OHNEP COVID-19: Oral Health Resource Kit

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Faculty Resources for Integrating Oral-Systemic Health in Curricula

The mouth is the gateway to the rest of the body. Oral health care is critical to staying healthy, especially in the midst of the COVID-19 pandemic when, for many people, access to dental care is limited. Poor oral health is connected to many overall health problems and can increase risk for COVID-19 and its complications. It has never been more important for non-dental health professionals to be aware of the oral health complications related to COVID-19 and other acute and chronic conditions as well as to be an oral hygiene champion. This Resource Kit provides valuable interprofessional oral health teaching resources for health professions faculty to use in classroom, simulation, and clinical settings. These COVID-19 resources promote development of collaborative oral-systemic health competencies for providing whole person care for patients across the lifespan.

Click on the links below to view and download from our website ohnep.org.

◊ “Promoting Vaccine Confidence Case Studies” #1 & #2 that provide examples of individuals who are hesitant about getting the COVID-19 Vaccine.
◊ “COVID-19: OrAll in the Family” unfolding case study (with answer sheet) that provides examples of patients across the lifespan with oral health issues related to COVID-19.
◊ “Caring For Your Teeth During COVID-19” patient health literacy for maintaining good oral health at home.
◊ “Special Care for Your Braces During COVID-19” patient health literacy focused on caring for your braces at home.
◊ A reference list of peer-reviewed articles and open-source publications that highlight the links between oral health and COVID-19.
Sam age 68 is a single, white, obese male with poorly controlled Type 2 Diabetes. He has been diagnosed with periodontal disease but has not been treated for this. He is on SSI and Medicare/Medicaid with no dental benefit. He is here for his diabetic appointment. As his nurse practitioner, you recommend he get the COVID-19 vaccine. He tells you he does not want to get the vaccine.

The WHO has declared vaccine hesitancy a major threat to global health. Vaccine hesitancy is being fueled by social media.


How do you address his vaccine hesitancy?
Find out what makes the patient feel this way:
Nurse or Nurse Practitioner (RN/NP): I’m so glad you’re here for your diabetic check-up. We just got the COVID-19 vaccine and I can give it to you today. Sam: I don’t want that!
RN/NP: Can you tell me what makes you feel that way?
Sam: It is all a conspiracy from China to implant the virus in everyone. It’s the 5G that’s spreading the virus and that’s in the vaccine now too.
RN/NP: Where did you find this information?
Sam: It’s all over my Twitter account. Haven’t you seen it? It’s everywhere.
RN/NP: There is a lot of inaccurate information being spread on social media. I can look at it with you to see.

Healthcare providers are among the most trusted information sources.

Correct this misinformation.
Sam: Why would I take something which would make me sick?
RN/NP: The vaccine does not contain the virus. It only has a protein which will help your body to make an antibody to fight the infection if you are exposed to the virus. It will not give you the virus.

Coincident with the rapid developments of COVID-19 vaccines globally, concerns about the safety of such a vaccine could contribute to vaccine hesitancy.

◊ **Is the vaccine safe?**

*Sam:* The vaccine was made so fast, it can’t be safe.
*RN/NP:* Although development moved rapidly, you can be assured that there is excellent safety data on both vaccines. Because of the pandemic, massive amounts of money were invested for vaccine development, and recruitment for clinical trials resulted in unprecedented large numbers of volunteers which allowed it to proceed efficiently. The vaccine has some side effects which are usually very mild and include fatigue and muscle aches. Some people may experience a fever. Usually this is over in a day or so.

◊ **Discuss the population benefit.**

*RN/NP:* The vaccine does not give you COVID-19, although you may have some reaction. This is much better than getting the disease. It is also much better than spreading the disease to vulnerable people like your elderly mother, or neighbors.

*Those who accept flu vaccine are more likely to accept COVID vaccine.*
*The most significant positive predictor for acceptance of a potential COVID-19 vaccine is current influenza vaccination.*

◊ **Ask about the influenza vaccine.**

*RN/NP:* Have you received the flu vaccine this year?
*Sam:* No, I never take the flu vaccine. I am strong.

