



Associatie van Academische Werkplaatsen VB

The question below has been answered by the Academic Collaborative Centers affiliated with the Dutch Association of Academic Collaborative Centers Intellectual Disabilities. An overview of questions can be found on the [Association's website](#).

Question

What is known about the (self) sterilization of facemasks in an autoclave or other re-use of face masks that is applicable within healthcare organizations?

Answer



This is a review about PPE (personal protective equipment) and face masks:

<https://www.cebm.net/covid-19/what-is-the-efficacy-of-standard-face-masks-compared-to-respirator-masks-in-preventing-covid-type-respiratory-illnesses-in-primary-care-staff/>.

This is the conclusion:

'It is clear from the literature that **masks are only one component of a complex intervention** which must also include eye protection, gowns, behavioural measures to support proper doffing and donning, and general infection control measures'.

On the left, an image has been added about which PPE to use in which situation.

When to use a surgical face mask 	When to use an FFP3 respirator 
In cohorted area (but no patient contact)	Close patient contact (within one metre)
For example: Cleaning the room, equipment cleaning, discharge patient room cleaning, etc	For example: Providing patient care, direct home care visit, diagnostic imaging, phlebotomy services, physiotherapy, etc
PPE to be worn <ul style="list-style-type: none">• Surgical face mask (along with other designated PPE for cleaning)	PPE to be worn <ul style="list-style-type: none">• Surgical face mask• Apron• Gloves• Eye protection (if risk of contamination of eyes by splashes or droplets)
	When carrying aerosol generating procedures (AGP) on a patient with possible or confirmed COVID-19
	In high risk areas where AGPs are being conducted (eg: ICU)
	The AGP list is: <ul style="list-style-type: none">• Intubation, extubation and related procedures such as manual ventilation and open suctioning• Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)• Bronchoscopy• Surgery and post-mortem procedures involving high-speed devices• Some dental procedures (such as high-speed drilling)• Non-Invasive Ventilation (NIV) such as Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure ventilation (CPAP)• High-Frequency Oscillating Ventilation (HFOV)• High Flow Nasal Oxygen (HFNO), also called High Flow Nasal Cannula• Induction of sputum
	PPE to be worn <ul style="list-style-type: none">• FFP3 respirator• Long sleeved disposable gown• Gloves• Disposable eye protection
	Always fit check the respirator

RIVM has conducted a study into the reuse of mouth masks:

https://www.rivm.nl/sites/default/files/2020-03/Hergebruik%20mondkapjes%20Informatie_def.pdf



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At the moment, mouth masks are not yet reused within healthcare institutions. Given the current scarcity of mouth masks, the RIVM is investigating methods for reprocessing mouth masks. These studies are currently focusing on the reprocessing of FFP2 masks. No studies have been found to investigate the reprocessing of FFP1 masks. RIVM recommends collecting mouth masks in sealed bags. If the scarcity of medical mouth masks continues, in extreme cases the reprocessing of mouth masks can be opted for.

The RIVM found in the conducted pilot study a reprocessing method that leads to an acceptable quality of reprocessed mouth masks, but only limited research has been done on the retention of particles by recycled mouth masks. This study shows that once and twice sterilization with a short hydrogen peroxide process ensures that FFP2 mouth masks retain their shape and were able to retain particles in a rapid test. In times of scarcity, FFP2 masks can be used three times in this way, sterilized twice with hydrogen peroxide in between. This outcome was discussed in the outbreak management team (OMT). The OMT sees the usefulness of this application if urgent shortages arise.

Sterilization by heating:

After the cleaning processes with a disinfection step of 90 ° C, the masks were deformed so that they were no longer usable. Even after the steam sterilization process, the mouth masks were strongly deformed.

For the time being, reuse of surgical masks does not seem possible. The advice is to keep used masks in a sealed bag in case reuse becomes possible at a later time.

RIVM continues to conduct additional research into possible methods for reprocessing FFP2 mouth masks. The most recent results are published on the following site:

<https://www.rivm.nl/documenten/hergebruik-ffp2-mondmaskers>.

Sterker op Eigen Benen en GOUD

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