

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at: www.ijdsir.com

Volume – 4, Issue – 3, May - 2021, Page No. : 13 - 16

Mask mouth & Covid tongue: An update

¹Dr. V. Chakradhar, Postgraduate student, Department of Prosthodontics, Lenora Institute of Dental Sciences.

²Dr. B.Lakshmana Rao, MDS, Professor & Head, Department of Prosthodontics, Lenora Institute of Dental Sciences.

³Dr. PSHL Parvathi, Postgraduate student, Department of Prosthodontics, Lenora Institute of Dental Sciences. ⁴Dr.D.Padmini, Postgraduate student, Department of Prosthodontics, Lenora Institute of Dental Sciences.

Corresponding Author: Dr. V. Chakradhar, Postgraduate student, Department of Prosthodontics, Lenora Institute of Dental Sciences.

Citation of this Article: Dr. V. Chakradhar, Dr. B.Lakshmana Rao, Dr. PSHL Parvathi, Dr. D.Padmini, "Mask mouth & Covid tongue : An update", IJDSIR- May - 2021, Vol. – 4, Issue - 3, P. No. 13 – 16.

Copyright: © 2021, Dr. V. Chakradhar, et al. This is an open access journal and article distributed under the terms of the creative commons attribution noncommercial License. Which allows others to remix, tweak, and build upon the work non commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Type of Publication: Review Article

Conflicts of Interest: Nil

Abstract

Mouth masks are a vital part of personal protective equipment that helps us to prevent the spread of different types of the droplet, airborne infections mainly coronavirus in this pandemic time, this mouth mask acts like a double-edged also infects the oral cavity if it wore for long periods called, mask mouth. These oral symptoms can be avoided by following a regular change of mask, oral hydration, oral hygiene maintenance. A new sign gaining importance in diagnosing a new strain of covid 19 is the covid tongue. These two conditions have an enormous impact on the patient's oral health, which can be prevented by following necessary precautions.

Keywords: mask mouth, covid19, covid tongue, breathing exercise, hydration

Introduction

Mouth masks are a type of personal protective equipment used to prevent respiratory infections from spreading. These masks cover the wearer's mouth and nose and, when worn correctly, can help prevent the spread of respiratory viruses and bacteria. The use of these barriers increased in the recent times for protection from the novel corona virus pandemic as insisted by the center for disease control (CDC), world health organization and from the governments all over the world in the public gatherings for decrease of spread of droplet, airborne infections. However ,the usage of these masks for prolonged periods may alter the oral environment and cause some major problems to the oral cavity.

Mask mouth explains the variety of oral side effects from wearing a mask for a prolonged period. Dry skin, poor breath, tooth decay, and even gum disease are all symptoms of mask mouth.

Effects

 Wearing a face mask affects both the body and the mind by altering breathing habits and thermoregulation. Thermoregulation is harmed by

Dr. V. Chakradhar, et al. International Journal of Dental Science and Innovative Research (IJDSIR)

protective masks because heat exchange is hampered. This can lead to increased facial temperatures and even core temperatures, which can have psychophysiological severe consequences.Roberge RJ, et al.2012)¹

- 2. Wearing a cloth mask can cause dysfunctional breathing that persists even after mask is removed lowering CO_2 in the past body limits causing anxiety, headaches ,fatigue
- 3. Some cloth masks improve resistance by causing the wearer to take shorter inhales and exhale more quickly. Hyperventilation is a rapid form of breathing that has both immediate and long-term consequences.
- 4. Symptoms of hyperventilation restricted O2 absorption or excessive CO2 retention may occur regardless of the mask worn and include anxiety, shortness of breath, headaches, dizziness or confusion, numbness or tingling in the hands and feet, and sleeping problems.
- 5. **Dehydration:** Wearing a mask also causes you to drink less water than usual. Dehydration can lead to dry mouth, increasing your risk of tooth decay and bad breath.
- 6. **Recycling air:** When you wear a mask, you trap more carbon dioxide in your mouth than usual, according to Aerosol and Air Quality Research. This amount of carbon dioxide does not have a toxicological effect on your body. However, it can increase your oral microbiome's acidity, which might put you at risk for infections or inflammatory conditions like gum disease.²

Recommendations

Respiratory Muscle Training (RMT) for 5 minutes in the morning and 5 minutes in the evening is recommended. Even while wearing a mask, RMT will encourage people to take more deep, more complete breaths. $(S_{everin et al. 2020})^3$

1. Take five deep breaths before putting on a mask, after putting it on, and after removing it.

• Quality breath= 4 seconds inhale through the nose, 6 seconds exhale through the mouth, 2-second rest

• Take five before putting on the mask

- Take five immediately after putting on the mask
- Take five while removing the mask
- This will help avoid the autonomic nervous system from being stuck into a dysfunctional breathing pattern.

2. Remember to take longer, slower breaths while wearing the mask.

Symptoms⁴

Dry mouth: Xerostomia, or dry mouth, happens when you don't have enough saliva to keep your mouth moist. A dry mouth not only makes eating, swallowing, and speaking painful, but it also raises the risk of caries and various other oral infections.

