

Bitte geben Sie hier Ihren Absender ein.
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Personal Protective Equipment

Personal Protective Equipment ...

is developed to prevent contaminations of
the Health Care Workers
(HCW's)

When do I need what kind of PPE?



Personal Protective Equipment ...

reduces, but **does not** totally **exclude** the
risk of contamination

Personal Protective Equipment ...

is only effective if it is used correctly

Any Personal Protective Equipment ...



is better than none

Always have a Plan B



The best Personal Protective Equipment ...

can only be as effective as the user is
trained in handling of the PPE

Adapt your PPE to the...

- Transmission route
- Virulence
- Infective dose
- **Planned action**

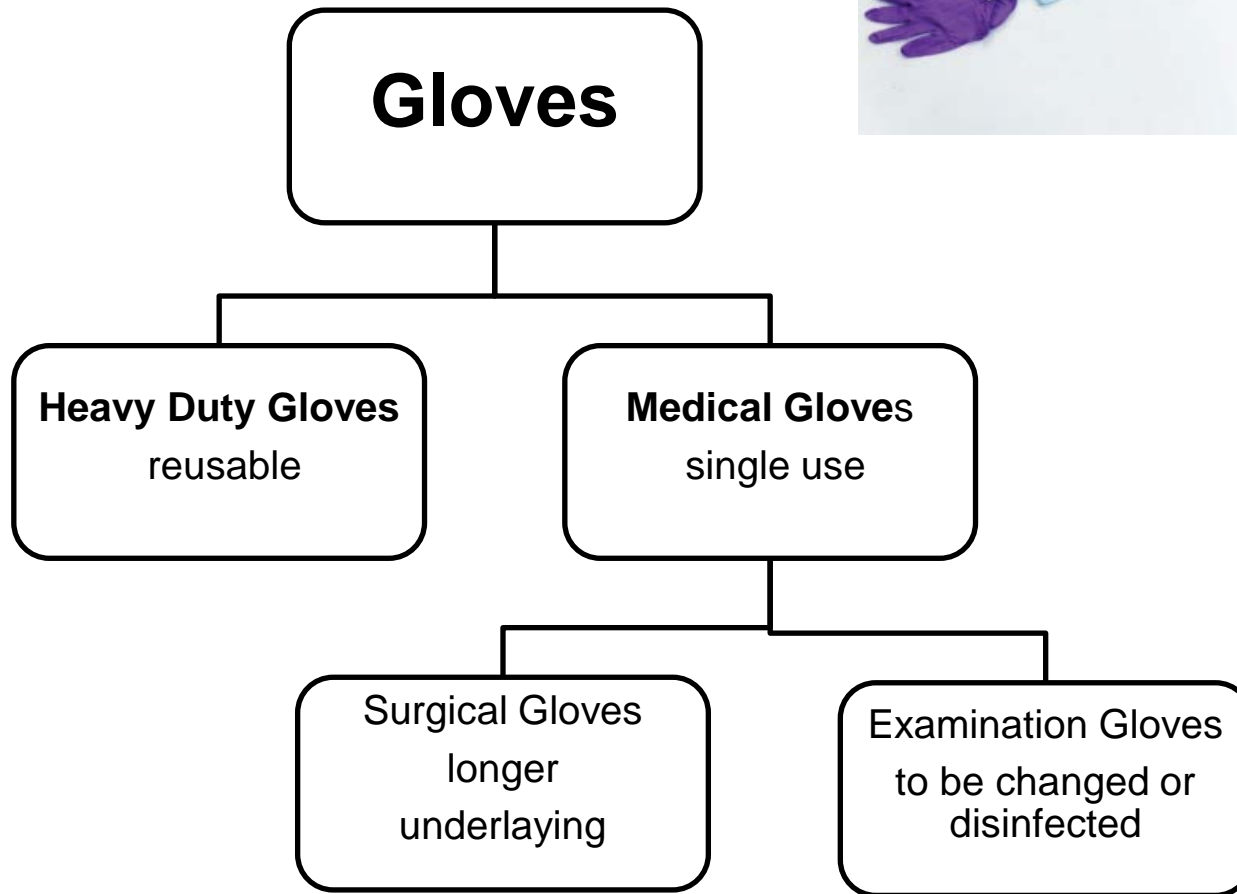
Components of PPE are...

