

Mask Mouth Syndrome—Pros and Cons

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Abstract: Recent studies suggest that coronavirus disease 2019 (COVID-19) may be transmitted by infected persons even in the absence of symptoms of disease. While social distancing and good hand hygiene are the most important methods to prevent virus transmission, new guidelines state that healthy individuals can consider wearing masks in public settings, particularly when physical distancing is difficult (like in grocery stores or pharmacies). Primary benefits of wearing a mask include limiting the spread of the virus from someone who knows or does not know they have an infection to others. Masks also remind others to continue practicing physical distancing. However, nonmedical masks may not be effective in preventing infection for the person wearing them. Masks should not be worn by children younger than 2 years or by individuals who are unable to remove the mask by themselves or are unconscious.

Keywords: Infected persons, virus transmission, public settings, new guidelines.

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INTRODUCTION

Masks help prevent the spread of infectious diseases — like the Covid-19 virus — protecting both you and those you encounter. The simple barrier helps stop respiratory droplets from traveling into the air and onto other people when a person wearing the mask coughs, sneezes, talks, or raises their voice. However, wearing a mask for an extended period can create unwanted side effects, such as mask mouth. The Centers for Disease Control and Prevention (CDC) recommends wearing a mask in public settings, and studies show masks play a crucial role in slowing the virus's spread, so getting rid of this protective measure is not the answer. Instead, learn all about mask mouth — what it is, what causes it, and how you can prevent it — so you can find relief. As fallout of the COVID-19 spread, facemasks have become part and parcel of everyone's life and are used like a clothing accessory that is worn every day and everywhere [1]. Facemasks come in various shapes, forms, and materials, and besides their rising trend in the markets post-COVID-19 by manufacturers, their use was made obligatory by the government, especially in public gatherings [2]. Wearing a face mask for a prolonged period of time

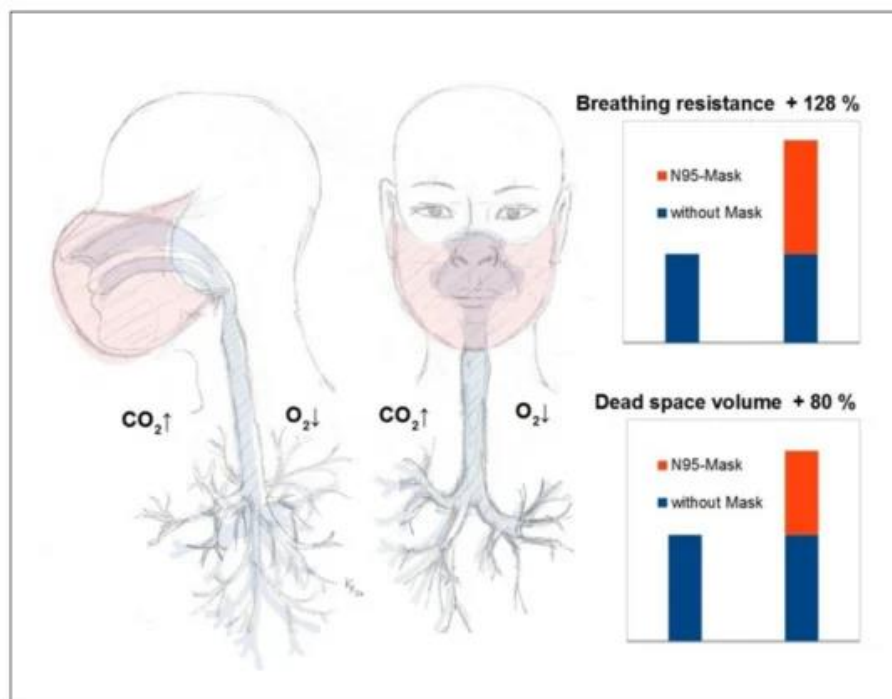
(more than eight hours/day), especially in health care settings, has been associated with discomfort and level of exertion for users, which is still not well understood [3]. Secondly, researchers have also found that the prolonged use of face masks comes with a plethora of problems, ranging from bad breath to dry mouth and eventually leading to tooth decay. While facemasks are the new normal in public places while interacting with others, many who need to don them for 8–10 hours daily complain of such oral issues. These oral issues are now being termed collectively as 'Mask Mouth Syndrome', and over 20 percent of the public deals with such issues, say dentists. "Mask Mouth" or 'Mask Mouth Syndrome' occurs due to prolonged wearing of face masks combined with the factors which promote bad oral hygiene such as not drinking enough water; consuming many sugary foods like chocolates; and/or drinking beverages that are acidic in nature such as soft drinks, coffee, etc. [4]. Because of these foods' factors, there is a development of plaque and tartar, which eventually increases the risk of developing cavities, gum diseases, and decay in the tooth [4]. Some conditions like medications (antihistamines), medical conditions like (Sjogren's syndrome,) smoking, and

