

Aerosol Generating Procedures and their Mitigation in International Dental Guidance Documents - A Rapid Review

24 July 2020

COVID-19 Dental Services Evidence Review (CoDER) Working Group

How to cite this document:

Clarkson J, Ramsay C, Richards D, Robertson C, & Aceves-Martins M, on behalf of the CoDER Working Group. Aerosol Generating Procedures and their Mitigation in International Dental Guidance Documents - A Rapid Review

<https://oralhealth.cochrane.org/news/aerosol-generating-procedures-and-their-mitigation-international-guidance-documents>



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Purpose

The aim of this rapid review was to assess how dental aerosol generating procedures (AGPs) were defined in international dental guidelines, what mitigation processes were advised and whether they were linked to COVID-19 epidemiology. The specific objectives were:

- Assess how aerosol generating procedures (AGPs) are defined and classified in international guidelines
- Identify what AGP mitigation is advised for both COVID and non-COVID patients
- Report recommended time gaps (fallow periods) between treating COVID and non-COVID patients in the same surgery following provision of AGPs
- Identify any mitigating factors that allow reductions in the length of fallow periods.
- (Assess whether there is a relationship between COVID-19 epidemiology and World Bank income status with PPE provision – to be reported later).
- (Assess the quality of linked evidence to recommendations – currently in progress to be reported later).

The review was undertaken to inform the Scottish Dental Clinical Effectiveness Programme (SDCEP) Aerosol Generating Procedures in Dental Practice Rapid Review.

<https://www.sdcep.org.uk/published-guidance/covid-19-practice-recovery/rapid-review-of-agps/>

Key Messages

- This review reports on national recommendation for AGPs and their mitigation from 58 countries.
- There is a highly variable level of details provided across international resources.
- Just over half of the documents (56%) provide a definition of AGPs.
- 98% of countries state that AGPs can be provided for non-COVID patients.
- 94% of countries recommend the use of a face mask and goggles or a face shield for non-COVID patients.
- Surgical masks are advised by 21 countries (33%) for non-COVID patients while 44 countries (70%) recommend the use of FFP2/N95 masks and 12 countries (19%) recommend the use of FFP3 masks.
- 82% of documents recommend the use of a pre-procedural mouthwash for non-COVID patients.
- 48% of documents suggest a fallow period after the providing AGP treatment for non-COVID patients, with times ranging from 2 to 180 minutes.
- Most countries making recommendations for COVID patients advised the same mitigation as for non-COVID patients.
- There is a lack of evidence provided to support the majority of recommendations in the documents.

The World Health Organization (WHO) declared the coronavirus disease (COVID-19) a global pandemic on 11 March 2020. Since then dental services in affected countries have been severely curtailed. Though many practices have reopened following the initial outbreak guidance continues to be reviewed particularly concerning aerosol generating procedures (AGP's). Until very recently the primary mode of spread of the virus has been considered to be via droplets and fomites. However, the potential for airborne transmission has now been raised.¹ This is important in relation to the safe remobilisation of dental services as it impacts on the uncertainty that exists regarding the risk from and the use of aerosol generating procedures in dentistry and any associated risk of the transmission of SARS-CoV-2.

Process

In the first week of July 2020, we commenced a rapid review of recently produced guidance and reports containing recommendations from international organisations and professional bodies on the current requirements for safe remobilisation of dental services. Our methods are based on the proposed approach for rapid reviews by the World Health Organisation (WHO) and the Alliance for Health Policy and Systems Research.²

This review is supplementary to the previous CoDER Rapid Review of Reopening of Dental Services (16 May 2020). It summarises only the recommendations associated with the provision of AGP's. We conducted a grey literature search to identify relevant guidance documents and liaised with the information scientist from Cochrane Oral Health (COH), who last updated the regular Cochrane search for dental guidelines on 13 July 2020. We also contacted an international network of oral health researchers and decision makers through the Global Evidence Ecosystem for Oral Health (GEEOH). The GEEOH was founded to reduce duplication of effort and create direct routes from evidence to policy and clinical practice and is currently coordinated by COH. Through this network World Dental Federation (FDI) have shared a database of recently collated national guidance which provided additional documents. Following publication of the Rapid Review of Reopening of Dental Services we were contacted by individuals and groups to assist with the identification of documents for this review. The relationship between COH, the Scottish Dental Clinical Effectiveness Programme (SDCEP) and our research group resulted in rapid communication and assistance from several Chief Dental Officers and worldwide dental policy leaders.

No language restrictions were applied to the searches and members of our research group were able to translate documents published in Dutch, French, German, Portuguese and Spanish with Google translate being used for other languages when necessary. Searches continued to 13th July 2020 with data being extracted up to 15th July 2020.

