

Short Report

Managing Orthodontic Patients during Covid Pandemic

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Abstract: Coronaviruses (CoV) are large family of viruses that is responsible for causing illness such as common cold to more severe diseases. The common symptoms associated with COVID-19 are fever, tiredness and dry cough, body aches, nasal congestion, sore throat and diarrhea. WHO timely updating the guidelines to address the COVID pandemic so as to reduce the risk of spreading of the disease. Dental professionals are at high risk hence special guidelines are released for the dental field. Orthodontic treatment is a time taking procedure which ranges from 1 to 2 yrs. Orthodontists are committed to the patients but at the same time are responsible for the safety of patients and orthodontic team. We aim to jot down important points regarding how to manage orthodontic cases in this pandemic.

Keywords: Covid-19; Orthodontic treatment; Emergencies.

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INTRODUCTION

Coronaviruses (CoV) are large family of viruses that is responsible for causing illness such as common cold to more severe diseases (About COVID-19 <http://www.emro.who.int>). The latest found coronavirus causes coronavirus disease COVID-19. The outbreak of COVID was commenced in Wuhan, China, in December 2019 (Suri, S. *et al.*, 2020).

The common symptoms associated with COVID-19 are fever, tiredness and dry cough, body aches, nasal congestion, sore throat and diarrhea (COVID-19 Basics www.health.harvard.edu). Direct contact with the intermediate host is suspected to be the primary transmission path of COVID-19 progression. Human transmission can occur through the respiratory tract via droplets, cough, sneeze and via direct contact (Modes of transmission of virus causing COVID-19). The virus enters the mucous membrane of the mouth, nose, and eyes when contact with symptomatic patients. Asymptomatic individuals or those within the viral incubation period are also capable of transmitting COVID-19 (Suri, S. *et al.*, 2020; & Singhal, T. 2020). The dental procedures consist of the use of aerosols

while treating patients. Patients being in contact with multiple asymptomatic carriers or including those who accompany the patients will pose an additional risk for dental professionals and other patients. This impose higher risk of acquiring COVID-19 on dental professionals including Orthodontists hence they must be aware of the available evidence and guidelines to create a safe environment for themselves, their patients and the entire orthodontic team (Suri, S. *et al.*, 2020).

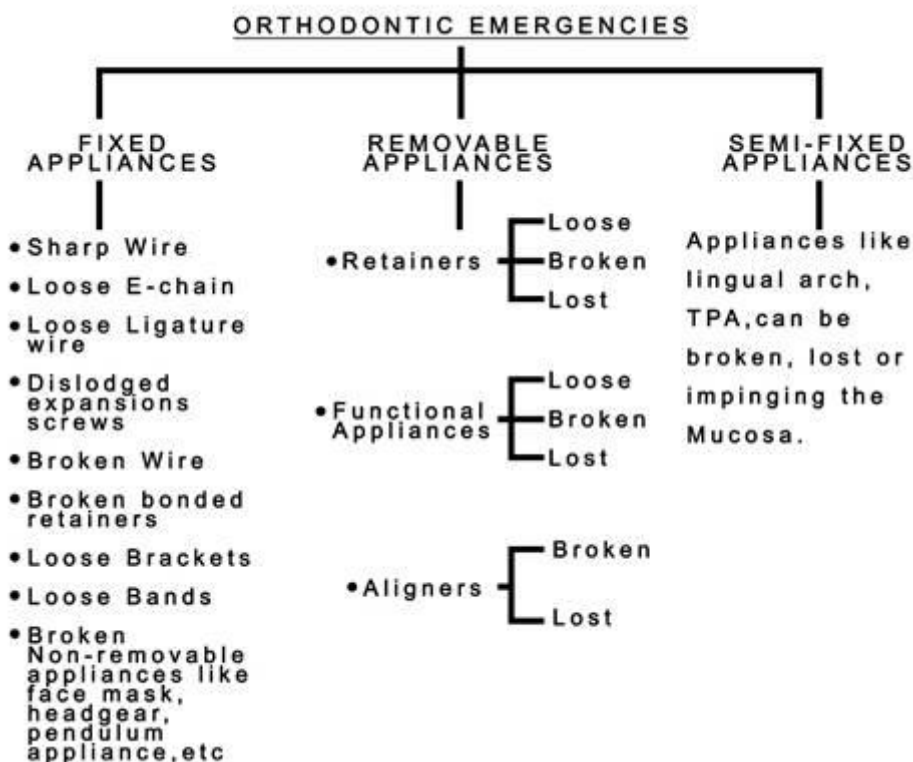
WHO timely updating the guidelines to address the COVID pandemic so as to reduce the risk of spreading of the disease. Dental professionals are at high risk hence special guidelines are released for the dental field. Only emergency cases are allowed to look out in the dental field for the purpose of controlling COVID-19 infection (Caprioglio, A. *et al.*, 2020).

