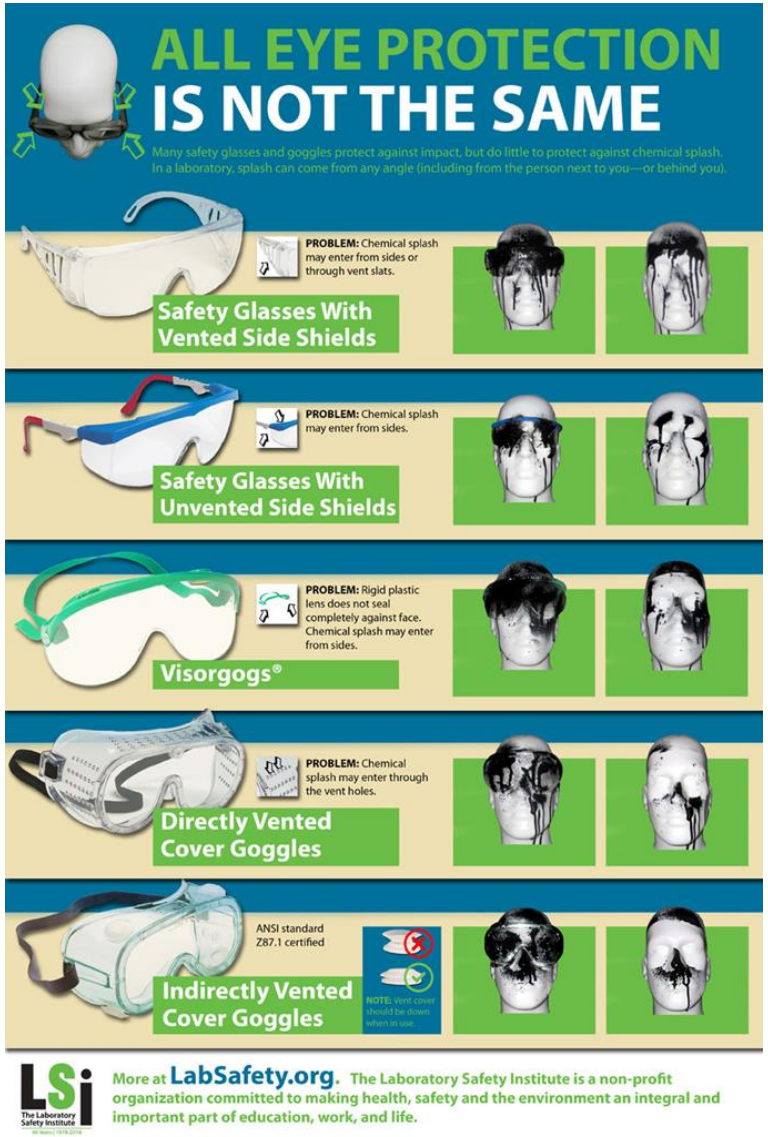
PPE

- Limitations

  Risk of exposure is never zero!

- Is it appropriate?

- More is not always better



Gloves: Hand Protection

- Use when potential for contact with infectious substances
- Medical Gloves | FDA
- Proper fit
- Change when contaminated
- Do not reuse or try to disinfect
- Wash your hands after removing gloves
- Allergies: latex, powder

