LIBYAN GUIDELINES

FOR MINIMIZING RISK OF COVID-19 TRANSMISSION IN

DENTAL CLINICS

JUNE 2020

Libyan Dental Association

Advisory Committee on Dental Practice
During COVID-19 Outbreak
Libyan Dental Association

Ministry of Health

Libyan Ministry of health

Libyan Guidelines for Minimizing Risk of COVID-19 Transmission in Dental Clinics

ADVISORY COMMITTEE ON DENTAL PRACTICE DURING COVID-19 OUTBREAK

LIBYAN DENTAL ASSOCIATION

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مقدمـــة

في ظل تحديات جائحة كورونا ومخاطر العدوى في مجال طب الأسنان، ووفقا لتقارير منظمة الصحة العالمية، فإن العاملين في مجال طب الأسنان يُعتبرون من أكثر الشرائح المعرضة لخطر الإصابة بالفيروس المسبب لمرض كوفيد-19، وذلك لأنهم يُضطرون للعمل على مقربة كبيرة من المرضى ويتعرضون لقطرات الرذاذ والهباء الجوي الناتج من حفر الأسنان. وبصفتنا نعمل في مجال الرعاية الصحية، يتعيّن علينا تطبيق تدابير قوية لتلبية احتياجات مجتمعاتنا وفي الوقت نفسه حماية الجمهور وأنفسنا من العدوى.

تعتمد الإرشادات في هذا الدليل لغرض الإستخدام في ليبيا على الأدلة العلمية المتاحة وعلى خبرة المؤسسات المعترف بها عالميًا في مجالي طب الأسنان ومكافحة العدوى .ومن المتوقع أن يتم تحديث هذه المبادئ التوجيهية حسب الضرورة مع تراكم المزيد من المعرفة بالفيروس وطرق انتقاله.

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INTRODUCTION

As dental healthcare providers, we have to meet the needs of our communities and at the same time protect the public and ourselves from infection, not only during these challenging times, but also afterwards.

According to reports from the World Health Organization (WHO), dentists and their assistants are among the healthcare professionals who are the most exposed to the risk of respiratory infections because they have to work in close proximity to patients and are exposed to droplets and aerosols. Therefore, it has become necessary worldwide to provide clear and strict guidelines for dental practice, particularly during the COVID-19 pandemic.[1]

COVID-19 continues to spread rapidly worldwide. Clinical diagnosis and case recognition are not easy because of the wide range of symptoms, which range from fever, cough and diarrhea to severe acute respiratory infection. The seemingly widespread occurrence of asymptomatic infections that transmit the virus but go unnoticed contribute to the rapid spread of the disease. This imposes a greater need to lay down and follow strict rules in order to perform our duties safely for us and for our patients.

The WHO reported on the 3rd of June 2020 that, worldwide, there were 6,535,354 cases, including 387,155 deaths.[2] In Libya, the National Center for Disease Control (NCDC) reported on the same day a total of 239 confirmed cases, including 182 active cases and 5 deaths.[3]

The virus (SARS-CoV-2) is transmitted primarily directly between individuals in respiratory droplets, aerosols and secretions, after which it infects cells in mucosal membranes or the conjunctiva. It could also be transferred by hands touching contaminated surfaces. Current evidence confirms airborne transmission of the virus during aerosol-generating procedures (AGP) in dental practice (Appendix 1). Consequently, all dental services have been limited worldwide to emergency/urgent care during the pandemic until further notice. This reduction in the amount of dental services will aid in the following:

- Reducing virus transmission in dental practice
- Economizing on the use of personal protective equipment and patient care supplies
- Expanding the available healthcare system capacity[4]

The guidelines described herein for use in Libya are based on the available scientific evidence and on the experience of institutions that are recognized globally in the fields of dentistry and infection control.

It is expected that these guidelines will be updated as necessary as more knowledge of the virus and its transmission is accumulated.

PREPARING WORKPLACES FOR COVID-19

1. Ensure that your supplies of personal protective equipment (PPE) are sufficient: N95, FFP2, FFP3 or Biomasks, water-repellant surgical gowns, gloves, face shields and overall suits. Assume that supplies may be unavailable in the near future.[5]
2. Ensure that you have no-touch receptacles at the facility entrance and patient check-in, and in waiting rooms.[6]
3. Ensure that you have sufficient supplies of infection control material:
    - Alcohol-based hand rub with 60-95% alcohol
    - Alcohol 70%
    - Benzalkonium chloride 0.5%
    - Povidone-iodine 1%
    - Sodium hypochlorite 0.5-1.0%
    - Sodium chlorite 0.23%
    - Accelerated hydrogen peroxide 0.5%
4. Reception areas and waiting rooms should allow for two meters separation between individuals. The place should be kept clean. All non-essential items, including toys, books and magazines, should be removed.[7]

5. Disposable tissues should be made available at suitable locations for use by patients and personnel to cover the nose and mouth when sneezing or coughing, and waste bins with no-touch covers should be placed in suitable locations.[7]
6. Put up posters in the dental office instructing patients in standard recommendations for hand hygiene, respiratory hygiene, cough etiquette and social distancing.
7. Public bathrooms should be kept closed or cleaned and disinfected frequently on a regular basis.[4]
8. A clear local message should be disseminated to the public through available channels (television, social media) explaining that routine dental care is not available during this phase of the COVID-19 pandemic and advising them what to do in case of a dental emergency.[7]
9. Remove any non-essential objects that are not vital for patient care. As much as possible, store equipment, tools, and material, including disposable tissues, in cabinets or drawers. Other objects such as stationary should also be stored in cabinets or drawers.[7]
10. It is advised to design or arrange the treatment room in a way that cabinets, shelves and desks are a minimum of two meters away from the location of aerosol generation. Keep cabinets and drawers closed at all times during AGP.
11. It is advised to have an aerosol suction device and an air purifier in the treatment rooms.
12. The dental office must have good ventilation (windows out) or an approved wall air-suction outlet in every treatment room.
13. A 'Class B' or 'B Plus' autoclave should be provided as a standard infection control measure.
14. The sterilization room and sterilization process should be separated from the treatment rooms. The sterilization room should have adequate ventilation or an approved wall air-suction outlet.
15. Consider installing physical barriers (e.g. plexiglass shields) at key points of contact with patients, including reception, to reduce the spread of droplets.

Before Dental Care Starts

Dentist and dental team preparation

1. All dental health care providers (DHCP) should self-monitor for any respiratory infection symptoms (e.g., cough, shortness of breath, sore throat) and check their temperature daily. Any DHCP (dental healthcare provider) experiencing influenza-like illness (fever with cough or sore throat, muscle aches, etc.) should not report to work.
2. Limit the number of dentists to a minimum to provide distancing. It is advised to have a ratio of two treatment rooms per dentist, with at least one nurse per treatment room and one for the sterilization room.
3. Dental clinics should be aware of the levels of risk associated with various worksites and tasks. DHCP who are older, have a pre-existing, medically compromised condition, are pregnant, etc., are perceived to be at a higher risk of contracting COVID-19, and those who do not have these risk factors should be given priority to provide care.[8, 9]
4. To reduce the probability of virus transmission by personnel or patients, contact your local health department (National Center for Disease Control, phone 1414 or 1515) immediately if you suspect that a patient or colleague has COVID-19.[10]
5. All DHCP working in urgent-care settings should be trained in all aspects of infection prevention and control (IPC). Training should include donning (putting on) and doffing (taking off) PPE (Appendix 6).
6. Cleaning staff should also be trained in IPC measures.[7]
7. Schedule appointments apart enough to minimize possible contact between patients in the waiting room.[11]

8. Dentists and staff must change into office clothes (e.g. scrubs) and put on footwear immediately on reporting to work.[19]

Screening for COVID-19 status

1. Make every effort to remotely interview the patient (telephone, WhatsApp, Viber, etc.).
2. The patients' COVID-19 status must be established using the local healthcare system protocol to determine how their care will be managed at the designated urgent dental care center if referral is required. New files for use specifically during the pandemic should be used in order to facilitate the follow-up of COVID-19 patients.[12]
3. As part of risk assessment and to determine the management approach for the patient, the following questions should be included to assess potential COVID-19:
   - Do you have a new, continuous cough?
   - Do you have a high temperature (37.8°C or over)?
   - Does anyone in your household have a new continuous cough or a high temperature?
   - Have you or anyone in your household tested positive for corona virus?
   - Where you or a member of your household abroad recently?
   - Have you completed a self-isolation period of 14 days after return from abroad or after contact with a suspected or infected person?
   - Have you or any member of your household worked at COVID-19 isolations centres?

   Any patient who answers **yes to ANY of these questions** might be infected with SARS-CoV-2. Such patients should be instructed to call the toll-free number of the Quick Response Center (1448). They should also be reported to NCDC. Dental treatment should be postponed or, in extreme cases, you can refer the patient for emergency care in a **hospital setting** where appropriate airborne infection isolation rooms and transmission-based precautions are available.

