COMMUNITY USE OF
FACE MASKS

This document provides guidance to Member States on the effective use of face masks/coverings in the community by individuals without COVID-19 symptoms in order to reduce potential transmission of SARS-CoV-2.[a] It also provides advice on the use of masks during home care for patients with COVID-19.[b]

Background

According to current evidence, SARS-CoV-2 – the virus that causes COVID-19 – is primarily transmitted from people with the disease through respiratory droplets and contact routes. There are increasing indications that people with asymptomatic, pre-symptomatic or early stages of infection can contribute to community transmission of the virus. The use of medical masks – in conjunction with hand hygiene – has been shown to prevent infection with respiratory pathogens.[1] The SARS-CoV-2 virus is found in significant numbers in the nose and throat of infected people[2] and is transmitted to susceptible contacts through microscopic droplets that enter through the nose, mouth and eyes.[3]

Consistent and widespread use of masks/face coverings helps reduce the spread of infection in the community by minimizing shedding of respiratory droplets from infected people, including before symptoms develop and people being aware they are infected.

Types of masks

Medical masks[c] should be reserved for health care workers and those providing care to COVID-19 patients at home. The use of medical masks can also prevent the spread of respiratory droplets from an infected person to other people by limiting potential environmental contamination by exhaled droplets, so they should be used by people who are known to be infected with SARS-CoV-2.
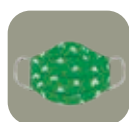
Non-medical masks/face coverings are various forms of self-made masks or face coverings made of cloth/fabric. Non-medical masks should be used by members of the community without known COVID-19 infection, to reduce possible asymptomatic/pre-symptomatic transmission. They are not standardized and are not intended for use in health care settings, by health care professionals, for home care of COVID-19 patients or by people who are known to be infected with SARS-CoV-2.

A respirator[d] is designed to protect health care workers from exposure to infectious agents during aerosol-generating clinical procedures. Respirators with valves do not prevent the release of exhaled infectious particles from the wearer into the environment, hence cannot be used to prevent SARS-CoV-2 transmission.

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a   See: Africa CDC Position Statement on transmission of SARS-CoV-2 by pre-symptomatic and asymptomatic individuals (https://africacdc.org/download/position-statement-on-transmission-of-sars-cov-2-by-pre-asymptomatic-and-asymptomatic-individuals/).

b   'Home care' refers to care of COVID-19 patients in the home setting and provided by family members or friends without formal health care training. Persons providing home care should be provided infection, prevention and control education and support to minimize the risk of onward transmission within the household and to ensure the appropriate level of care is available.

c   Medical masks, (sometimes referred to as 'surgical masks') are produced to conform to standards such as ASTM F2100–11 Level 1, 2 or 3 or EN14683 II or IIR, these define the level of fluid resistance, breathing resistance and standards of construction.

d   Respirators or close-fitting respiratory equipment must conform to standards including N95 or N99 or FFP2 or FFP3. These standards show that the material of the respirator is designed to filter small aerosols created through aerosol-generating clinical procedures such as intubation. To function effectively, they require fitting to the face of the wearer.

Community-wide use of face masks/coverings

There are potential implications of widespread use of face masks/coverings in the community. Member States should take these into account when deciding on local/national policies.

Recommendations

- Africa CDC recommends community wearing of non-medical face masks (cloth masks) in settings where social distancing is not possible and where there is widespread community transmission such as in malls, church, in buses, in the market (see also Africa CDC guidance notes on transport sector, and educational settings)

- Community-wide use of masks should be accompanied by risk communications and community engagement support/advocacy, with instructions for correct use and **not** to the detriment of other vital messages about hand and respiratory hygiene or other evidence-informed measures.

- Non-medical face masks/coverings are not recommended for use by people providing home care for COVID-19 patients.

- Member States are advised to prioritize the use of medical masks for health care workers and caregivers of patient(s) with COVID-19 in household settings, and respirators for health care providers performing aerosol-generating procedures.

- Medical masks are recommended for use by people known/suspected to be infected with SARS-CoV-2 as a means of reducing transmission through respiratory droplets produced during coughing, talking and/or sneezing.

- Medical masks are designed to be single use and have only been tested for efficacy on that basis. There is currently no safe way for medical masks to be decontaminated and reused.

- Masks should be used in addition (and not in preference) to other infection control and prevention (IPC) measures such as hand hygiene, respiratory hygiene, environmental cleaning and physical distancing measures.

- Face masks/coverings should not be worn by babies and children under 2 years of age, or by disabled people who are not able to remove the mask themselves.