Using a data extraction form developed *a priori*, information relating to specific AGP recommendations and evidence linked to recommendations was extracted by a single

¹ https://apps.who.int/iris/bitstream/handle/10665/333114/WHO-2019-nCoV-Sci_Brief-Transmission_modes-2020.3-eng.pdf?sequence=1&isAllowed=y).

² <https://www.who.int/alliance-hpsr/resources/publications/rapid-review-guide/en/>

reviewer. Data items included definitions of AGPs, recommendations on personal protective equipment (PPE) and any procedural and environmental aerosol mitigation processes.

Findings

A total of 74 guidance documents from 72 countries, including four from the UK and two each from Kenya and the United States, were identified. Five documents were excluded (Hong Kong, South Korea, the Latin American Paediatric Association Guideline, Sweden and Kenya) as they provided no information relevant to our objectives. We were unable to source quickly or obtain translations of documents from seven countries (Albania, Bosnia Herzegovina, Israel, Moldova, Nepal, Palestine, Turkey) before our deadline. Data relevant to the objectives were extracted from 63 guidance documents by members of the CoDER working group. The main findings for each main objective are summarised below and a detailed summary of the documents from each of the countries is available in Appendix 1.

AGPs definition and list of procedures

Twenty one of the 63 documents (33%) provided a definition of aerosol generating procedures (AGPs), with 35 documents (56%) providing a list of procedures considered to be AGPs. Eight documents provided references relative to AGP definitions with five providing references for AGP procedures. Those procedures identified by more than 20% of the documents as AGPs were high-speed handpieces (56%), 3-in-1 syringes (56%), powered (sonic/ultrasonic) scalers (43%), slow speed handpieces (29%) and surgical handpieces (22%).

With the exception of Scotland, which at the time of writing did not permit AGPs in non-COVID patients, all other documents (98%) indicate that AGPs can be performed in non-COVID patients. However, a number suggest caveats to their use. Many recommend limiting the use of AGPs where possible, with 13 documents (21%) only recommending performing AGPs for dental emergencies. Only four documents provide references related to the provision of AGPs. Additional information comparing AGP procedures for COVID and non-COVID patients is available on a country by country basis in Appendix 2. Fifty-eight (92%) of the documents suggested providing treatment for suspected or confirmed COVID patients. Of these, 22 suggested treating emergencies only, with 16 indicating these patients should be seen in specialised clinics or hospital and not a general dental practice. None of the recommendations for confirmed COVID patients were based on evidence.

PPE Recommendations

For the management of AGPs in non-COVID patients, five documents (Bolivia, Ecuador, Philippines, Portugal and Spain) recommend double gloving. Fifty nine of 63 countries (94%) specify the use of a face mask, with 91% specifying the use of goggles or a face shield. All of those countries specifying goggles or a face shield also specified the use of a face mask. Five countries (Costa Rica, Dominican Republic, Myanmar, Portugal and the Ukraine) do not specify a particular type of mask for use with non-COVID patients. Surgical masks are advised by 21 countries (33%) for non-COVID patients while 44 countries (70%) recommend the use of FFP2/N95 masks and 12 (19%) the use of FFP3 masks. Of the 21

countries recommending a surgical mask, 10 suggest the use of FFP2/N95 masks if available. Nine of the 44 countries that advise FFP2 masks for non-COVID patients suggest the use of FFP3 masks where available. Only 19 documents make specific reference to the need for fit testing of FFP2/3 masks. The use of surgical gowns is advised by 42 countries (67%) and surgical caps/hats by 32 countries (51%), with 21 countries (33%) recommending using disposable aprons and 11 countries (17%) also recommending the use of shoe covers.

Of the documents providing recommendations for the treatment of COVID-19 patients, a majority (54%) recommended the same level of facemask as when treating non-COVID patients, with only 12 documents suggesting the specification should be upgraded.

Procedural mitigation

Aerosol mitigation procedures included mouthwashes, rubber dam and high-volume suction. 82% of documents recommend the use of a pre-procedural mouthwash with a view to reducing bio-aerosols for non-COVID patients. The two most commonly recommended mouthwashes were hydrogen peroxide (38 documents) and povidone iodine (30 documents), with many documents recommending the use of either of these two mouthwashes. Three documents recommend cetyl pyridinium mouthwash and three recommend a mouthwash without stipulating the type. Ten documents provide links to references for this question and while both Paraguay and South Africa recommend mouthwash use, they indicate that there is no evidence for the effectiveness of mouthwashes.

The use of rubber dam was recommended for non-COVID patients by 46 (73%) documents, with just six (10%) documents (China, France, Italy, Malaysia, the Philippines and South Africa) providing evidence to support the recommendation.