   If the patient answers **no to ALL of these questions**, you can provide emergency dental care in a **dental setting** with appropriate protocols and PPE in place (Figure 1).[7]
4. As the pandemic progresses, some patients will recover from the COVID-19 infection. It is important to determine when a patient who has been diagnosed with the disease is ready to discontinue home isolation. NCDC decides on the release from quarantine based on negative PCR assay results for COVID-19 infection from at least two consecutive nasopharyngeal swabs collected 24 hours apart.[13]

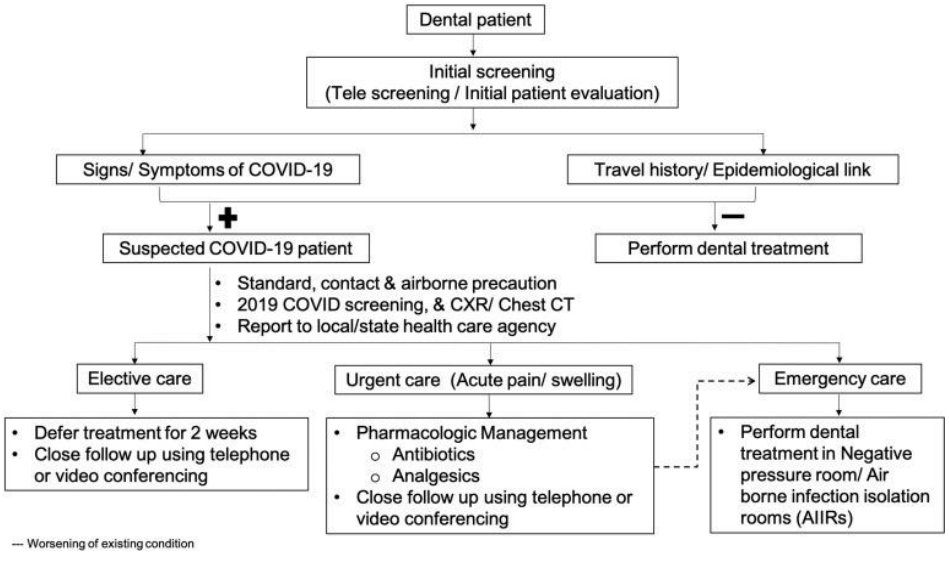

Figure 1: Overview of patient screening for COVID-19 and dental management.[14]

Triage for dental care

1. Face-to-face consultation and treatment should be provided only on the basis of remote triage.
2. Dentists should postpone elective procedures and concentrate on emergency dental care.[4]
3. Primary care dental triage should focus on the provision of the three As: Advice, Analgesia, and Antimicrobials where appropriate.[12]
4. Patients should be advised that treatment options are severely restricted under the current circumstances and asked to call back in 48-72 hours if their symptoms have not resolved.[12]
5. Dental conditions that cannot be managed by the patient after remote consultation and require urgent dental care should be given an appropriate appointment (Figure 2).[12]
6. Appropriate records should be kept of all patient details (including phone number and address), as well DHCP names, care management and onward referrals.[12]
7. Case management can be provided in three ways:
    - **Advice and self-help:** Mild and moderate symptoms can be managed remotely by providing advice and instructions for self-help. This might involve prescribing analgesics and/or antimicrobials via SMS, Viber etc.
    - **Urgent care:** Severe or uncontrolled symptoms that cannot be managed by the patient and require the patient to see a dentist in a designated urgent dental care center.
    - **Emergency care:** Emergencies that require immediate medical attention.[12]

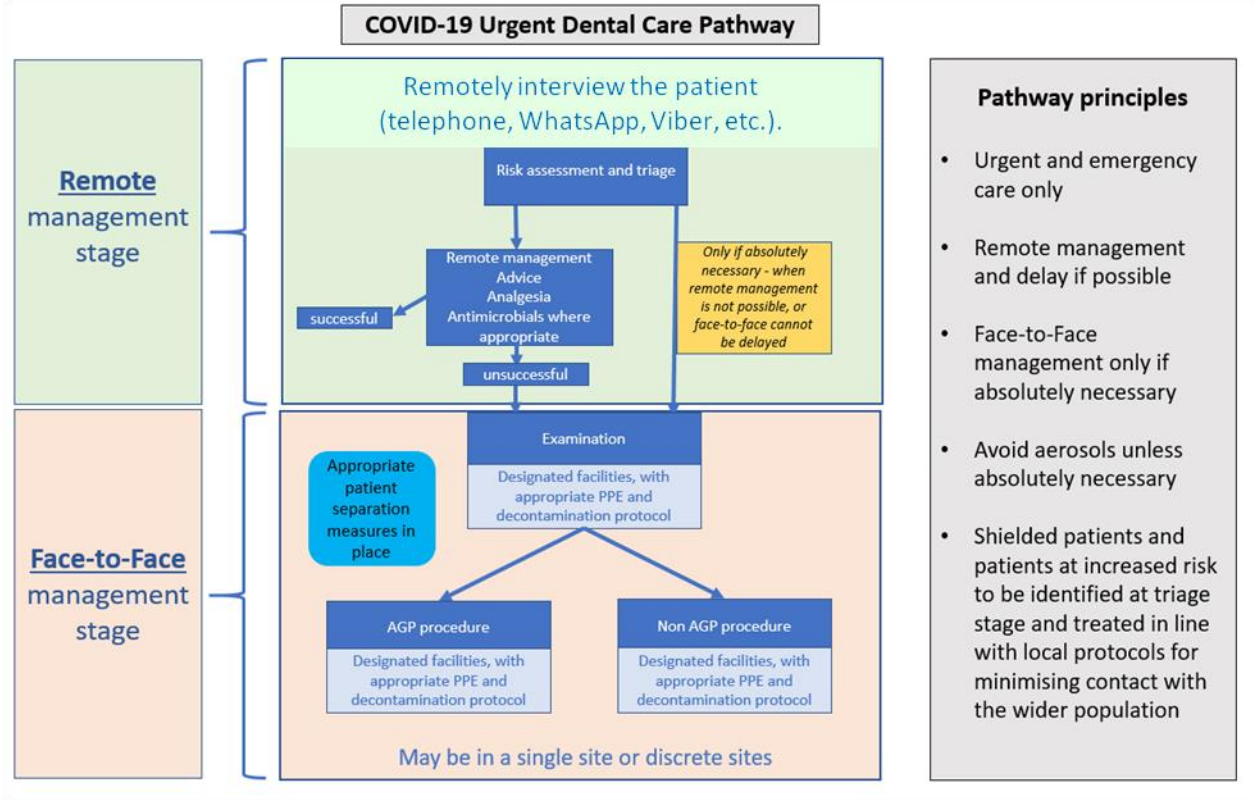

Figure 2: Triage pathway for urgent dental care during the COVID-19 pandemic.[7]

The following diagram (Figure 3) illustrates a simple method for managing care for patients by telephone triage. Note that this is not comprehensive but deals with the most common presenting symptoms. Common oral conditions likely to present for dental care are shown in appendix 2.

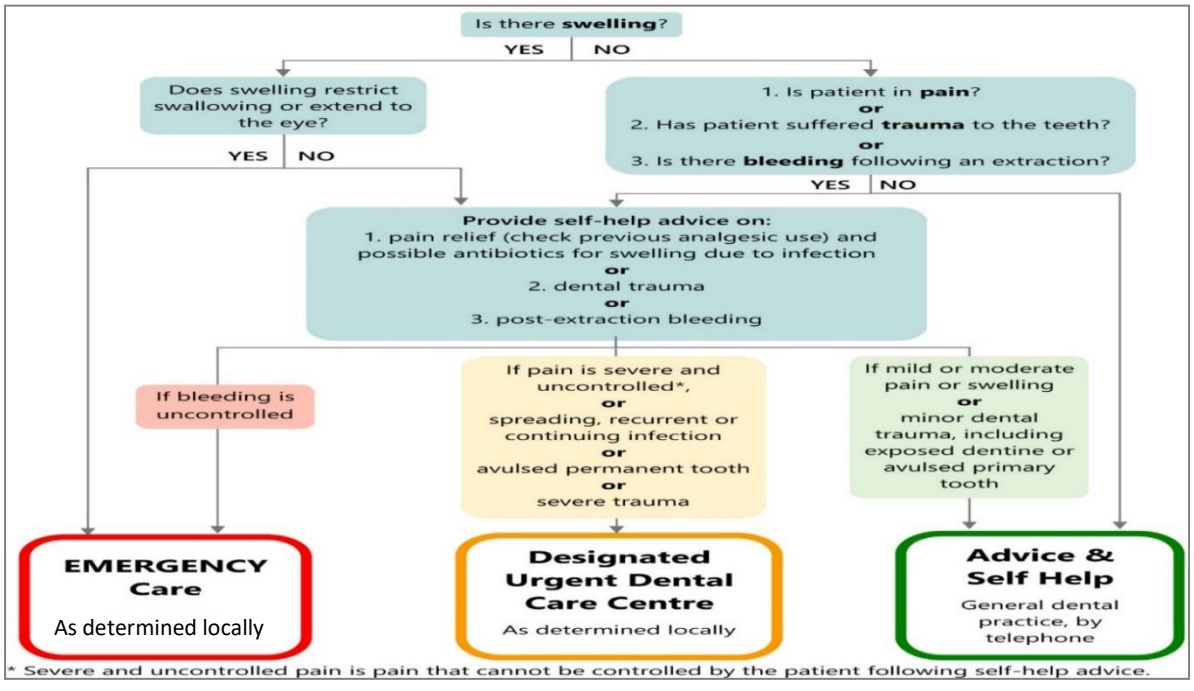

Figure 3: Simple procedure for triage by telephone.[12]

