

DIY SURGICAL QUALITY MASKS

In light of the COVID-19 pandemic, surgical and N95 masks are becoming increasingly harder to find. The maker community, might provide a Plan C as stated in this [article](#). One [design](#) has gotten my attention for its simplicity and low cost. This design has a 3d printed brace that is the frame for the mask. A filtering material (2-4 ply cotton dish towel) can be put on the face and the brace can be put over to act as a sufficient mask. According to a Cambridge study done in 2013 shown in this [blog](#), 2 ply dish towel is 97% effective at stopping viruses the size of the novel coronavirus. This is as effective as a surgical mask. We tested multiple sizes and the medium size seemed to fit most people. The design link has two other sizes. See sizing chart below. The following are the instructions on assembling the mask.



- Lay out materials (3d printed brace, elastic bands, and dish towel).
- Put 1 elastic band around your head to find the right size. Don't stretch it out too much and bring both ends near your nose. See left pic.



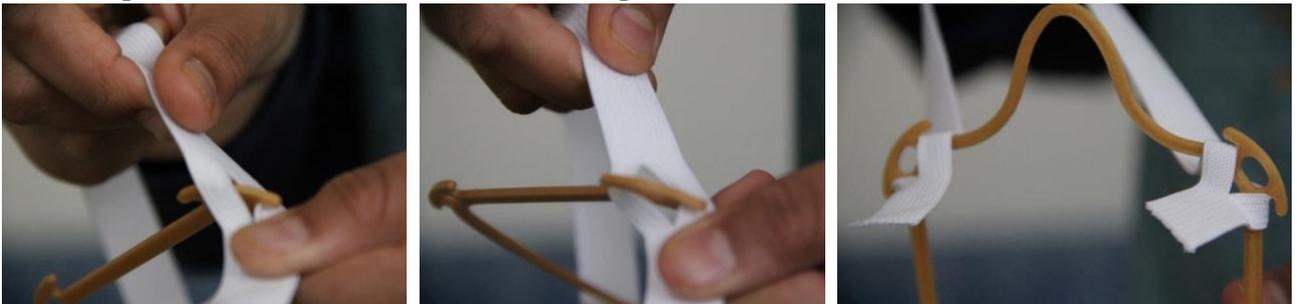
3. Continue holding the band and fold down a side at the spot determined by your sizing. Then cut.



1. Put the second band around the neck and size it.



1. Repeat step 3 for the other side of the band. Then attach the 3D printed brace as shown in pic below.



1. Pick up the dish towel. Choose if you wish to use 2 ply or 4 ply mask. For 4 ply fold in half. See pics.



2 ply



4 ply



You may need to cut 4ply, as it might cover your eyes.



Make sure you pull the dish towel through all parts of brace.
Make sure the brace is as close to you face as possible.
Make sure there is no way for air to come in from the sides of the brace.
Remember to wash the dish towel after every use.
Medium size is in the middle.



We hope this helps you!