While the use of high-volume suction is often a routine practice during dental treatment, only 46 (73%) documents recommend use of high-volume suction for non-COVID patients. Six (10%) documents (China, France, Italy, Malaysia, the Philippines and South Africa) provide links to evidence for this recommendation.

Environmental mitigation

The general ventilation of the dental clinic for non-COVID patients is mentioned in 33 (52%) of the included documents. The most common advice, provided in 15 documents that mention ventilation, is to ensure that the room is well ventilated, including the opening of (exterior) windows and use of air conditioning. The Argentinian document recommends turning the air conditioning off while others indicate that it can be used but not in the recirculating air mode. Six documents suggest the use of a negative pressure room or unidirectional air flow, while the use of HEPA filtration is recommended by Guatemala, Honduras, India, Italy, Malaysia, Paraguay, Philippines, Poland and South Africa. Only the Canadian document provides specific details on air changes per hour, including a detailed table of the impact of different numbers of air changes. Of the 33 documents providing information on general ventilation, only six provide any references.

Fallow period

Thirty of the 63 documents (48%) refer to a fallow period after providing AGP treatment for non-COVID patients, with only two documents providing links to any references. Where specific times are provided, these range from 2 to 180 minutes. Documents from eight countries (Belgium, Canada, China, Croatia, England, Malaysia, Malta, Northern Ireland) provide some possible mitigation factors to enable reduction of the fallow period. These include opening windows, increasing the number of air changes per hour, the use of HEPA filters and negative pressure room and minimising AGPs.

Of the documents reporting recommendations for the treatment of COVID-19 patients, most (21/30) recommended the same duration of fallow period as when treating non-COVID patients. Only 5 documents suggested that the time should be longer, with the Canadian document recommending 3 hours if information on air change per hour is unavailable.

Conclusion

This rapid review provides an overview of recommendations on AGPs and their mitigation from international guidance documents. It summarises specific elements of the identified documents and highlights several key messages to assist policy and decision makers. Across these international documents, for most of the statements there was limited or no referenced, underpinning evidence.

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The COVID-19 Dental Services Evidence Review Working Group would like to thank and acknowledge the contribution of the following individuals for providing the advice and access to the international guidance documents necessary for this rapid review:

Colette Bridgman, Chief Dental Officer, Wales; Alonso Carrasco-Labra, Director, ADA Science & Research Institute; Riana Clarke, National Clinical Director Oral Health, New Zealand; Michael Donaldson, Chief Dental Officer, Northern Ireland; Tom Ferris, Chief Dental Officer, Scotland; Sara Hurley, Chief Dental Officer, England; Paulo Melo, COVID-19 Task Team Chair, FDI World Dental Federation; Timothy Ricks, Chief Dental Officer, US Public Health Service; James Taylor, Chief Dental Officer, Canada; Benoit Varenne, Dental

Officer, World Health Organization. Thanks also to Tif Qureshi for providing access to some international guidance documents.

The COVID-19 Dental Services Evidence Review Working Group are grateful to for the help and support provided by Shona Floate, University of Glasgow; Anne Littlewood, and Laura MacDonald from Cochrane Oral Health; David Felix, Postgraduate Dental Dean, NES and colleagues from NES's Clinical Effectiveness workstream: Samantha Rutherford; Douglas Stirling; Michele West; Linda Young.

