

Oral Care and COVID: Why it Matters!

Presenter:
Dr. Amy Dukoff



INTRODUCTION

Even with the vaccine and boosters, we are all vulnerable to COVID infections. When infected with the virus, what should we do differently to clean our teeth, tongue and gums?

Oral care guidance and instructions are missing. Therefore, keeping your mouth clean like keeping your hands clean is essential during a COVID infection and decreasing your vulnerability.

Oral care is strongly associated with improved health during COVID. British researchers agree that oral hygiene and care are integral in affecting the disease progression.

Q & A:

Q: Your patient asks, "I have COVID, any suggestions?"

Q: Your dental team member may ask, "What can I do to decrease my chances of being vulnerable to COVID infection?"

A: Just like Soap can affect how your skin reacts especially when it's cut or bruised; Oral care products can affect your oral tissues especially when you are COVID + and are prone to inflammatory lesions, blisters, and ulcers,...

RECOMMENDATIONS FOR ORAL CARE PRODUCTS:

Ingredients for At-Home Products to use during infection and with oral lesions should be:

1. SLS Free: SLS can cause mucosal irritations;
2. Alcohol Free: Alcohol can cause drying;
3. Peroxide Free: Hydrogen peroxide can aggravate ulcers;
4. Alkaline: Support healthy oral pH of neutrality;
5. Low abrasiveness of RDA: Avoid irritating inflamed tissues;
6. Fluoride-free for frequent additional oral care brushing;
7. Fluoride toothpaste for 2X/day;
8. Soft toothbrush: To clean oral tissues, tongue.

SUGGESTIONS TO DECREASE VULNERABILITY:

1. Keep lots of saliva in your mouth: Healthy saliva as per researchers prevent the virus to bind to the ACE2 receptor site;
2. Brushing your tongue often and during the day: Researchers found tongue brushing aiding to reduce transmission;
3. Maintain good oral hygiene habits and recalls for your patients;
4. Avoid having a dry mouth especially when wearing a mask:
Sip water, sugar-free candies, gum, ... ;
5. Change and disinfect your toothbrush often;
6. Regular oral hygiene appointments and dental check-ups;
7. Wash your hands before brushing your teeth.

REFERENCES:

- (1). Do repeat COVID infection make COVID more 25. Do repeat COVID infection make COVID more likely? Jan. 31, 2023: <https://www.nebraskamed.com/COVID/do-repeat-covid-infections-make-long-covid-more-likely#:~:text=For%20those%20who%20had%20COVID,long%20COVID%20and%20chronic%20fatigue>
- (2) Gherlone EF, Polizzi E, Tetè G, De Lorenzo R, Magnaghi C, Rovere Querini P, Ciceri F. Frequent and Persistent Salivary Gland Ectasia and Oral Disease After COVID-19. J Dent Res. 2021 May;100(5):464-471. doi: 10.1177/0022034521997112. Epub 2021 Mar 3. PMID: 33655804; PMCID: PMC7930603.
- (3) France K, Glick M. Long COVID and oral health care considerations. J Am Dent Assoc. 2022 Feb;153(2):167-174. doi: 10.1016/j.adaj.2021.08.007. Epub 2021 Oct 29. PMID: 34756590; PMCID: PMC8553648.
- (4) Amiana-Roig A, Pérez-Martínez L, Rodríguez Ledo P, Verdugo-Sivianes EM, Blanco J-R. Should We Expect an Increase in the Number of Cancer Cases in People with Long COVID? Microorganisms. 2023; 11(3):713. <https://doi.org/10.3390/microorganisms11030713>
- (5) Saini G, Aneja R. Cancer as a prospective sequela of long COVID-19. Bioessays. 2021 Jun;43(6):e2000331. doi: 10.1002/bies.202000331. Epub 2021 Apr 29. PMID: 33914346; PMCID: PMC8206711
- (6) González-Olmo, M.J., Delgado-Ramos, B., Ruiz-Guillén, A. et al. Oral hygiene habits and possible transmission of COVID-19 among cohabitants. BMC Oral Health 20, 286 (2020). <https://doi.org/10.1186/s12903-020-01274-5>
- (7) Osaka Metropolitan University. "New key protection against COVID-19 found in saliva: Salivary proteins inhibiting virus binding identified." ScienceDaily. ScienceDaily, 19 July 2022. www.sciencedaily.com/releases/2022/07/22/202207190951133.htm
- (8) Sadikoglu IS, Caymaz MG. Saliva: Both a Threat and an Opportunity in Covid-19 Pandemic. Pak J Med Sci. 2021 Jul-Aug;37(4):1215-1220. doi: 10.12669/pjms.37.4.4263. PMID: 34290811; PMCID: PMC8281145.
- (9) Fathi Y, Hoseini EG, Atoof F, Mottaghi R. Xerostomia (dry mouth) in patients with COVID-19: a case series. Future Virol. 2021 Mar;10.2217/fvl-2020-0334. doi: 10.2217/fvl-2020-0334. Epub 2021 Apr 6. PMID: PMC8023012.
- (10) State of Illinois, Illinois Department of Public Health, <https://dph.illinois.gov/content/dam/soi/en/web/dph/covid19/guidance/Oral-dentalcare-COVID19.pdf>
- (11) J'Hehr, T., Toothpaste Ingredients can lead to lesions, RDH, 5/1/19; <https://www.rdhmag.com/patient-care/fitness-pastes/article/16406913/toothpaste-ingredients-can-lead-to-lesions>
- (12) Zhou, C., Dry mouth treatment. Tips for controlling dry mouth; <https://www.mayoclinic.org/diseases-conditions/dry-mouth/expert-answers/dry-mouth/faq-20058424>
- (13) Rees, T., Orth, T., Oral Ulcerations with Use of Hydrogen Peroxide; Journal of Perio; November 1,1986 <https://doi.org/10.1902/jop.1986.57.11.689>
- (14) Mayo Clinic Staff, Cuts and Scrapes, First Aid, <https://www.mayoclinic.org/first-aid/first-aid-cuts/basics/art-20056711>
- (15) Bains VK, Bains R, Is oral hygiene as important as hand hygiene during the COVID-19 pandemic? Asian J Oral Health Allied Sci 2020;10:5.
- (16) Samaranyake L, Fakhruddin KS, Bandara N. Oral Manifestations of Coronavirus Disease 2019 (COVID-19): An Overview. Dental Update May 2021;48:5. Available at: <https://doi.org/10.12968/denu.2021.48.5.418>.
- (17) Etemad-Moghadam S, Alaeiddini M. S. SARS-CoV-2 an Etiologic Agent or Predisposing Factor for Oral Lesions in COVID-19 Patients? A Concise Review of Reported Cases in the Literature. Int J Dent. 2021 May 18;2021:6648082. doi: 10.1155/2021/6648082. PMID: 34054961; PMCID: PMC8136299.
- (18) Iranmanesh B, Khalili M, Amir R, Zartab H, Afsharoonian M. Oral manifestations of COVID-19 disease: A review article. Dermatol Ther. 2021 Jan;34(1):e14578. doi:

HOW MANY TIMES CAN YOU HAVE COVID?

Does having COVID-19 twice or more times increases your chance of getting Long COVID and/or chronic fatigue?

Does your vaccination status matter?

Yes, increase number of infections increase your chances of Long COVID.

No, vaccination status does not matter.⁽¹⁾

as per Study conducted by the Department of Veterans Affairs reported by the Nebraska Medicine, UNMC

(1). Do repeat COVID infection make COVID more 25. Do repeat COVID infection make COVID more likely? Jan. 31, 2023: <https://www.nebraskamed.com/COVID/do-repeat-covid-infections-make-long-covid-more-likely#:~:text=For%20those%20who%20had%20COVID,long%20COVID%20and%20chronic%20fatigue>

LONG COVID SYMPTOMS:

Clinical Symptoms can be:

- Temporomandibular joint abnormalities;
- Facial pain;
- Dry mouth;
- Salivary gland ectasia (swollen, hyperinflamed);
- Masticatory muscle weakness;
- Ulcers;
- Altered smell and taste, ...

(2) Gherlone EF, Polizzi E, Tetè G, De Lorenzo R, Magnaghi C, Rovere Querini P, Ciceri F. Frequent and Persistent Salivary Gland Ectasia and Oral Disease After COVID-19. J Dent Res. 2021 May;100(5):464-471. doi: 10.1177/0022034521997112. Epub 2021

HOW IT AFFECTS DENTAL VISITS:

1. Shortening appointments;
2. Breathing difficulties;
3. Fatigue and muscle weakness;
4. Difficulty in positioning for treatment;
5. Cognitive function may be impaired affecting consent and treatment planning;
6. Dry mouth and an increase susceptibility to caries and periodontal disease;
7. Headaches and psychological complications...

(3) France K, Glick M. Long COVID and oral health care considerations. J Am Dent Assoc. 2022 Feb;153(2):167-174. doi: 10.1016/j.adaj.2021.08.007. Epub 2021 Oct 29. PMID: 34756590; PMCID: PMC8553648.

CAN LONG COVID LEAD TO CANCER? POSSIBLY

Based on Scientific facts the researchers believe a link is possible because

- a) the SARS-CoV-2 protein has oncogenic characteristics;
- b) RNA viruses are associated with having the potential for being a risk factor for cancer.⁽⁴⁾

'Given that chronic, low-grade inflammation is common in COVID-19 patients, we hypothesize that COVID-19, especially long COVID-19, increases the risk of cancer.'⁽⁵⁾

'that long COVID-19 may predispose recovered patients to cancer development and accelerate cancer progression.'⁽⁵⁾

(4) Amiana-Roig A, Pérez-Martínez L, Rodríguez Ledo P, Verdugo-Sivianes EM, Blanco J-R. Should We Expect an Increase in the Number of Cancer Cases in People with Long COVID? Microorganisms. 2023; 11(3):713. <https://doi.org/10.3390/microorganisms11030713>

(5) Saini G, Aneja R. Cancer as a prospective sequela of long COVID-19. Bioessays. 2021 Jun;43(6):e2000331. doi: 10.1002/bies.202000331. Epub 2021 Apr 29. PMID: 33914346; PMCID: PMC8206711

CONCLUSION: FOR A HEALTHY FUTURE

I believe Dentistry holds the missing key in the post pandemic COVID era.

Oral care is key for good oral health.

Research will take years to decide:

How Long COVID is associated with developing cancer?
How many times we can have COVID in our lifetime before we have Long COVID and/or chronic fatigue?

Avoiding having recurrent COVID infections is important to avoid increasing the chances of being susceptible to having Long COVID.