- Gloves
- Masks and Respirators
- Goggles or Faceshields
- Hoods or Caps

Components of PPE are...

- Gowns or Coveralls
- Aprons
- Boots / Footwear
- Tape

Gloves



Adapt your PPE to the...

- Transmission route
- Virulence
- Infective dose
- **Planned action**

Gloves



- Reduce risk of contaminating hands of clients and staff
- Should be worn whenever coming into direct or indirect contact with boody fluids
 - Example for direct contact: blood drawing
 - Example for indirect contact: handling medical waste
- Gloves are no substitute for hand hygiene

Examination Gloves



- clean but not sterile
- Prefer Nitril over Latex
- when possibly coming into contact with body fluids or mucous membranes

Surgical Gloves



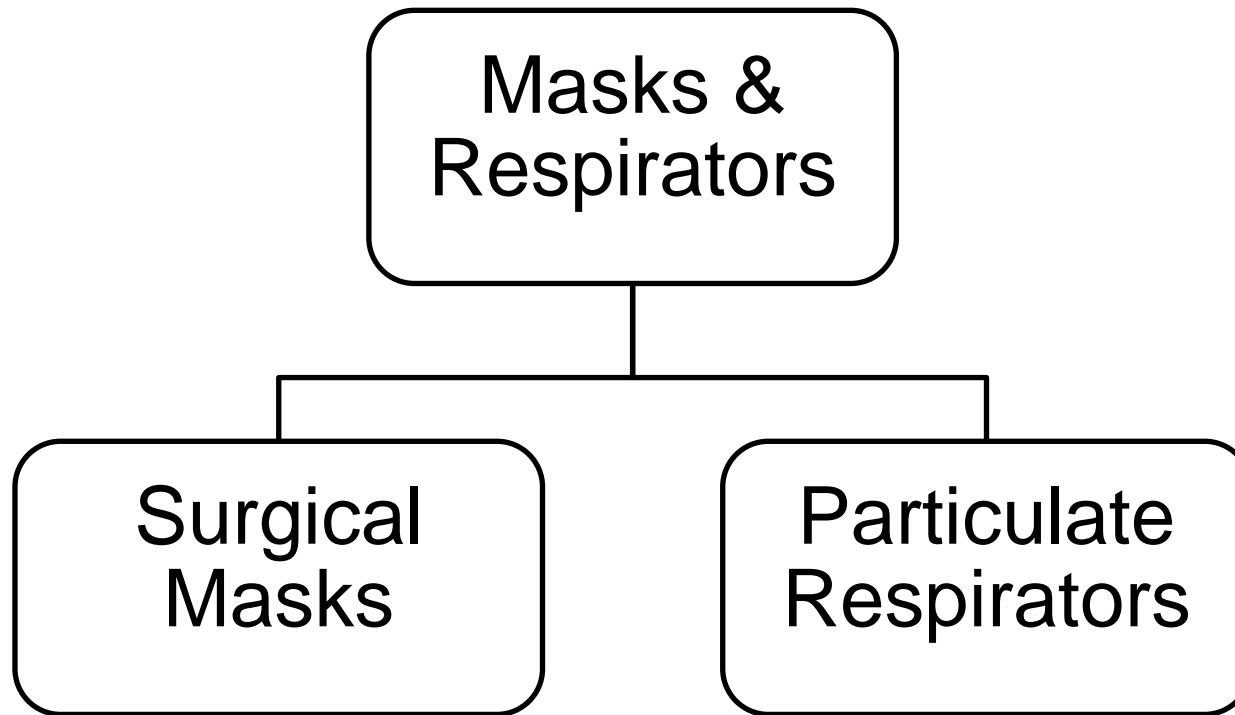
- Sterile
- Protect the patient from contracting infections
- Exemption: PPE → Protect the HCW because of their length not because sterility

