



COVID-19 Standard Operating Procedure

(All information is correct at the time of circulating but may be subject to change in line with Government guidelines. Dental Compliance Made Easier have taken every reasonable care in the preparation of this document but cannot accept liability for any errors or omissions.)

Background

COVID-19 is caused by SARS-CoV-2 which is from the family of coronaviruses. It was identified in Wuhan, China towards the end of 2019 and is a novel virus.

It was declared a pandemic by the World Health Organisation on 12th March 2020. Clinical presentation ranges from mild-to-moderate illness to pneumonia or severe acute respiratory infection and death. Some people may have no symptoms at all.

Several measures have been implemented around the world to attempt to reduce the spread of COVID-19 and minimise the risk of severe illness and death, including the COVID-19 vaccine.

We should be following the most updated national guidance [Coronavirus \(COVID-19\): guidance and support - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/guidance/coronavirus-covid-19-guidance-and-support)

[The national IPC Guidance has been revised and published by UK Health Security Agency \(UK HAS\) on behalf of the Department of Health and Social Care \(DHSC\). It is applicable to all UK settings where healthcare is delivered. The infection prevention and control \(IPC\) for seasonal respiratory infections in health and care settings for winter 2021 to 2022 takes into consideration the impact of all seasonal respiratory infections.](#)

[The IPC principles and expected safe systems of work are outlined in the main body of the revised guidance. The accompanying \[revised Dental Appendix 1\]\(#\) provides further detail applicable to all those providing dental care in England. Dental practice owners, principals, associates, dental care professionals and dental practice managers should refer to both documents. This SOP has been revised to complement the updated UK IPC guidance for dental settings and support the safe and effective restoration of clinical activity and increase access for patients.](#)

[The revised UK IPC guidance adopts the hierarchy of controls framework \(Section 10\). Many of the processes and measures described in the hierarchy of controls are well established features, described in previous SOPs and successfully adopted by dental practices. A summary of the key areas and measures that should be in place in dental settings is at Appendix A of this SOP.](#)

[The revised guidance requires all practices to screen patients for COVID-19 prior to attending for care. An example of screening questions applicable to dental settings is contained in Appendix 1 of the main guidance \[Sample screening tool for COVID-19 for use in health and care settings \\(winter 2021 to 2022\\)\]\(#\).](#)

[Summary of the main changes.](#)

- [Removal of the 3 COVID-19 specific care pathways \(high, medium and low\). This is in response to stakeholder feedback and to facilitate local application of the guidance by organisations/employers. The use of, or requirement for, care pathways should be defined locally](#)

- addition of a section on the criteria to be applied within the ‘hierarchy of controls’ to further support organisations/services with maximum workplace risk mitigation
- recommendation for universal use of face masks for staff and face masks/ coverings for all patients/visitors to remain as an IPC measure within health and care settings over the winter period. This is likely to be until at least March/April 2022
- recommendation that physical distancing should be at least 1 metre, increasing whenever feasible to 2 metres across all health and care settings
- recommendation that physical distancing should remain at 2 metres where patients with suspected or confirmed respiratory infection are being cared for or managed
- recommendation that screening, triaging and testing for SARS-CoV-2 continues over the winter period. Testing for other respiratory pathogens will depend on the health and care setting according to local / country-specific testing strategies / frameworks and data

Reducing Risks

The two main increased risks in dentistry with the COVID-19 pandemic are because COVID-19 is a “transmissible virus.” These risks are:

- 1) Close physical contact (within 2 metres) of clinician, Dental Care Professional (DCP) and patient.
- 2) High risk of contact with droplets via surface contamination and transmission and aerosol as most dental procedures create splatter and are Aerosol Generating. These are referred to as Aerosol Generating Procedures (AGP’s)

The Standard Operating Procedure’s (SOP) main focus is to reduce these two enhanced risks by:

- 1) Reducing patient - colleague - patient/person contact.
- 2) Reducing the risk of transmission via droplet and aerosol.

Safe Practice

In the evolving context of the COVID -19 pandemic, the advent of population level vaccination and lifting of some public health measures the following principles of safe practice and risk management remain:

- Robust Infection Control measures
- Use of social distancing
- Frequent hand washing and disinfecting of surfaces
- Face coverings within the dental practice
- PPE – this will depend upon the treatment type (AGP/non-AGP) and the whether the patient falls into the non-respiratory/respiratory risk pathway.

PPE required by type of transmission/exposure	Disposable gloves	Disposable/reusable fluid resistant apron/gown	FRSM/RPE	Eye/face protection (goggles or visors)
Droplet PPE	Single use	Single use apron or fluid-resistant gown if risk of extensive spraying/splashing	Single use FRSM Type IIR for direct patient care (1)	Single use or reusable (1)
AirbournePPE (when undertaking or if AGPs are likely) (3) Or if an unacceptable	Single use	Single use fluid-resistant gown	Single use FFP3 (2)or reusable respirator/powered	Single use or reusable (2)

risk of transmission remains following rigorous application of the hierarchy of controls (4)			respirator hood (RPE)	
--	--	--	-----------------------	--

Risk assessments should still be completed for all patients before they enter the building to determine which pathway they are on and plan treatment accordingly.

The risk assessment should include determination of the following:

- The patient's COVID-19 risk status and associated care pathway **non-respiratory/respiratory**
- Whether the patient is at increased risk from COVID-19 or clinically extremely vulnerable (CEV)
- Consideration should also be given to risk assessing persons who are accompanying patients to an appointment (e.g., parent/carer of a child patient).

Additional considerations:

- Treatment for patients on the **respiratory** pathway should be restricted to urgent care only. Where necessary these patients may attend for face-to-face urgent care at any dental service but they must be separated in time or place from other patients. Routine care should be deferred.
- Patients who are clinically extremely vulnerable (CEV) should be identified as part of remote risk assessment. They may be seen for dental care in the same way as other patients.
- For most CEV the risk of COVID-19 infection (and therefore having a serious outcome) will now be considerably reduced as a result of the vaccine programme. However, some patients may still wish to continue to take extra precautions to keep themselves safe, even after they receive both doses of the COVID-19 vaccine.
- Dental practitioners should ensure that the triage and risk assessment include confirmation of vaccination status and patient wishes.
- The latest government guidance for clinically extremely vulnerable people can be found below, including information on supporting those that remain at higher risk, i.e., the immunosuppressed, some renal patients and those with haematological cancers.

<https://www.gov.uk/government/publications/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19>

- Where clinical risk remains for this cohort of patients, without compromising the requirement for access to care in an appropriate timescale, additional physical and temporal separation measures should be taken for these groups.
- When care planning, shared decision making is important to weigh up the benefits of dental treatment against exposure risk, and plan care in the patient's best interests.
- The patient's GP or wider health and social care professional(s) may be consulted to plan care as necessary, taking into account overall care needs, medical history and exposure risk, as is usual practice.

COVID-19 Care Pathways

Risk assessments should still be completed for all patients before they enter the building to determine which pathway they are on and plan treatment accordingly.

To reduce the risk of transmission all practices are to screen patients prior to attending for care. Dental practices should use the UK IPC sample screening tool for COVID-19 for use in health and care settings (winter 2021 to 2022) and regularly refer back to the uk.gov site for any updates or amendments to the screening questions.

