



# endoNEWS

Best Practice: Reprocessing of Endoscopes



Dear readers

Reprocessing of flexible endoscopes is a demanding task that requires special training and constant practice. Our aim is to give you the best possible practical support in this. Based on the recommendations of the Commission for Hospital Hygiene and Infection Protection (KRINKO) and the European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA), Dr. Weigert has designed a poster that sets out the reprocessing procedure for flexible endoscopes step by step. You can order the poster directly from us – see p. 1 for contact details.

We are most grateful to Ms Heidrun Groten-Schweitzer for writing the article "Protective clothing in endoscopy" on p. 2/3 of this edition. She explains how the use of personal protective equipment (PPE) has developed since the start of the pandemic. She is a senior specialist in hospital hygiene and infection control at the University Medical Centre Hamburg-Eppendorf (UKE), and has in-depth experience in the field of hygiene. On p. 4, our illustrated guide shows the correct way to put on, handle and remove a filtering facepiece (FFP2) respirator in endoscopy without getting contaminated. We explain this important process step by step and provide additional information.

Enjoy the newsletter!

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**DR. WEIGERT**

Systematic Hygiene

## Expert Reprocessing of Flexible Endoscopes

At a glance – the Dr. Weigert reprocessing poster

All reprocessing is aimed at preventing the transmission of pathogens and examining each patient with an endoscope reprocessed to the highest hygiene standards.

### That's the theory – what about in practice?

Take the following situation: the endoscopes are coming in to the reprocessing room from the examination rooms at frequent intervals right from the early hours of the day. Now of all times, one of the four washer disinfectors stops working properly. The endoscopes waiting to be reprocessed start piling up. The gastroenterologist calls for a further endoscope, as another emergency patient has to be examined.

This exaggerated summary of a working day may ring a bell with some readers. In such a situation, being proficient in the process for reprocessing flexible endoscopes helps to avoid careless mistakes. Routine and the resultant familiarity with the workflow also help. As you know, exacting processes can be executed more effectively if they are broken down into clearly defined substeps.

For this purpose, Dr. Weigert has developed a poster that sets out the correct reprocessing process for flexible endoscopes step by step. In each process step, the most important and most error-prone substeps are listed, described and backed up with illustrations. The hand germs, water-borne germs and faecal germs to be avoided are also explicitly addressed in the poster, e.g. when hand disinfection is required in order to prevent hand germs.

The poster is based on the current recommendation of KRINKO and the Federal Institute for Pharmaceutical and Medical Products (BfArM) and the ESGENA Update 2018 recommendation.



### Dr. Weigert reprocessing poster (DIN A1)

The poster answers questions on subjects such as the leak test, pre-cleaning in the examination room and manual pre-cleaning in the reprocessing room – the aspect of reprocessing that is most susceptible to errors.

**Do you want to use the poster in your endoscopy?** Thank you for your interest! Contact your expert neodisher advisor, who will then get in touch with you.

**Author: Jacqueline Treutner**

Further information about the poster is available at: <https://www.drweigert.com/de/aktuell/news>

### Your contact at Dr. Weigert:

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You can find the details for your regional contact (Technical Support/Sales) on our website [www.drweigert.de](http://www.drweigert.de).

# Protective Clothing in Endoscopy

## Putting on and taking off personal protective equipment (PPE)



**Heidrun Groten-Schweitzer is an Infection Control Nurse (ICN) at the UKE (Universitätsklinikum Eppendorf [University Hospital Eppendorf in Hamburg]). She has been working in the hygiene sector for many years, focusing on the reprocessing of medical devices, inspection of healthcare facilities, building hygiene and prevention of infectious diseases. Alongside her training role, she is chairwoman of the Department for Hygiene in Outpatient and Inpatient Nursing and Geriatric Care/Rehabilitation at the German Society for Hospital Hygiene.**

In endoscopy, employees are constantly exposed to various potentially biohazardous materials. Personal protective equipment is crucial to staff protection and infection control. But how has the use of personal protective equipment (PPE) changed since the start of the pandemic?