- Medical masks are not recommended for use by members of the community without known/suspected SARS-CoV-2 infection or who are not providing care for home case for patient(s) with COVID-19.

How to put on and take off face masks/ coverings

For both medical and non-medical (cloth/fabric) masks/coverings, appropriate use and disposal are essential to reduce the risk of SARS-CoV-2 transmission:

- Check the mask is clean, undamaged and dry before use.
- Clean hands with soap and water or alcohol-based sanitizer before putting on.
- Place the mask on, ensuring it fully covers the mouth and nose, and tie securely/place elastic ear loops to minimize any gaps.

- Avoid touching the front of the mask while wearing it, if you do, clean hands with soap and water or alcohol-based sanitizer.
- Remove the mask by untying from behind or taking off the elastic ear loops. Do not touch the front of the mask.
- After removal or whenever a used mask is inadvertently touched, clean hands using an alcohol-based hand rub or soap and water.
- Change masks when they become damp with a new clean, dry mask.
- For non-medical cloth/fabric masks, launder thoroughly with hot water and detergent, then either use a hot iron or soak in a mild bleach solution (0.1% chlorine) for 10 minutes, then rinse before drying in the sun.
- Discard single-use masks after each use responsibly in covered waste bins or bags
- Do not litter the ground/surrounding area with used masks.
- Do not re-use single-use masks.

Considerations for people using non-medical face masks/coverings

- Make sure the design is comfortable, so you do not need to touch or adjust it once it is in place.
- Cloth or fabric masks can be washed and reused (see below) so they are less costly and do not need to be continuously replaced.
- Wearing a cloth/fabric mask does not mean you can neglect hygiene measures such as hand and respiratory hygiene and/or physical distancing. Wearing a mask can be a good reminder to attend to these other hygiene considerations!
- Wearing a cloth/fabric mask may prevent you from passing on SARS-CoV-2 infection to someone else if you are infected but do not know.
- A cloth/fabric mask may also protect you from SARS-CoV-2 infection if you are in a crowded setting and cannot physically distance – but the evidence for this is not as strong.
- Cloth/fabric layers: multiple layers and higher thread count are more effective/protective.
- 'Breathability' of material used: face masks/coverings should not markedly increase the work of breathing.
- Water repellence/hydrophobic qualities: cloth/fabric should resist absorption by fluid droplets on the outer surface.
- Shape of mask: should fully cover the mouth and nose.
- Fitting of mask: should be comfortable to wear without the need for touching or readjustment once in place.
- Wearing a cloth/fabric mask may also protect those working in close contact with the public.
- In situations of widespread transmission and minimal capacity to isolate, a significant number of symptomatic/ asymptomatic people with SARS-CoV-2 infection may be present in the community.

Safe use of cloth/fabric face masks/coverings

Because of common difficulties with adhering to physical distancing, particularly in busy/crowded settings, many countries in the Africa region have recommended the use of cloth/fabric face masks/coverings in public spaces. Cloth/fabric masks are known to reduce the number of respiratory droplets released into the air and therefore reduce the transmission of SARS-CoV-2 from infected to non-infected people. Cloth/fabric face masks/coverings do not completely prevent transmission and *must be used together with physical distancing, cough etiquette and hand hygiene* as a means of limiting the spread of SARS-CoV-2. Cloth masks are not recommended for health care settings.[4,5] The US Centers for Disease Control and Prevention (CDC)[6] and the World Health Organization (WHO)[7] have each produced guidance on the safe use of cloth/fabric masks/coverings, and Africa CDC has produced simple infographics advising how to use[e] and how not to use[f] such masks/coverings.

Choosing appropriate and effective fabrics

- The filtration efficiency of a cloth mask is dependent on the pore size of the fabric used, its absorbency (hydrophilic) and its water-resistant property (hydrophobic).

- Layering of different types of fabrics allow for the optimization of these important filtration characteristics of fabrics.

- The ideal combination should combine both an absorbent and a water-resistant fabric.

- Tighter weaves with higher thread counts have better filtration efficiency than looser weaves.[8]

- The fabric should have no visible holes.

- The fabric should be easy to breathe through.

- The fabric should not be irritating to the skin or known to cause allergies.

- Cotton, wool and linen are naturally absorbent (hydrophilic).

- Man-made polyester, acrylic and modacrylic fabrics, such as polyester-chiffon, nylon, 'synthetic silk' and non-weave synthetic materials have poor absorbency and tend to be water resistant (hydrophobic).