Upon Patient Arrival

1. If the waiting room does not allow for appropriate social distancing (at least two meters apart), patients may wait in their cars or outside the facility, where they can be contacted by phone when it is their turn to be seen. In scheduling appointments, every effort should be made to minimize the waiting time.[4]
2. Where and when feasible, separate the patient sessions and appointments according to the type of treatment needed (AGP or non-AGP) and according to their risk of transmitting or acquiring infection (low, moderate, high) based on the phone call case history.
3. At the time the appointment is made, the patient should be clearly instructed not to bring companions to the appointment, except if the patient needs assistance (e.g., children, people with special needs, elderly patients). All personal belongings (phones, bags, etc.) should be kept outside the surgery. Patients should also be informed that they (and their companions) will be screened for signs and symptoms of COVID-19 during check-in (e.g., temperature, cough, shortness of breath, sore throat) and that they will not be allowed entry into the facility if such signs are present. Moreover, they should be informed that companions will not be allowed in the dental office if they are perceived to be at high risk of contracting COVID-19 (e.g., having a pre-existing medically compromised condition). Any person accompanying a patient should not be allowed in the treatment room.[4]
4. On entering the dental facility, all visitors to the dental care service should have their temperature checked and they should be instructed to wash their hands or use hand sanitizer, and to avoid touching surfaces unnecessarily.[7]
5. The staff should advise the patients and their companions on respiratory and cough hygiene and how to cover the nose and mouth when sneezing or coughing. The staff should correct any incorrect behavior (Appendix 2).[7]
6. Patients should adhere to wearing a face mask, cover shoes and new gloves on entering the dental facility.

During Dental Care

Standard and transmission-based precautions

1. Interrupting transmission of COVID-19 requires precautions against contact, droplets and aerosols, depending on the procedure in question.[7]
2. DHCP should adhere to standard infection prevention precautions, which are the minimum practices that apply to all patients regardless of their infection status and in any healthcare setting.[4]

3. Standard precautions include hand hygiene, use of PPE, respiratory hygiene/etiquette, sharps safety, sterile instruments and devices, clean and disinfected surfaces, and proper disposal of medical waste.[4]
4. For aerosol-generating procedures, DHCP should implement the necessary transmission-based precautions. Those might include additional PPE, patient placement, adequate room ventilation, use of respiratory protection (e.g., N-95 mask or its equivalent plus a surgical mask on top of it), and postponement of nonemergency dental procedures.[4]
5. All AGPs must be performed in a treatment room that is capable of aerosol containment. This requires floor-to-ceiling walls and a door (or other barrier), which must remain closed during and after such procedures. Temporary walls and doors are permitted, provided they create an area to contain aerosol and are constructed of materials that can withstand repeated cleaning and disinfection.
6. For more information about standard and transmission-based precautions, follow the CDC links below.

   https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html
   https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html

Hand hygiene

Washing thoroughly with soap and warm water is essential to reduce the transmission of infection. All dental staff, patients and companions should decontaminate their hands with alcohol-based hand rub when entering and leaving urgent dental care services (Appendix 2).

Hand hygiene must be performed immediately before every episode of direct patient care and after any activity or contact that might contaminate the hands, including PPE removal, equipment decontamination, and waste handling.[7]

Personal protective equipment

Employers should select appropriate PPE and provide it to DHCP using internationally recognized products**.** DHCP must receive training on the PPE and demonstrate an understanding of the following:

- When to use PPE;
- Which PPE is necessary for each procedure;
- The limitations of PPE;
- How to properly take off PPE in a way that prevents self-contamination;
- How to properly dispose of or disinfect and maintain PPE.

Table 1: Personal protective equipment for urgent dental care during the COVID-19 pandemic.[7]

Items	Waiting room /reception	Clinical treatment	
	No clinical treatment	Non-AGP	AGP
Good hand hygiene	Yes	Yes	Yes
Disposable gloves	No	Yes	Yes
Medical or disposable apron	Yes	No	No
Water-repellant surgical gown or overall suit	No	Yes	Yes
Fluid-resistant surgical mask	Yes	Yes	No
Filtering face piece respirator	No	No	Yes
Eye protection	No	Yes	Yes
Shoe covers	Yes	Yes	Yes
Head cap	No	Yes	Yes

AGP: aerosol-generating procedure

Dental facilities must ensure that any reusable PPE is properly cleaned, decontaminated and maintained after and between uses. Dental clinics should have policies and procedures for the recommended sequence of safely donning and doffing PPE.[1]

- The PPE recommended for DHCP when providing emergency dental care to patients who are not known to have COVID-19 and are not suspected of having it include (1) respirator or surgical mask, (2) eye protection, (3) gloves, (4) water-repellant surgical gowns or overall suit, (5) overshoes, and (6) head cap.
- During procedures likely to generate splashing or spattering of blood (large droplets) or other body fluids, a respirator and eye protection with solid side shields or a face shield should be worn to protect the mucous membranes of the eyes, nose, and mouth.[15]
- Regular prescription glasses are not considered adequate eye protection.[4]
- Surgical masks are for one use only, and one mask should be used per patient.[16]
- If the mask gets damaged or soiled, or if breathing through it becomes difficult, it should be removed, discarded safely, and replaced with a new one.[16]
- DHCP should adhere to the standard sequence of donning and doffing of PPE.[4] See appendix 7.

Filtering face piece respirators (N95, FFP3, FFP2)

For AGP, the following must be observed in the use of respirators:

- Filtering facepiece respirators or better must be used in the context of a comprehensive respiratory protection program that includes fit testing and training.[7]
- To ensure an adequate seal/fit, respirators must be fit-tested according to the manufacturer's guidelines on all healthcare staff who may be required to wear a respirator. They should be rechecked by the staff every time the respirator is donned.[7]
- Respirators should be compatible with protective eyewear, which should not interfere with the respirator seal.[7]
- Change to a new respirator if breathing becomes difficult, the respirator is damaged or distorted, it is obviously contaminated by respiratory secretions or other body fluids, or if a proper face fit cannot be maintained. In effect, this may mean that respirators should be worn only once for AGPs and then discarded as clinical waste (hand hygiene must always be performed after disposal).[7]
- When a respirator is used for a complete session (session ends when the healthcare worker leaves the care facility), use a fluid-resistant surgical mask or visor to protect the respirator from droplets. Sessional use should always be risk assessed, and PPE should be disposed of after each session, or earlier if damaged, soiled, or uncomfortable.[7]
- Respirators should be removed according to the doffing protocol outside the treatment room where AGPs have been performed, preferably in the changing room.[7]
- Use a filtering face piece respirator during all AGPs in combination with the other available transmission-based precautions.[9]
- If a respirator is not available in the market, use a surgical mask combined with a full-face shield. Ensure that the mask is made by an internationally approved medical supplies company.
- If a surgical mask and a full-face shield are not available, do not perform any emergency dental work. Refer the patient to a clinician who has the appropriate PPE.[4]

General Principles

1. Although dental treatment requires close contact, social distancing measures should be applied as far as possible throughout the service.[7]
2. If possible, manage patients through advice and with analgesia and antimicrobials where appropriate.
3. If treatment is required, all equipment and materials for treatment should be assembled in the treatment room before beginning.[7]

4. All procedures should be carried out on a single patient and only staff who are needed for the procedure should be present in the room, with the doors shut.[7]
5. Treatment should be completed in one visit whenever possible, and follow-up should be done remotely.[7]
6. In principle, during widespread community transmission of COVID-19, dentists should select the PPE depending on the type of urgent care they are providing. However, there is now an assumption that all patients present a risk of transmission of the virus.[7] Nevertheless, the following gives some general guidelines for AGPs versus non-AGPs.
   – Non-AGPs for all patients require full compliance with standard infection control precautions in order to avoid potential transmission of the virus though contact or droplets. Eye protection, disposable fluid-resistant surgical mask, disposable apron and gloves should be worn.[7]
   – For all AGPs, transmission-based precautions should be implemented to prevent aerosol transmission. A disposable, fluid-repellent surgical gown, gloves, eye protection and an FFP3 or N95 respirator should be worn by those performing or assisting in the procedure.[7]
7. All AGPs should be avoided at the present time unless essential. They should be used only for urgent and emergency care.