Endoscopic examinations can lead to spray from secretions, excretions and aerosol formation. Therefore, reliable, adequate respiratory protection for staff must be ensured during examinations. This requires a risk analysis and a hazard assessment of the individual examinations. Endoscopy, Occupational Health & Safety, and Hygiene usually work together to prepare these.

This article is about PPE in the SARS-CoV-2 pandemic. It is intended to illustrate how to put on and take off PPE. Depending on the hazard assessments, the individual items of PPE in endoscopy are:

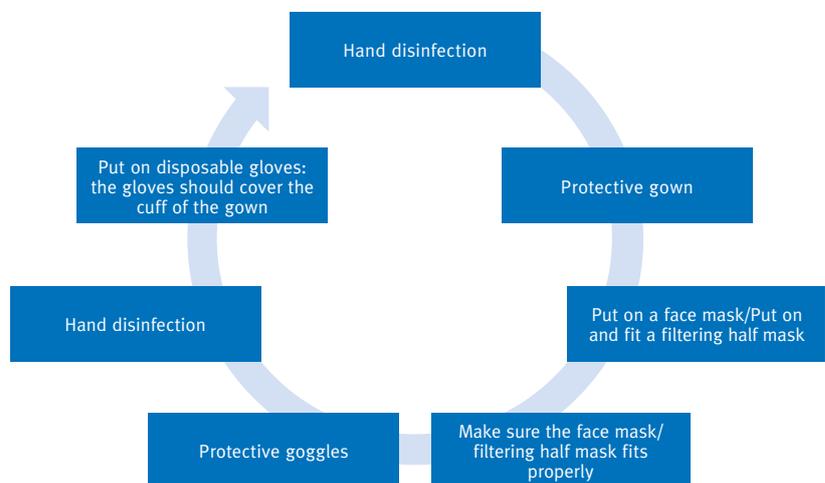
- Head covering (optional)
- Face mask
- Filtering half mask
- Protective gown
- Disposable medical gloves

There is no set way of putting on and taking off protective clothing. The various expert associations for occupational health & safety and hygiene provide different guidance on how to put on and take off PPE in a low-contamination manner. The various workplaces should define a concept for their facility after reading the recommendations, and constantly train employees on the procedure for putting on and taking off PPE. Staff must feel confident in handling PPE in order to prevent contamination and transmission.

The diagrams provided show a way of putting on and taking off PPE according to the US Centers for Disease Control and Prevention (CDC).

your face so that the apex touches the bridge of your nose and press the nose clip onto your nose and under your eyes. If air escapes, adjust the position of the face mask. Make sure that your nose and chin are completely covered.

The **filtering half mask** protects against the transmission of aerosols (SARS-CoV-2). Disinfect your hands, then remove the mask from the packaging. Fully unfold the mask without touching the inside of the mask. With one hand, put the mask over your mouth and nose, starting from your chin. With the other hand, pull the straps over your head. Now position the top strap above your ears and the bottom one on your neck. Make sure that the straps are lying flat and are not twisted. You can now optimise the position of the mask. Make sure that the mask fits tightly around your chin. With one hand (index finger and thumb), press the nose clip gently against the bridge of



**Fig. 1: Putting on PPE**

The **protective gown** should have long sleeves and be impervious to liquids and germs. Make sure that it reaches as far as the knees and completely covers the wrists. The **face mask** protects against the spraying of blood, bodily fluids, secretions and excretions. When putting on the face mask, make sure it fits your face properly. To check this, make a triangle with your two index fingers. Now place this triangle against

your nose. With the other hand, adjust the nose clip to the shape of your face. To check the fit, make a triangle with your two index fingers.