- Practices should also identify, and risk assess any necessary accompanying persons (eg parents or carers accompanying patients)
- Patients should also be screen/risk assessed on arrival at the dental practice.

On completion of the screening and risk assessment the practice should determine whether the patient is to be placed on the respiratory or non-respiratory pathway and whether face to face dental care is to proceed. To maximise access when care may need to be deferred at short notice, practices should run a short notice cancellation list to minimise any lost clinical activity.

An algorithm of the patient pathway is shown in Figure 1.

	Patient or carer has answered YES to one or more screening questions Respiratory Pathway	Patient or carer has answered NO to ALL screening questions Non-respiratory pathway
Reschedule the appointment	Can appointment be re-scheduled until resolution of symptoms, end of isolation, negative test results or setting is able to administer the screening questions? (decision should be based on the findings of a clinical assessment)	Complete appointment applying Standard Infection Control Precautions (note: country specific requirements may be in place for testing prior to AGP's)
	Transmission Based Precautions (TBPs) should be applied in addition to SIPs. Post-AGP downtime applies. Patient should be separated (in time or space) from patients on the non-respiratory pathway. Refer to local arrangements as to where treatment should be carried out	

Figure 1: Diagram summarising the two pathways for patients attending dental settings.

- For patients placed on the non-respiratory pathway, dental care may proceed using standard infection control precautions for both non-aerosol generating procedures (AGP) and AGP treatments, without the requirement for post AGP down time (fallow time).
- For patients on the respiratory pathway, a further clinical assessment (i.e., triage by a dental professional) is required to determine whether routine care may be deferred until any respiratory symptoms resolve and when any COVID-19 isolation/quarantine periods has been completed.
- When care planning, shared decision making is important to weigh up the benefits of dental treatment against exposure risk, and plan care in the patient's best interests.
- Where care is deemed to be necessary and/or urgent patients on the respiratory pathway may attend for face-to-face care at any dental service, but they must be separated in time or space from other patients.

This may require practices to maintain some protected urgent care slots to allow delivery of care in such cases.

- Post AGP down time is only required for patients treated on the respiratory pathway .
- Post AGP down time commences at the point of cessation of the AGP. The length of time will vary dependent on the clinic's ventilation parameters, duration of AGP and nature of mitigation measures adopted.

Face-to-Face Care

All patients may be offered face-to-face dental care in the dental practice with:

- All dental care providers prioritising the urgent dental care needs of their existing patients and accepting referrals/new patients seeking urgent dental care.
- Prioritisation of patients with the greatest clinical need, attending to incomplete care plans and re-calling those with oral health needs that may have increased, developed or gone unmet during the pandemic eg children, high oral disease risk, those patients whose oral health impacts on systemic health and those who have been through stabilisation and need review.
- This includes actively reaching out to high needs dental patients and vulnerable groups most at risk of avoidable dental disease.

Dental practices should ensure patients have clear information about how to access dental services; this information should be made available in accessible formats to all patients, including those who do not have digital access and those for whom English is a second language.

Reduced access to dental care may disproportionately affect certain patient groups and this should be mitigated as far as possible.

Receptions should be open to patients to come in and book appointments, while following social distancing measures. This is to avoid disadvantaging patients with poor access to phones or other devices.

If practices are aware that a patient/patient group has specific access needs, these should be addressed by the practice as far as possible and this information should be passed on in any referrals. If patients need extra support to access remote consultations (eg access to phone/IT), raise this with the local commissioner and/or local authority

Treatment planning with a focus on stabilisation should be delivered in line with the principles outlined in the Avoidance of Doubt: Provision of Phased Treatments (<https://www.england.nhs.uk/publication/avoidance-of-doubt-provision-of-phased-treatments/>) and complemented with a strong focus on prevention of disease progression, including periodontal management, oral health prevention including fluoride applications i.e. [Delivering better oral health: an evidence-based toolkit for prevention](#) (3rd Edition)

Aerosol generating procedures (AGPs) should be undertaken with the appropriate risk assessment, IPC and PPE protocols. Guidance is contained in the UK IPC Guidance for Dental Settings, in the Dental Appendix to the COVID-19: Guidance for the remobilisation of services within health and care settings- Infection prevention and control recommendations.

Dental AGPs include the following:

- High-speed air / electric rotor (i.e. > 60,000 rpm)
- Ultrasonic scaler (including piezo)
- Piezo surgical handpiece
- Air polishers

Regarding 3-in-1 syringes:

- Research demonstrated that use of the 3-in-1 syringe with either air-only or water-only resulted in lower levels of contamination, with water-only causing the least contamination.
- There is currently no consensus to include the use of a 3-in-1 as an AGP.

Non-AGPs include:

- Remote consultations
- Oral health assessment
- Preventative and self-care measures delivered in line with Delivering Better Oral Health, non-AGP aspects
- Hand instrumentation/scaling (Appendix 4 – non-AGP periodontal treatment)
- Simple dental extractions
- Caries excavation with hand instruments (Appendix 5 –AMIRD)
- Caries removal with slow speed and high-volume suction (Appendix 5 - AMIRD)
- Placement of restorative material (Appendix 5 - AMIRD)
- Orthodontic treatment
- Removable denture stages (if patient has normal gag reflex)
- Paediatric oral health including stainless steel crowns (Hall crown) and silver diamine fluoride applications (Appendix 6)

(Standard operating procedure Transition to recovery Published 3 February 2021: Version 4. AMIRD reference Pages 25-30)

Delivery of prescription items

Normal arrangements apply, where patients make their own arrangements to collect prescription items (which includes in some cases the pharmacy delivering to them). In some areas local arrangements may be in place to support the collection or delivery of prescription items during the pandemic (e.g. local volunteer networks, home delivery services). Patients with possible or confirmed COVID-19 should be advised not to go to community pharmacies. Dental teams should advise patients who require a prescribed medication that this should be collected by someone who is not required to isolate themselves and delivered to the patient's home.

Domiciliary Care

- For domiciliary dental care (e.g. care home, patient's own home), where the COVID-19 risk assessment for the care setting deems it appropriate, resumption of the full range of domiciliary dental services (including routine and urgent care) to all relevant settings is recommended, particularly to support groups at high risk of oral disease (eg care home residents, people shielding, people who are housebound).
 - The revised IPC guidance applies to domiciliary care.
 - Patients must be risk assessed in line with the guidance and screened, prior to the visit and by the team on their arrival.
 - Patients on the non-respiratory pathway may be visited and cared for using SICPs.
 - For suspect or confirmed COVID-19 patients they should be treated using the respiratory pathway:
 - Routine care visits should be deferred.
 - If care cannot be deferred; TBPs must be used.
 - Patients who require urgent care involving an AGP, should be supported to receive that care in an appropriate clinical dental setting.
- Further details on staff testing as a precursor to domiciliary and care homes visits can be found via clicking this [link](#) and going to page 16

Hand and Respiratory Hygiene

All colleagues, patients and visitors must follow hand and respiratory hygiene.