Clinical techniques: handpieces, equipment, procedures

- 1. Preprocedural mouth rinse: Since COVID-19 may be vulnerable to oxidation, 1.5% hydrogen peroxide or 0.2% povidone as a preprocedural mouth rinse may have some viricidal effects on SARS-CoV-2.[4]
- 2. Dental radiographs: Intraoral dental radiographs stimulate saliva secretion and coughing. However, extraoral dental radiographs such as panoramic radiographs and cone beam CT are appropriate alternatives during the outbreak of COVID-19.[4]
- 3. Rubber dam: Rubber dams should be used if an aerosol-producing procedure is being performed to help minimize aerosol and splatter.[4]
- 4. Four-handed dentistry: A four-handed technique may be used to optimize control of infection.[4]
- 5. Handpieces: The anti-retraction functions of handpieces may provide additional protection against contamination.[4]
- 6. High-volume suction: DHCP should favor the use of high-volume suction. It is important to remember that in certain situations, the backflow that can occur when using a saliva ejector can be a potential source of cross-contamination.[15] Therefore, it is advised to properly clean the suction system for 30 seconds after each patient.
- 7. Resorbable sutures: DHCP should use resorbable sutures (i.e., sutures that last 3- 5 days in the oral cavity) to eliminate the need for a follow-up appointment.[17]
- 8. Hand instrumentation: Reduce aerosol production as much as possible, as the transmission of COVID-19 seems to occur via droplets and aerosols, and prioritize the use of hand instruments.[4]
- 9. High-speed dental drills: Using these drills is considered an AGP. Using high-speed drills to open an access cavity or surgical high-speed drills for surgical extraction of a tooth/root will necessitate the use of enhanced PPE.[7]
- 10. Surgical extractions: Particular care should be taken to avoid surgical extractions at this time. When it is necessary to remove bone, low speed handpieces should be used with irrigation to reduce the risk of transmitting infection.[7]
- 11. 3-in-1 syringe: DHCP should minimize the use of a 3-in-1 syringe as it may generate droplets due to forced ejection of water and air.[4]
- 12. Ultrasonic scalers or other dental equipment powered by an air compressor should be avoided at this time.[7]

Post-operative instructions for patients

- Concerning the controversy on whether ibuprofen should be used for patients with a COVID-19 infection, it is recommended to use ibuprofen in moderate doses as normally indicated when managing any type of pain.

For example, for the management of pulp-related or periapical-related dental pain and intraoral swelling in immunocompetent adults, it is recommended that NSAIDs in combination with paracetamol (400-600 mg ibuprofen plus 1,000 mg paracetamol) can still be used.[4, 18]

- When treating patients with dental pain and intraoral swelling, dentists should determine whether definitive treatment (i.e., pulpotomy, pulpectomy, nonsurgical root canal treatment, or incision for drainage of abscess) is possible before prescribing antibiotics. The 2019 ADA clinical practice recommendations for the use of antibiotics remain applicable for immunocompetent adult patients.[5]
- Aerosol-generating procedures should be scheduled as the last appointment of the day. For an AGP performed without N95 masks and only surgical facemasks, and regardless of the implementation of effective disinfection procedures, subsequent patients and DHCP are at moderate risk for COVID-19 infection and transmission. Given that asymptomatic patients may carry the virus, CDC suggests a 14-day quarantine. Alternatively, take all precautions to prevent transmission and require that the patient be tested for COVID-19 immediately after dental treatment. DHCP who test positive should quarantine for 14 days.[4]
- Patients referred for COVID-19 testing should be given detailed instructions on when/where to go for testing, and how to contact the dental clinic to report test results. If a test is positive, the clinic needs to report the exposure through the relevant authority (NCDC) to all the patients treated after the infected patient and receive assurance that they will be followed up.[4]

STEPS TO BE TAKEN AFTER SUSPECTED UNINTENTIONAL EXPOSURE

If unintentional exposure is suspected, e.g., unprotected direct contact with secretions or excretions from the patient, follow the instructions in the NCDC guidance link below:

https://drive.google.com/file/d/1tOJnVOc0HhDJN8yxryacMo3Rmcl9-DNu/view

The following link also explains what constitutes exposure and how to deal with it:

https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html

AFTER COMPLETION OF DENTAL CARE

In between patients

1. Disinfect reusable PPE (e.g., protective eyewear and face shields) between patients or clean it with soap and water if visibly soiled.
2. Non-dedicated and non-disposable equipment (e.g., handpieces, dental x-ray equipment, dental chair and light) should be disinfected according to the manufacturers' instructions. Handpieces and other instruments should be cleaned after each patient to remove debris, followed by heat sterilization.
3. When an AGP has been used, it is recommended that the room is left vacant with the door closed for 20 minutes for a negative-pressure isolation room and one hour for a neutral-pressure room before performing final cleaning. Windows to the outside in neutral-pressure rooms can be opened. If the room needs to be put back into use urgently, follow the link below:

   https://www.gov.uk/reducing-the-risk-of-transmission-of-covid-19-in-the-hospital-setting
4. For healthcare settings during the COVID-19 pandemic, it is appropriate to use water and detergent to pre-clean surfaces before applying a hospital-grade disinfectant to frequently touched surfaces or objects for the required contact times, as indicated on the product's label. This procedure is appropriate also for patient-care areas in which AGPs are performed. Other surfaces such as door handles, electrical switches, chairs, desks and elevators should also be cleaned and disinfected.
5. Flush the dental unit water tubes and the suction tubes for 30 seconds in the beginning of the day and in between patients (Appendix 8).

6. Waterline system: Sodium hypochlorite or ethanol passed through the dental waterline systems (water supplies for handpiece and 3-in-1 syringe) have been reported to reduce viral contaminants in splatter, but their effects on human corona virus is not known.
7. Management of medical waste: All medical and domestic waste generated by the treatment of all patients is regarded as infectious medical waste. Double-layer, yellow, medical waste package bags and "gooseneck" ligation should be used. The surface of the bag should be marked as medical waste and disposed of by a specialized medical waste management agency.[20]

When going home after finishing work

- DHCPs should change from scrubs to personal clothing before returning home.
- Upon arriving home, DHCPs should take off shoes, remove and wash clothing separately from other household residents, and immediately shower.

ACKNOWLEDGEMENT

I would like to express my special gratitude to all members of the committee who have been selected to write these guidelines for minimizing the risk of COVID-19 transmission in dental practice in order to enable dentists to practice safely for themselves and for their patients.

No doubt, this work was challenging and a tremendous effort was put in by all members of the committee, especially those who collected the various international guidelines and assembled them to pave the way for Dr. Munir Yahia and Dr. Ahmed Alajnaf, and the editing and arrangement undertaken by Dr. Amin Bredan, as well as the various clinical points raised by our colleagues, senior dental surgeons Prof. Dr. Mohamed Elkabir, Associate Prof. Jamal El-Swiah, and Dr. Wageh Twati. I also extend my thanks to Prof. Dr. Abdulaziz Zorgani, microbiologist and expert in infection control.

I would also like to extend my gratitude to Dr. Adnan Marwan, the president of the Libyan Dental Association for his support and for having entrusted us with this mission, as well as to the various institutions for the help and assistance they provided to the committee to enable completion of this work.

Hopefully, these guidelines will be implemented in Libyan dental practices and that they will prove helpful in ensuring safe practice.