Eye Protection

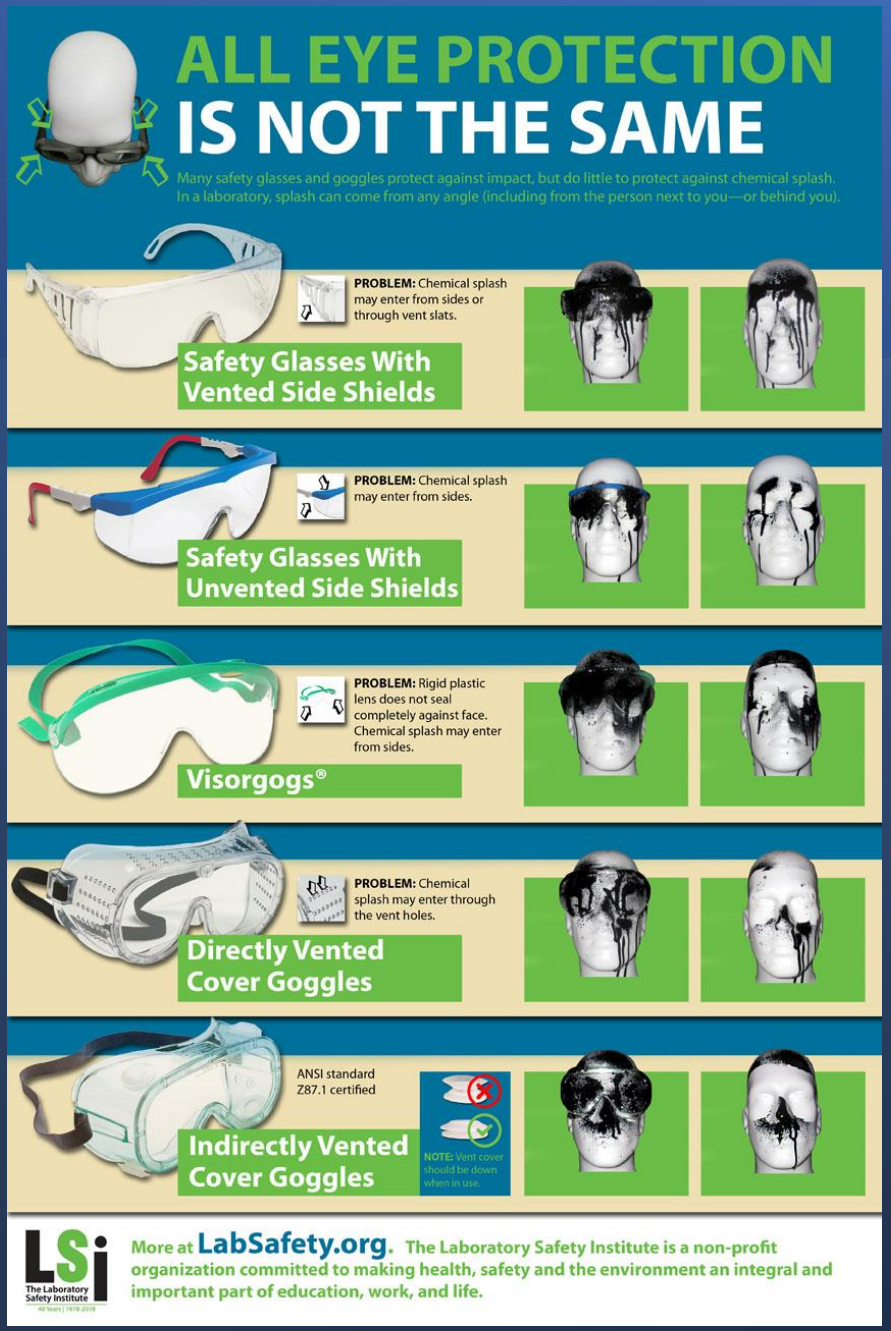
Safety Glasses

- Splashes and/or work with sharps or impact potential (shaking, spinning)
- Impact resistance
- Side shields
- Prescription options

Face shields

- Disposable- splash and spray protection only;
- Not impact resistant

Goggles


ALL EYE PROTECTION
IS NOT THE SAME
Many safety glasses and goggles protect against impact, but do little to protect against chemical splash. In a laboratory, splash can come from any angle (including from the person next to you—or behind you).
PROBLEM: Chemical splash may enter from sides or through vent slats.
Safety Glasses With Vented Side Shields
PROBLEM: Chemical splash may enter from sides.
Safety Glasses With Unvented Side Shields
PROBLEM: Rigid plastic lens does not seal completely against face. Chemical splash may enter from sides.
Visorgogs®
PROBLEM: Chemical splash may enter through the vent holes.
Directly Vented Cover Goggles
ANSI standard Z87.1 certified
Indirectly Vented Cover Goggles
NOTE: Vent cover should be down when in use.
LSi
The Laboratory Safety Institute
More at LabSafety.org. The Laboratory Safety Institute is a non-profit organization committed to making health, safety and the environment an integral and important part of education, work, and life.

