COVID-19 (nCorona) Virus Outbreak Control and Prevention State Cell

Health & Family Welfare Department

Government of Kerala

CLOTH MASK- BEST PRACTICES

No./31/F2/2020/Health – 6th April 2020

It is advisable to wear masks by all during the COVID 19 pandemic season.

Basic Information regarding cloth masks:

1. Cloth masks should be made of cotton cloth (thread count of 180 or more).
2. The cloth masks should be preferably made at home so that the person making the mask will ensure clean and sterile masks.
3. If the cloth mask bought from outside, it may be washed and ironed to make doubly sure that it is clan and sterile.
4. The cloths masks are not medical masks. They are not to be used in health care settings.
5. Social distancing and respiratory hygiene should be observed, Use of cloth masks are not a replacement for these measures.
6. Hand washing practice should be done frequently.
7. Cloth masks can provide only marginal protection from infection.

DO's

1. Ensure that the cloth masks are made of at least two layers of 100% cotton cloth.
2. The cloth mask should be breathable.
3. The cloth masks should cover the mouth and nose completely, fit tightly and comfortably against the side of the face. It should be tied behind the head with 2 sets of strings.
4. The pleats of the cloth mask should face downward while wearing.
5. Clean, wash with soap and dry the cloth mask thoroughly before each use.

6. Wash your hands thoroughly before wearing the cloth mask.
7. As soon as the cloth mask becomes wet or moist it should be replaced.
8. Each individual should have a set of cloth masks, should be used in a cycle. Spare masks should be carried along.
9. Remove the cloth mask carefully without touching the surface of the mask, by touching the strings only, drop it in water and wash it with soap immediately. If washing cannot be done immediately it should be put into a plastic cover (preferably into a zip lock cover) and it kept safely to be washed later. The cover should also be washed with soap and dried.
10. After removing the cloth mask wash your hands with soap and water or with alcohol based hand rub.
11. After each use wash the cloth mask with soap and water and dry on sunlight or use hot iron to dry.
12. When the cloth mask is worn out, it should be disposed of by burning.
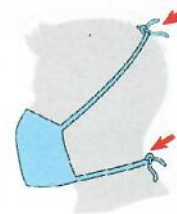
Ensure proper fit of the cloth mask as shown in the diagram.

DONT's

1. Health care workers should not use cloth masks for any patient care or in any health care setting.
2. COVID suspects or patients should not use cloth masks.
3. Do not reuse cloth masks without cleaning and washing it.
4. Do not touch the cloth mask frequently to adjust it. If you have to adjust it, wash hands with soap before and after touching it.
5. Do not share masks.
6. Do not touch your eyes, mouth or nose while removing the mask.
7. Do not use cloth masks on children less than two years of age.
8. Do not use cloth mask on people with breathing difficulty, or with any difficulty in removing the mask without assistance, (eg. bed ridden, debilitated persons, unconscious persons etc)
9. Children should not be allowed to play with the cloth mask.

The Govt of India guidelines are attached for ready reference.

Principal Secretary

Illustration by MoHFW

Masks for Curbing the Spread of SARS-CoV-2 Coronavirus

A manual on homemade masks

"Masks are effective only when used in combination with frequent hand-cleaning with alcohol-based hand rub or soap and water. If you wear a mask, then you must know how to use it and dispose of it properly."
-**World Health Organization**

Analyses show that if 50% of the population were to wear masks, only 50% of the population would be infected by the virus. **Once 80% of the population wears a mask, the outbreak can be stopped immediately.**

Source: https://pubmed.ncbi.nlm.nih.gov/30229968/

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Why Wear a Mask?

COVID-19 virus spreads easily from person to person contact. Virus carrying droplets dry fast enough to form droplet nuclei and remain airborne eventually landing on different surfaces. SARS-CoV-2, the virus that causes COVID-19, has been detected in aerosols for up to three hours and on plastic and stainless steel surfaces for up to three days. (N.Engl J.Med. 2020)

Masks lower the chances of coronavirus entering the respiratory system through droplets still in the air from an infected person.

Reducing the chances of inhaling the virus by wearing a protective mask that is cleaned thoroughly using a combination of approaches that use Heat, UV light, water, soap and alcohol, will be vital to stopping its spread.

Proposed guide is meant to provide a simple outline of best practices to make, use and reuse masks to enable NGOs and individuals to self-create such masks and accelerate widespread adoption of masks across India. The key criteria for proposed designs are **Ease of Access to Materials, Easy of Making at Home, Ease of Use and Reuse. Wearing of masks is especially recommended for people living in densely populated areas across India.**

COMMON TYPES OF MASKS

DISPOSABLE MASK
(Bought from store—can be used only once)

MAKE AT HOME RE-USABLE MASK*
(Process for making and reusing such masks is defined further in this document)

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* There are many variations of homemade masks. This is one of two designs proposed in this manual.

