

DIY Mask-making Resources - Sewing Masks for COVID protection

CDC on FACE MASKS

MORE INFO: [The CDC is now recommending that ALL people should wear face masks in public](#)

- Please note, most home sewn masks do not offer significant PPE (personal protection equipment) ratings for HIGH RISK EXPOSURE at this time, but they do make good covers to prolong the life of N95 respirator masks in short supply and protect from low-risk exposure.
- Do your research and find out what materials are needed by medical professionals in your local area.
- Low-risk sewn masks (like those we can make at home) are readily welcomed at places like veterinary care offices, wild animal emergency centers, farms, nursing homes, grocery stores, landscaping services, and other small practices where people are working and still need masks. **Please follow sanitary and safe procedures when you drop off or mail donations.**
- Consider wearing a homemade mask or face covering when in public! If you're following the [#masksforall](#) movement, we should all be wearing them in public! [#masksforall](#). **You don't need sewing skills to wear a bandana or face covering and protect yourself!**

More info from the CDC on masks: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html#crisis-capacity>
https://wwwnc.cdc.gov/eid/article/12/6/05-1468_article

MASK SAFETY

The FB group for [Sew Face Masks Philadelphia](#) has more information about safety and disinfecting cloth masks on their page. But here's a few tips!

Notes on Filters (to go inside masks)

- There are stringent recommendations about materials suitable for filtering: [Personal Protective Equipment FAQs | CDC](#)
- Many groups are strongly discouraging masks donated with DIY filters because homemade materials (like paper towels, vacuum cleaner bags, a/c filters, etc.) have not been properly tested for high risk safety, may contain harmful materials like fiberglass, and can inhibit proper breathing. You are welcome to use DIY filters for personal masks, but check with donation locations about their preferences.
- Great info on supplies from around the house in this video and what to use for a filter: [To make the BEST DIY face mask, and what to use if you can't find supplies](#)
- Some DIY patterns (Olson) call for .3 micron filter materials. This material is in short supply. Most donation locations will problem solve filters at their own discretion.
- It is still helpful and many medical sites are requesting that masks have a filter pocket so that medical professionals can decide what filter to use.
- Check with your donation location for more info on filters and filter materials.
- Some tutorials suggest Pellon non-woven interfacing provides a good extra filter layer and can easily be added to a double layer mask.

For Donating Masks - Best Practices

- Wash new fabric on hot water and dry on **HIGH HEAT BEFORE** sewing.
- Make sure the materials you are using can **WITHSTAND HIGH HEAT**. 100% Cotton is best because some poly/cotton blends will break down more quickly with heat and become less effective.
- Sanitize your area regularly as you work.

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- When masks are completed, **WEAR A MASK, WEAR GLOVES** when handling as you remove from washer/dryer. Ironing also helps.
- Wash constructed masks on hot water, dry on high heat, **HANDLE SAFELY** and store in a clean ziplock bag.
- Inform locations that your donations should be **STERILIZED AGAIN** before wear and use.

For Wearing Masks - Best Practices

- Cloth face masks should fit snugly around the mouth and nose.
- Cloth face masks should only be worn for ***4* hours**. Remove the mask sooner if one of the following applies:
 - The mask becomes moist
 - If you sneeze into the mask
 - If you significantly cough into the mask
- Please remove the mask immediately if you experience trouble breathing.
- You must wash hands for 20 seconds or clean your hands with alcohol based sanitizer before putting it on or before adjusting it.
- If you need to adjust the mask, do so by the ear loops, not the mask part. Avoid touching the front of the mask while it is on your face.
- If you are removing the mask, do so by the ear loops and avoid touching the front of the mask.
- Cloth face masks must be appropriately cleaned. At this time, it is recommended that dirty masks are washed in hot water and dried on high heat after each wear.
- **Caution** that if there is a metal nosepiece, you CANNOT disinfect home sewn masks in the [microwave](#).
- Wash your mask after every use.
- Wash your hands or sanitize after removing the mask.
- **How to prevent glasses fogging while wearing a mask:**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3293317/?fbclid=IwAR0zoQgeltdi4DMccmbbWQC236vNUA6vkqVblewOCbziJySFqJCXtyZJVw>
- **If you are wearing daily and laundering on your own masks, due to importance of frequent laundering and changing, we recommend that each person have a total of *6* masks.**

RECOMMENDED PATTERNS from [Sew Face Masks Philadelphia](#)

(STARRED VERSIONS recommended for donating at [Sew Face Masks Philadelphia](#))