The entire dental team along with patients and visitors should decontaminate their hands using Alcohol based Hand Rub (ABHR) when entering and leaving the practice. This should be followed by hand washing at the nearest available facility.

For clinicians and Dental care professionals, hand hygiene, (washing with soap and water or ABHR) must be carried out at all the following times:

- Immediately before every episode of direct patient care – to include forearms.
- Prior to donning of PPE.

- After any activity or contact that potentially results in hands becoming contaminated.
- After the removal of personal protective equipment (PPE).
- After equipment decontamination.
- After waste handling.
- At the end of every clinical session – to include forearms.

Key Steps to Consider Prior to Hand Washing

- a) Keep nails short and pay attention to them when washing your hands.
- b) Most microbes on hands come from beneath the fingernails.
- c) Do not wear artificial nails or nail polish.
- d) Remove all jewellery (rings, watches, bracelets) – a single plain wedding band is acceptable.
- e) Wash hands and arms to elbows with a non-medicated soap. The forearms must be included at the beginning and end of every session and after non AGP procedures when we are bare arms to the elbow.

Protocol for Hand Washing with Medicated Soap and Water

- a) Scrub each side of each finger, between the fingers, and the back and front of the hand.
- b) Wash each side of the arm from wrist to the elbow.
- c) Repeat the process on the other hand and arm, keeping hands above elbows at all times.
- d) Rinse hands and arms by passing them through the water in one direction only, from fingertips to elbow.
- e) Hands and arms should be dried using a disposable towel before donning gown and gloves.

All dental colleagues along with patients and visitors should follow good respiratory and cough hygiene. “Catch it, bin it, kill it”.

Social Distancing

Patient flow and practice layout should be considered, including a risk assessment of staff rooms and communal areas to comply with social distancing measures throughout the practice.

- Measures to separate and minimise the number of patients in practice at any one time.
- Follow guidance on face coverings in primary and community care settings.
- Establishing single entry and exit points for patients, with alcohol hand gel available for patient use.
- Reception interactions:
 - measures to minimise reception use e.g., digital appointment booking (online, email), receipts
 - consider fitting physical barrier at reception e.g., Perspex shield
 - set up contactless / card payment where possible
- Allow for 2m distancing where possible, ideally marked on floors.
- Where 2 metre separation is not possible, maintain 1 metre with additional precautions.
- Remove unnecessary items (e.g., magazines, toys, tv remote) from the waiting area.

Staff

Vaccinations

The advent of the COVID-19 vaccination programme, and the prioritisation of dental staff for the vaccine, has been an important addition to the evidence-based multi-layered approach to personal protection and an essential community-wide measure for reducing the spread of disease to dental staff and patients.

Since January 2021 all members of the dental team who have contact with patients, including both dental professionals and non-clinical staff (eg reception teams, domestic staff), have been eligible for the COVID-19 vaccination. Most dental staff will have been fully vaccinated in line with the expectation that healthcare workers fulfil their duty of care towards their patients in taking all reasonable precautions to protect themselves and their patients from communicable diseases. A booster vaccine is now available for dental staff who have had a second dose of the vaccine at least 6 months ago.

Individuals who have not yet received the vaccination should be supported and encouraged to take up the offer of the 1st and 2nd doses. For those who have not yet been vaccinated or received their booster please book a vaccination appointment online [here](#) (Or by calling 119 if online booking is not possible).

The Department of Health and Social Care (DHSC) has formally announced that individuals undertaking Care Quality Commission (CQC) regulated activities in England must be fully vaccinated against COVID-19 to protect patients no later than 1st April 2022, regardless of their employer, including secondary and primary care. This applies to the whole of the dental sector in England (both NHS and private care).

The government regulations are expected to come into effect from 1st April 2022, subject to parliamentary process. This means that unvaccinated individuals will need to have had their first dose by 3rd February 2022, in order to have received their second dose by the 1st April 2022 deadline.

Risk Assessment

All staff

Employers will need to consider detailed risk management approaches to safeguarding the health of their staff and minimise the risk of infection. It is therefore essential that all dental practices undertake and review risk assessments for all their staff (clinical, administrative, and domestic staff), recording discussion with team members and the agreed actions.

You can find several Risk Assessment templates on the Dental Compliance Made Easier Portal by visiting [Compliance Suite>Policy>COVID-19>Risk Assessments](#) or;

Further information is available in the Health and Safety Executive's working-safely-guide. Further guidance is also available through the Faculty of Occupational Medicine Risk Reduction Framework.

- NHS Employers: risk assessments for staff
- Risk reduction framework for NHS staff at risk of COVID-19 infection

Staff with symptoms of or exposure to COVID-19

Staff with symptoms of COVID-19 should stay at home as per advice for the public and arrange to have a test. Staff who are well enough to continue working from home should be supported to do so. If staff become unwell with symptoms of COVID-19 while at work, they should put on a surgical face mask immediately, inform their line manager and return home.

For clinically extremely vulnerable staff, they should be consulted with on how they can work safely – this may be from home or on-site at the workplace. Workplaces must be made safe by following COVID-secure guidelines if they are returning to work on-site.

Staff notified as contacts

Please see the below link for the latest guidance on staff who have been notified as contacts

<https://www.gov.uk/government/publications/covid-19-management-of-exposed-healthcare-workers-and-patients-in-hospital-settings/covid-19-management-of-exposed-healthcare-workers-and-patients-in-hospital-settings>

Staff testing

Symptomatic staff can access testing via the GOV.UK website (or call 119) and should identify themselves as essential workers. Further information on how to arrange for a test can be found in the COVID-19: getting tested guidance <https://www.gov.uk/guidance/coronavirus-covid-19-getting-tested>.

Lateral flow antigen testing is now being rolled out in primary care for asymptomatic staff delivering NHS services in England.

Patient-facing primary care staff are asked to test themselves twice weekly and report their results to Public Health England (PHE), via: <https://www.gov.uk/report-covid19-result>

Information on the government's antibody testing programme can be found via: <https://www.gov.uk/government/publications/coronavirus-covid-19-antibody-tests>

Resilience: supporting the workforce

Despite the change in guidance for the general population, the dental practice remains a high-risk healthcare setting for COVID-19. To manage risk and prevent transmission there remains a necessity for social distancing measures in staff areas/facilities, consideration of measures such as staggering breaks and limited use of changing areas/rooms to single occupancy at any one time.

To ensure that staff are working safely, refer to COVID-secure guidelines and the Health and Safety Executive's working safely guide (<https://www.gov.uk/guidance/working-safely-during-covid-19>).

The pace of the clinical day should be reviewed in order to accommodate regular breaks and rest periods.