Heavy – duty household gloves



- Reduces risk of hand and forearm contamination when handling contaminated items
- Example: Collecting soiled linen or dealing with spills

Masks and respirators





Surgical Mask

- Keeps large droplets from being sprayed by wearer when breathing / coughing / talking / sneezing / vomiting
- Protects wearer from large splashes that may contain pathogens
- Does not filter pathogens suspended in the air!!!
- Does not prevent leakage around edges of the mask

Praticulate respirators e.g. FFP Masks



- Filtering Face Pieces (FFP)
- Retain pathogens suspended in the air
- Number indicates percentage of filtered airborne particles (FFP 1 \geq 80%, FFP 2 \geq 94%, FFP 3 \geq 99%)
- FFP 2 + 3 are the adequate choice for airborne and droplet transmitted diseases

Particulate Respirators e.g. FFP Masks (cont.)



- Note: FFP Masks are not waterproof (do not spray with disinfectant)
- Different shapes available to provide a tight seal between face and respirator
- With or without expiratory valve

Particulate Respirators e.g. FFP Masks (cont.)



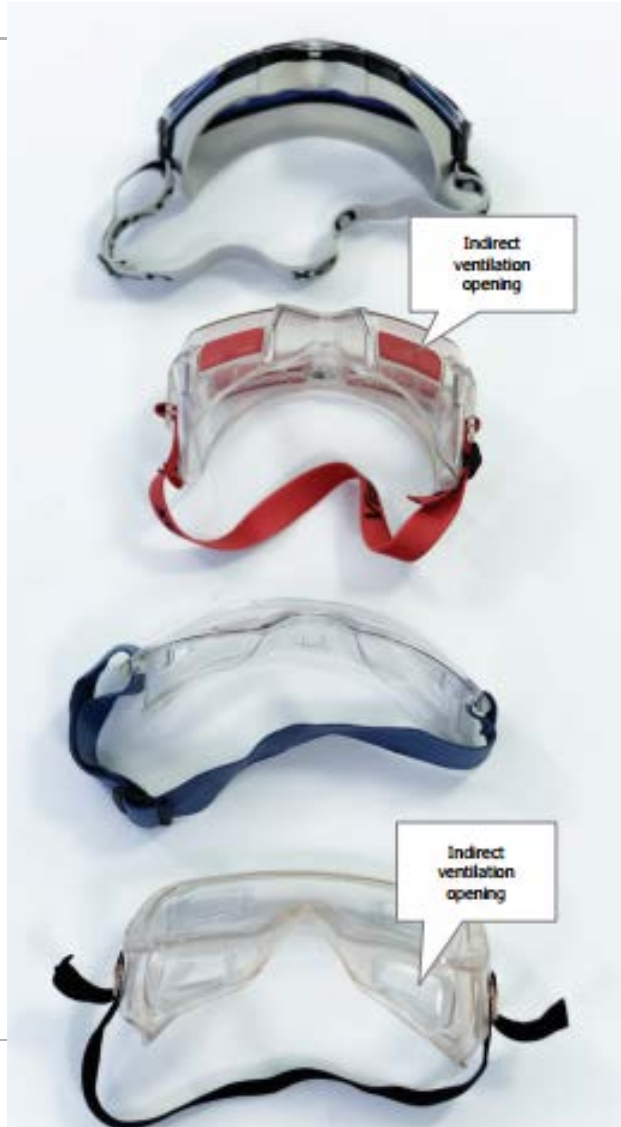
- reduces the respiratory work for the HCW
 - Can be a hazard to the wearer during exhalation
 - Expiratory valve permits exhaled air and droplets to escape from mask
- strictly forbidden for patients**

Goggles / Face Shield



- Protect mucosa of the eyes
- Fogging might be a problem
- Droplets might enter if goggles have ventilation openings
- Reusable after proper disinfecting

Googles (cont.)



[+ / +] Experts' choice

No ventilation (Gas tight), good anti-fog coating, soft silicon seal edge.