**Why does he need to get the vaccine?**
*Research found that a person's own health care provider is the most trusted source for information on the COVID-19 vaccine.*

◊ **Explain the importance of getting the vaccine.**

*RN/NP:* Sam, this is a very serious disease and it has killed many strong people, but it is especially dangerous for anyone with diabetes and for anyone who is overweight. These 2 conditions make it harder for you to fight this disease. Many people who have these problems are still getting very sick and many die from COVID. Many people who get COVID have effects that last a long time, like heart or lung problems. I can help you get an appointment, or you can text 438-829 and enter your zip code to see where you can get an appointment nearby.

**What is your management plan for Sam?**
OHNEP COVID-19: Promoting Vaccine Confidence #2
Case Study

◊ **Marjorie** is a 92-year-old black woman getting her hair done at her local beauty parlor. Her hairdresser receives a call from the church secretary asking of there is anyone there who would like a vaccine on Sunday at church.

In order to get vaccine information to BIPOC groups, collaboration with trusted messengers, such as faith-based and community leaders, will help to tailor and share culturally relevant messages and materials with diverse communities. Ensuring access to vaccine through using community gathering places such as churches and beauty parlors, will enable access which will meet the community needs.


◊ The hairdresser Laticia asks Marjorie if she would like to get the vaccine.
*Marjorie:* No, not me.
*Laticia:* Why not?

◊ You can help by listening without judgement and identifying the root of their concerns.
*Marjorie:* They are just trying to experiment on us black folks again.
*Laticia:* What do you mean?

◊ Try not to sound judgmental and ask questions that help you understand their concerns.
*Marjorie:* When I was a girl, my uncle was a sharecropper in Tuskegee, and he was told he was getting free health care from the government. It was a lie, he had syphilis and they never told him, and they never treated him for it and he died.

◊ Once you understand their concern, ask if you can provide some information, and tell them where you get information you trust.
*Laticia:* Yes, I have heard of that. It was terrible. My niece who is in college told me that because it was such an unethical study, it caused many new laws to be written so that this would never happen again. She told me there are lots of rules and laws and people who oversee this now, so it can’t happen.

◊ Is the vaccine safe?
*Marjorie:* They made the vaccines so fast, they can’t be safe
Laticia: Because this is a world-wide pandemic, lots of money was spent in finding a vaccine as soon as possible and lots of people volunteered to help by being in the studies.
Marjorie: How do you know they are safe?
Laticia: Many thousands of people participated in the studies and now millions of people have taken the vaccine. There are very few problems. The vaccine has some side effects which are usually very mild and include tiredness and muscle aches. Some people may experience a fever. Usually this only lasts a day or so. All of the vaccines prevent people from getting seriously ill or becoming hospitalized with COVID.

◊ Helping them find their own reason to get vaccinated can steer the conversation from “why not” to the important reasons that matter to them—their “why.”

Laticia: Have you seen your great-grandchildren?
Marjorie: No, not in a year
Laticia: The sooner you get vaccinated, the sooner we can get back to normal.
Marjorie: What do you mean?
Laticia: After you get your shots (either 2 for Pfizer and Moderna or 1 of Johnson & Johnson) you have to wait 2 weeks and then you are fully vaccinated. You can then be inside without masks with other fully vaccinated people like your friends, or with low-risk unvaccinated people like your great-grandchildren. You will still have to wear your mask and socially distance when you are in public or with unvaccinated high-risk people.
Marjorie: I do miss my grandchildren. I will think about it.
Laticia: Give me a call when you are ready. I will help you get an appointment. You can text 438-829 and put in your zip code or in Spanish text 822-862 (VACUNA) and enter your zip code to see where you can get an appointment nearby.
COVID-19 risk increases for individuals, families and communities disproportionately affected by chronic diseases and the social determinants of health. These same populations are at higher risk for oral disease. Common risk factors include obesity, poverty, stress, poor diet, alcohol and tobacco use, substance misuse, mental health issues and domestic violence. Many of these factors have been heightened during the pandemic. These and other social determinants of health contribute increased risk of COVID-19, exacerbation of chronic disease and poor oral health.

◊ The Collins family is a multi-generational African-American family living in the Bronx.
◊ The family wanted to gather for Grandma Collins’ 90th birthday. She resides in assisted living and is fully vaccinated. The Collins family discussed how to gather as safely as possible.
◊ Grandma and Carla are fully vaccinated. Joe is reluctant to get the vaccine even though he is qualified for it. Laurette, Mike and their children Tanisha and Troy are not. What would you consider their risk level for COVID-19 for having an indoor family dinner?