Key Differences between Disposable and Homemade Cotton Masks

PROPERTIES	DISPOSABLE (Surgical) MASK	HOMEMADE (Cotton) MASK
Use	Single use	Multiple use
Effectiveness against Virus Particles	~ 97%	~ 70%
Washing and Cleaning	Should NEVER be washed as it damages filtration and protection ability	Can be reused easily following procedures shown further in this document
Availability	Medical store stocks of such masks are likely to be depleted	Can be easily made at home with available cotton materials
Disposal	Must be disposed after one use in a closed bag with household waste to prevent virus from travel	Can be easily cleaned after use with ingredients available at home

A protective mask can be made with simple **household materials.**

Scientists have tested different household materials for homemade masks. To measure their effectiveness in stopping viruses, they bombarded 0.02 micron particles (5 times smaller than the coronavirus) on to these different materials. They found that **a double layer of 100% cotton cloth is the most effective at capturing small particles,** is breathable and this is also easy to use for making a mask at home [2]

- A double layer of 100% cotton cloth is about 70% as effective as a surgical mask at capturing small particles (up to five times smaller than coronavirus). [3,4]
- This material is breathable
- It is easy to find around the house
- These masks can be easily reused

2. https://smartairfilters.com/e-/blog/best-materials-make-diy-face-mask-virus/
3. https://www.researchgate.net/publication/258525804_Testing_the_Efficacy_of_Homemade_Masks_Would_They_Protect_n_an_Influenza_Pandemic
4. https://smartairfilters.com/e-/blog/best-materials-make-diy-face-mask-virus/

You can easily make a mask at home to protect yourself.

Option 1. Make a Mask using a Sewing Machine

Things you will need:

1. 100% cotton material	*Any used cotton cloth including old cotton vest or t-shirt can be used to make this mask. Remember the colour of the mask does NOT matter. You must ensure that the fabric is washed well in boiling water for 5 minutes and dried well, before you make the mask. Adding salt to this water is recommended.*
2. Four pieces of cloth strips	3. Scissors
	4. Sewing Machine

Begin with

1.a Cutting Fabric – Cut cloth for the mask at the following sizes as required:
- Adult: 9 inch x 7 inch • Child: 7 inch x 5 inch

For Adult Size Mask

1.b Cutting Strips – Cut 4 strips for tying and piping from cloth: **Two pieces at 1.5"x 5" and Two pieces at 1.5"x 40"**
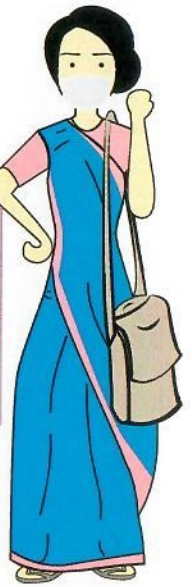
Illustration by MoHFW

Inch= "

Process demonstrated below is for Adult Size Mask

1. **2.** **3.**
Take the cut fabric, attach the 1.5x5" strip to be used as piping to the fabric on one end as shown.

4. **5.** **6.**
Create three downward facing pleats of approximately 1.5" each folding cloth as shown.

7. **8.** **9.**
Turn the pleated cloth to the other side and repeat steps for pleating on this side as shown above. Once the pleats have been made, the height of the pleated cloth will be reduced from 9" to 5".

10. **11.** **12.**
Secure the pleats with piping on both sides as shown above. *Take extra care to keep all pleats facing downward as shown.*

13. **14.** **15.**
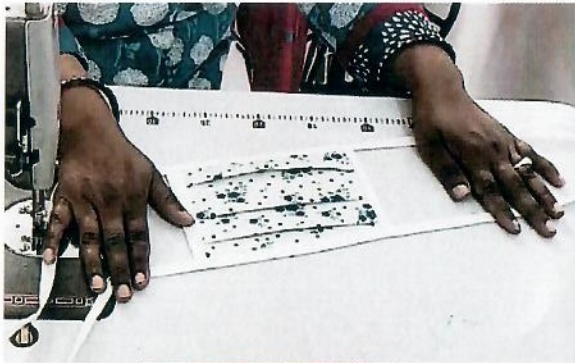Now begin attaching the long 40" strips used for tying the mask to the top and bottom of mask as shown.

16. **17.** **18.**
Once again fold both these strips three times and stitch as shown above.

- Your mask is now ready

- Ensure that the mask fits around your mouth and nose and there is no gap between your face and the mask. When wearing the mask, the side facing you should show pleats facing downwards.

- You must never reverse the mask for reuse. Always thoroughly wash mask after every use following process shown further.

This mask is currently being used by community-health workers of organizations in South Rajasthan including, Amrit Clinic, Arth Hospital, and Shreyas Hospital. Images and process courtsey: Jatan Sansthan, Udaipur

Make sure the mask fits your face well and there are no gaps on the sides...

Remember to still maintain up to 2 meter distance from others at all times, wash your hands thoroughly when back home and do not touch your face or eyes!