- Suggested combinations for face masks/coverings include cotton (e.g. 600 thread weave/inch) with two layers of natural silk and quilted fabric with two layers of cotton sandwiching a cotton-polyester batten.[8]

- Other fabrics that have been found to be effective include:

  – Silk scarves: Four layers of a silk scarf have also been shown to have superior filtration.[8]

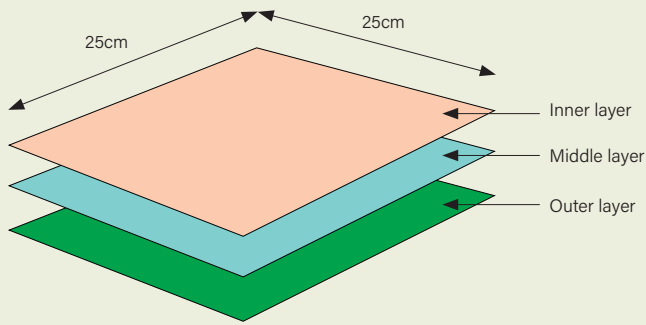 – Tight woven cotton t-shirt: At least two layers have been shown to be useful.[9]

How to make a cloth/fabric face mask/covering

- Masks/coverings must cover the face from above the nose to below the chin. The mask should be well-fitted with as few gaps between the face and the cloth as possible to reduce air leakage. Masks that permit more air leakage are less efficient. Use at least two types of fabric and alternate the fabrics as follows.[7,8]

  – An innermost layer of a hydrophilic material (e.g. cotton or cotton blends).

  – A middle layer, which could be a water-resistant (hydrophobic) layer of synthetic non-woven material such as polypropylene or a cotton layer (hydrophilic layer) that may enhance filtration or retain droplets.

  – An outermost layer made of a water-resistant (hydrophobic) material (e.g. polypropylene, polyester or their synthetic blends), which help to limit external contamination from penetration through to the wearer's nose and mouth.[5,7]

- Each mask should have a pair of loops for the ears or two pairs of ties to fasten behind the head. Various methods and patterns for making face masks/coverings are freely available online.

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e   How to wear/use a face mask/covering (https://africacdc.org/download/simple-instructions-on-how-to-use-a-face-mask/).

f   How not to wear/use a face mask/covering (https://africacdc.org/download/simple-instructions-on-how-not-to-use-a-face-mask/).

Preparing the fabric
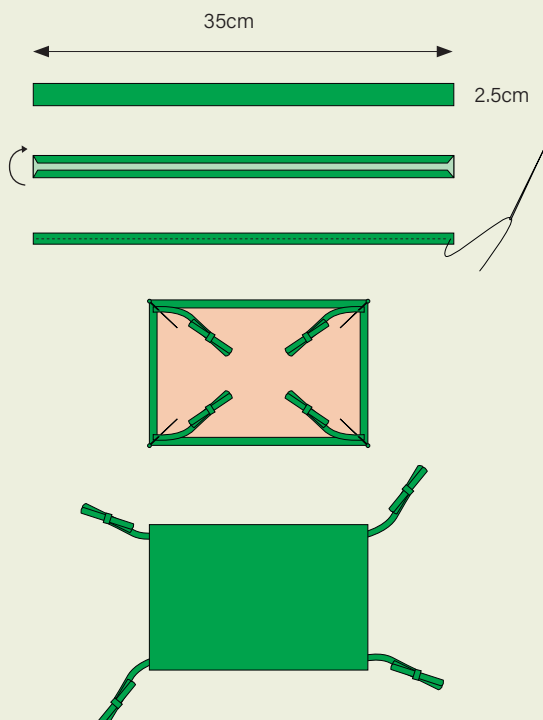

25cm
25cm

Inner layer
Middle layer
Outer layer

- Cut three square pieces of fabric measuring at least 25cm x 25cm. Use at least two types of fabric with different properties (i.e. hydrophobic and hydrophilic).[9]

- Layer them on top of one other, ensuring that the absorbent fabric is the inner most layer and the water-resistant one comprises the outer layer.