God bless Libya

Prof. Dr. Mohamed Elarbi

Chairman of the Committee

Tripoli 7-6-2020

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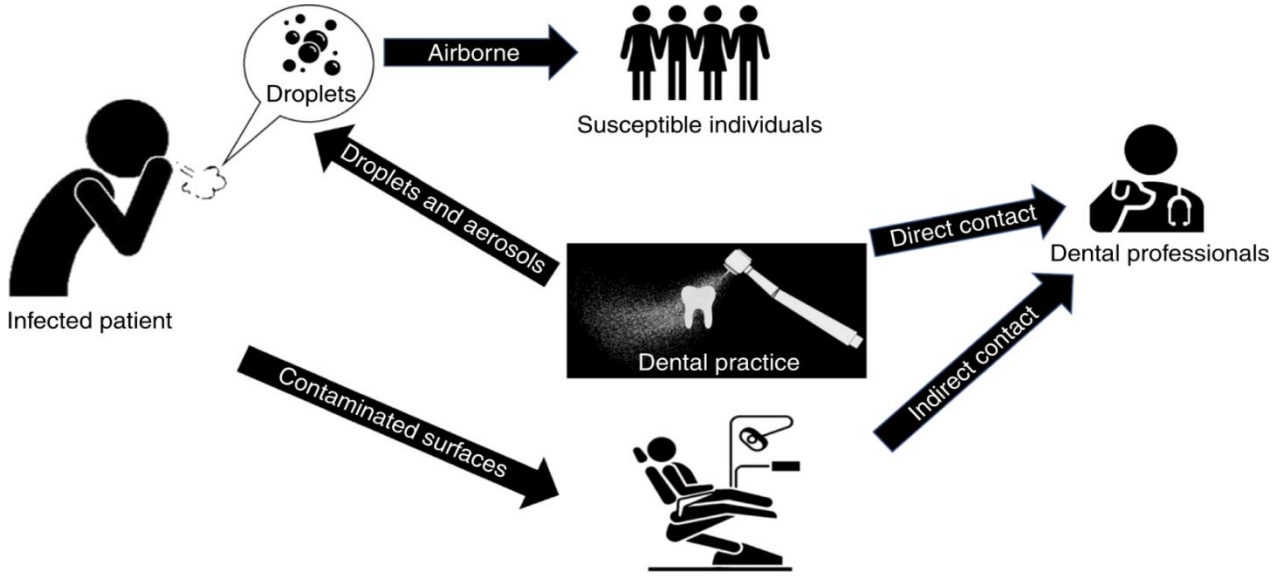
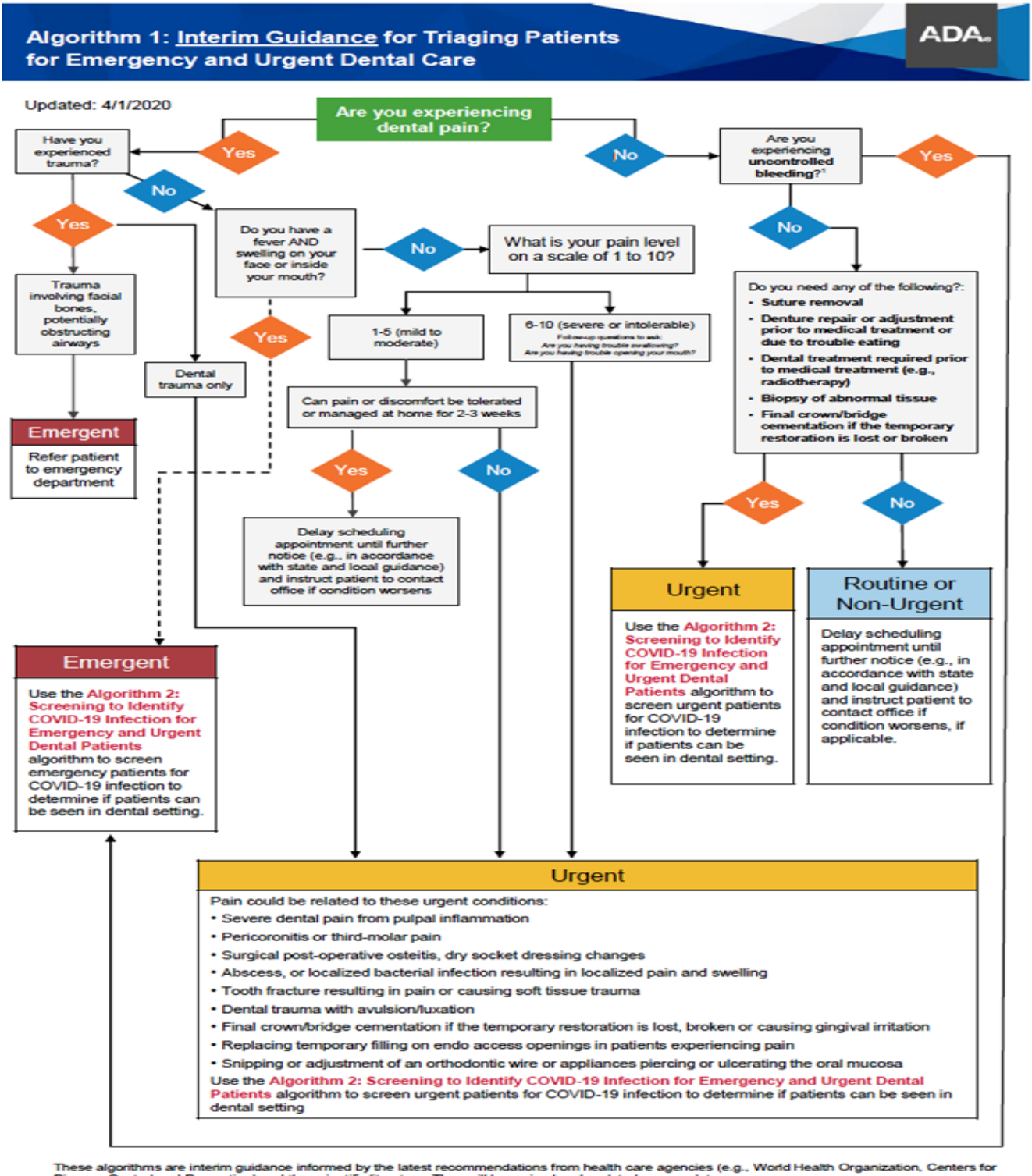
APPENDICES

Appendix 1: Modes of COVID-19 transmission in dental settings



Appendix 2: ADA algorithms for triaging, screening and minimizing risks of COVID-19



Algorithm 2: Interim Guidance for Screening to Identify COVID-19 Infection for Emergency and Urgent Dental Patients

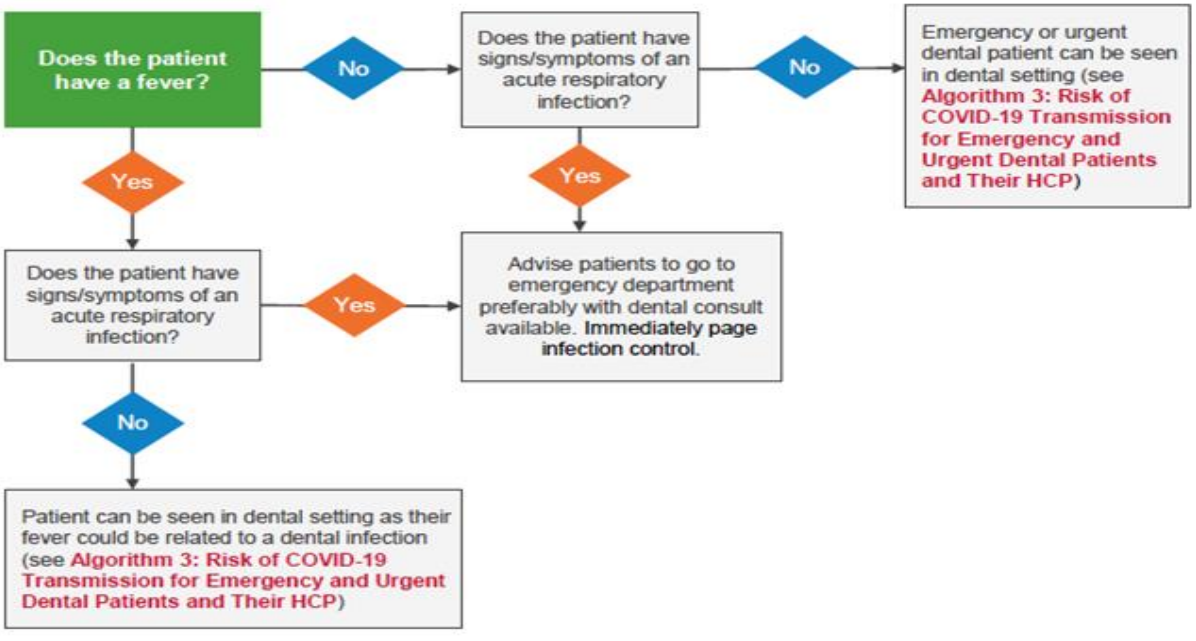
ADA

Updated: 4/1/2020

Summary of Procedures

1. Clinic staff should speak to all patients 1-2 working days (or sooner if able) before any scheduled session.
2. Call patients for whom in-person visit may not be necessary and issue can be solved without an office visit.

Emergency and urgent dental patients in this algorithm are being evaluated for COVID-19 infection signs/symptoms to determine in which clinical setting they should be seen. Patients with **active** COVID-19 infection should **not** be seen in dental settings per CDC guidance.



1. During screening procedure for COVID-19 infection, patients should be asked if they have tested positive for COVID-19 infection and if yes, the patient should be immediately referred to the emergency department for the management of the dental condition. If patient has previously tested positive for COVID-19 infection and 3 days have passed since symptoms have resolved, the patient can be seen in a dental setting (see Algorithm 1).
2. Fever in the absence of respiratory symptoms in the context of this algorithm should be strongly associated with an emergency or urgent dental condition (e.g., dental infection) if dental settings are to be used.
3. No companions should be invited inside the clinic, they should not sit in the waiting room, and patients with a fever being seen in dental setting should be given a mask if they don't have one already. As the patient's mask will come off during dental treatment, it should be placed back on as soon as treatment is complete.
4. If patient has had exposure to an individual with suspected or confirmed COVID-19 infection, traveled to countries currently under a travel ban, or been exposed to confirmed SARS-CoV-2 biologic material (either themselves or via another individual), consider referring patient to a hospital setting. Risk of transmission increases with these exposures.
5. If the patient needs to be referred for COVID-19 testing, they should be given detailed instructions on when/where to go for testing, how to justify the need for testing to the testing facility visited, and how to contact the dental clinic to report test results. Clinic director and/or coordinators should maintain a list of patients who will not be coming in for in-person visits in charts or find another mechanism that fits into the clinic's workflow. It is critical that a list of dental patients that have been referred to other settings due to suspected COVID-19 infection be maintained.
6. Information about reporting suspected cases of COVID-19 infection can be found here: https://www.cdc.gov/coronavirus/2019-ncov/php/reporting-pui.html

These algorithms are interim guidance informed by the latest recommendations from health care agencies (e.g., World Health Organization, Centers for Disease Control and Prevention) and the scientific literature. They will be revised and updated as new data emerge.

