

# THINGS TO KNOW | DIY MASKS

Coronavirus-19 — DIY masks may be worn to “lessen” one’s exposure to airborne droplets, but the mask does not “guarantee” protection against the transmission of any disease.

Current research indicates specific fabrics, designs and construction techniques can increase the level of protection provided by DIY masks. Please understand that no DIY mask will provide complete protection.

## RESEARCH FINDINGS AS OF APRIL 1, 2020

### Protection

Masks provide a physical barrier that reduces the transfer of airborne droplets which can cause respiratory infections. Factors that increase or decrease the level of protection include: appropriate design and fabrics, snug fit, cautious handling and proper care. Homemade masks are to be used at one’s own risk.

### Handling Mask

A mask must be donned (put on) and doffed (taken off) with care.

- Donned with clean hands.
- Doffed without touching the exterior or interior of the mask as not to transfer contaminates.

### Care

- Do not seal or store mask in plastic.
- Leave it in an undisturbed area with the outside face up for 48-72 hours. Current research indicates virus has limited life on fabric and cardboard.
- Use biodegradable, color-free laundry detergent, hot water setting, gentle cycle. Air dry.

### Design

- Snug fit. Gaps allow impurities to come between mask and face.
- Layers of protection: 3-4 layers of fabric, including a filtration layer.

### Fabric and Materials

Based on current research, there are fabrics and products which increase the limited protection of a DIY mask with multiple layers.

- Outer Layer (facing the exposure) — Tightly woven (>300 Counts) fabrics, like antimicrobial pillowcase or non-woven Polypropylene (NWPP) i.e. reusable shopping bags [\*\* Do not use NWPP that is waterproof or insulated.]
- Middle Layer (increased protection) — Tightly constructed cotton knit or tightly-woven, cotton-blended fabric that is absorbent and may not transfer the droplets to the outside.
- Inside Layer (filter in contact with wearer) — Washable non-woven fabrics like HEPA filter (vacuum bag), NWPP bags or non-woven sew in interfacing.
- Recommend making exterior and interior colors different — Side exposed to elements and inside in contact with mouth and nose.
- Ties — Bias tape (ready-made or home-constructed). Elastic — Consider some individuals have latex allergies.
- Avoid any loosely-woven fabrics: silk, linen, scarf, etc.

### Construction

- Seamstress/Seamster — Healthy and free of fever.
- Wash hands thoroughly and do not touch mouth or face during construction.
- Carefully clean all work surfaces, sewing machine and sewing equipment.
- Be sure to cut non-elastic ties on the bias for maximum stretch.

### Recipients

- Check with an organization or group for any specific guidelines or needs.

### Resources

Center for Disease Control and Prevention: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html>

MakerMask – Three Mask Styles: <https://makermask.org/materials/>

Smart Air: Best Materials for Making DIY Masks: <https://smartairfilters.com/en/blog/best-materials-make-diy-face-mask-virus/>

Unity Point Health: <https://www.youtube.com/watch?v=ZnVk12sFRkY>

Precept: Appropriate Donning & Doffing: <https://preceptmed.com/education/appropriate-donning-doffing/>

Oklahoma State Department of Health: <https://coronavirus.health.ok.gov/>

### Patterns

MakerMask: [Three mask styles: https://makermask.org/materials/](https://makermask.org/materials/)

Mask4Humanity.org: <https://docs.google.com/spreadsheets/d/1vkm6LJY7qTEQTGU9or4Wx1cxYEFQOMivmVkJEUmukKBo/htmlview#gid=550187894>

Deaconess: <https://www.deaconess.com/How-to-make-a-Face-Mask/Documents-Mask/Mask-Information>

Button Counter: <https://buttoncounter.com/2018/01/14/facemask-a-picture-tutorial/>

**Created by Oklahoma State University Extension, the OSU Department of Design, Housing and Merchandising, and University Health Services**

Contributors: Dr. Lynn Boorady and Dr. Sumit Mandal, Department of Design, Housing and Merchandising; Pamela Stokes, Associate Director, University Health Services; Karla Knoepfli, Associate State Specialist, OSU Cooperative Extension.

Oklahoma State University, as an equal opportunity employer, complies with all applicable federal and state laws regarding non-discrimination and affirmative action. Oklahoma State University is committed to a policy of equal opportunity for all individuals and does not discriminate based on race, religion, age, sex, color, national origin, marital status, sexual orientation, gender identity/expression, disability, or veteran status with regard to employment, educational programs and activities, and/or admissions. For more information, visit <https://eeo.okstate.edu>.