The following mental health and wellbeing resources are available to staff:

- NHS Employers has resources to support staff wellbeing during the COVID-19 pandemic (<https://www.nhsemployers.org/topics-networks>) and NHS Looking After You Too (<https://www.england.nhs.uk/supporting-our-nhs-people/wellbeing-support-options/looking-after-you-too/>)
- The World Health Organization has published WHO Mental Health Considerations During COVID-19 (<https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf>).
- MIND UK and Every Mind Matters have published specific resources in the context of COVID-19. (<https://www.mind.org.uk/information-support/coronavirus/coronavirus-and-your-wellbeing/>) (<https://www.nhs.uk/every-mind-matters/coronavirus/mental-wellbeing-while-staying-at-home/>)
- NHS Practitioner Health has developed frontline wellbeing support during COVID-19 (<https://www.practitionerhealth.nhs.uk/covid-19-workforce-wellbeing>).
- BDA members can find further information about access to counselling and emotional support (<https://bda.org/advice/Pages/Health-Assured.aspx>).
- Domestic abuse helpline (<https://www.nationaldahelpline.org.uk/>)

Practice Team Responsibilities

Practices should appoint a COVID-19 lead (and deputies if necessary) to ensure:

- Practice has the latest information relating to COVID-19 through official updates, alerts and communications including:
 - CAS alerts from MHRA
 - NHS dentistry and oral health bulletin <https://www.england.nhs.uk/emailbulletins/dentistry-oral-health-update/>
 - Bulletins from local and national NHS Primary Care Commissioning
 - Updates to infection prevention and control guidance
- Practice has a single point of communication with the Regional NHS England and NHS Improvement (keeping updated and disseminating updates), Local Dental Network and Local Dental Committee.
- Practice activities are co-ordinated to include training, preparation for 'new ways of working' and implementation of this guidance and any subsequent revisions to guidance.
- The development and implementation of practice policies and procedures.
- Audit of COVID-19 cases and COVID-19 related significant events within the practice (staff and patients), log of lessons identified with documentation to evidence lessons learnt and implemented
- Queries are directed to local infection control teams and dental practice advisors (DPAs).
- Monitoring of stock levels and ensure PPE is available for the practice, arrange for PPE fit testing as necessary, with local/regional points of contact.
- Training and awareness of this SOP amongst staff.

Clinic Protocols

Standard Infection Control Precautions (SICP's):

- Standard national infection control precautions (SICPs) should be adhered to at all times.
- The PHC COVID-19 SOP should build upon these and not replace them.
- **Patients on the non-respiratory pathway require SICPs alone unless another infectious agent is present.**

Below is the guidance taken from: <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-infection-prevention-and-control-dental-appendix>

The elements related to COVID-19 for dentistry are as follows.

1. Patient assessment for infection risk **(non-respiratory/respiratory)**

There must be screening, triaging and testing as outlined above in the administrative measures for the care pathways.

2. Hand hygiene

Hands should be washed with soap and water: use of at least 60 to 80% alcohol-based hand rub before and after caring for or treating a patient, entering and leaving the surgery and after removal of PPE.

3. Respiratory and cough hygiene

Display posters on the need to cover the nose and mouth, have disposable tissues, hand hygiene facilities and waste receptacles available for staff and patients. Encourage patients to wear a face mask or covering.

4. Personal protective equipment

See [Table 1](#) for each pathway.

5. Safe management of the care environment and equipment

The frequency of cleaning across all risk pathways should be increased during the pandemic to at least twice daily. Frequently touched sites and points, in particular waiting rooms and dental chair, should be cleaned between patients and:

- a disinfectant agent such as a solution of chlorine at 0.1% or 1000ppm or an equivalent disinfectant effective against viruses, bacteria and fungi to EN standard 14476 for viricidal activity should be used
- equipment used for cleaning, for example cloths, should preferably be disposable; however, reusable items such as mops and buckets should be stored clean and dry between use
- medical devices and equipment should be managed as per manufacturer's instructions – decontamination processes for equipment and the environment following dental treatment should follow country specific guidance ([England](#), [Scotland](#) and [Wales](#))

6. Safe management of linen

Uniforms and scrubs should be washed separately at the highest temperature setting for the fabric.

7. Safe disposal of waste (including sharps)

Clinical waste should be treated as infectious waste and treated accordingly.

8. Occupational safety, prevention and exposure management

Prompt recognition of cases of COVID-19 among staff is crucial to limit spread. If a staff member has symptoms of COVID-19, they should self-isolate, arrange to have a PCR test, and follow self-isolation guidance. Symptomatic staff members should only return to work if their PCR test result is negative. If the PCR test result is positive, they must complete 10 full days self-isolation from the date of onset of symptoms as per guidance.

Asymptomatic staff members who test positive on a lateral flow device antigen test should follow self-isolation guidance and arrange to have a PCR test. If the PCR test result is positive, they must self-isolate for 10 full days from the date of the PCR test. If they develop symptoms after their PCR test, the 10-day isolation period restarts from the day the symptoms start. Employers should risk assess staff at high risk of complications from COVID-19 and manage their work commitments accordingly.

9. Maintain physical distancing of 2 metres

This is at all time in healthcare settings unless wearing PPE during direct care. If it is not possible to achieve this distance such as multi-chair clinics or reception areas, physical barriers should be used for example clear screens for reception. If space in staff rest areas is limited, consider allocating separate break times.

Infection Prevention Control Protocols

Measures which Must Be Employed for Reduction of Production of Aerosol

- Alteration of working practice to reduce number of AGP's e.g., examinations with gauze not 3 in 1.
- Work four handed unless impossible for well-placed high-volume suction.
- Routine use of Rubber dam unless impossible.
- Avoid the patient rinsing or spitting into the spittoon.

Patients' records and taking a good medical and social history should help to identify those who are clinically vulnerable or clinically extremely vulnerable. Patients who are clinically extremely vulnerable may previously have been advised to shield themselves. In cases where remote management is not possible, consideration should also be given to risk assessing persons who may be accompanying the patient to a face-to-face appointment (e.g., the parent or carer of a child patient). Patient escorts should be from the same household or support bubble as the patient as far as possible.

Preparation of the Practice Environment

- It is recognised that dental treatment will require closer contact than the recommended 1 metre, however social distancing measures should be applied as far as possible throughout the process.
- Physical measures will need to be implemented to prepare the practice environment in advance of accepting patients and visitors.
- Patient lounges and reception areas should allow for 1-2 metres separation. This should be demarked where possible with clear lines marked out.
- Reception and patient lounges must be kept clean and clutter free. Leaflets, pictures and ornaments must be removed. All non-essential items including toys, books and magazines must also be removed.
- Information posters about COVID-19 and the protective measures that we have put in place to protect patients and our policies must be displayed.
- Remove or deactivate water dispensers and remove disposable drinking cups and any coffee or tea making devices that are available.
- Disposable tissues and a waste bin must be available to support respiratory and cough hygiene and signs should be displayed regarding "Catch it, bin it, kill it."
- There should be more frequent cleaning and disinfection of commonly used hand-touched surfaces and of anteroom or lobby areas (at least twice per day).
- All door handles must be wiped with appropriate cleaning product when colleagues, patients and visitors enter and leave the practice or a surgery.
- A separate clean room/area must be identified for "Donning"
- The appointment diary must be managed into sessional treatment sessions.

- No home clothes are to be worn in surgery
- Colleague rotas and break times must be managed to maintain social distancing at lunch and rest times.

Arrange physical installation of:

- A station at the front entrance for patient(s) for hand sanitiser
- Hand sanitisers outside the surgeries to be used
- Foot controlled clinical waste bins inside and outside AGP surgeries
- Appropriate signage and posters regarding clinical waste bins in communal areas (by exit of practice and outside surgery doors).