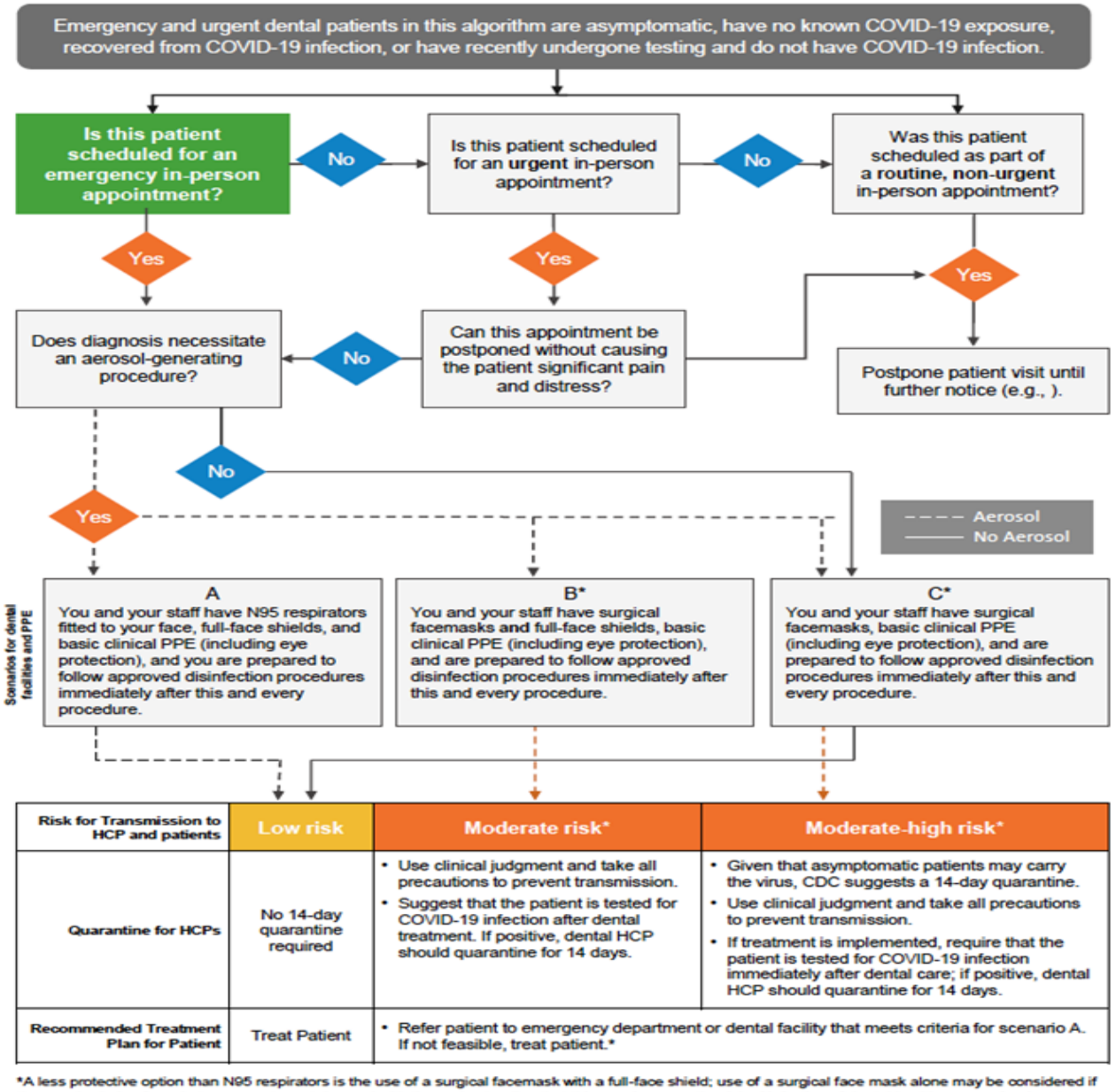
Algorithm 3: Interim Guidance to Minimize Risk of COVID-19 Transmission for Emergency and Urgent Dental Patients and HCP

ADA

Updated: 4/1/2020

Summary of Procedures

1. Clinic staff should speak to all patients 1-2 working days (or sooner if able) before any scheduled session.
2. Call patients for whom in-person visit may not be necessary and re-schedule.
3. See emergency triage and COVID-19 infection screening procedures.



Risk for Transmission to HCP and patients	Low risk	Moderate risk*	Moderate-high risk*
Quarantine for HCPs	No 14-day quarantine required	• Use clinical judgment and take all precautions to prevent transmission. • Suggest that the patient is tested for COVID-19 infection after dental treatment. If positive, dental HCP should quarantine for 14 days.	• Given that asymptomatic patients may carry the virus, CDC suggests a 14-day quarantine. • Use clinical judgment and take all precautions to prevent transmission. • If treatment is implemented, require that the patient is tested for COVID-19 infection immediately after dental care; if positive, dental HCP should quarantine for 14 days.
Recommended Treatment Plan for Patient	Treat Patient	• Refer patient to emergency department or dental facility that meets criteria for scenario A. If not feasible, treat patient.*	

*A less protective option than N95 respirators is the use of a surgical facemask with a full-face shield; use of a surgical face mask alone may be considered if the supply chain of respirators cannot meet demand with the understanding that this may increase the risk of infection of dental health care professionals engaged in the care and community transmission.

These algorithms are interim guidance informed by the latest recommendations from health care agencies (e.g., World Health Organization, Centers for Disease Control and Prevention) and the scientific literature. They will be revised and updated as new data emerge.

HCP: healthcare personnel; PPE: personal protective equipment.

See next page for key remarks regarding Algorithm 3

Appendix 3: Common oral conditions presenting for dental care (Scottish Dental Clinical Effectiveness Programme)

The following table outlines the signs and symptoms of oral conditions likely to present by telephone and the severely restricted management options available during the COVID-19 pandemic. Note that this is not comprehensive but deals with the most common presenting conditions.

SDCEP Management of Acute Dental Problems During COVID-19 Pandemic **30 March 2020**

Problem (symptoms)	Management
Acute apical abscess • Pain (usually localised to a single tooth) • Swelling of the gingiva, face or neck • Fever • Listlessness, lethargy, loss of appetite for children younger than 16 years old	**Advice and self help** • Recommend optimal analgesia. • Prescribe antibiotics if you are concerned about swelling or if there are signs of systemic infection (fever, malaise) • Ask patient to call back in 48-72 hours if their symptoms have not resolved. **Urgent care** • If patient has spreading infection **without** airway compromise, or if patient has continuing or recurrent symptoms, refer to designated urgent dental care centre for extraction or drainage. **Emergency care** • If patient has spreading infection **with or likely to have** airway compromise and/or severe trismus refer for emergency care. N.B. For a chronic abscess draining through a sinus, reassure the patient and advise to continue usual oral self-care.
Acute periodontal abscess/Perio-endo lesions • Pain and tenderness of gingival tissue • Increased tooth mobility • Fever and swollen/enlarged regional lymph nodes • Presence of swelling on gingiva • Suppuration from the gingiva	**Advice and self help** • Recommend optimal analgesia. • Prescribe antibiotics if you are concerned about swelling or if there are signs of systemic infection (fever, malaise) • Ask patient to call back in 48-72 hours if their symptoms have not resolved. **Urgent care** • If patient has spreading infection **without** airway. compromise or if patient has continuing or recurrent symptoms, refer to designated urgent dental care centre for extraction or drainage. **Emergency care** • If patient has spreading infection **with or likely to have** airway compromise and/or severe trismus refer for emergency care. N.B. For a chronic abscess draining through a sinus, reassure the patient and advise to continue usual oral self-care.

Problem (symptoms)	Management
Acute pericoronitis • Pain around a partially erupted tooth • Swelling of the gingiva around tooth • Discomfort with swallowing • Limited mouth opening • Unpleasant taste or odour from affected area • Fever • Nausea • Fatigue	**Advice and self help** • Recommend optimal analgesia. • Recommend chlorhexidine mouthwash/gel or warm saltwater mouthwash. • Gently brush area, ideally with small-headed toothbrush (benzydamine mouthwash or spray may make toothbrushing less painful). • Prescribe antibiotics if you are concerned about swelling or if there are signs of systemic infection (fever, malaise) • Ask patient to call back in 48-72 hours if their symptoms have not resolved. **Urgent care** • If patient has spreading infection **without** airway compromise or if patient has continuing or recurrent symptoms, refer to designated urgent dental care centre for possible extraction. **Emergency care** • If patient has spreading infection **with or likely to have** airway compromise and/or severe trismus refer for emergency care.
Necrotising ulcerative gingivitis/periodontitis • Pain (general or localised) • Swelling • Bleeding gums • Halitosis • Ulcerated gingival tissue • Fever, malaise	**Advice and self help** • Recommend optimal analgesia. • Recommend chlorhexidine or hydrogen peroxide mouthwash. • Give oral hygiene advice (benzydamine mouthwash or spray may make toothbrushing less painful). • Consider antibiotics (metronidazole is drug of first choice).
Reversible pulpitis • Tooth pain - may be intermittent and associated with stimuli • Tooth is not tender to percussion	**Advice and self help** • Recommend optimal analgesia. • If due to a missing filling, advise patient to use an emergency temporary repair kit which can be purchased online or at a pharmacy. • Advise patient to avoid hot and cold food. • Advise patient to call back if symptoms get worse.

