

Instructions for Simple Respiratory Mask

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HOUSELESS & MARGINALIZED COMMUNITIES.**

These instructions were based on guidelines shared by the Center for Disease Control. These guidelines are for "making an effective face mask if surgical masks and N95 masks are unavailable during a viral outbreak." The original design was created by researchers from the University of Pennsylvania who tested with employees at Los Alamos National Laboratories. To read the original instructions and research, visit:

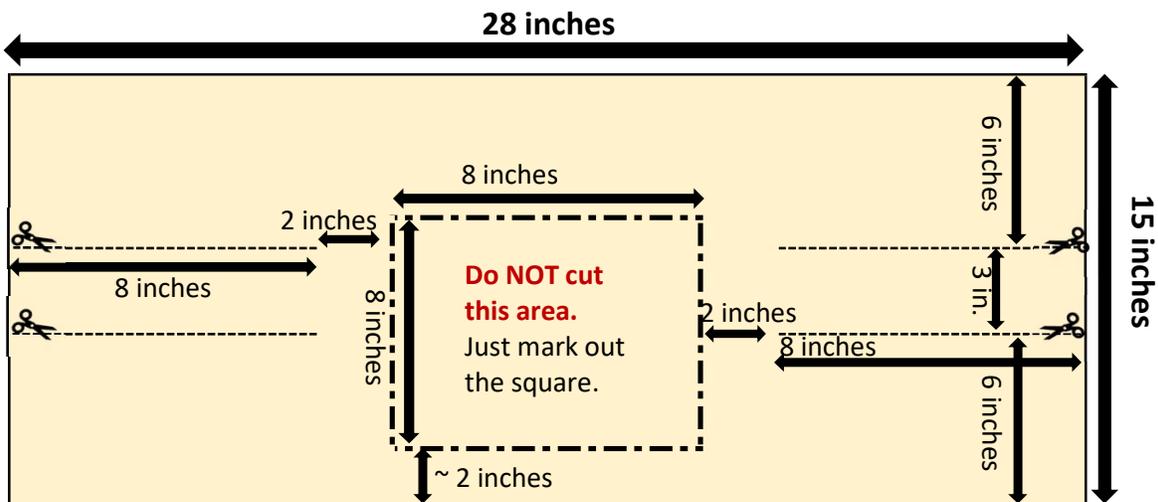
https://wwwnc.cdc.gov/eid/article/12/6/05-1468_article

<https://wwwnc.cdc.gov/eid/article/12/6/05-1468-f1>

*This mask can provide a good fit and a measurable level of protection. Testers wore the prototype mask for an hour without difficulty. Breathing through this mask is subjectively no different than breathing through an N95 mask, but **persons with respiratory compromise of any type should not use this mask.***

<u>Supplies</u>	<u>Optional</u>
1 Heavyweight T-Shirt Scissors Marker Ruler	1 Microfiber cloth

***It's preferred that the T-Shirt is first boiled for 10 minutes and air-dried.
This will maximize shrinkage and sterilize the fabric.***



- 1: Cut piece about 28 inches X 15 inches and lay out horizontally.
- 2: Mark your 4 cut lines, all 8 inches long.
 - 6 inches from the bottom, on both left & right sides
 - 6 inches from the top, on both left & right sides
- 3: Mark placement of square layers: in center, about 2 inches from the bottom.
- 4: Cut along the four 8 inch lines described in #2. **Do NOT cut center square**

5: Using remaining T-Shirt to cut 8 more pieces that are about 8 inches square. Sizes can vary slightly. Try to make 4 squares by cutting with the grain of fabric (straight grain) and 4 squares by cutting across the grain of fabric (cross grain).

6: Stack squares on top of larger piece, in marked area.