Pre- Preparation of the Surgery Environment for AGP Procedures

- All clutter must be removed from surgeries – bare minimum.
- Treatment should be well planned in advance, organised expected instruments.
- Disinfection of water and suction lines – these should be run through at the start of the session and between patients and again at the end of each session and usual suction cleaning at end of day and DUWL disinfection once weekly.
- Worktops must be completely clear except for items required for the procedure.
- Computer keyboards must all have a washable cover on or cover with cling film (disposed of after each AGP)
- Should a colleague need to leave the surgery during an AGP then the Doffing process will need to be following in full followed by a new donning process before re-entry. The other colleague should remain in the surgery with the patient.
- Should a patient need to leave the room for a comfort break or any other reason door handle hygiene will need to be carried out. The bathroom will need immediate cleaning.
- If an additional person must enter an AGP room to deliver additional materials or any other reason, they must be fully Donned in enhanced PPE and must follow the doffing procedure on exit.
- Single use items should be used wherever possible.
- Doffing should occur before leave the surgery other than mask, doff outside surgery into clinical waste bin.
- Further appointments should be scheduled remotely.

Personal Protective Equipment (PPE)

Non - AGP Treatment for Clinicians AND DCP Colleagues

Standard PHC COVID-19 PPE

- Usual clinic work wear - usually scrubs
- Disposable plastic apron per patient – disposed of and replaced if damaged.
- Disposable gloves per patient – disposed of and replaced if damaged.
- FRSM – replaced sessional
- Visor –disinfected per patient.

The apron and the gloves should be disposed of in the clinical waste after each patient.

AGP Treatment for Clinicians and DCP Colleagues

Enhanced PHC COVID-19 PPE:

- Usual clinic work wear - usually scrubs
- Disposable/reusable fluid resistant gown per patient
- Disposable/reusable head covering (recommendation)
- Disposable gloves per patient – disposed of.
- FFP3 or FFP2 (if FFP3 not available) fitted mask dependant on type- reusable to place FRSM over fitted mask
- Visor –to be disinfected and alternating visor and shield replaced per patient

- All the PPE should be disposed of in the clinical waste after each patient

Personal Protective Equipment (PPE)

The terminology “aerosol generated exposure” (AGE), to complement “aerosol generating procedure” (AGP). It was considered that this promotes a risk-based approach and encourages dental professionals to consider AGEs from a quantitative perspective and moreover to consider the risk from droplet and aerosol spread from natural exposures such as gagging, coughing or spluttering.

Appropriate PPE should be selected following a risk assessment of the procedure, the staff, the patient, as well as the current national alert level in order to best protect all concerned. A risk assessment should also be conducted for any accompanying carers.

Mask selection will be dependent on the risk assessment. All FFP2 / FFP3 masks must be fit tested. It is important to carry out a personalized risk assessment of all team members to ensure anyone that may be vulnerable to COVID19 due to age, sex, ethnicity, pregnancy or co-morbidities has adequate protection.

FFP3 masks can provide some marginal benefit in terms of protection compared to an FFP2 mask. It may be worth considering the use of a higher-grade respirator (FFP3) if a risk assessment indicates that this would be worthwhile. Any benefit in protection may be offset by issues of operator comfort which can directly impact on compliance and safety. In most instances an FFP2 mask would seem to provide adequate protection for high-risk AGEs. Whichever mask is worn, it must be appropriately fit tested and it should be stressed that mitigating measures such as rubber dam usage, high volume suction and four handed dentistry are all key factors in reducing exposure to aerosol.

DHCW who are unable to wear a FFP2/FFP3 mask either due to a failure of fit testing as a result of having a beard and are unable to shave for either religious or cultural reasons have the option of wearing a powered air purifying respirator (PAPR) hood. A PAPR hood functions at the level of an FFP3 mask but is reusable and does not require any fit testing. Those who may have skin conditions such as eczema may also find the PAPR useful. One of the limitations of the PAPR is that expired air is not filtered, like valved FFP2/FFP3 masks which allow unfiltered exhaled air through a port. Non-valved masks filter expired air through the mask. The use of a simple FRSM mask over a valved FFP2/ FFP3, in addition to the visor, may offer additional protection for a vulnerable patient.

Fit testing of PPE may be performed by dental staff with appropriate training, or third-party contractors that specialise in such services. Dental contractors should inform their employers liability (EL) insurer that all staff undertaking aerosol generating procedures are required to be fit tested for appropriate PPE, to ensure their EL insurance cover is sufficient. In addition, contractors should also notify their insurers if they are performing the fit testing for their own staff or that of other local dental contractors, again to ensure EL cover is adequate.

Table 2: Descriptor of key PPE usage in relation to alert levels and AGP risks

It is assumed that gloves will be worn for all procedures in the normal manner.

Procedural risk mitigation

High volume aspiration (HVA) has been shown to significantly reduce bio-aerosols and must be considered as a key mitigating measure in the reduction of aerosol spread. The use of four handed dentistry will also improve the efficiency and effectiveness of the dental team, which can also impact on the exposure risk in terms of aerosol spread and length of operative procedure.

A rubber dam should be used in all AGPs where it can be reasonably placed. Where it is not possible to place a rubber dam, high volume aspiration should be used. Four-handed dentistry will improve efficiency and help to limit the spread of the aerosol.

Donning and Doffing

Prior to donning PPE, the following should be carried out:

- 1) Consider going for a comfort break
- 2) Ensure you are well hydrated
- 3) Tie back any long or loose hair
- 4) Remove all jewellery
- 5) Ensure hand hygiene has been carried out
- 6) Identify hazards and manage risk.
- 7) Gather the necessary PPE.
- 8) Plan where to put on and take off PPE- reception if using downstairs surgery, office for upstairs surgery.

Donning PPE for a non – AGP

Clinical Team member starts in their normal scrubs and closed footwear

1. Hand hygiene
2. Apron
3. FRSM (adapt to bridge of nose).
4. Eye protection/visor
5. Gloves

Doffing PPE for a Non AGP

Avoid contamination of self, others and the environment. - Remove the most heavily contaminated items first.

Procedure:

1. Gloves - Remove gloves. Grasp the outside of glove with the opposite gloved hand; peel off. Hold the removed glove in the remaining gloved hand. Slide the fingers of the un-gloved hand under the remaining glove at the wrist. Peel the remaining glove off over the first glove and dispose of in clinical waste.
2. Perform hand hygiene with alcohol-based rub
3. Eye protection/visor - Remove eye protection if worn. Use both hands, pulling away from face. Decontaminate if reusable with warm soapy water.
4. Apron. Unfasten or break apron ties at the neck and let the apron fold down on itself. Break ties at waist and fold apron in on itself – do not touch the outside – this will be contaminated. Dispose of in clinical waste. Perform hand hygiene with alcohol-based rub
5. Perform hand hygiene with alcohol-based rub
6. FRSM Remove facemask once your clinical work is completed. Break bottom ties, followed by top ties or elastic, and remove by handling the ties only. Lean forward slightly. Discard. DO NOT reuse once removed. Dispose of in clinical waste.
7. Clean Hands and forearms

Donning PPE for an AGP

Donning for an AGP must be done in a separate room/area to the AGP procedures. Ideally it should be as close to the AGP room as possible to minimise contamination on route.