Problem (symptoms)	Management
Irreversible pulpitis • Tooth pain - spontaneous and longer lasting (up to several hours) and may keep the patient awake at night • Pain may be difficult to localise to a single tooth, may last for several hours, may be dull and throbbing, may be worsened by heat, but may also be alleviated by cold	**Advice and self help** • Recommend optimal analgesia. • Advise patient to try rinsing with cold water as this can alleviate pain. • Advise patient to call back if symptoms get worse. **Urgent care** • If pain is severe and uncontrollable, preventing sleeping or eating, refer to designated urgent dental care centre for management including possible extraction.
Dentine hypersensitivity • Pain (sharp, sudden and short-lived) • Exposed root surface as a result of gingival recession	**Advice and self help** • Advise patient to: ○ regularly apply desensitising toothpaste to affected area with finger; ○ avoid stimuli (cold or acidic foods or drinks).
Dry socket • Pain (onset 24-48 hours after extraction; in vicinity of extraction site; tenderness of alveolar socket wall) • Unpleasant taste or odour from affected area • Swelling (occasionally)	**Advice and self help** • Recommend optimal analgesia. • Recommend warm saltwater mouthwash. • Do not prescribe antibiotics unless there are signs of spreading infection, systemic infection, or for an immunocompromised patient. **Urgent care** • If pain is severe and uncontrollable, preventing sleeping or eating, refer to designated urgent care dental centre for dressing.

Problem (symptoms)	Management
Post-extraction haemorrhage • Bleeding - can be immediate due to failure to secure adequate initial haemostasis, within a few hours (reactionary) or within a week of an extraction (indicative of possible infection).	**Advice and self help** • Advise patient not to spit or rinse. • Advise patient to: ○ gently rinse the mouth once with warm (not hot) water to wash out excess blood; ○ place a rolled-up piece of cotton or a gauze swab moistened with saline or water over the socket, bite firmly on it and maintain solid and continuous pressure for 20 minutes before checking whether the bleeding has stopped; ○ repeat once if necessary. • After the bleeding has stopped, advise the patient to avoid drinking alcohol, smoking or exercising for 24 hours and to avoid disturbing the blood clot. **Urgent care** • If the bleeding fails to stop, but **is not** brisk and persistent, refer to designated urgent dental care centre for management. **Emergency care** • If the bleeding fails to stop and **is** brisk and persistent, refer for emergency care. • If the bleeding fails to stop and the patient is taking anticoagulant medication (e.g. warfarin, aspirin, clopidogrel) refer for emergency care.

Problem (symptoms)	Management
Oral ulceration • Pain (lips and/or oral cavity) • Inflammation • Ulceration • Abnormal appearance • If the ulceration is severe, some patients (e.g. children, elderly, infirm) may in addition be dehydrated, listless or agitated	**Advice and self help** • If ulceration has been present for less than 3 weeks: o advise chlorhexidine mouthwash (not for children <7 years); o recommend optimal analgesia including topical analgesics (e.g. benzydamine oromucosal spray); o recommend soft diet; o if ulceration due to dentures, advise keeping dentures out where possible; o if due to trauma from adjacent tooth, advise patient to use an emergency temporary repair kit which can be purchased online or at a pharmacy. • In cases of primary herpetic gingivostomatitis or herpes zoster infection, if the symptoms are severe or the patient is immunocompromised, consider prescribing antiviral agents (aciclovir or penciclovir), ideally in the early stages. **Urgent care** • If ulceration has been present for 3 weeks or more, refer the patient to designated urgent dental care centre. **Emergency care** • If a patient with oral ulceration is severely dehydrated, refer for emergency medical care. N.B. If the patient is receiving drug treatment or has an underlying medical condition that might be the cause of the ulcer(s), advise them to contact their general medical practitioner.
Cracked, fractured, loose or displaced tooth fragments and restorations • Pain (general and localized; tenderness to bite) • Sensitivity to hot, cold and sweet and chewing of food • Open cavity • Section of tooth or filling missing • Sharp edge on tooth • Mobile section of tooth or teeth • Mobility or loss of restoration • Trauma to the soft tissues of the tongue, lips or cheek from sharp edges of the fracture site • Gingival inflammation • Recurrent caries	**Emergency care** • If the patient has inhaled a piece of tooth, filling or restoration, refer for emergency care. **Advice and self help** • For broken or fractured teeth or fillings: o if tooth is sensitive to hot and cold, advise patient to use an emergency temporary repair kit which can be purchased online or at a pharmacy; o recommend optimal analgesia; o advise the patient to call back if painful symptoms have not been relieved with optimal analgesia. • If crowns, bridges and veneers: o advise patient to use an emergency temporary repair kit which can be purchased online or at a pharmacy; o if patient has painful symptoms, recommend optimal analgesia.

Problem (symptoms)	Management
Avulsed, displaced or fractured teeth • Fracture of tooth or loss of tooth structure • Increased mobility of tooth or several teeth as a unit • Tooth looks displaced or elongated • Teeth do not meet together in the way that they did before • Empty tooth socket	**Follow advice for dento-alveolar injuries above and:** **Urgent care** • If a **permanent** tooth has been knocked out, advise the patient to: o handle the tooth by its crown (the white part), avoid touching the root; o if the tooth is dirty, wash it briefly (10 seconds) under cold running water; o try to re-implant the tooth in its socket and then bite gently on a handkerchief to hold it in position; o if this is not feasible, store the tooth for transportation to the designated urgent dental care centre in milk (not water). Alternatively transport the tooth in the mouth, keeping it between molars and the inside of the cheek. • Refer to designated urgent dental care centre. **Urgent care** • If a **permanent** tooth (or teeth) has been moved out of its usual position, and is affecting the bite, refer to designated urgent care centre. **Urgent care** • If a **permanent** tooth fracture involves the dental pulp, refer to designated urgent dental care centre. **Advice and self help** • If a **permanent** tooth fracture involves only enamel and dentine, advise the patient to apply desensitising toothpaste on the exposed dentine and to use an emergency temporary repair kit which can be purchased online or at a pharmacy. **Urgent care** • If a **primary** tooth (or teeth) has been moved out of its usual position, and is affecting the bite, refer to designated urgent care centre **Advice and self help** • If a **primary** tooth has been knocked out, advise appropriate analgesia and a soft diet. N.B. primary teeth should not be re-implanted. **Advice and self help** • If a **primary** tooth (or teeth) has been displaced without affecting the bite, advise the parent/carer to alter the child's diet to include soft food and appropriate analgesia if required.

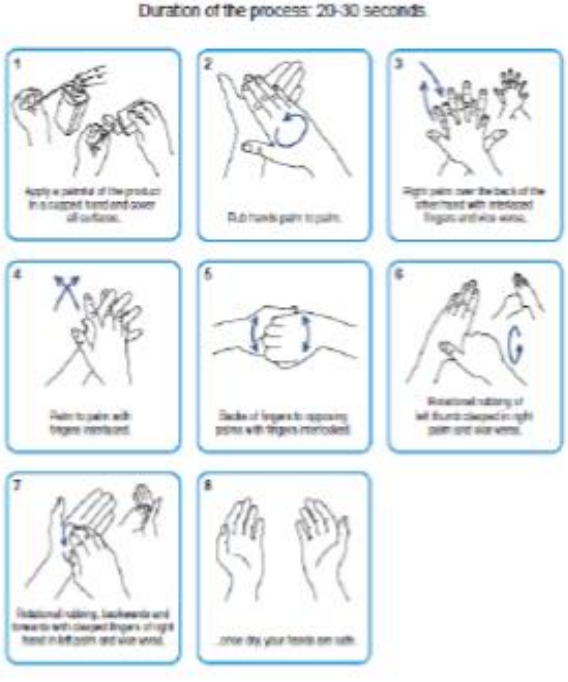
Problem (symptoms)	Management
Ill-fitting or loose dentures • Pain (general discomfort, localised) • Difficulty speaking • Difficulty eating	**Advice and self help** • Recommend optimal analgesia. • Advise the patient to remove their denture whenever possible. • Advise the patient to seek routine dental care when this service resumes.
Trauma from fractured or displaced orthodontic appliances • Pain • Soft tissue injury	**Emergency care** • If the patient has inhaled or ingested large parts of a fractured appliance or the airway is compromised, refer for emergency care. N.B. Brackets are frequently swallowed by patients and pass through the bowel without incident. **Advice and self help** • Direct the patient to the British Orthodontic Society website (www.bos.org.uk) for advice on managing other orthodontic problems.
Dento-alveolar injuries • Pain • Bleeding • Swelling • Teeth/dentures do not meet together in the way that they did before • Tooth mobility • Paraesthesia • Other problems specific to bone fractures e.g. nose bleeds, diplopia (double vision), loss of visual acuity	**Emergency care** • If bleeding is severe and will not stop within 15-30 minutes; there has been significant facial trauma; the patient has had a head injury or loss of consciousness; the patient has inhaled a tooth or tooth fragment, refer immediately for emergency care. **Advice and self help** • If the patient is not in need of emergency medical attention, advise them to: ◦ clean the affected area by rinsing gently with mild antiseptic and if foreign object(s) are present in the mouth, remove them; ◦ apply ice packs to soft tissue injury and swelling; ◦ apply pressure with a finger to stop any bleeding. • Consider recommending analgesia. Do not prescribe antibiotics.