Fold 1cm
Fold 1cm
Fold 2cm
Fold 2cm
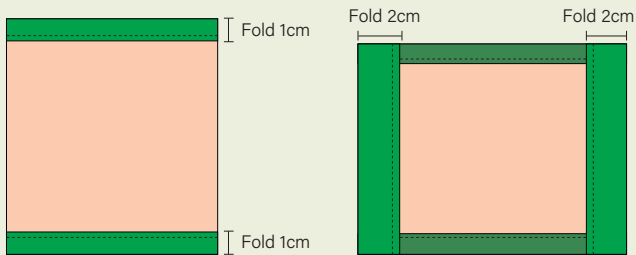
- Turn in the edges of the fabric by 1 cm on upper and lower edges of the fabric

- Turn in the edges at the sides by 2 cm to create a channel on each side for the ear loops

20cm
Stitch
Thread though
Stitch
Thread though
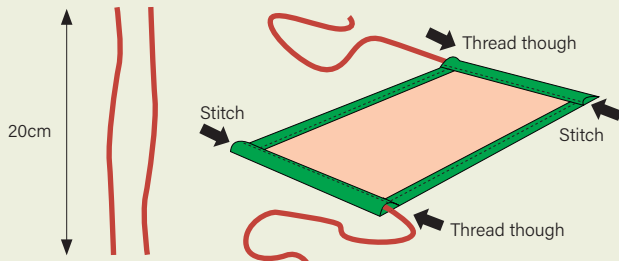
- For each ear loop cut 20 cm of elastic and thread them through the side seams of the prepared fabrics and tie off as loops. Adjust the length of the elastic to fit your face comfortably and sew in place.

35cm
2.5cm

- If you have no elastic, you can prepare four fabric ties to fasten the mask/covering behind your head:

    – Cut four strips of 35 cm x 2.5 cm.

    – Fold each in two lengthwise. Sew down the length of the tie turning in the edges to create a neat finish.

    – Attach one strip to each corner of the fabric and sew securely in place.

Wearing a cloth/fabric face mask/covering

To effectively limit the transmission of SARS CoV-2, cloth masks must always be worn in addition to observing/practising public health measures such as hand hygiene, physical distancing and cough/respiratory hygiene. It is important that the mask is held firmly in place with elastic or ties so that there is no need for adjustment.

Remember

- Use a face mask/covering any time you cannot avoid being in a group of people, inside space or in close contact with others, particularly where physical distancing is not possible.
- Ensure the mask/covering covers your nose and mouth at all times.
- Practise physical distancing, hand and respiratory hygiene even when using cloth/fabric face masks/coverings.
- Wash your hands with soap and water or alcohol hand sanitizer before and after you take off your mask/covering, and/or after touching it during use.
- Change your mask if it is wet or visibly dirty.
- Do not share used masks with other people.
- Do not touch the outer part of a used mask.
- Do not re-use an unwashed cloth/fabric face mask/covering.
- Do not place used masks on surfaces and/or furniture/fittings in the home, workplace or any public places.
- Do not put used masks in your pocket/bag.
- Place your face mask/covering in a labelled container or bag if you must take it off and reuse it.
- Place a container in a convenient place just inside the entrance of your home for dropping off used masks.
- Discard masks that are torn or visibly worn out.

How you clean a cloth/fabric face mask/covering

- Select fabrics that can be readily washed. Verify if washing in warm or hot water is tolerated, and use the highest permitted washing temperature.
- Wash the mask every day after use.
- Wash in hot water, 60°C with soap/laundry detergent. If using a washing machine, select the most appropriate setting for the fabric used.
- Where hot water is not available, soak mask in soap/detergent at room temperature water for at least 5 mins before washing. Rinse and disinfect with dilute bleach (0.1% chlorine see *(10)* for instruction of how to make this) for one minute then thoroughly rinse with room temperature water, to avoid any toxic chlorine residue.[7] Dry in sunlight and iron when dry.
- If non-woven synthetic materials are used, wash the mask delicately (without too much rubbing, stretching or wringing). Non-woven polypropylene (used for the lining of collars and to make fabric stiffer) and natural fibres (e.g. cotton) may are not affected by high temperature washes and ironing.[5] Masks made of these combinations may be boiled or steamed.

Alternatives to non-medical masks (for general public)

- Face shields may be considered as an alternative in the event of face mask shortages, but they are inferior to masks in protecting against droplet transmission via the mouth and nose. There is no evidence that face shields are effective at preventing transmission of infectious droplets.

- Face shields may be offered as an alternative to masks for people who are unable to adequately comply with mask wearing (e.g. children, people with developmental disabilities or mental health conditions, or those caring for the deaf).

- If face shields are to be used alone, they should not be used in closed spaces or where air conditioners are used.

- Face shields must cover the sides of the face and go below the chin when worn correctly.

- Face shields must be used in addition to physical distancing and hand/respiratory hygiene.

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