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many more can cause dry mouth. Along with the several issues related to wearing masks, including earache, headache, breathing difficulty, and dental issues are also becoming common. While masks have

become part of our daily life and there is no way we can avoid them, bad breath, and dry mouth because of wearing masks can be avoided if suitable steps are taken by the user.

PATHOGENESIS



Mask Mouth is usually triggered when the nose and mouth are covered by a face mask for a prolonged duration of time (>6–8 hours), causing dryness in the mouth. Moreover, using a face mask causes an increased chance of mouth breathing by the user leading to surface dehydration and reduced salivary flow rate (SFR) in the mouth. The reduced SFR

leads to issues leading to the development of dental caries, gingivitis, halitosis, and even oral candidiasis [5]. However, these conditions can also be observed in the cases with poor oral hygiene due to other causes like immunosuppression and cancer cases.

IMPLICATIONS OF MASK MOUTH



The most important implication of mask mouth is the predisposition to dental caries, which occurs due to the entry of the air through the mouth due to excessive mouth breathing and the regular intake of carbohydrate foods that are fermentable and acidic, leading to the growth of organisms like streptococcus mutants and lactobacilli [6]. Furthermore, mouth

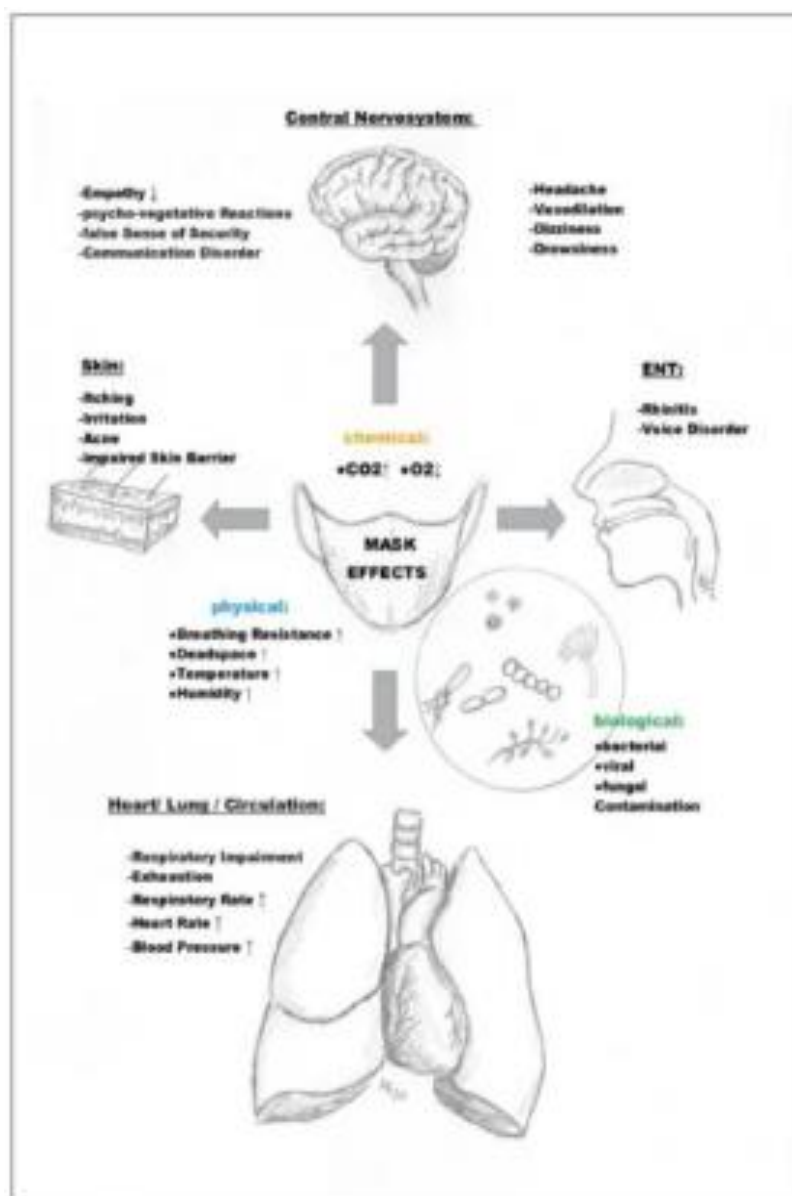
breathing causes reduced SFR and buffering capacity of saliva. A study by Mumolo *et al.*, (2018) [7] demonstrated that subjects with mouth breathing were more predisposed to develop a higher plaque than normal subjects without mouth breathing. Also, studies favor mouth breathing as a cause behind the development of gingivitis [8]. One important complaint