Now place this triangle against your face so that the apex touches the bridge of your nose and press the nose clip onto your nose and under your eyes. If air escapes, adjust the position of the mask. When perform-

ing activities (e.g. extubation, the drainage phase in bronchoscopy) in which aerosols containing pathogens are likely, protective goggles that also cover the sides of the eyes must be worn.

**Disposable gloves** must be worn if contact with material that contains pathogens is expected. When using disposable gloves, make sure that they completely surround the cuff of the gown.

To take off the **mask**, lean forwards slightly and close your eyes. Slowly pull the bottom strap over your head. The bottom strap must not touch your face or eyes or the body of the mask. With one hand, hold the bottom strap at a distance from the mask. With the other hand, slowly pull the top strap over your head and bring the mask forwards and down. Then dispose of the mask and disinfect your hands afterwards.

### Importance of PPE during the pandemic

PPE has always had to be worn in the various examination methods in endoscopy. When a pandemic is in full swing, it becomes clear that regular training on handling PPE, and wearing filtering masks in particular, is essential. This is the only way to ensure adequate protection of staff and infection control for patients during a pandemic. Training is required in order to ensure that filtering masks are put on and removed correctly and made to fit properly. The masks often slip out of place during the examinations. This is not always due to the mask models: incorrect use can also be to blame.

The wide range of recommendations on putting on and taking off PPE shows the importance of a uniform concept for employees in endoscopy with associated training. Further details and potential ways of putting on and taking off protective clothing can be found on the website of the German Society of Endoscopy Nurses and Associates (DEGEA) and elsewhere.

*Author: Heidrun Groten-Schweitzer*

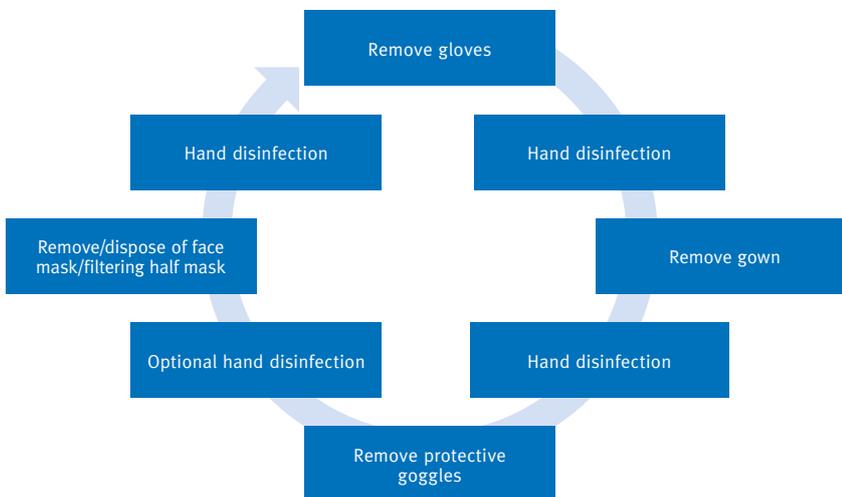
### Additional links relating to this article:

#### Robert Koch Institute (RKI):

[https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/PSA\\_Fachpersonal/PSA\\_ablegen\\_ohne.pdf?\\_\\_blob=publicationFile](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/PSA_Fachpersonal/PSA_ablegen_ohne.pdf?__blob=publicationFile)

#### CDC:

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html>



**Fig. 2: Taking off PPE**

The outer surfaces of the gloves are usually heavily contaminated. Therefore, the gloves should be removed first. With one hand, take hold of the contaminated glove on the outside and remove it. Put your ungloved hand into the other glove and remove it. Dispose of the gloves immediately and perform hand disinfection.

Take hold of the **gown** at the neck from the outside and pull it forwards and open. Then open the centre strap at the torso. Take your arms out of the gown first. Next, fold/roll up the gown with the contaminated side facing inwards and dispose of it.

