

Clear Masks to Prevent Transmission of SARS-Cov-2: Literature Review as of October 20, 2020

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In general, most studies and reviews agree that masks in tandem with good hand hygiene and social distancing will be protective for the wearer. Masks present a challenge, though, to those who may be deaf or hard of hearing as the mouth is covered and physical cues are lost. In response to this, some companies have begun to manufacture masks with a transparent piece on the front where the mouth can be seen, for example see The Communicator by Safe'N'Clear (<https://safenclear.com/product/communicator-box/>).

In an effort to investigate whether clear masks offered the same protective benefits of surgical or cloth masks, a literature search was conducted. Pubmed, Google Scholar, and manufacturer websites were searched for studies on the efficacy of these masks. During this search only a single article was found. This article, by Atcherson et al., investigated whether clear masks offer a benefit to speech understanding for those with and without hearing loss. In a small study, they found that the transparent masks were beneficial to those with hearing loss in understanding the wearer of the mask.¹

No articles were found on the efficacy of the masks at preventing transmission of disease or filtering of aerosols. During searches of manufacturer websites, it was found that The Communicator brand of mask is FDA approved. Upon review of the FDA approval, the FDA notes The Communicator is “substantially equivalent” to other masks that are already in circulation. This would suggest that these masks are as capable as other single-use masks. The company also notes the clear mask meets ASTM standards which are based on the ability of synthetic blood to penetrate the mask.

Additionally, the Clear Mask brand of transparent masks has received emergency FDA approval and is approved for use in healthcare settings when other surgical masks are unavailable. They have also been approved for use in Canadian healthcare settings. Although, the FDA approval does state that use of these masks in surgical settings or where significant exposure to bodily fluids is not recommended, suggesting that these masks have not undergone the same rigorous testing and therefore may not be as protective.

It should also be noted that additional information was found on a prior product known as Nex-Gen Clear Surgical Masks that received FDA approval in 2011 but were subsequently removed from the market in 2012 when it was discovered the transparent plastic piece did not remain sterile while in use. We were unable to find official documentation or literature for this, but information was on a website for the hearing impaired.

Also, of note is a recommendation from the CDC that when someone is deaf or hard of hearing that a clear mask would be beneficial for use instead of using no mask at all

(<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html>). The CDC further comments that face shields may be acceptable in these situations but should not be viewed as a recommended method of source control since the science on their efficacy is still being investigated. If clear masks are not available, the use of other methods of communication such as written communication or closed captioning should be used instead of unmasking.

Briefly, in conclusion, little information exists on the efficacy of these masks. The clear piece on the mask will be beneficial for communication especially for those who are hard of hearing. But all that is known on the efficacy of the masks is an emergency FDA approval of equivalence. If the new designs of these masks prevent build up on the clear piece, then intuitively, the masks should be as beneficial as a surgical mask for single use but that has yet to be studied in an empirical manner.

1. Atcherson SR, Mendel LL, Baltimore WJ, et al. The effect of conventional and transparent surgical masks on speech understanding in individuals with and without hearing loss. *Journal of the American Academy of Audiology*. 2017;28(1):58-67.