Procedure:

- 1) Put on shoe covers
- 2) Put on gown ensuring this covers scrubs and up to the neck
- 3) Put on FFP2/3 mask; perform user seal check if using a respirator
- 4) Put on surgical hat
- 5) Put on Loupes or prescription glasses if not already on – order may change depending on hat design over or under ears

- 6) Put on visor
- 7) Put on gloves (over cuff).

Doffing PPE for an AGP

Avoid contamination of self, others and the environment. - Remove the most heavily contaminated items first.

Procedure:

- 1) Remove gloves and dispose of in clinical waste.
- 2) Perform hand hygiene with alcohol-based rub
- 3) Remove shoe coverings and dispose of in clinical waste.
- 4) Perform hand hygiene with alcohol-based rub.
- 5) Remove visor from behind always tilting head forward as the visor may have contaminants on it.
- 6) Put visor in a separate container for reprocessing.
- 7) Remove gown - peel off gown and roll inside out and dispose of in clinical waste, if reusable in separate bag to be laundered.
- 8) Remove cap and dispose of in clinical waste, if reusable place in separate bag to be laundered.
- 9) Perform hand hygiene with alcohol-based rub
- 10) Remove dental loupes.
- 11) Perform hand hygiene with alcohol-based rub or soap and water
- 12) Leave the surgery
- 13) Remove FFP2/3 mask from behind and dispose of in clinical waste. Reusable mask placed in plastic box to be cleaned.
- 14) Perform hand hygiene with alcohol-based rub or soap and water.

Mask Fit Testing

All clinical colleagues will need to undergo Fit testing of FFP2/3 Respirators.

Fit testing must be carried out on all clinicians and clinical colleagues prior to them carrying out AGP's and wearing FFP2/3 masks. The aims are;

- To ensure an adequate seal/fit according to the manufacturers' guidance.
- To ensure understanding of the need to re-test after a change in manufacturer or mask type.
- To ensure compatibility with other facial protection used i.e., visors and prescription glasses/dental loupes so that this does not interfere with the seal of the respiratory protection.

Every clinician and DCP will need to be fit tested to ensure that the FFP2 or FFP3 masks fit properly and create a seal to ensure their safety whilst involved with an AGP procedure. This will need to be by a PHC accredited trainer.

Disinfection Procedures Post Non AGP Procedure.

The DCP Disinfection Process after Non AGP:

- Windows should be kept open where possible to improve airflow and ventilation whilst using detergent and disinfection products.
- Disposable items that have been used for the care of the patient must be bagged as clinical waste.
- Usual HTM 01-05 procedures should be followed with standard Cross infection control of boxing of dirty instruments.
- Visors and headbands should be removed and cleaned/wiped with appropriate disinfection solution.

- Disinfection of water and suction lines. Flush through all handpieces, 3 in 1 line and suction with appropriate disinfection.
- Doffing of non-AGP PPE in surgery
- Leave surgery to take dirty box to decontamination room

The DCP should carry out the following disinfection process after an AGP;

- Windows should be kept open where possible to improve airflow and ventilation whilst using detergent and disinfection products.
 - Disposable items that have been used for the care of the patient must be bagged as clinical waste.
 - Usual HTM01-05 procedures should be followed with standard Cross infection control of boxing of dirty instruments.
 - Visors and headbands should be removed and cleaned/wiped with appropriate disinfection solution.
 - Disinfection of water and suction lines. Flush through all handpieces, 3 in 1 line and suction with appropriate disinfection.
- Using disposable cloths/paper roll/disposable mop heads, the DCP should clean and disinfect the following by wiping the surfaces with chlorine solution or equivalent
- Any cloths, paper roll and mop cloths used must be disposed of as single use items in clinical waste
 - Non single use cleaning items are returned to the lidded storage box
 - Discard detergent/disinfectant solutions safely at disposal point
 - Dispose of all waste as clinical waste
 - The DCP should then doff as per training and leave the room for a specified duration depending on ventilation in surgery.
 - Perform hand hygiene.
 - Remove the FFP2/3 mask and dispose of it.
 - Perform hand hygiene.
 - The DCP returns and the second stage of decontamination occurs.

Disinfection and Cleaning Products

The provision and use of personal protective equipment (PPE), including respiratory protective equipment (RPE), will protect colleagues, patients and visitors. Employees have an obligation to make full and proper use of any control measures, including PPE, provided by their employer.

Dedicated or disposable equipment (such as mop cloths) must be used for environmental decontamination and disposed as clinical waste. Reusable equipment (such as mop handles, buckets) must be decontaminated after use with a chlorine-based disinfectant as described above.

Patient care equipment and surfaces should be cleaned according to manufacturer's instructions, and where possible with chlorine-based disinfectant, 70% alcohol or an alternative disinfectant used within the organisation that is effective against enveloped viruses.

The production of Dentichlor (or equivalent) for Disinfection:

- 1) Dentichlor is a tablet form and is an effervescent tablet and can be used on floors and surfaces
- 2) It is made in the ratio of 1000 parts per million. This equates to 1 tablet to 1 litre of water
- 3) These tablets should be stored in a cool and dry place
- 4) The solution should be prepared using the necessary PPE. This is a disposable apron, gloves and protective goggles/visor
- 5) One 1.7G tablet should then be mixed with one litre of tepid water in the diluter
- 6) This should be carried out in a well-ventilated area
- 7) The cap should be loosely placed on the diluter as gasses are produced during the process which will need to be allowed to escape
- 8) When the tablet has fully dissolved the cap should be tightened fully and the bottle inverted twice to ensure the product is fully mixed
- 9) DO NOT shake the bottle

- 10) The material lasts for 24 hours and should be discarded in the sink while the water is running
- 11) When using this product, it should NOT be placed in a spray bottle as this will create droplets of chlorine material that could irritate the eyes, nose throat and skin.
- 12) Cleaning should be carried out with disposable towels and left on the surface for 5 minutes before being rinsed off
- 13) All wipes should be disposed of in the clinical waste
- 14) Hands should then be washed following the standard protocols

Training

Recorded training will be provided by PHC and is mandatory for those returning to the dental practice prior to seeing patients.

- All clinical colleagues must have read and signed acknowledgment that they have read and understood the SOP.
- All clinical colleagues must have had appropriate fit testing on the FFP2/3 masks. Fit tests may have to be repeated if the mask manufacturer or mask type needs to be changed.
- Colleagues who fail the fit testing may not work face-to-face until a suitable mask can be found.
- All clinical colleagues must undergo training in donning (putting on) and doffing (taking off) personal protective equipment (PPE)
- All clinical colleagues must undergo training in surgery decontamination after all procedures
- Cleaning contractors and colleagues must undergo appropriate training in new cleaning protocols for surgeries and communal areas as appropriate.
- All clinical colleagues must have training in home and work clothes management
- All colleagues must understand the impact of COVID-19 on CPR and resus during this pandemic.
- Reception and management colleagues must undergo training on zoning, patient flow and appointment management.