Indirect ventilation, flexible seal edge

No ventilation, flexible seal edge

Indirect ventilation and standard seal edge

Face shield



- Protect mucosa of the eyes, mouth) from splashes
- Note: Face shields do not seal tightly between shield and face → droplets and airborne particles may enter!
- Reusable after proper disinfection

Surgical hood / cap



- is fluid repellent
- Prevent pathogens from wearer's head and hair
- Should be worn under protective hood by people with long hair to prevent hair from sticking out



Protective Hood



- Protects face area from splashes
- Hood of the overall needs to be rolled in at the neck
- With integrated surgical mask
(if it opened can be dangerous leak)
- **is the best choice**

Gown



- Protect wearer's skin and clothes from splashes
- Should be fluid repellent
- No adequate protection in case of VHF (prefer coverall)
- safety can be improved by an fluidtight aprone

Apron

single use



- Protects wearer's torso and front side of the legs from splashes
- Reusable or single use
- Very useful for cleaning activities

Coverall / Overall / Suit



- Protects wearer's body from contamination with pathogens
- Should be particle tight and fluid proof
- Should have finger loops
- Should have double zipper protection

Boots / Closed shoes

- Made of robust, waterproof material
- Protects feet from contamination with body fluids and increases protection from sharp objects
- Reusable after cleaning



Tape

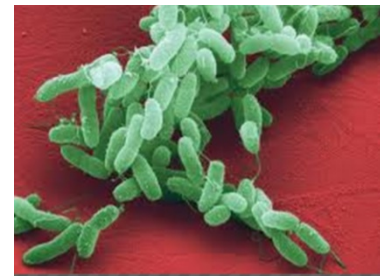
- Used to adjust PPE
- Generally not recommended but might be needed to seal PPE
- tape should not rip PPE on removal
- Textile based layer can not used in highly contagious diseases
- Special chemical resistant tape (expensive)



Identify the adequate PPE for Measles

- gloves
- Protective face mask

Identify the adequate PPE for Cholera



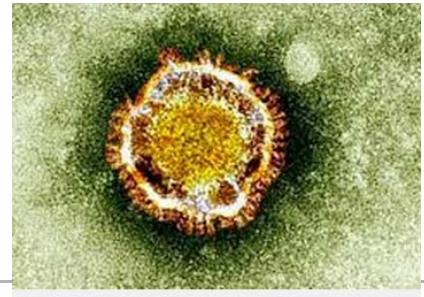
- Goggles or splash-proof face shield
- Protective face mask
- Liquid-repellent coveralls or gowns
- Waterproof gloves (heavy duty for spills)
- Rubber boots

Identify the adequate PPE for Meningitis

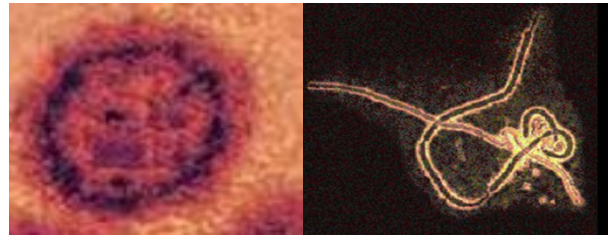


- Goggles or splash-proof face shield
- Protective face mask
- Liquid-repellent coveralls or gowns
- Waterproof gloves (heavy duty for spills)
- Rubber boots

Identify the adequate PPE for MERS CoV



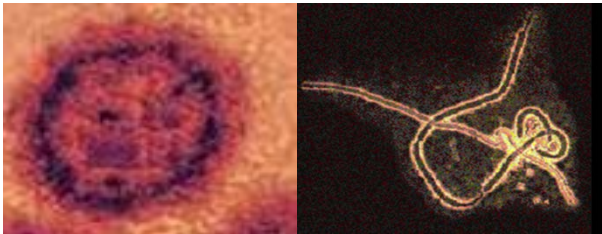
- Goggles
- surgical hood
- Protective face mask
- Liquid-repellent coveralls or gowns
- Gloves (heavy duty for spills)
- Rubber boots



Identify the adequate PPE for VHF

- Goggles
- Protective face mask FFP 2 or 3
- Liquid- and particle tight coveralls
- double Gloves
- Rubber boots
- Hood

Donning PPE for VHF



0. Low risk area outfit

- Surgical tunic & pants
- Disposable gloves
- Rubber boots



For dressing assistance only

1. High risk area

Put on :

- Long sleeves disposable coverall
- Secure the fingers in the loops



2.