Appendix 4: Hand hygiene - correct way to perform hand wash and hand rub

Figure 1: Hand hygiene

1a: Best practice – how to hand wash

1b: Best practice – how to hand rub



Appendix 5: Respiratory etiquette and cough hygiene should be followed by care providers, patients, companions.

Infection. Prevention. Control.
You're in safe hands

NHS

Respiratory and cough hygiene

- Cough or sneeze into a clean tissue, not into your hands.

- Dispose of the tissue immediately into the nearest waste bin.

- If you do not have a tissue, cough or sneeze into your upper sleeve.

- Always clean your hands after coughing or sneezing, either using soap and warm running water, alcohol handrub or hand wipes.

These steps will help prevent the spread of colds, flu and other respiratory infections

Community Infection Prevention and Control, Harrogate and District NHS Foundation Trust
www.infectionpreventioncontrol.co.uk June 2019

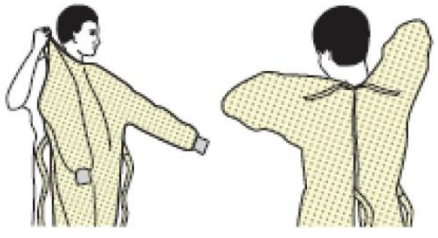
Donning and Doffing Instructions

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

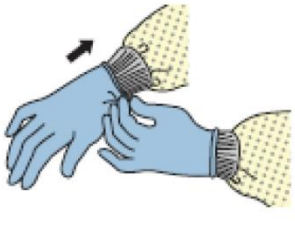
- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit

4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

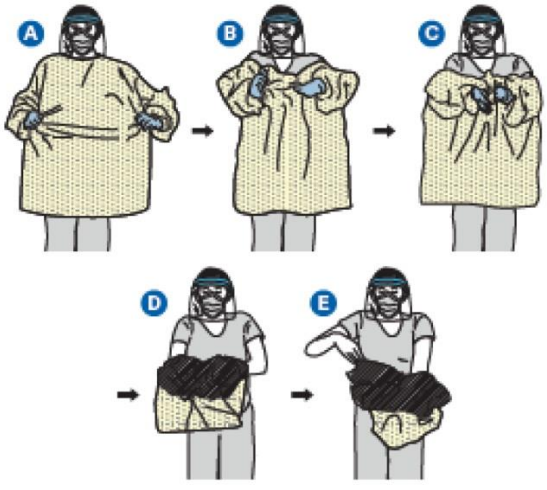
Donning and Doffing Instructions

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container



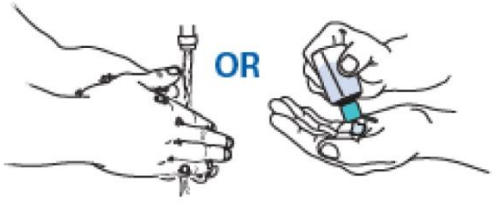
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container

4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



Appendix 7: Understanding differences between masks & respirators

Understanding Mask Types

ADA

	 SURGICAL MASK	 N95 MASK*	 N95 EQUIVALENT MASK KN/KP95, PFF2, P2, DS/DL2, KOREAN SPECIAL 1ST*
Testing and Approval	Cleared by the U.S. Food and Drug Administration (FDA)	Evaluated, tested, and approved by NIOSH as per the requirements in 42 CFR Part 84	FDA Emergency Use Authorization (EUA)
Sizing	No	Yes. The sizing differs with each mask model. Some of the sizing options include small, small/ medium, medium, medium/large, and large.	Yes. The sizing differs with each mask model. Some of the sizing options include small, small/ medium, medium, medium/large, and large.
Intended Use and Purpose	Fluid resistant and provides the wearer protection against large droplets, splashes, or sprays of bodily or other hazardous fluids. Protects the patient from the wearer's mask emissions	Reduces wearer's exposure to particles including small particle aerosols and large droplets (only non-oil aerosols). OSHA recommends certifying the authenticity of masks to insure they provide the expected protection.	Reduces wearer's exposure to particles including small particle aerosols and large droplets (non-oil aerosols). Manufactured in compliance with standards of other countries and considered equivalent to NIOSH approved N95 masks. Authorized manufacturers are listed at: https://www.fda.gov/media/136663/download
Face Seal Fit+	Loose-fitting	Tight-fitting**	Tight-fitting**
Fit Testing+ Requirement	No	Temporary lifting of fit test enforcement requirement.	Temporary lifting of fit test enforcement requirement.
User Seal Check Requirement	No	Yes. Required each time the mask is donned (put on)	Yes. Required each time the mask is donned (put on)
Use Limitations	Disposable. Discard after each patient encounter.	Ideally should be discarded after each aerosol-generating patient encounter. It should also be discarded when it becomes damaged or deformed; no longer forms an effective seal to the face; becomes wet or visibly dirty; breathing becomes difficult; or if it becomes contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.	Ideally should be discarded after each aerosol-generating patient encounter. It should also be discarded when it becomes damaged or deformed; no longer forms an effective seal to the face; becomes wet or visibly dirty; breathing becomes difficult; or if it becomes contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.

*OSHA video on mask seal check: https://www.youtube.com/watch?v=pGXiLyAoEd8 .
Facial hair may affect the fit of the mask: https://www.cdc.gov/niosh/npptl/pdfs/FacialHairWmask11282017-508.pdf

+Note: A seal test is a user test performed by the wearer every time the mask is put on to insure that the mask is properly seated to the face. If not, it needs to be adjusted. A fit test is used to determine appropriate mask size for the individual.

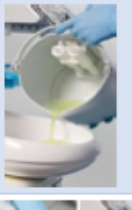
**A mask that does not fit does not protect you, meaning that you should not rely on it to protect you from infection.

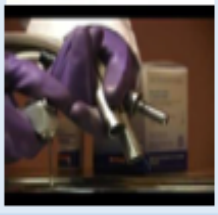
4/17/20

Appendix 8: Disinfection of dental unit and dental treatment room (use hospital grade disinfectants)

Disinfection & Cross Contamination Protocol – Dental Department **Ver. 23-3-19**

What	When	How	Guide
Disinfect All Frequently Touched Surfaces	Between Patients and after the last patient	Spray all frequently touched surfaces and equipment Leave the spray for 2 minutes Wipe the spray Use ***Minuten*** Spray 	 
Disinfect the dental suction	***Daily:*** After the last patient	• Add 50 ml of HAMA-Jet Daily to 950 ml of water • Immerse high volume suction tip and low volume suction tip in the liquid • Run the suction till all liquid is consumed • Place the suction tubes back 	
	Weekly: After the last patient on Thursday	• Add 50 ml of HAMA-Jet Weekly to 950 ml of water • Immerse high volume suction tip and low volume suction tip in the liquid • Run the suction till all liquid is consumed • Place the suction tubes back 	

What	When	How	Guide
Disinfection of cuspidor	At the end of the day At the end of the week	Mix 25 ml of HAMA-Daily / Weekly suction disinfectant with 450ml of water Pour the solution in the cuspidor (end of the day: HAMA-Daily) (End of the week: HAMA Weekly)	
Disinfection after surgical procedures (that include blood)	When the patient leaves the clinic and before the next patient	• Use HAMA-Weekly for the suction • Use HAMA-Daily for the spittoon • Other procedures remain the same	
Important daily precautions: 1- Use protective covers 2- Use N95 mask if the procedure include blood 3- Do not leave the room with contaminated PPEs 4- Use Face Shield / protective goggles for each procedure	Daily	As per respective policies and procedures at My Clinic	

What	When	How	Guide
Flush dental unit water tubes	At the beginning of the day	Take out the turbine tube – slow speed tube – three way syringe tube – scaler tube Direct them to the spittoon Press the foot control and tun the water for 30 seconds	 
Flush the suction tubes	At the beginning of the day	Remove the high volume suction and low volume suction tubes from their holders and keep them running for 30 seconds	
Flush suction tubes **Flush dental unit water tubes**	Between patients	As shown above	As shown above