It is essential that all practice staff are aware of the symptoms of COVID-19 infection. They should also know what to do if they or someone they live with or within their support bubble contacts develops COVID-19 symptoms.

After Treatment

At the end of a treatment visit, the patient should leave the room immediately, then clean their hands directly outside the surgery using alcohol gel provided with laminated instructions for guidance.

After providing dental treatment for a patient, it is imperative that correct procedures and protocols are followed to protect staff and all subsequent patients. Dental procedures that involve high speed drilling, ultrasonic equipment, and air/water spray will produce an aerosol. There is currently no consensus on whether COVID-19 is spread via aerosols, but in view of the potential consequences of transmission, additional precautions need to be taken. The appropriate PPE has been covered in the previous section.

Following treatment where an aerosol has been generated, the clinical team should doff their PPE in the surgery, except their masks, strictly adhering to the doffing guidance published by Public Health England (PHE). Masks should not be removed within the surgery following production of an AGP, and this should be undertaken in a designated doffing area. Doffing within the surgery may expose team members to potentially infectious aerosols. All clinical staff should be meticulously trained in donning and doffing techniques, including washing the forearms during hand hygiene.

Fallow Period after carrying out high-risk AGPs in a dental surgery

A multidisciplinary working group (SDCEP) have proposed a pragmatic algorithm with mitigation factors for post AGP downtime that has been accepted by the 4 UK Chief Dental Officers. They advise that:

- where there is ventilation but the number of ACH are unknown, or there are air changes of 1 to 5 ACH, a baseline post AGP downtime of 30 minutes is recommended with mitigation such as high-volume suction/ rubber dam
- where there are 6 to 9 ACH, a baseline post AGP downtime of 20 minutes is recommended
- where there are 10 or more ACH, a baseline post AGP downtime of 15 minutes is recommended

Please note:

- non-respiratory patients do not require post AGP downtime
- respiratory patients should be separated by space or time from other patients
- AGPs should not be conducted in a room that has no natural (that is a window) or mechanical ventilation
- all equipment including ventilation, suction, air cleaners etc is maintained according to manufacturer's instructions and is operating effectively
- a minimum post AGP downtime of 10 minutes should apply to allow larger droplets to settle before environmental cleaning
- post AGP downtime can commence at the end of aerosol production

It is recommended that team members wear fluid-resistant surgical masks, eye protection and plastic aprons during decontamination of the surgery. Surfaces should be cleaned using a detergent and then disinfected using a virucidal agent. The floor should be cleaned thoroughly with a mop after every treatment involving an AGP. Risk of contamination can be mitigated by using a suitable virucidal solution to clean the mop or consider a detachable mop head or cleaner which can be washed and reused.

If no high-risk procedures have been undertaken, floor cleaning should be done at the end of each session. Team members should be trained in appropriate environmental cleaning methods, and this is facilitated by decluttering all work surfaces and removing wall art. Reusable instruments should be decontaminated in accordance with national guidelines.

In view of financial and environmental cost of using single use disposable mops, we recommend a more pragmatic risk-based approach.

Digital clinical records may be completed in the surgery while wearing PPE, or in a clean area following doffing of PPE and hand hygiene. If not washable, the keyboard and mouse should be covered with single-use cling film.

Scrubs should not be worn outside the practice. They should be taken home for washing after a day's wear in a sealed plastic bag or pillowcase. They should be washed separately from other clothing at the highest possible temperature in a half-full load and then tumble dried or ironed.

The rate of clearance of aerosols in an enclosed space is dependent on the extent of any mechanical or natural ventilation and the size of the droplets created. The greater the number of air changes per hour (ACH), the sooner any aerosol will be cleared.

Environmental Mitigation

Air ventilation is an important factor in providing a safe and comfortable workplace, and this is widely recognised within healthcare guidance and building control regulations. Adequate air ventilation is considered important in terms of general health and wellbeing and current guidance recommends 10 air changes per hour for new buildings which include health treatment rooms.

Until very recently, air ventilation within dental surgeries has perhaps not had the focus which it deserved, but this is likely to change with the impending publication of a revised version of HTM 03-01 in late 2020. In addition to the benefits of an adequately ventilated work place, air ventilation has been identified as an important factor in eliminating aerosols within a dental surgery following an AGE / AGP, and is considered a key mitigation in reducing the risk of contamination via bioaerosol.

PHE, NSS SBAR and SDCEP have all highlighted the importance of increasing air changes per hour (ACH) in a dental surgery as a means of reducing fallow-time, and this is now being considered as a critical element

in reducing risk.

Particulate aerosols of $<5\mu\text{m}$ can potentially contain viable SarsCo-V2 virus. Particles of $<5\mu\text{m}$ can suspend in the air for a significant period of time and can theoretically be inhaled by patients or dental staff, settle in the lower respiratory system and cause infection. It should be noted that there is little evidence to indicate the risk of transmission from a dental aerosol and the minimum infective dose is currently unknown.

The use of air ventilation as an environmental mitigation is based on the process of dilution of the aerosol by either introducing 'fresh air from outside' or by cleaning the existing air. Ventilation can be provided by natural or mechanical means and there are a variety of methods which can be considered to achieve dilution of the bioaerosol:

1. Natural ventilation – windows, doors, vents

2. Mechanical ventilation –

a. Negative pressure - mechanical ventilation where air is actively extracted from the room which creates a negative pressure allowing fresh air to enter from outside via additional air vents.

b. Positive pressure – mechanical ventilation where air is actively pushed into the room. Used in operating theatres where provision of clean air is via wall/ceiling diffusers and escape vents are located above floor level.

c. Supply and extract system – mechanical ventilation where air is both actively pushed into the room and actively removed with the inlet / outlet strategically positioned to optimise clean air flow within the dental surgery.

3. Air cleaners / “scrubbers” – mechanical process of ‘cleaning the air’ through HEPA or UV filters. These devices are typically recirculating units which enhance the effective air change rate by removing or inactivating airborne virus.

Natural ventilation, i.e. opening a window, may allow for fresh air to mix with room air and dilute any aerosols, but has the greatest variation in effectiveness and it is not possible to quantify the level of dilution or the number of ACH. The nominal value of 1 ACH is assigned to a room with windows, irrespective of the size of the room, the number of windows, size of opening, height of the building or climactic conditions outside. In practical terms it is not possible to calculate the ACH from natural ventilation in a dental surgery. This will undoubtedly impact on the ability to use this form of environmental mitigation to reduce fallow time, although it will invariably improve air ventilation and air quality within the room.

Mechanical ventilation – any of the methods described previously will increase ACH, the value of which will be dependent on the size of the room and the output of the mechanical ventilation. The number of air changes per hour can be easily calculated if the air flow rate of the mechanical ventilation and the volume of the room are known. This information can either be obtained from the manufacturer, the installation engineer or ideally an independent report obtained from a ventilation expert.

