Face Frame – "CEG Extreme"

Possible uses for these frames include:

1) Reinforce an n95 that is too large or does not make a perfect seal
2) Hold one or two layers of polypropylene material such as Halyard H400 - 600 (surgical instrument tray wrap) to your face.
3) Hold alternative materials to your face

Directions:

Watch YouTube video entitled "COVID 3D Printed Mask Frame for Halyard, Investigating 99% Filtration" by *ChrisWiles*. It outlines all of this:

1) Place material under masks, fold, carefully press onto retaining spikes

2) Cut IV phlebotomy tourniquets into 1/3's lengthwise. Tie double knot in each end. Bands/fabric could be used instead.
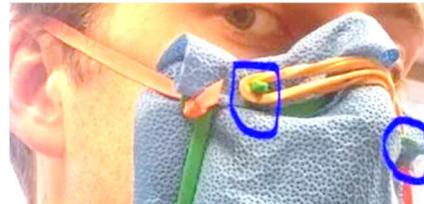

4) Pull top band over head while leaving bottom band hanging

5) Adjust to nose and chin. If not a perfect fit, you can warm plastic with a hairdryer or gently bend plastic

6) Pull band between friction lock mechanism (like flossing teeth) and let go. It will catch in the direction of the arrow. Tie shorter knots until you get the right fit

7) Place rubber band between spikes to close any nose gap if you have one and desire a perfect seal.

Additional Information:

This is a 3D printed adaptation of a mask detailed and sewn by Dr. Bruce D Spiess, University of Florida. It has been suggested that both 1 and 2 layers filter over 99% of small particles, implying it is better than n95, but preliminary data from more than one lab show that this material does not filter as well as originally suggested *under higher flow rates* that may be seen during fast breathing such as running up the stairs or while doing CPR. At lower flow rates it performs relatively well, but at higher flow rates it performs sub-optimally, and the n99 or n95 levels *should not be assumed under all or any conditions*.

This is likely a relevant design under many physiologic conditions and **may likely be used a replacement for a surgical/medical/cloth mask. The NIH has approved this for COMMUNITY USE, not clinical use,** as blood splatter permeability and other testing has not yet been completed, so keep this in mind and use at your own risk. NIH: 3dprint.nih.gov/discover/3dpx-013690

For more information, watch and read the description under "COVID 3D Printed Mask Frame for Halyard, Investigating 99% Filtration" by *ChrisWiles* on youtube.

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Open source files for 3D printing and modification are free at: thingiverse.com/thing:4262131

Disclaimer:
These are homemade items. There are no claims of safety being made or implied. Use only in accordance with local or institutional policy regarding homemade PPE. USE HOMEMADE PPE AT YOUR OWN RISK.