Clothes Covering

Button up lab coat

- Widely used
- Fluid resistance
- Elastic cuffs

Solid Front Gown

- Additional protection, gross procedures
- Elastic cuffs
- location of closures/ties

Considerations for Selecting Protective Clothing | NPPTL | NIOSH | CDC

Respirators

- Minimize exposure to respiratory hazards (particulates)
- Medical Evaluation
- Training
- Annual fit testing

  Model specific

Other

Footwear:

- Closed toe
- Resistant to liquids
- Booties- risk assessment

Face Masks

- Contain your respiratory droplets from transmission to others
- They are not respirators

Donning and Doffing PPE

Putting it on and Taking it Off

PPE Training

- Employer responsibility
- Limitations
- Donning and Doffing
- Disposal or laundering
- Exposure protocol

Donning: Putting PPE on

Inspect PPE before putting it on

- Don't use damaged or soiled PPE

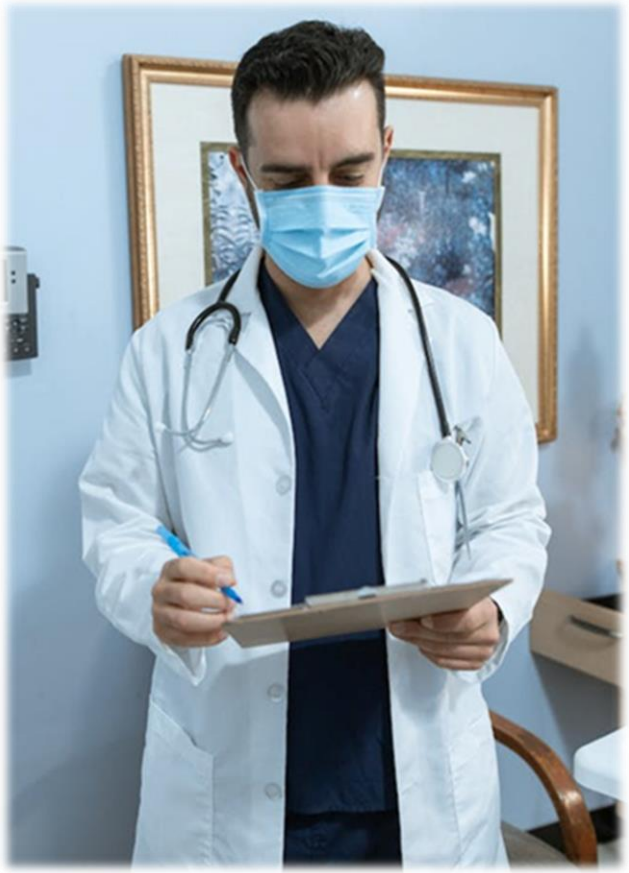
Generally… Put on "Clean to Dirty"

1. Safety glasses*
2. Clothing Protection*
3. Gloves- over cuff of sleeve

Training

- Demonstrate competency

*Face shield may be put on after lab coat



Button up!

Doffing: Removing PPE

- Work slowly and deliberately
- *Generally*… Remove “Dirty to Clean”
  1. Gloves
  2. Clothing protection*
  3. Safety glasses*
- Clean reusable PPE
- Waste management
- Wash your hands

* Face shield may be taken off before lab coat

Glove Removal

- Periodic (re)training recommended to demonstrate removing without contaminating hands
- How to Remove Gloves (cdc.gov)

Conclusion

- PPE is equipment worn to minimize exposure to infectious substances
- The hazards and testing actions will affect the choice of PPE
- Utilize references from CDC and other reputable sources to stay up-to-date on PPE types, quality, and training to make informed decisions.
- Knowing how to put on and take off PPE is essential to minimizing risk of exposure.

Thank You!

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MDHHS
Michigan Department of Health & Human Services

Questions?

OneLab **Assessments**

Share your feedback and testing training needs with us!

Email OneLab@CDC.gov