Collins Family Members
✔ Grandma Collins, age 90 – mother of Carla and Joe
✔ Carla, age 68 – daughter of Grandma Collins; widow; mother of Laurette
✔ Joe, age 69 – son of Grandma Collins; single
✔ Laurette, age 42 and Mike, age 44 - parents to Tanisha, age 13 and Troy, age 5

Grandma Collins has mild dementia, has poor oral health, and requires assistance for all activities of daily living (ADL) including oral hygiene.


The day after the family dinner, Laurette noticed she could not taste or smell anything and went for a COVID-19 test.

◊ Day 1 - You are on the team in the COVID TESTING CENTER.

Laurette age 42 teaches 5th grade in a public school and has been working remotely for a year. She is waiting to get an appointment for her first COVID-19 vaccine dose. You give Laurette a rapid and PCR test. Her COVID-19 rapid test was positive, and her PCR test results 3 days later was also positive.


What do you tell Laurette about the loss of taste and smell?
1. What percent of patients experience loss of taste/smell?
2. Is this an early or late sign?
3. Why would this be considered a COVID-19 alert?
4. Why is the tongue a considered a possible site of initial infection?
5. What type of cells exist on the tongue?

Review the CDC Guidelines (2021) for asymptomatic and symptomatic patients: https://www.cdc.gov/mmwr/volumes/69/wr/mm695152a3.htm

What do you tell Laurette about the rapid test?
6. How soon are the rapid test results available?
7. How accurate are the rapid test results?
8. When is the PCR test necessary?
Grandma Collins and Carla are **fully vaccinated**.

What do you tell Grandma Collins and Carla?

9. What should they do if they continue to have no symptoms?
10. What should they do if they develop symptoms?
11. Do they have to quarantine?

◊ **Day 4 - You are on the team in the DIABETIC CLINIC.**

**Joe age 68** is single, on disability, obese, and has hypertension and poorly controlled Type 2 Diabetes. He is reluctant to get the COVID-19 vaccine. He had been diagnosed with periodontal disease but has not been treated for this. He is on SSI and Medicare/Medicaid with no dental benefit.


**Read:** [COVID-19: Vaccine Hesitancy Case Study #1](#)

What do you tell Joe about COVID-19, diabetes, hypertension and obesity, and their relationship to oral health?

12. What co-morbidities are associated with more severe COVID-19?
13. Why do researchers believe that patients with diabetes are more likely to experience severe symptoms and complications than patients without diabetes due to COVID-19 infection?
14. What do researchers believe as to why patients with hypertension are at increased risk?
15. What do researchers believe as to why obesity is related to increased risk?
16. Why is it important to use the HEENOT approach with Joe?

◊ Day 5 - You are on the team in the PRIMARY CARE CLINIC.

Mike age 44 is married to Laurette and is an EMT. He is a smoker. He had COVID-19 back in April in the beginning of the pandemic. He is continually tired, has no strength and is considered “a COVID long hauler”. He wears a mask 12 hours a day at work and has developed bad breath, receding gums, and dry mouth. He has halitosis and cheilitis, and recently one of his front teeth fell out without any bleeding.

What do you tell Mike about “long effects of COVID-19”, smoking and their relationship to oral health?

17. What co-morbidities are associated with more severe COVID-19?
18. What is the possible cause of lost teeth in COVID-19?
19. Should Mike get the COVID-19 vaccine?

What do you tell Mike about the importance of caring for his teeth during COVID-19?

20. What is the relationship between halitosis and COVID-19?
21. What are the symptoms of Mask Mouth?
22. What are the recommendations for Mask Mouth?
23. Why is it important to use the HEENOT approach with Mike?

◊ Day 6 - You are on the team in the PEDIATRIC CLINIC.

Tanisha age 13 attends hybrid school and has braces, and was unable to see the dentist for adjustments for 4 months. She was able to have teledentistry appointments. She had a broken wire which caused pain and was instructed to apply orthodontic wax. Her braces removal is now delayed for 4 months and won’t be off in time for her graduation next year which was the plan.


What do you tell Tanisha about the importance of caring for her teeth during COVID-19?

24. How should she care for her teeth with braces during COVID-19?
25. Why is important to give special attention to mouth care when wearing masks?
26. Why is it important to use the HEENOT approach with Tanisha?

Troy age 5 attends preschool. He wears a mask all day but is allowed to remove it for snack, lunch and outdoor playtime.