To take off the **protective goggles**, lean forwards slightly and close your eyes. Take hold of the two side supports of the protective goggles and pull them forwards away from the face. Then take off the protective goggles and wipe them with disinfectant later.

Items of personal protective equipment (PPE)	Performance requirements and testing procedures
Face coverings/respiratory protection; medical face masks	DIN EN 14683:2019+AC:2019 <sup>1</sup>
Respiratory protective devices, filtering half masks to protect against particles	DIN EN 149:2001+A1:2009
Protective gowns; protective clothing	DIN EN 14126:2003
Protective gloves against dangerous chemicals and micro-organisms – Part 1	DIN EN ISO 374-1:2018-10
Medical gloves for single use – Part 1	DIN EN 455-1:2020-07
Protective goggles, personal eye protection	DIN EN 166:2001

#### Source:

<sup>1</sup> Krankenhaushygiene up2date2019;14 (2):227-240: Personal protective equipment from a hospital hygiene perspective – an update

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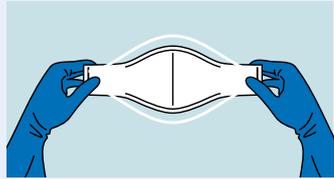
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\*Cyclus Print® is certified as FSC® Recycled

# Safe Handling of Personal Protective Equipment (PPE)

## 1. Putting the filtering facepiece respirator on correctly

It is advisable to familiarise yourself with the model and type of respirator before putting it on.



### 1. Hand disinfection

Disinfect your hands, put on disposable gloves if appropriate, then take the respirator out of the packaging.



### 2. Respirator

**Variant A:** Disinfect your hands, then put on the respirator and protective goggles.

**Variant B:** Disinfect your hands, put on disposable gloves, then put on the respirator and protective goggles.



### 3. Put the respirator on

Put the body of the respirator over your mouth and nose, starting from your chin. With the other hand, pull the respirator straps over your head.



### 4. Correct position of the straps

The bottom strap of the respirator should be positioned on your neck and the top strap above your ears. The straps must not be twisted, and must lie flat.



### 5. Correct position of the respirator

The respirator should fit tightly. Therefore, adjust the position on the chin and nose in such a way that it fits closely to your face. It should be secure enough that it is unlikely to slip.



### 6. Adapt the nose clip

With one hand (index finger), press the nose clip onto the bridge of your nose from above.



### 7. Adapt the nose clip

With the other hand (thumb and index finger), adapt it to the side contour of your nose. Check that there is no gap at the top of the bridge of your nose. The respirator must fit tightly.

### Important information:

- Shoulder-length hair must be tied up in order to prevent it from getting caught.
- Note for beard-wearers: There is no guarantee that the respirator will fit tightly. A close shave is advised.

Description based on RKI: [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/PSA\\_Fachpersonal/PSA\\_anlegen\\_ohne.pdf?\\_\\_blob=publicationFile](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/PSA_Fachpersonal/PSA_anlegen_ohne.pdf?__blob=publicationFile)

## 2. Removing the respirator safely

### Please note:

- Before removal, ensure that you have changed gloves and adequately disinfected your hands.



### 1. Prepare for removal

Lean forwards slightly and, if possible, close your eyes.



### 2. Bottom strap

Take hold of the bottom strap with both hands and pull it forwards over your head.



### 3. Strap

The strap should not touch your face or eyes. Therefore, make slow and controlled movements. With one hand, keep the strap pulled slightly forwards.



### 4. Remove the top strap from your head

With the other hand, pull the top strap forwards over your head and down in a slow and controlled manner.



### 5. Remove the respirator

Pull the respirator forwards and down.

Description based on RKI: [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/PSA\\_Fachpersonal/PSA\\_ablegen\\_ohne.pdf?\\_\\_blob=publicationFile](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/PSA_Fachpersonal/PSA_ablegen_ohne.pdf?__blob=publicationFile)

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