

# NMT COVID-19 MASK

Based on the design by Dr. Ryan Southworth and his wife for HEPA masks from vacuum bags, this has been modified for use with sterilization blankets (used to sterilize surgical instruments). See Dr. Southworth's YouTube video for some tips and inspiration:

[https://www.youtube.com/watch?time\\_continue=895&v=W6d3twpHwis&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=895&v=W6d3twpHwis&feature=emb_logo)



**One 4 foot by 4 foot, double layer sterilization blankets makes 25 adult masks and 5 small masks.  
Sewing level is Beginner.**

## **Materials used per mask:**

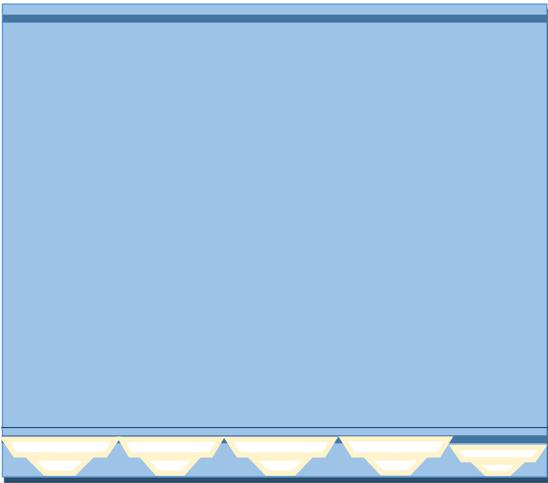
- 2 - pattern cut on fold (4 layers)
- 2 - 7" non-latex rubber bands (Alliance size 117B) or 24 inches elastic
- 1 - 10-11" pipe cleaner **or** 1 - 5" x 1/4" thin tin strip **or** any thin wire that works
- Thread

## **Tools used:**

- Sewing machine
- Paper clips
- Scissors and thread snips
- Sharpie pens, ruler, marking tools
- Xacto knife **or** utility knife **or** seam ripper
- Fine tweezers (optional)

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# Layout and Cutting



← Fold up edge.

The blankets are sealed on 2 edges and open on the other 2 edges.

To begin, fold up a sealed edge a bit over 4" so that the pattern fits with the short edge on the fold and the long edge just overlapping the seal. This will save a row of stitching on the first and last rows of patterns. Use paperclips to hold the fold. **DO NOT USE PINS!** We don't want any holes in the body of the mask.

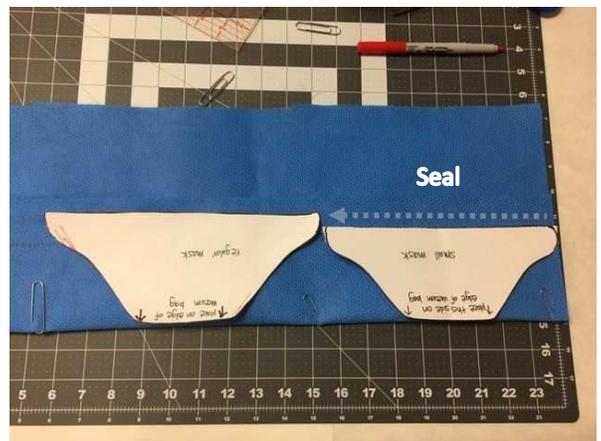


Position the pattern as close to the edges as possible and trace around it. Move the pattern over and snug up to the first tracing and trace the next one. If you don't leave gaps, a row will hold 4 adult patterns and 1 child pattern on the end. Put paperclips on the short end of each tracing with another in between. Now you can carefully cut around the tracings. Stack them up with their paperclips. Remove the clips from the scrap to use on the next row.

The second through fourth rows do not have a seal to use so fold up again just wide enough to hold the patterns, making sure the pattern is over 4 layers of fabric as it tends to slip.

For the last row, flip the rest of the blanket around to fold up using the seal, like the first row.

Scrap blanket can be slipped between the layers of fabric masks.



Last two patterns of last row, using the seal for the adult one but not the child one.

## Sewing the Nose Piece

First: Open up the mask and set aside the paper clip. Using a tight, straight stitch, sew the long ends closed about 1/4" from the edge. If you are on a piece that has the seal on one edge, that edge is done!

Start slowly and watch for the two layers slipping out of alignment. Stop to adjust as needed.



Next: Lay out your nose piece - whether it's a strip of metal or folded over pipecleaner - close to your seam and eyeball it to roughly center. Make a mark just beyond each end and also mark the width plus a millimeter or so. This is the outline for the channel. Note: Adult size should be about 5 inches long, child size should be about 4 inches long.



Now open up the two layers and slide the nose piece into that spot. You can hold the mask up to the light to see that it's centered into the area you marked. Keep your fingers on it to hold it into place and slide the mask under the presser foot to sew the channel. Start on one lower edge, move up to the corner. Turn the piece to sew the long edge making sure the piece stays snug against the seam. Come back down to the outside edge.

If you hit the wire or the metal piece, you will bend or break your needle! Be extra careful when you sew the last bit as the nose piece may have shifted. And that part is now done!



## Sewing the Sides



This is what we end up with. The inner seam is done first. The outer one reinforces and a slightly wider gap is left at the corners to attach the elastic.

It does NOT need to be perfectly symmetrical to work!

I did a few backstitches at either end of the inner seam as it gets the most stress. I did not bother with the outer seam.

I prefer to do both seams on one side, then both on the other but one could do both the inner seams and then the outer seams.



Presser foot position for **inner** seam with the needle centered.



Presser foot position for **outer** seam with the needle centered.

After both sides are sewn, attach the elastic.

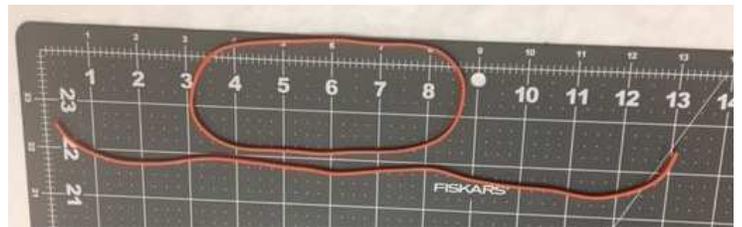
# Attaching Elastic

This method is meant for using 7 inch rubber bands that do not stitch well. 1/8 inch flat elastic can be sewn into the corners, if you have any.



Cut a small "X" in each corner between the inner and the outer rows of stitches. Keep the hole no larger than it needs to be to fit two of the rubber bands through it. Cut two bands open to make two 14 inch strips.

Push the end of one elastic through one of the holes. Fine tweezers are helpful for this.



Pull it through an inch or two and tie a large knot. A double figure 8 (Stevedore) is good as well as a simple overhand with another overhand tied over the first one.



Push the end of the other band through the same hole but from the other side. Pull it out and tie a knot in that band. Pull both bands back so that the knots are snug against the mask, one on each side. Now take the other ends and do the same thing on the other side of the mask.

**MASK IS DONE!** Place the completed masks in a clean Ziploc bag.