The use of window or wall mounted extraction fans may be considered to be an effective method of increasing ACH, but consideration needs to be given to the impact on the air temperature within the room. There are likely to be significant financial and environmental costs to maintaining an optimal room temperature, when there is a significant temperature gradient to the outside. A heat exchange system may mitigate to a certain extent, but installation costs are likely to be higher. It is recommended that practice owners seek expert advice on the system which is most effective for their own premises. It is important to recognise that many factors can impact on the performance and efficiency of any mechanical ventilation system, and the effectiveness may vary from that stated by the manufacturer. The performance and efficiency of one-way extractor fans can be affected by the air pressure within the room and will be related to the availability and position of passive inlet / outlet vents.

Air cleaners (air scrubbers) – recirculating air cleaners do not provide fresh air from outside, but may be effective in improving the quality of air within the surgery by removing or diluting contaminated aerosol and thus reducing the risk of contamination. The air particles, including bioaerosol, is filtered by the use of High Efficiency Particulate Air (HEPA) filtration or UV irradiation. The efficiency of such units has been questioned in view of the risk of recirculation of the same air when located in one position. It is recommended that the units be positioned close to the source of the aerosol production (i.e. head or the foot of the dental chair) to mitigate against this risk. Positioning of the unit behind the operator or nurse should be avoided. The effectiveness of air cleaning devices will depend on the air flow rate of the device, the efficiency of air cleaning and the size of the room. Any introduction of such devices must consider these elements as well as cleaning, maintenance and safety.

In view of concerns over the efficiency of recirculation units, NSS SBAR recommended that their effectiveness should be “downgraded” to 50% of their manufacturers output when calculating ACH. The value of air cleaners was recognised within the SDCEP Report although it did not go as far as recommending them, in view of the lack of evidence to support their use. PHE would appear to be supportive of the use of air cleaners through their involvement and endorsement of the SBAR document.

The FGDP (UK) / CGDent would support the use of air cleaners especially in dental surgeries where alternative means of environmental mitigation may not be feasible or practical. In view of the concerns raised within the NSS SBAR Report, a 50% reduction in efficiency is seen as pragmatic, unless evidence to the contrary can be provided by an independent expert. The type, design and manufacture of recirculating air cleaners is highly important, as not all models are equally effective. Care should be taken in selecting the appropriate machine and practitioners have a responsibility to ensure that it is fit for purpose and regularly maintained.

In summary:

- Aerosol generated procedures should not be conducted in a windowless room without mechanical ventilation or an air cleaner.
- Natural ventilation cannot be calculated reliably and needs to be discounted in relation to achieving a “reduced fallow time” by use of environmental mitigation. This translates into 30 minutes fallow time for all procedures in a room which is solely reliant on natural ventilation with no procedural mitigation employed.
- FGDP / CGDent supports the application of the SDCEP recommendations on mitigation-based reductions for fallow time.
- FGDP / CGDent support the use of mechanical ventilation to achieve at least 6 ACH to improve air quality and reduce fallow time.
- This guidance supports the use of air cleaners / scrubbers as an acceptable recirculation method of removing bioaerosol and should therefore be considered an effective method of environmental mitigation, although their relative efficiency in terms of ACH must be taken into consideration.

Air cooling for AGP and non AGP treatments.

Evidence indicates overheated staff are clinically less effective. Fans may be used but will not cool staff who are wearing water repellent PPE. It may be beneficial to move air towards windows and mechanical extract. Fans will create turbulence that dilutes the most concentrated aerosols.

In these environments, it may be beneficial to move air towards windows and mechanical extract points. Fans should not be directed towards doors, driving air into other rooms. Fans should be cleaned regularly to remove visible soiling. Planned preventative maintenance, and cleaning of fans and their blades should continue. Fixed air conditioning units (for example, wall or ceiling mounted recirculating air coolers - split units) and portable air conditioning, which do not recirculate to other rooms, can be used. Where there is poor air circulation within a room, it may be beneficial to mix air so as to dilute aerosols.

These types of air conditioning will cool staff wearing water repellent PPE. Portable air conditioning should not be directed towards doors, driving air into other rooms, nor should any pipework or cables impede fire doors. Portable air conditioning should be used cognisant of any risk of legionella and risk from bacteria in condensate water when emptying the reservoir. Daily emptying of the reservoir should be recorded. Planned

maintenance should be carried out on the device following manufacturer's guidance and should be recorded. Do not use portable air conditioning that incorporates humidifiers.

Clearance of infectious particles after an AGP in dentistry is usually considered to be dependent on the ventilation and air change within the room. However, other factors such as the type of procedure carried out, the use of HVA, the use of rubber dam, the duration of aerosol generation and the size and shape of the room also have to be taken into account when deciding how long it would take for clearance of infectious viral particles after a particular procedure.

COVID-19 service continuity

Dental practices should review their business continuity plans to ensure arrangements are in place to minimise the impact of a local incident on services. This should include scenarios that could temporarily disrupt delivery of services from practice premises or disrupt staff availability (e.g. local outbreak; case(s) of COVID19 in practice). Plans should consider high levels of staff sickness and self-isolation, call handling, staff and patient communication and, ultimately, denial of access to premises for staff and patients.

Business continuity arrangements should recognise the opportunities to maintain patient services through remote working, collaboration with other local dental providers, and integration with the local Urgent Dental Care system. Using clinical judgement and experience of recent months, dental teams may need to consider how to prioritise their workload to deliver the best possible care to their patients.

In the event of COVID-19 impacting the delivery of services, practices should:

- Inform their local commissioner in line with local reporting/escalation processes
- Be aware of, and follow, any local containment plans or additional precautions instituted by national direction or local systems (e.g. Local Authorities; Regional NHS England commissioning teams; Local Health Protection/PHE)
- Communicate service changes to patients.

Health inequalities and inclusion health

Oral health inequalities remain a significant public health problem in England as reported by PHE (19 March 2021). PHE identify a range of barriers to NHS care at individual, societal and policy level which include costs, lack of availability of services and services not commissioned to meet local needs.

The existing oral health inequalities have been compounded by COVID-19. The pandemic continues to have a disproportionate impact on certain sections of the population: older people, people living in deprived areas, BAME groups and vulnerable groups. The long-term economic impact of the pandemic is likely to further exacerbate oral health inequalities.

At a practice level, an awareness of the need to target time and access at those in greatest need is an enduring tenet. However, during the pandemic some vulnerable/high needs patients may have been displaced out of area and/or relocated into your area due to measures applied by local authorities. These include homeless people, travellers, migrants/refugees and looked after children. Ensuring availability and flexibility in access to meet the needs of these patient groups is a continuing expectation. Advice on dental care for refugees and migrants has been published by PHE .

Dental practices continue to play an important role, working with voluntary and community organisations, to make sure those who are most excluded are signposted to their care. With flexible commissioning; practices are being encouraged to adopt a range of contractual options designed to increase access and deliver interventions focussed on the local oral health inequality needs.

Document Control

Title:	COVID-19 Standard Operating Procedures
--------	--

Change History				
Version	Status	Date	Author / Editor	Details of Change (Brief detailed summary of all updates/changes)

The latest approved version of this document supersedes all other versions, upon receipt of the latest approved version all other versions should be destroyed, unless specifically stated that previous version(s) are to remain extant. If any doubt, please contact the document Author.

Approved By: Jessica Osborne-Williams
Date Published: 28/11/2021