Orthodontic treatment is a time taking procedure which ranges from 1 to 2 yrs. Orthodontists are committed to the patients but at the same time are responsible for the safety of patients and orthodontic team (Saltaji, H., & Sharaf, K.A. 2020). One can make a choice to postpone orthodontic appointments, but patients should be taken in confidence and followed

timely. Most orthodontists should explain to their patients, the necessity of keeping the clinics closed and assure them that they will be re-opened as soon as the risk is less and vaccines are introduced (Caprioglio, A. *et al.*, 2020). Till then, only the emergency cases will be treated and Virtual Office Visits will be entertained. In case of reopening the clinics, only extreme emergencies should be handled under all the necessary preparations according to the dental council guidelines (Jerrold, L. 2020).

What Are Orthodontic Emergencies

Most orthodontic emergencies can be treated via virtual office visits. The need and urgency of the case should be evaluated via video calls or e-mails and phone calls. Make sure to be available to the patients at the time of emergency by using the assistance of tele dentistry. Consultations should be done and see the emergency that can be unavoidable then only visits should be entertained under manageable circumstances and recommended guidelines (COVID-19 pandemic. www.rcseng.ac.uk).



Some manageable situations with telecommunication are

- In case of loose ligature wires, loose brackets, loose e-chains, loose bands, loose retainers, ask the patient to send the photographs and assess the problem.
- Loose brackets, e-chains can be removed with sterilized tweezers available at home. Ask patient to remove them with precautionary measures (If possible, assist them via video- calling).
- In case of loose or broken appliances, ask the patient to remove and keep the appliance till further visit.
- In case of loose aligners, ask the patient to reuse the previous one for time being or if misplaced ask them to wait till next appointment.
- In case of impinging wire use recommend patient to use ortho wax which can be available to medical stores and if not ask them to use chewing gums till the further visits.

- In case of pain and swelling due to impinging wire or bracket ask patient to remove it with the help of tweezers (sterilized) and prescribe the medications till further visit.
- In case of oral ulcers, recommend topical gels and explain the patient how to use it.

However certain emergencies are unavoidable like partial breakage of fixed appliances, partially broken expanders that cannot be handled by patient and should be removed or fixed by orthodontists only. Certain procedures or tooth movements that cannot be done beyond certain time interval and orthodontist has to attend the patient like in case of retrieving impacted tooth (Suri, S. *et al.*, 2020; Caprioglio, A. *et al.*, 2020; & COVID-19 pandemic. www.rcseng.ac.uk).

Protocols for Attending the Emergency Patient

As per the guidelines of CDC no aerosol generated procedures should be done for the safety of

doctors as well as the patients (Dorst, J. 2020). The viral particles when aerosolized can potentially travel greater distances (up to 20 feet) from an infected person and then incite secondary infections elsewhere in the environment. These aerosolized droplet nuclei can remain suspended in the air thus can infect health-care workers and contaminate surfaces. The Covid virus is viable up to three hours in suspended aerosols thus, can contaminate health workers or other patients (Froum, S., & Strange, M. 2020).