Bad breath: Halitosis, or bad breath, can be caused by various factors, including what you eat, how you brush your teeth, and whether you have a dry mouth. Long-term mask use can exacerbate dry mouth, but it also traps odors caused by inadequate oral hygiene or the consumption of odorous foods like garlic and onions.

Bleeding gums: If you notice your gums are swollen or bleeding, it could be a sign of gingivitis. Wearing a mask may impact the type and amount of bacteria in your mouth, which can cause plaque build-up and advance that to your gum tissues.

Pathophysiology

Prolonged usage of a mouth mask

Breathing through mout

Dryness of mouth

© 2021 IJDSIR, All Rights Reserved

Dr. V. Chakradhar, et al. International Journal of Dental Science and Innovative Research (IJDSIR)

Change in ph of oral cavity

Increase of the cariogenic microbes, leads to carie

Increased caries index, reduced coronal structure

Gingival infections, ulcers, reduced periodontal support

Mobility of the teeth, Halitosis

Mask mouth

Implications⁴

Dental caries: Saliva buffering capability and flow rate are reduced when you breathe through your mouth. Mummolo et al. $(2018)^5$ found that mouth breathing subjects are more likely than healthy subjects to develop a higher plaque index.

Halitosis: The majority of patients with mask mouth experience halitosis, also known as "mask breath." The layer of debris on the tongue and the tongue coating are essential factors in Halitosis. It is critical in increasing the concentration of volatile sulphur compounds in the mouth.^{6,7}

Candidal Infection: Due to a mask, oral and decreased salivary rate dehydration may alter the oral microbiota and increase the risk of opportunistic infections like candidiasis.

Angular Cheilitis and Ulcers: Long-term use of a mask provides a wet, moist atmosphere on the mouth's surrounding skin, which is ideal for bacteria to thrive and develop. This bacterial overgrowth can result in angular cheilitis, cracking, and ulcers at the mouth's corner.

These implications may also deteriorate the dentate status, soft tissue complications of the individual, which may lead to earlier edentate conditions.

Prevention of mask mouth

- 1. Keep good oral hygiene by brushing, flossing using mouthwashes
- 2. Consume healthy foods and drinks
- 3. Avoiding alcoholic beverages
- 4. Hydrate by drinking enough water frequently
- 5. Avoiding smoking habits
- 6. Consulting dentist regularly

Covid Tongue⁸: This is a prevalent talked symptoms of the Covid-19 in the second wave. The COVID-19, according to reports, induces a burning sensation on the surface of your tongue. Many experts also believe that covid-19 patients' skin rashes are linked. However, a rare and uncommon symptom known as COVID Tongue is now affecting people. When this happens, the body stops producing saliva, which protects your mouth from harmful bacteria. You may experience dryness or stickiness in your mouth as a result of this. It can be difficult for people with this symptom to chew food or talk. 'One in five people with Covid also present with less common symptoms,' wrote Professor Tim Spector, a genetic epidemiologist at King's College London.

Color changes of the tongue: The COVID-19 can trigger changes in the color and texture of your tongue in your mouth. It can also irritate your mouth, making your lips and tongue tingle or feel a lot more irritated than they should. It could also cause a change in the color you would be used to seeing.

Conclusion: personal protection equipment, mainly mouth mask is the barrier that protects an individual from droplet, airborne, flu infections in this pandemic situation when used correctly along with sufficient hydration, quality food intake, frequently changing the mask, good oral health maintenance, balanced diet can prevent us from reaching a debilitating stage called mask mouth.

References

- Roberge RJ, Kim JH, Benson SM. Absence of consequential changes in physiological, thermal, and subjective responses from wearing a surgical mask. Respiratory physiology & neurobiology. 2012 Apr 15;181(1):29-35.
- Geiss O. Effect of Wearing Face Masks on the Carbon Dioxide Concentration in the Breathing Zone. Aerosol and Air Quality Research. 2020 Oct;20.
- Severin R, Arena R, Lavie CJ, Bond S, Phillips SA. Respiratory muscle performance screening for infectious disease management following COVID-19: a highly pressurized situation. The American journal of medicine. 2020 Apr 25.
- pooja M' MASK MOUTH'- A novel threat to oral health in the COVID era. Dental turbine south Asia aug 26,2020
- Mummolo S, Nota A, Caruso S, Quinzi V, Marchetti E, Marzo G. Salivary markers and microbial flora in mouth breathing late adolescents. BioMed research international. 2018 Mar 5;2018.
- Kanehira T, Takehara J, Takahashi D, Honda O, Morita M. Prevalence of oral malodor and the relationship with habitual mouth breathing in children. Journal of Clinical Pediatric Dentistry. 2004 Jul 1;28(4):285-8.
- PN medical) (https://www.pnmedical.com/breatheruniversity/effects-of-wearing-face-mask/)
- Coronavirus Oral Symptoms: Not Just Loss of Taste, Thesehttps://www.news18.com/news/lifestyle/corona virus-oral-symptoms-not-just-loss-of-taste-thesesigns-are-also-crucial-3627419.html.