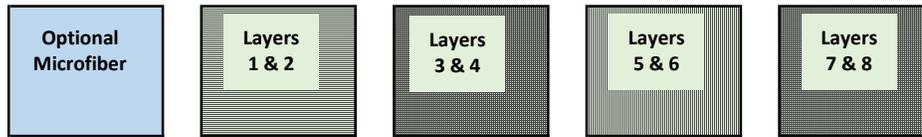
Layers 1 & 2: straight grain, horizontal

Layers 3 & 4: cross grain

Layers 5 & 6: straight grain, vertical

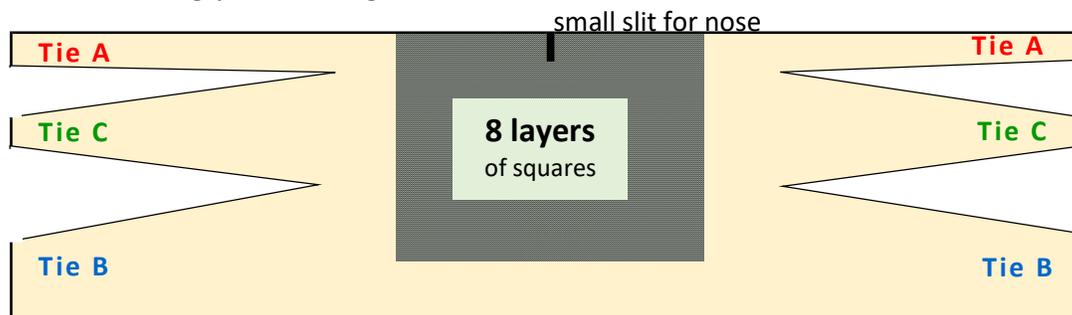
Layers 7 & 8: cross grain

Optional: Cut an 8 inch square out of Microfiber and place in first layers.



7: The top is rolled down to make **Tie A**, including part of the layered pieces.

8: In center of rolled **Tie A**, cut a small vertical slit (through 1 or 2 layers of fabric) so it will fit snugly over bridge of nose.



9: Adjust around nose to eliminate leakage. You can add extra fabric under the roll between cheeks & nose and/or push rolled fabric along bridge of nose.

10: The center of **Tie B** is placed under chin. The bands go up, in front of ears, & are tied at the top of the head. Add extra cloth to bands, as needed.

11: **Tie C** is tied at the back of the head. The bands can go above or below ears, whichever provides a more complete seal.

Original Prototype Made by Researchers

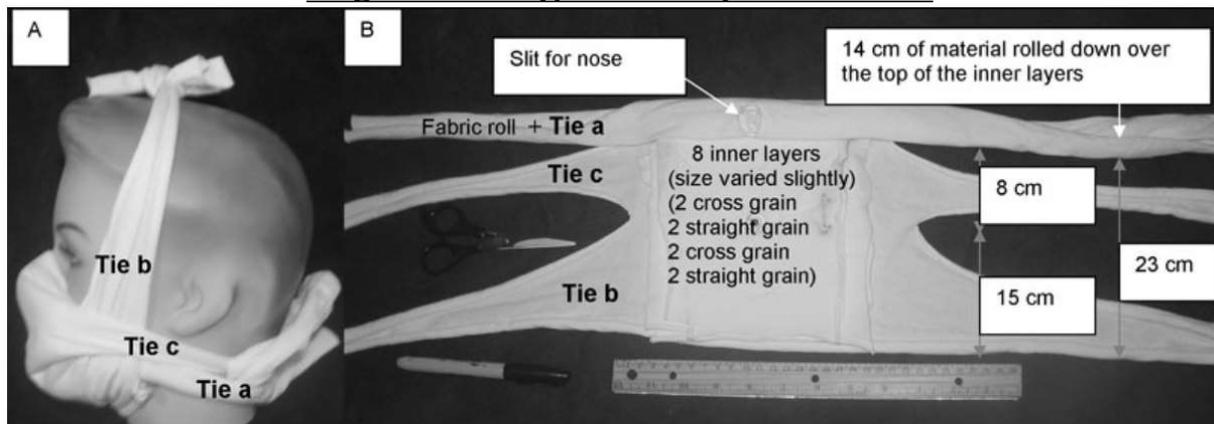


Figure. Prototype mask. A) Side view, B) Face side. This mask consisted of 1 outer layer ($\approx 37 \text{ cm} \times 72 \text{ cm}$) rolled and cut as in panel B with 8 inner layers $< 18 \times 18 \text{ cm}$) placed inside (against the face). The nose slit was first placed over the bridge of the nose, and the roll was tied below the back of the neck. The area around the nose was adjusted to eliminate any leakage. If the seal was not tight, it was adjusted by adding extra material under the roll between the cheek and nose or by pushing the rolled fabric above or below the cheekbone. Tie b was tied over the head. A cloth extension was added if tie b was too short. Finally, tie c was tied behind the head. The mask was then fit tested.