- ***Todaro Philly Mask:** Amanda Todaro is a talented costume designer and artist in Philadelphia. Her mask is a pleated style with darts at the nose and chin, options for ear loops or ties and nose wire. Pattern and video below.
 - https://1157fa5e-39e5-47e1-a8b4-adfb82a61189.filesusr.com/ugd/559a9a_6e4c25b8c69a47a28c22338e84205efd.pdf
 - https://www.youtube.com/watch?v=7MkqJAn_F5U#action=share
- ***Leah Day Mask:** This mask was designed for the least amount of cutting and piecing is a better fit than the Deaconess mask. Filter pocket and nose wire options as well as ear loop or ties. Pattern and video below.
 - https://cdn.shopify.com/s/files/1/0978/5612/files/Free_Face_Mask_Pattern_Please_Share_UPDATED.pdf?v=1585180165
 - <https://www.youtube.com/watch?v=iNX0cRrYj6U>
- ***Relief Crafters of America Mask:** Two layers of cloth duckbill style, with options for a pocket, elastic or fabric loops. Make the Large if you are donating in Philly. Pattern plus video.
 - <https://drive.google.com/file/d/1keXHL2pi-L9Dh-34Mcw5JsZFyFietGag/view>

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- <https://www.youtube.com/watch?v=0YnR4uvQ6mw&feature=youtu.be&app=desktop>
- **Made Institute “Duckbill”**. This version includes ear ties, filter pocket, and nose wire. When printing the pattern, please make sure you set your printer to 100% (The dimensions for the large pattern are 7 7/8" across the widest part of the cheeks, and 5 11/16" from the top of nose to chin.) The large works well if the person has a beard. Pattern and instructions plus video.
 - [Advanced mask \(with filter pocket and nose wire\)](#)
 - <https://www.youtube.com/watch?v=CmNIOF5ixQ0>
- **Deaconess Hospital patterns updated**: Double layer accordian style mask pattern with either elastic or ties. Written instructions plus video.
 - <https://www.deaconess.com/How-to-make-a-Face-Mask>

RECOMMENDED MATERIALS from [Sew Face Masks Philadelphia](#)

- The fabric should be breathable, able to filter small particles like dust, survive high heat, and wick away moisture. (See [this article](#) for emergency materials, if you don't have access to new fabric.)
- **PREFERRED FABRIC**: Tightly woven cotton such as quilter's cotton, cotton sheets, cotton pillow cases, calico cotton, cotton shirting. Cotton/poly blends will also work if 50% cotton or higher.
- **PREFERRED Safety FEATURES for medical personnel**: a pocket for a removable filter, a metal nosepiece (mask needs to fit snugly around the nose.), and ties instead of elastic, although this can vary by location.
- Masks **MUST** be sewn well – no frayed edges or missed seams. They must stand up to lots of washing.
- Ties are preferable over elastic due to latex content in elastic at some locations and the way elastic rubs on the ears with long wear (check your donation location). **Also, elastic is getting hard to come by!** Consider using [t-shirt strips](#), [hair tie loops](#), or [pantyhose loops](#) instead!
- Some locations prefer brightly colored fabrics so masks will not be confused with regular surgical masks (check your donation location).
- It's helpful to use two different fabrics when constructing layers. For example, a white or light fabric on the inside and bright fabric on the outside.
- People are innovating 6" [metal nose pieces](#) for masks including pipe cleaners, coffee bag clips, twist ties, floral wire/copper wire/paper clips (if washable and ends curled to prevent poking), and cut pieces of window flashing.

WHERE TO DONATE AND REQUEST MASKS LOCALLY

LOCAL DELAWARE COUNTY/PHILADELPHIA GROUPS

- The Philadelphia group [Sew Face Masks Philadelphia](#) is connecting donated masks to local businesses and hospitals in Philadelphia area and you can also request masks on their website:
 - **HOW TO DONATE masks you have sewn (Philadelphia area) or have on hand**: <https://www.sewfacemaskspilly.com/donatemasks>
- **Nurses in Need Delaware County** (contact Emily Dugan) has a great local list of dropoff locations (they are prioritizing nursing homes and medical facilities) and you can request masks as well: <https://www.facebook.com/groups/859873081153000/>
- **Help for Healthcare Delaware** has great resource out of Wilmington medical professionals (contact Kerry McElrone): <https://www.facebook.com/groups/211368643548041/>
- Swarthmore: Mary-Jo Witkowski Smith: https://nextdoor.com/news_feed/?post=141891845 (on behalf of her daughter at NYU hospital). Contact Mary-Jo for Swarthmore dropoff.
- Bancroft Neuro rehab in Cherry Hill, NJ: accepting donations Contact twebb1@swarthmore.edu for Swarthmore dropoff.

