Ways to Improve Communication When Wearing a Mask

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Key Points:

- **Facemasks not only diminish droplet spread but the transmission of sound as well.**
- **When wearing a mask is necessary, surgical masks are the optimal choice for facilitating sound transmission during speech.**
- **Speaking up, increasing body language usage, and utilizing amplification technologies are all effective ways to enhance communication with others while wearing masks.**

To deter community spread of COVID-19, the World Health Organization and the Centers for Disease Control and Prevention recommend wearing a face-covering and maintaining a distance of at least 6 feet from others. Although beneficial in preventing the spread of droplets containing COVID-19, masks also effectively hamper communication by muffling sound and covering facial cues. This may cause difficulty for all people communicating with others, but especially for the 7.5% of US children with communication disorders[5] or the 15% of US children with hearing impairments[3] who may rely on facial cues and suffer from the muffling more than typically developing adults.

Studies investigating the effect of various face coverings have examined sound transmission and intelligibility (how understandable the speaker is). Data shows that masks muffle higher frequencies and alter the direction of speech projection[2]. Sound transmission is affected by mask material used, especially in cloth facemasks. Fabric that is more breathable transmits more sound whereas tightly woven cotton and blended fabrics are less breathable and obstruct sound transmission more[2]. From a sample of cloth, N95, and surgical masks, surgical masks performed the best for sound transmission, while continuing to effectively reduce droplet spread.

Not only is speech an important aspect of communication, but so are facial expressions and mouth movements. Even without words, the face can convey important emotion and meaning[1]. Face masks cover the lower half of the face obstructing important areas used for emotion. A study conducted at the University of Wisconsin-Madison examined the ability of 7–13-year-old children to infer emotion from partially covered faces. These children performed worse in activities identifying a person's sadness, anger, and fear when the person wore a mask versus no mask[4] (Figure 1). The obvious solution may be to use masks with a clear window so that the mouth can be seen and preserve facial cues however, these face masks block sound transmission at a higher level than most cloth masks[2].

So, what are compensatory strategies to help communicate while wearing facemasks?

- Speak louder[1].
- Increase body language use[1].
- Utilize amplification technologies when available to assist those with and without hearing loss[2] – this can help to boost sound transmission without causing vocal fatigue or harm.

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Figure 1: A depiction of the difference between uncovered and covered faces with a mask or sunglasses. The images with masks simulate what United States citizens currently look like on a day-to-day basis. While wearing masks over the nose and mouth, observers are unable to see these features and therefore the observer may have difficulty gathering information about the person's emotions. From left to right the faces depict sadness, anger, and fear. Graphic: (Ruba & Pollak, 2020)

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