CDC guidelines suggested the use of N-95 masks while performing the procedures and the use of PPE kits are mandatory for all health workers. PPE kits, N-95 masks, gloves, along with eye wears and face-shield should be used for all kind of procedures (Dorst, J. 2020).

Stepwise Preparations for Emergency Appointments

- Prior to appointment
- During appointment
- Post appointment

Prior to appointment

1. Take the consent on digital platform.
2. Ask the patient about any symptoms, any travel history, any contact with COVID patient or the locality they belong has how many COVID positive cases to assess the risk.
3. Ask the patient to bring their masks along with them and do proper brushing and flossing before coming for the appointment.
4. Ask them to use sanitizers and sanitize the broken appliance properly before coming.
5. If the patient is adult and has his or her own convenience to come ask them to alone as per the social distancing norms.
6. Ventilation and air quality management in stand-alone dental clinics should be maintained
7. Maintain proper air circulation with natural air through a frequent opening of windows and using an independent exhaust blower to extract the room air into the atmosphere.
8. Use of ceiling fan should be avoided during treatment procedures.
9. The window air condition system/ split AC should be frequently serviced, and filters cleaned. UV light may be used (Dorst, J. 2020; & Guidelines for Dental Professionals in Covid-19 pandemic situation. 2020).

During the appointment

1. Before entering the clinic, at the door step the patients should be screened for body temperature (Dorst, J. 2020).
2. Hand sanitizers should be provided to the patients before entering the operating area (Dorst, J. 2020).
3. Instruments should be sterilized properly; chairs should be sterilized with bleach/ sodium

hypochlorite 0.1-0.2%. Ethanol in 65-95% also can be used (Suri, S. *et al.*, 2020).

4. Ask the patient to rinse mouth properly with povidone-iodine before the operative procedures (Suri, S. *et al.*, 2020).
5. Orthodontic appliances should be cleaned properly before placing back inside the mouth of the patient.
6. Refrain the aerosol procedures and do the needful only like cementation, cutting the impinging wire, tight the retainers.
7. If procedure like rebonding is important, remove the composite with adhesive removing plier as much as possible and roughen the enamel surface manually with paper disk and do the rebonding.
8. Cotton rolls should be used to dry the area thoroughly, hence avoid the use of air sprays (Gange Jr, P. 2020).
9. The broken brackets, wires or appliance should be discarded as these can be potential source of infections.

Post appointment

1. When patient leaves the treatment room, patient drapes should be removed and all the instruments should be removed by the assistant. Proper sterilization protocols should be followed for the cleaning of all the appliances and pliers.
2. Chairs should be sterilized properly with CDC recommended products from the distance of 1 foot.
3. Remove water containers and wash them thoroughly and disinfect with 1% sodium hypochlorite using clean cotton/ gauge piece and then fill with fresh 0.01% sodium hypochlorite solution and attach back to the dental chair.
4. New cotton/ gauge piece should be used for every surface.
5. Proper biomedical waste management protocols should be followed to discard the waste (Guidelines for Dental Professionals in Covid-19 pandemic situation. 2020).

CONCLUSION

The speed with which the Covid-19 pandemic is progressing leaves the world with no choice but to wait till the vaccine is introduced. All the major steps are taken by the countries from all over the world to prevent the spreading of the disease. The pandemic hits hard the dental profession and disrupting the dental services including orthodontic procedures. Orthodontic treatment is a time taking procedure. Orthodontists are committed to the patients but at this pandemic time, they are also responsible for the safety of patients as well as of themselves. The best solution is to be available for the patients via audiovisual aids and explain the patients about the risk. Properly evaluate the condition of the patients as per their scheduled appointment via web and fulfill your commitments.

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