

The Mask Nose Problem

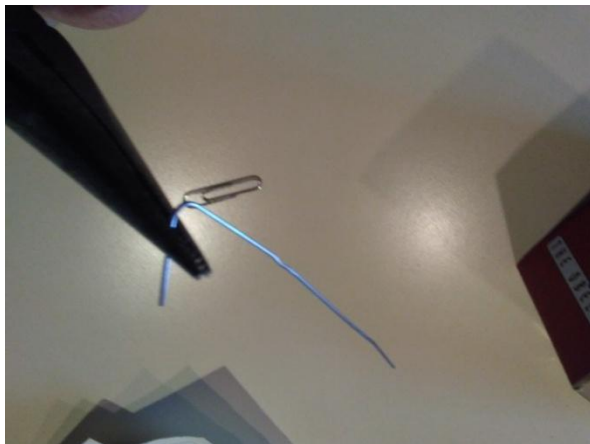
PhysicsGuy.org, David Labrecque, 5-7-20

The last time I checked, everyone had a nose. Unfortunately noses create a problem with some of the cotton masks people are wearing these days. Some masks don't have a metal support to seal the mask to the nose and face. They allow unfiltered air to flow through gaps on each side of one's nose.

I noticed this problem on a cold day when my breath was escaping through these gaps and fogging up my glasses. One solution is to purchase new masks with a metal support and bend it to fit your nose. Here is another solution that works well and is fairly easy to do.

Take a paper clip and straighten it with a pair of pliers. Now put your mask on and note the curved line the top of your mask makes under your eyes and over your nose.

Bend the paper clip so that it matches this curve over your nose. The curve should have its center at the mid-point of the paper clip. Now make two more smooth bends so that the paper clip ends don't dig into your face, but rather curve outward so that it follows a smooth line under your eyes.



Take your mask and find the seam at the top of the mask. Poke one end of the paper clip into the seam. Push the paper clip into the seam until it is completely in the seam.

Move the clip around so that the center of the clip is at the center of the mask. Put the mask on and fine tune the fit by bending the clip so that it exactly matches your nose and the area under your eyes. You now have a custom fit mask.



If done correctly, the air you breathe will now be coming through the cotton cloth. Air will be filtered much better this way than if it went through the gaps around your nose. Another plus is your glasses won't fog up on a cold day. It's easier to go shopping if you can see where you are going and what you are buying.



There are other issues regarding how well cloth can filter out small virus particles, so a cotton mask is not a perfect solution. The pore size in typical cotton cloth is actually larger than some virus particles. Those who need more protection often wear an N-95 mask for this reason.

Another concern comes up the second time you wear a mask. Virus particles can survive up to three days depending on the material and the conditions. Ideally one should use a new mask for each activity, but that is not a practical solution for many people.

If you must wear a mask again, here are some suggestions that might help. Never wear a mask inside out. You'll just be breathing yesterday's viruses. You should clean your masks in the laundry between each use. You could also clean them in bleach or hydrogen peroxide (Clorox 2) followed by a water rinse and drying. Another way to help clean a mask is to use UV light. UV germicidal lights can be purchased for as low as \$25 from Amazon. Be careful with UV light as exposure can cause skin cancer and damage to the eyes. A combination of these techniques is probably the best way to clean masks thoroughly. Hospitals that are forced to re-use masks sometimes do multi-step cleaning.