Put on :

- Respirator



3. Tear the outer mask to allow respirator through

Put on :

- Protective hood



4.

Put on :

- Rubber apron & attach in the back



5.

Put on :

- Goggles



6. **Put on :**

- A second pair of gloves (surgical for MED staff)



OR

6'. **Put on :**

- A second pair of gloves (rubber for WATSAN staff)



7.

- Make sure all parts of skin are covered
- Peer check before entry



1. High risk area

Put on :

- Long sleeves disposable coverall
- Secure the fingers in the loops



2.

Put on :

- Respirator



3. Tear the outer mask to allow respirator through

Put on :

- Protective hood



5.

Put on :

- Goggles



6.

Put on :

- A second pair of gloves (surgical for **MED** staff)



Before entering the hot zone

Self check



Buddy check



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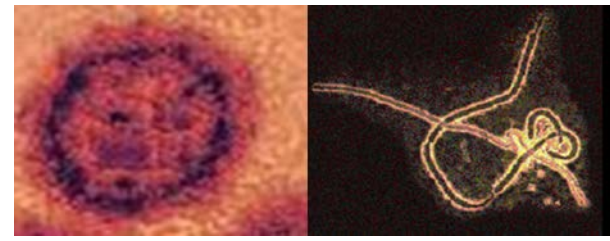
Working hours under the personal protective equipment:

Document the entry time of the donning area because

Max. 45 min - 1 hour due to:

- the airway protection mask creates an inspiratory resistance and you will be exhausted
- the loss of fluid

Doffing PPE for VHF



Chlorine

0.5 %



- Spray front (except face) & check





2.

- Spray back & check



0.5 %



3.

- Remove first pair of gloves





4.

- Remove apron





5.

- Remove goggles



0.5 %



7.

- Remove coverall





7'

- remove the coverall





8

• Spray coverall





9.

- Remove respirator





10

- Remove second pair of gloves



11

• Spray boots



12

- Spray boots soles & then move to low risk area



Wash your hands and forearms
with chlorine 0,05% !!!!

You can leave the risk
zone now

Donning

Donning

1. Gown



- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



Donning

2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

Donning

3. Surgical Hood

- Put on and make sure that all hair is covered



Donning

4. Goggles or faceshield

- Place over face and eyes and adjust to fit



Donning

4. Gloves:

- Extend to cover wrist



Doffing

1. Gloves:

- **Outside of gloves are contaminated!**
- **If only one glove desinfect before doffing and continue**

If double glove follow this instruction:

- **If your hands get contaminated during glove removal, immediately wash your hands or use an desinfectand**

Doffing

- **Using a gloved hand, grasp the palm area of the other gloved hand and put it over your thumb**
- **grasp the palm area of the other gloved hand and put the glove off**
- **Slide fingers of ungloved hand under remaining glove and peel off**
- **Discard gloves**

Doffing

- **Follow this instruction also with your last pair of gloves**

2. Goggles or faceshield:

- **Outside of goggles or face shield are contaminated!**
- **If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an disinfectand**

Doffing

- **Remove goggles or face shield from the back by stretching head band**
- **If the item is reusable, place in designated receptacle for reprocessing**
- **Otherwise, discard in a waste containerne glove disinfect before doffing**

Doffing

3. Surgical Hood:

- **Remove the surgical hood**

Doffing

4. Gown:

- **Gown front and sleeves are contaminated!**
- **Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties**

Doffing

4. Gown:

- **Pull gown away from neck and shoulders, touching inside of gown only**
- **Turn gown inside out**
- **Fold or roll into a bundle and discard in a waste container**

5. Mask or Respirator:

- **Front of mask/respirator is contaminated**
- **Grasp the mask/respirator, then pull away from your face, then the straps over the head without touching your self**

Be Careful: don` t bend over to far, touching your chest with the respirator!!!

Thank you for listening !