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OTHER GROUPS arranging donations if you are making a lot of masks (several of these also have patterns on their website and are prioritizing masks for essential service personnel):

- **WE NEED MASKS** list for national donations, see PA and NJ locations on this list: <https://www.weneedmasks.org/list/>
- **GETPPE.ORG:** <https://www.getppe.org/millionmask/>
- **MASKS 4 HUMANITY:** <https://masks4humanity.org/>
- **MASKS FOR HEROES** national map for donations: <https://www.masksforheroes.com/>
- **MASKSNOW:** <https://masksnow.org/>
- **MASKS FOR DOCS:** <https://designtocombatcovid19.typeform.com/>
- **MAKE MASKS:** <https://www.makemasks2020.org/>
- **SEW TO SAVE:** <https://www.sewmasks.org/>
- **#MILLIONMASKS Seattle, WA area:** [So you want to help with PPE's...](#)
- **COOPERSTOWN, NY area:** <https://www.bassett.org/covid-19/protective-fabric-masks>
- **YALE, NEW HAVEN area:** <https://www.ynhhs.org/patient-care/covid-19/support-our-caregivers.aspx>
- **100 MILLION MASKS Oregon area (phasing out home sewn donations due to manufacturing response):** <https://www.providence.org/lp/100m-masks>
- **GETUSPPE:** <https://getusppe.org/makers/face-masks/>
- **USITT** (Association for Performing Arts and Entertainment Professionals) has a list of places to donate along with other resources by state: [Your materials and skills are needed! | United States Institute for Theatre Technology](#)
- **IATSE 764 (NYC):** http://blog.wardrobesupplies.com/2020/03/30/iatse-local-764-is-creating-ppe/?goal=0_492a9a6731-d38648c9ce-135661409&mc_cid=d38648c9ce&mc_eid=19bc941a26

ADDITIONAL FREE PATTERNS

Other patterns frequently used or discussed:

- ****Excellent pattern for duckbill style with elastic or a really clever tie around the back of the head using cut up tshirt strips:** <https://www.craftpassion.com/face-mask-sewing-pattern>
- ****Excellent pleated mask using fat quilters' quarters and bias tape with nose clip and filter pocket:** <https://sweetredpoppy.com/how-to-sew-a-bias-tape-surgical-face-mask-with-flexible-nose/?fbclid=IwAR1G4d55Ns18FIBFIZ56pfJsAyl13Ptx5ZySiiGSMqLZB55oKQPUd8bjej0>
- ****Great video tutorial for pleated mask with ties and filter pocket:** [DIY surgical style with ties](#)
- ****Good duckbill style pattern, uses elastic AND ties in the back, very nice construction:** <https://www.instagram.com/lilyajsmith/> See highlights on her Instagram page.
- ****Good Instructable for duckbill style, uses wire to stay on the nose:** [DIY Cloth Face Mask : 8 Steps \(with Pictures\)](#)
- ****Tutorial for pleated style with pocket for filter:** [How to make a Medical FACE MASK / with Filter Pocket / DIY](#)
- ****Fashionista duckbill style mask pattern with interesting construction for advanced stitchers. Has filter pocket and ear loops:** <https://www.trendpatterns.co.uk/pdf-patterns/free-facemask>
- ****Olson duckbill style mask with filter pocket (can use hair ties as ear loops and caveat, this pattern calls for .3 micron material for filter):** https://www.regmedctr.org/webres/File/OlsonMask_wPattern_v3-USE%20THIS%20ONE.pdf
- This pattern is for purchase (\$2), but one of the simplest out there: <https://www.califayecollection.com/collections/all/products/stay-well-mask>

Other Pattern Resources:

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- This one can be made from a clear shower curtain for deaf accessibility: [Make your own fabric mask at home with this sewing pattern from a designer](#)
- From Joann's Fabric/Craft store: [Make to Give - Support Our Medical Personnel](#)
- This one has a great use of paper clips or coffee bag twists as a wire nose shaper with material from around the house, but is not medical grade construction. (NB: use new material if donating to a hospital and also, I think covering the ears might not be ideal): <http://www.studiohabeascorpus.com/>
- This page features a round up of masks requested by hospitals (Manchester area): [Sewing Face Masks: Vital information!](#)
- Fancy Tiger has a great resource page with a collected info for several styles (Denver area): [SHORTAGE OF MASKS](#)
- Some good info here plus tutorial: <https://makefacemasks.com/>
- This one has elastic over the ears, surgical style good for OVER a filter from Western Carolina Sews: [MASKS](#)
- Another tutorial, surgical mask style with elastic good for OVER a filter: [Instructions to Sew a Protective Face Mask](#)
- Early duckbill pattern for full face coverage OVER a better filter or for low-risk: [Calling all makers: Here's a 1-page PDF facemask pattern; Now go make some and help beat this thing](#)
- If you don't have a sewing machine (hand sewing a mask from old tshirts and hair elastic): <https://www.youtube.com/watch?v=VUasSmReIVo>

Collection of no-sew face mask ideas for emergency use or if you cannot sew well:

- Various video tutorials in this article for no-sew masks: https://www.huffpost.com/entry/how-to-make-face-mask-from-fabric-covid-19_15e834a20c5b62dd9f5d628e8
- Bandanna/elastic style: <https://www.tampabay.com/news/health/2020/04/02/how-to-make-your-own-no-sew-face-mask-in-minutes/>
- More bandanna/elastic style: <https://blog.japanesecreations.com/no-sew-face-mask-with-handkerchief-and-hair-tie>
- Safety pins and old sheet: <https://www.marketwatch.com/story/this-might-be-the-simplest-no-sew-diy-coronavirus-mask-2020-04-03?mod=pharmaceutical>
- Cut up cloth grocery bag, hand sewn: <https://www.popsci.com/story/diy/make-diy-face-masks/>
- Cut up t-shirt outlaw bandanna: https://www.instagram.com/p/B-d33wKFc8p/?utm_source=ig_web_copy_link
- Use cut up t-shirts if you are without other fabric. Here's another example for emergency use: <https://www.youtube.com/watch?v=pJaVBt8q6g8&feature=youtu.be> OR <https://www.theguardian.com/us-news/2020/apr/06/how-to-make-no-sew-face-mask-coronavirus>

Tips for Best Materials for Mask making if you have no new fabric or it's an emergency

- Antimicrobial pillowcases and tightly woven shirts are the best for filtering and breathability. Doubled up dish towels and clean vacuum cleaner bags also work very well, but aren't as breathable: <https://smartairfilters.com/en/blog/best-materials-make-diy-face-mask-virus/>
- Using layers of hydro knit blue shop towels may work better than cotton but remains untested in the field: <https://www.businessinsider.com/homemade-mask-using-hydro-knit-shop-towel-filters-better-2020-4>
- If you run out elastic or ties for masks, you can cut t-shirts into strips about 1-2" wide and they will be slightly stretchy ties for masks.
- Re-use paper clips or coffee bag closure strips or old holiday ornaments for nose holders.

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- Use NEW fabric you have on hand if you are donating masks. Upcycled masks are better for home use. Please note that some materials will work better than others!

Other Links of interest

Articles

- FROM PA.GOV as of April 3, Gov. Wolf and the CDC have recommended that all PA residents should wear masks in public situations: <https://www.pa.gov/guides/responding-to-covid-19/#UniversalMasking>
- [Do Face Masks Work? And How Do You Wear One? We Answer Your FAQs : Goats and Soda](#)
- [CDC Now Recommends Americans Voluntarily Wear Cloth Masks In Public : Coronavirus Live Updates](#)
- [CDC recommends everyone wear cloth masks in public to fight coronavirus](#)
- [COVID-19: WHY WE SHOULD ALL WEAR MASKS — THERE IS NEW SCIENTIFIC RATIONALE](#)
- [CDC Considers Recommending Everyone Wear a Mask in Public](#)
- [Is the Coronavirus Airborne? Should We All Wear Masks?](#)
- [It's Time to Face Facts, America: Masks Work](#)
- [Opinion | It's Time to Make Your Own Face Mask](#)
- [Which Masks Actually Protect Against Coronavirus?](#)
- [Homemade face masks and coronavirus: Do they work, and are hospitals taking them?](#)
- [How to Make a Face Mask With Fabric](#)
- <https://www.forbes.com/sites/brucelee/2020/03/29/making-an-n95-mask-for-covid-19-coronavirus-what-you-need-to-know/#7048a4844989>
- [Would everyone wearing face masks help us slow the pandemic?](#)
- [How to make an effective face mask at home](#)
- [Homemade cloth masks offer limited protection against COVID-19 — here's how to make them and use them safely](#)
- [Fashionable face masks: 'Trying to make something horrific seem appealing'](#)
- <https://www.nytimes.com/2020/03/25/business/coronavirus-masks-sewers.html?action=click&module=Top+Stories&pgtype=Homepage>
- [I Can Sew Homemade Masks. Will Hospitals Use Them Against Coronavirus?](#)
- <https://people.com/human-interest/college-student-design-innovative-masks-deaf-hard-hearing/>

Groups with more info on mask types

- [Open Source COVID19 Medical Supplies Public Group](#)
- https://www.appropedia.org/Simple_masks

Research documents

- [DIY Face Mask – 8 Steps in Making Protective Gear | Consumer Council](#)
- [\(PDF\) Testing the Efficacy of Homemade Masks: Would They Protect in an Influenza Pandemic?](#)
- [Household Materials' Effectiveness Against 0.02-Micron Particles](#) (Infographic Catastrophe Grade)
- [Respiratory protection face masks and respirators Murali Krishnan](#) (Slideshow)
- OSCMS document for mask research: [OSCMS - Face Masks](#)
- Toronto document for mask research: [DIY FACE MASKS TORONTO \(Collaborative Research\)](#)