of people using a mask for prolonged periods has been the bad breath or halitosis or 'mask breath'. An important reason for the development of mask breath is the debris layer present on the tongue or a coating layer on the tongue which causes the concentration of volatile sulfur compounds to concentrate and produce such a bad smell [9]. However, decreased SFR and decreased water intake increases its severity. Other non-common issues like oral candidiasis, cheilosis, and ulcers are also reported among prolonged face mask users, but these are uncommon and are due to the reduced SFR, reduced water intake, alteration of oral microbiota, bacterial

overgrowth due to warm moist environment in and around the oral cavity.

SIGNS AND SYMPTOMS

Mask mouth is a general expression that covers a selection of symptoms. These include sour breath, receding gums, dry mouth due to mouth breathing, bleeding gums, and even tooth decay. Mask wearers might experience one or more of these symptoms, especially if they spend a lot of time wearing their masks.

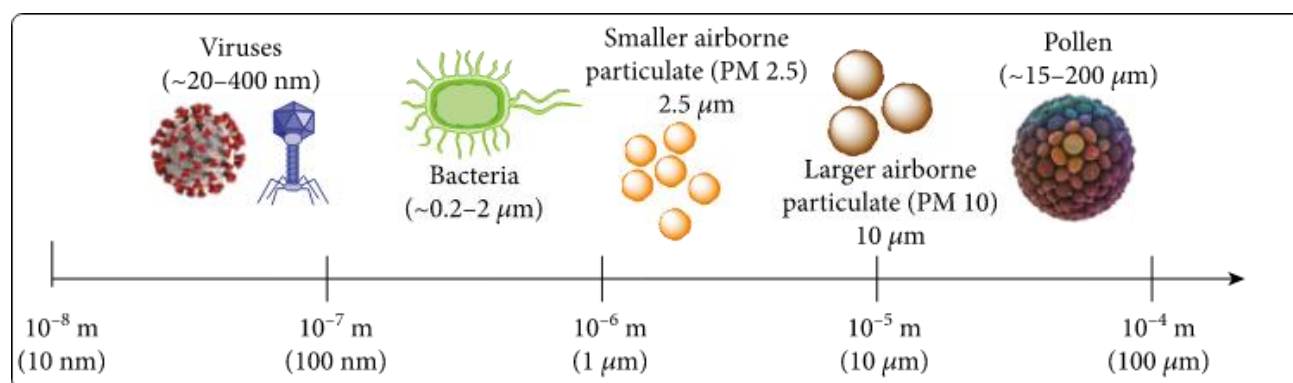


PREVENTION OF 'MASK MOUTH'

What Causes Mask Mouth?

Mask mouth is caused by wearing a mask for a lot of time, keeping your mouth closed behind a cloth mask, and breathing through your mouth more than your nose, can dry out your mouth. As your mouth

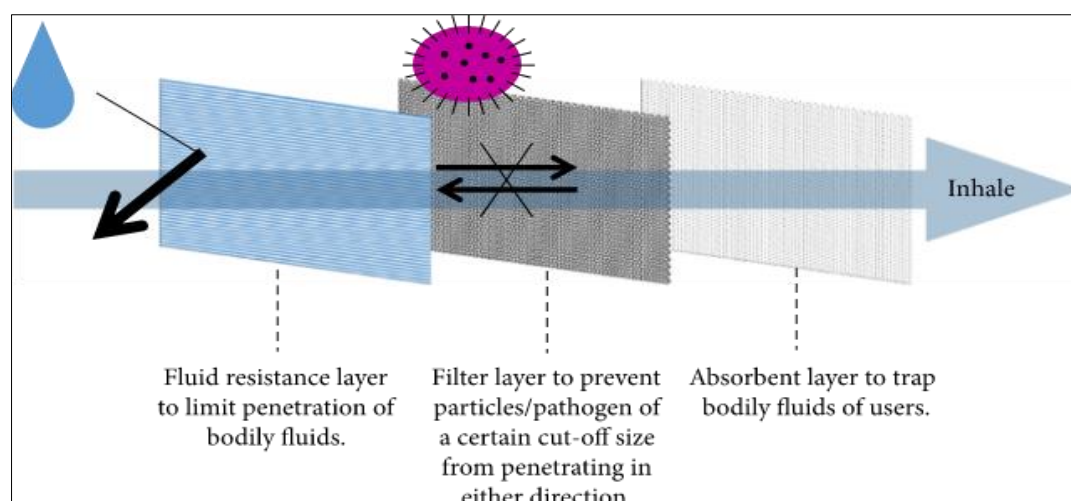
becomes dry, your breath starts to smell, and your teeth suffer. Saliva is vital to maintaining fantastic oral health, so if you get a dry mouth, you might find that your teeth get damaged. The symptoms of mask mouth aren't dangerous on their own, but they can cause lasting damage when taken together.