Demonstrated by Dr. Gargi Goel, Pediatrician, Rajasthan

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Option 2: Making a mask at home by hand without a sewing machine

Things you will need:

1. 100% cotton material or a men's cotton handkerchief
2. Two rubber bands

Step 1

Fold the handkerchief from one side to little above the middle of the cloth

Step 2

Now fold over the other edge to go above the first fold

Step 3

Fold this again evenly from the middle as shown

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Step 4
Take a rubber band and tie it on left side of the cloth as shown

Step 5
Now tie the other side with another rubber band Ensure that the area in the middle of the two rubber bands is big enough to cover your mouth and nose

Step 6
Take one edge of the cloth on the side of the rubber band and fold over it. Do this for both sides

Step 7
Now take one fold and insert in to the other fold

1. Your mask is now ready

2. Please ensure that the mask fits around your mouth and nose and there is no gap between your face and the mask

3. To wear this mask just wrap each rubber band around your ears

4. You must follow all precautions and instructions outlined above when using the mask

IMPORTANT PRECAUTIONS:

Before using the handmade mask remember:

1. Thoroughly wash and clean the mask (as shown in next page) before wearing it.

2. Wash your hands thoroughly before wearing the mask.

3. As soon as the mask becomes damp or humid, switch to another mask and clean the used mask.

4. Never reuse a mask after single use without cleaning it.

When removing the mask:

- Do not touch the front or any other surface of the mask, remove it only with strings behind
- For string mask, always untie the string below and then the string above
- After removal, immediately clean your hands with 70% alcohol-based hand sanitizer or with soap and water for 40 seconds
- Drop it directly into a soap solution or boiling water to which salt has been added

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How to Clean and Sanitize your Homemade Mask Everyday

Do not attempt to clean and boil disposable masks. They have material that cannot withstand washing.

1. Thoroughly wash the mask in soap and warm water and leave it to dry in hot sun for at least 5 hours.
If you do not have access to the sun, follow Option 2:

2. Place the mask in water in a pressure cooker and pressure boil it for at least 10 minutes and leave it to dry. Adding salt to the water is recommended. In the absence of a pressure cooker, you may boil the cloth mask in hot water for 15 minutes.
If you do not have access to a pressure cooker/boiling water, follow Option 3:

3. Wash and clean with soap and apply heat on the mask for up to five minutes. (You may use an iron).

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How to Store your Clean Mask

It is recommended that you make two masks so you can wear one, while the other is washed and dried

|	
1.	Take any plastic bag at home
2.	Clean it thoroughly with soap and water
3.	Let it dry well on both sides
4.	Keep your extra clean mask in this clean bag
5.	Keep it sealed well
6.	Now you can rotate your masks for daily use

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Issued by the Office of the Principal Scientific Advisor to the Government of India_ March 30, 2020

Homemade reusable masks only reduce the chances of inhaling droplets still in the air from in infected person. They do not give full protection. Homemade reusable masks must be washed and heated each day, as instructed. Reuse without washing should NOT be done. Disposable masks should not be washed and re-used. They must be disposed according to instructions.

Remember to wash your hands frequently with soap for 20 seconds.
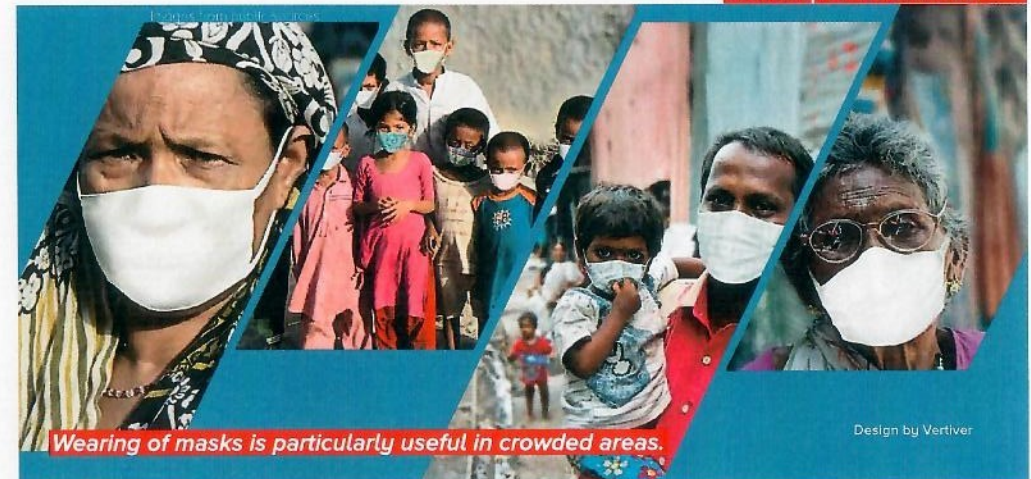
Wearing of masks is particularly useful in crowded areas.

Design by Vertiver