



Infection Prevention and Control (IPC) for Ebola or Marburg:

Personal Protective Equipment (PPE) Part 1 – PPE Basics: What, When, and Why to Use PPE

Healthcare Settings with Limited to Intermediate Resources

Learning Objectives

After this presentation, participants will be able to

- Explain why PPE is important in the context of Ebola or Marburg
- Choose appropriate PPE for certain activities
- Identify if PPE is being used correctly

What Is Personal Protective Equipment (PPE)?

Definition: PPE

PPE is **specialized clothing or equipment** worn by healthcare workers that provides barriers or layers to protect their eyes, nose, mouth, skin, and clothing from contact with a patient's body fluids (blood, vomit, urine, stool, or sweat).

Correct use of PPE helps protect you from infection.

PPE Items

Head covering



Head + hair

Goggles



Eyes

Mask



Nose + Mouth

Face shield



Eyes + Nose + Mouth

Gown



Body

Coverall



Body

Apron



Body

Gloves



Hands

Boots



Feet

Why PPE?

Ebola or Marburg can spread through direct contact (such as through broken skin or mucous membranes in the eyes, nose, or mouth) with

- **Blood or other body fluids** of a person who is sick with or has died of Ebola or Marburg
- **Objects contaminated with blood or other body fluids** from a person who is sick with or has died from Ebola or Marburg

PPE works as a **barrier** to protect your eyes, nose, mouth, skin, and clothing from contact with a patient's body fluid.

When to Use PPE

Standard Precautions

- Used for all patient care
- Protect healthcare workers from infection and prevent the spread of infection from patient to patient



Hand hygiene



Cover coughs / respiratory hygiene



Personal protective equipment (PPE)
based on risk of exposure



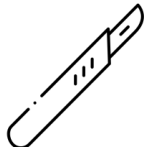
Clean and disinfect patient care equipment and instruments



Safe injection practices



Clean and disinfect healthcare environment



Sharps safety



Handle textiles and linens carefully

Key Point on PPE

PPE alone is not enough. Safe patient care during an Ebola or Marburg outbreak requires all standard precautions including:

- Screening and isolation
- Hand hygiene
- Environmental cleaning

PPE and Standard Precautions during an Ebola or Marburg Outbreak

- It is not always possible to clearly identify patients with Ebola or Marburg because early symptoms are nonspecific.
- Because of this, during an Ebola or Marburg outbreak, **use Standard Precautions for any care or activities that might allow exposure to blood or other body fluids.**
Note: Gloves should be considered if you will be touching the patient.

PPE for Ebola or Marburg Screening

Screening can be a **non-contact activity**

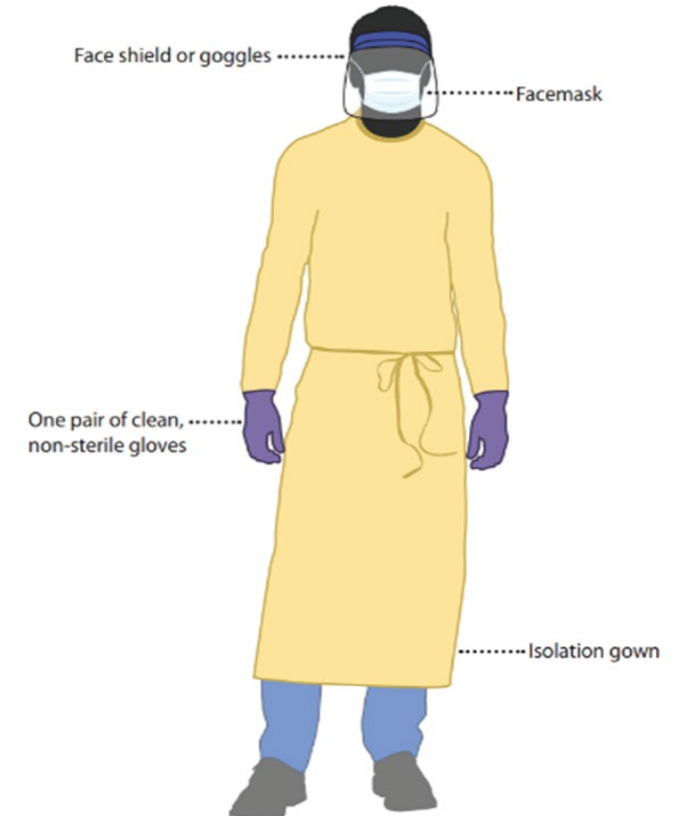
- Maintain distance of at least 1 meter (arm's length)
- Avoid direct face-to-face interaction (physical separation such as plexiglass preferred)

■ **If distance can be maintained → PPE not required**

■ **If distance can't be maintained → PPE**

- Mucous membrane protection (goggles + face mask OR face shield + face mask)
- Single gloves
- Gown

■ **If PPE is worn → remove after each person you screen + perform hand hygiene**



Use PPE for screening when distance cannot be maintained

PPE for Patient Care & Environmental Cleaning

- Double gloves (inner pair and outer pair)
- Gown OR coverall
- Apron
- Head cover
- Waterproof boots
- Mucous membrane protection (face mask* + face shield)
OR (face mask* + goggles)

*Respirator can be used in place of face mask (structure of respirator keeps it from collapsing when soaked with sweat; may be preferred in hot, humid climates)



Using PPE Correctly

Key Point on PPE

PPE helps protect you from infection but...

PPE only works if it is used correctly every time.

Do's and Don'ts While Wearing PPE

DO

- ✓ **Change PPE that is heavily contaminated** with blood or other body fluids
- ✓ **Change PPE if it gets damaged** (e.g., glove tears, gown rips)
- ✓ **Remove PPE correctly and carefully**, even when you're tired

DON'T

- ✗ **Touch or adjust PPE** once it's on
- ✗ **Touch your face**
- ✗ **Touch unnecessary objects**, such as cell phones, pens, patient charts
- ✗ **Touch surfaces** such as bed rails, counters unless absolutely necessary

What if PPE Is Limited?

- Prioritize PPE use for:
 - Cleaning staff
 - Any patient interaction with potential for exposure to body fluids, especially blood (e.g., maternity and trauma patients)
- Remember that PPE is **one aspect of Standard Precautions:**
 - Maintain at least 1 meter distance (e.g., neutral space for passing medication)
 - Perform hand hygiene as indicated
 - Identify solutions based on local context (adaptations to procedures and clothing)

Knowledge Check: PPE

Imagine these are your co-workers. Based on what you know about proper use of PPE, what suggestions would you give them in each of these scenarios to help them better protect themselves?



1



2

Feedback: PPE

Picture 1:

- PPE worn out of context
- Face mask not worn correctly - ensure mask covers nose and mouth; adjust to fit
- Overly soiled gloves need to be removed



Picture 2:

- Touching coverall hood and sides of face mask with gloved hands
- Coverall hood not fully covering hair
- Mask not covering nose
- No eye protection



Reflection

- Have you experienced a shortage or lack of PPE in your healthcare facility before? If so, what did you and your co-workers do to protect yourselves despite limited PPE?
- In the context of Ebola or Marburg, what are some adaptations you might consider in your facility if PPE is limited?

Key Takeaways

- PPE helps protect you from infection.
 - Protecting yourself helps protect your patients and your community.
 - **But PPE only works if it is used correctly.**
- PPE is just one aspect of Standard Precautions.
 - Hand hygiene, environmental cleaning and disinfection, and other precautions are key to helping keep you, your patients, and your community safe.

Thank you!

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