HOW CAN YOU PREVENT MASK MOUTH?

There are many practical ways that you can try to prevent mask mouth, but one of the most effective is to reduce the amount of time you spend wearing a mask. That means going out less, avoiding contact with other people who aren't members of your household, and working from home if possible. If you're not wearing your mask, then you'll dramatically reduce your chances of getting mask mouth, although you still need to take care of your teeth. If you can't avoid wearing a mask, then you should try to take regular breaks and get some fresh air during the day. When you don't have to wear your mask, take it off and breathe in the fresh air to refresh your mouth. Wearing a mask isn't necessary if you're outside and far away from other people, so you should take your mask off on your journey to and from your destination. This approach will help you to keep your mouth moist and improve the flow of saliva. It would be best if you also tried to drink water throughout the day so that your mouth produces more saliva. Avoid drinking lots of sugary drinks, such as juice or soda, as they can cause even more tooth decay. Improving your oral hygiene routine will help you to deal with any symptoms that you might notice. Try to brush your teeth more often, and floss your teeth after every meal. Make sure that your teeth are clean by visiting your dentist and getting a professional clean. Also, use quality toothpaste and consider investing in an electric toothbrush. As well as improving the cleanliness of your teeth, it would help if you also kept your mask clean. Wearing a dirty mask is worse than wearing a clean one, as you'll spread more bacteria. A dirty mask will also hoard bacteria and food particles, which you might then breathe back into your mouth. Wash your mask regularly, and if you have to wear one at work, consider carrying a spare so that you always have a clean mask close at hand. The most effective ways to prevent mask mouth include keeping up with good oral hygiene habits, which include taking the time and effort to brush and floss the teeth every day and consuming healthy nutritious foods and drinks. Some of the preventive methods which need to be adopted by the

mask users include the following: (a) Proper mask etiquette: Use of a proper technique, wearing a clean mask, and avoiding mouth breathing while wearing a mask needs to be followed. Moreover, frequent breaks while working shifts are necessary to reduce the prolonged Volume 11: Issue 8: August 2022 Letter to Editor use of face masks. (b) Hydration of the body: Mask users must ensure that they are well hydrated while they are using the face mask during work shifts. Moreover, they can apply moisturizers, emollients creams to prevent skin ulceration. (c) Time and effort to maintain oral hygiene practices: brushing the teeth twice a day with fluoridated toothpaste and using a string of floss once a day is recommended. Furthermore, using a chlorhexidine mouth wash at least once a day is advisable, which helps in the prevention of caries and plaque formation. The best way to prevent the mask mouth is to reduce the amount of time we spend wearing a mask. That means going out less, avoiding contact with other people who are not members of your household, and working from home if possible. If someone is not wearing a face mask, then he/she will dramatically reduce the chances of getting a mask mouth, although he/she still needs to take care of his/her teeth. Most importantly, it is recommended to make people aware of the "Mask Mouth Syndrome" as it is essential to prevent its implications. If people get significant problems with their teeth or mouth, then they need to visit the dentist as soon as possible. Delaying treatment could cause the problem to worsen, so people should reach out to their dentist if the problem is not going away or is getting worse. A professional dentist, such as a staff member, can help people understand the problem and provide them with practical solutions. If the issue is more severe or is not solely due to the mask, a dentist can help you solve it. They can help with everything from laser cavity detection to root canal treatment and more. If people are unable to visit a dentist due to COVID-19 restrictions, then people can get tele/video consultations for the same.



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