What do you tell Troy’s parents about the importance of caring for his teeth during COVID-19?
   27. What do you tell Troy and parents about brushing teeth?
   28. What do you advise for fluoride varnish (FV)?
   29. What do you advise for mask wearing?

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OHNEP COVID-19: OrAll in the Family
Answer Sheet

1. About 50% of all COVID-19 patients report loss of taste and smell.
2. It occurs in the early stages of the disease, before fever and other symptoms, and is persistent.
3. Since loss of taste and smell occur early in COVID-19, this sign should serve as an alert to get tested for COVID-19.
4. Although the underlying mechanism is unclear, the loss of taste and smell has led to the hypothesis that the oral cavity, particularly the tongue, might be the site of initial infection and is persistent.
5. The tongue is the taste organ where 96% of oral ACE2 positive cells reside. Hand to mouth contact could be the route of infection.

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6. The rapid test is an antigen test and gives results in 15 minutes.
7. The results are less accurate. In symptomatic patients, the results are 80% accurate, but in asymptomatic patients, results are only about 40% accurate.
8. Because of the inaccuracy of the rapid test, it must be confirmed with the more accurate PCR test.

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9. If you continue to have no symptoms, stay home and isolate for 10 days.
10. If you develop symptoms, you must isolate from others for at least 10 days since symptoms first appeared and at least 24 hours with no fever without fever-reducing medication and until other symptoms of COVID-19 are improving.
11. Due to recent exposure, you must quarantine until PCR test results are back.

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12. COVID-19 infection is more serious in patients with co-morbidities such as diabetes, obesity and hypertension.
13. Hyperglycemia facilitates the virus entry into the cells since ACE2 and virus both need glucose for their function.
14. Researchers believe that patients with hypertension may be at increased risk due to the ACE inhibitor medications used to treat their hypertension.
15. Obesity promotes chronic inflammation.
16. It is important to use HEENOT for oral health history and exam to assess oral health and provide oral hygiene information and referral for a teledentistry appointment. Use tip sheet: “Caring for Your Teeth During COVID-19” (pages 15-16)

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17. Smokers are at higher risk of developing severe COVID-19 outcomes and death.
18. Researchers suggest that the vascular problems associated with COVID-19 may cause a lack of blood supply to the teeth and they fall out without any bleeding.
19. Yes, you should be vaccinated even if you already had COVID-19. Experts do not yet know how long you are protected from getting sick again after recovering from COVID-19.
20. COVID-19 infection is highly prevalent in subjects with halitosis. The studies suggest that SARS-CoV-2 affects the upper side of the tongue epithelial cells. The proposed alteration is due to the high expression of ACE 2 receptors in the dorsal part of the tongue and around the oral mucosa. Evidence suggests that the mouth is a powerful source of SARS-CoV-2 infection and transmission.
21. Mask Mouth is related to bad breath, receding gums, dry mouth, halitosis and chelitis. Mask wearing decreases oral intake resulting in dehydration which can cause all of the above.
22. He needs to take regular breaks, good oral hygiene, and make sure mask is clean – wash or change every day.
23. It is important to use the HEENOT approach with Mike because he is experiencing tooth loss and needs to prevent further tooth loss. Given the risks to health that tobacco use causes, WHO recommends quitting tobacco use.

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24. Use tip sheet: “Caring for Your Braces During COVID-19” (page 17)
25. Many teens are skipping brushing their teeth because they feel it is not necessary since they are wearing a mask and no one will smell their breath.
26. It is important to use HEENOT for oral health history and exam to assess oral health and provide oral hygiene information. Assure patient that return to dentist is safe.

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27. It is important for Troy to use fluoride toothpaste and brush twice a day for 2 minutes. He should use a pea-size amount of toothpaste and his parents should supervise his teeth brushing and assist until he is 6 or 7 years old. Use tip sheet: “Healthy Habits for Happy Smiles” (pages 18-19)
28. He should continue to receive FV every 6 months either at the PCP or dentist. It is safe to go back to the dentist.

29. Mask breaks are important. Masks should be cleaned and changed every day.

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Caring for Your Teeth During COVID-19

Oral health is directly linked to your overall health. Bacteria thrive in the mouth as it is a perfect environment for them to grow and can cause tooth decay and periodontal disease. Bacteria can enter the bloodstream and contribute to health problems in other parts of the body.

Dental offices across the U.S. have reopened. It is safe to make an appointment for your regular dental cleaning and check-up. With or without a dental visit, it is important to maintain an at-home oral hygiene regimen to prevent oral health problems.

**Tools of the Trade**

**Toothbrush**
Use a toothbrush with soft bristles. 
Replace toothbrush or electric toothbrush head every 3 months. 
*Do not share* toothbrushes and other mouth care tools.

**Toothpaste**
Avoid toothpastes with harmful chemicals, namely *sodium lauryl sulfate* (SLS) and artificial colors and sweeteners.

**Floss**
Use floss to remove bacteria below the gum line and sides of all teeth – do not neglect teeth and gums at the back of mouth. 
To promote gum health, you can also try a gum massaging tool to increase blood flow to gum tissue.
**Tips for Teeth, Tongue and Gums**

**Consistency is key** Brush teeth first thing in the morning and before you go to bed at night.

**Brush your tongue** – it houses most of the harmful bacteria in your mouth.

**Rinse with a warm saltwater mixture** to reduce mouth bacteria, soothe gums and reduce tooth sensitivity.

**Avoid hard, sticky foods.** It is important to be careful with your teeth when seeing the dentist is not an option.

**When should I call my dentist?**

Dental offices are open and eager to welcome you back for preventive, restorative and emergency oral health care.

Many dentists are still available over the phone or have adopted telehealth practices to virtually communicate with patients. Your dentist can assess your problem and determine if you need to visit the office.

Sources:


Special Care for Your Braces During COVID-19
Common Issues with Orthodontic Appliances

Orthodontic offices have reopened, but it may not be possible for you to make an appointment if you have an issue with your braces. Our care tips provide safe methods for caring for your braces until you are able to visit your orthodontist.

⚠️ My brackets are causing sores on my lips and cheeks.
Place a small amount of orthodontic wax over the offending bracket or broken wire. It is recommended that you avoid oily and spicy foods until the sores are healed.

⚠️ I keep getting food stuck in my brackets and it is causing irritation on my lips and cheeks.
With braces and other orthodontic appliances, it is especially important to maintain proper oral care. Use an interproximal brush or Waterpik® to dislodge food stuck in brackets. Do not use sharp objects to dislodge food.

⚠️ One of my wires is poking out of my bracket.
Place a small amount of orthodontic wax over the offending bracket or broken wire. Do not attempt to cut or adjust the wire.

⚠️ My retainer broke.
If your retainer or other removable orthodontic appliance breaks, do not continue using. Keep the piece in water until next orthodontic visit.

Healthy Habits for Happy Smiles

Brushing Your Child’s Teeth

Brushing is one of the main ways you can keep your child’s teeth healthy. You should brush your child’s teeth with fluoride toothpaste twice each day to help prevent tooth decay (cavities). Begin brushing as soon as your child’s first tooth begins to show.

School readiness begins with health!
Tips for brushing your child’s teeth:
- Brush your child’s teeth after breakfast and before bed.
- Use a child-sized toothbrush with soft bristles and fluoride toothpaste.
- For children under age 3, use a small smear of fluoride toothpaste.
- For children ages 3 to 6, use fluoride toothpaste the size of a pea.
- Young children like to do things by themselves. It’s good to let children brush their teeth while an adult watches. But children under age 7 or 8 cannot brush their teeth well yet. An adult needs to brush the child’s teeth too.
- Find a position where your child is comfortable and you can see your child’s teeth while you brush. For example, sit on the floor with your baby’s or young child’s head in your lap. Or stand behind your child in front of the mirror.
- Gently brush your child’s teeth using small circles. Brush all surfaces of the teeth, including the insides and outsides.
- After brushing, have your child spit out the remaining toothpaste but not rinse. The small amount of toothpaste that stays in your child’s mouth is good for the teeth.
- If you are having trouble brushing your child’s teeth, use a timer, a counting game, or a song while brushing. You can also ask the staff at your child’s dental clinic for help.

Use a smear for children under age 3.

Use a pea-size amount for children ages 3 to 6.
COVID-19: Oral Health Resource Kit

References

“COVID-19: OrAll in the Family” & “Vaccine Hesitancy” Case Studies Reference List


## Additional Peer-Reviewed COVID-19 and Oral Health Publications


**Open-Source Publications**


Health Literacy Handouts


Oral Health & COVID-19: The Inextricable Link

Slide Deck

Click here to download the full slide deck (PDF)