Appendix 1. AGPs summary table by country

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Country Argentina</p> <p>Source Ministry of Health - Ministerio de Salud Argentina COVID-19 Recomendaciones Para Odontologia</p> <p>Date of first publication 10/06/2020</p> <p>Latest update No update</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/covid-19_recomendaciones_para_odontologia.pdf</p>	<p>Definition Many of the dental procedures produce aerosols representing a potential route for the transmission of infectious diseases.</p> <p>List of AGP instruments and procedures High speed handpieces, slow speed drill, 3-in-1 syringe, powered scalers</p> <p>Permitted treatment Non COVID-19 patients: suggests emergency treatment should be prioritised but treatment is not limited to emergencies</p> <p>COVID-19 patients: suggests only urgent treatments and avoiding AGPs as much as possible. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	Non COVID-19	<p>Face mask - surgical mask, or N95 or FFP2 if available</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Disposable apron</p>	<p>Mouthwash - 30 seconds with Povidone-Iodine (10%) of a concentration between 0.2 - 2%, or hydrogen peroxide (10 vol) half with warm water. Spit without rinsing</p> <p>High volume suction</p>	<p>General ventilation. AGPs procedures should be undertaken in closed places, especially in community clinics. Air conditioning is prohibited</p>	60 minutes	Yes
		COVID-19	<p>Face mask - N95 or FFP2</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cap/hat</p>	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19
<p>Country Australia</p> <p>Source Australian Dental Association</p>	<p>Definition COVID-19 is spread via respiratory droplets when an infected person sneezes or coughs, (within 1m) of</p>	Non COVID-19	<p>Face mask - Fluid-resistant surgical mask that block particles of 3 microns or less</p> <p>Protective eyewear (reusable or disposable)</p>	<p>Treat under standard precautions</p> <p>Pre-procedural mouthwash</p>	<p>Social distancing in the waiting room</p> <p>Limit high-touch items that cannot be</p>	Not reported	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Date of first publication Various publication dates and updates</p> <p>https://www.ada.org.au/Covid-19-Portal/Dental-Professionals</p>	<p>another or via contact routes, where the droplets land on a surface and are transferred by touch. There's a risk that airborne transmission may occur if the droplets are aerosolised when certain procedures are performed.</p> <p>List of AGP instruments and procedures Use of high-speed handpieces, 3-in-1 syringe, powered scalars, lasers</p> <p>Permitted treatment Non COVID-19: suggest taking standard precautions</p> <p>COVID-19: suggests AGPs are avoided for suspected COVID-19 patients. Urgent or emergency treatment only for confirmed patients in a dedicated COVID-19 centre or hospital</p>		<p>conform to AS/NZS 1337</p> <p>Face shields are an alternative to protective eyewear but do not protect from inhaled microorganisms and must be worn in conjunction with a surgical mask</p> <p>Surgical gown</p> <p>Disposable apron</p>	ABHR for patients	easily cleaned (e.g. Toys, Magazines)		
		COVID-19	<p>Face mask - Level 2/3 surgical mask or P2/N95 respirator</p> <p>Fit test required</p> <p>Protective eyewear (reusable or disposable) conform to AS/NZS 1337</p> <p>Face shields are an alternative to protective eyewear but do not protect from inhaled microorganisms and must be worn in conjunction with a surgical mask</p> <p>Surgical gown</p> <p>Disposable apron</p>	<p>Rubber dam - Only provide treatment that does not generate aerosols or where aerosols are controlled by using dental dam</p> <p>High-level evacuation</p> <p>Pre-procedural mouthwash 1% hydrogen peroxide</p> <p>ABHR for patients</p>	<p>Confirmed cases: For provision of urgent/emergency treatment ensure airborne precautions which include treatment in a negative pressure room.</p> <p>Social distancing in the waiting room</p> <p>Limit high-touch items that cannot be easily cleaned (e.g. Toys, Magazines)</p>	Not reported	
<p>Country Austria</p>	<p>Definition Not reported</p> <p>List of AGP instruments and</p>	Non COVID-19	<p>Face mask - Surgical mask</p> <p>Goggles/face visor</p>	Mouthwash - 1% hydrogen peroxide	Regular general ventilation of the surgical room is advised	Not reported	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Source Austrian Dental Chamber</p> <p>Date of first publication 03/04/2020</p> <p>Latest update 04/05/2020</p> <p>https://stmk.zahnaerztekammer.at/zahnaerztinnen/informationen-corona-virus/</p>	<p>procedures Not reported</p> <p>Permitted treatment Non COVID-19: Suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification</p>	COVID-19	<p>Face mask - FFP1, FFP2, or FFP3</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cap/hat</p>	As non COVID-19	As non COVID-19	Not reported	
<p>Country Belgium</p> <p>Source Conseil de l'Art Dentaire on behalf of the Service Public Fédéral de Santé Publique</p> <p>Date of first publication 19/04/2020</p> <p>Latest update 24/05/20</p> <p>https://5199.f2w.fedict.be/sites/default/files/documents/2020-04-19_covid-19_modification_20200524_-_protocole_soins_dentaires.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specifications</p> <p>COVID-19: suggests treating patients in a dedicated COVID-19 centre or hospital</p>	Non COVID-19	<p>Face mask - Surgical mask or FFP2 for patients with medical conditions at increased risk</p> <p>Goggles or face visor</p> <p>Surgical gown</p>	Mouthwash - 1% hydrogen peroxide	<p>Rubber dam</p> <p>High volume suction</p>	<p>Ensure room is well ventilated between appointments</p> <p>Fallow times can be mitigated by size of the room, number of doors and windows, wind and temperature, any General ventilation system available, any ventilator or airing system</p>	Yes
		COVID-19	Not reported	Not reported	Not reported	Not reported	
<p>Country Bolivia</p> <p>Source College of Dentists of La Paz</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures High speed handpieces, slow</p>	Non COVID-19	<p>Double gloving</p> <p>Face mask - N95 or triple layer mask</p> <p>Goggles/face visor</p> <p>Surgical gown</p>	<p>Mouthwash - rinse with 1% hydrogen peroxide or a 0.2% povidone-iodine mouthwash for 1 minute, (after iodine allergy screening)</p> <p>Rubber dam</p>	<p>General ventilation</p> <p>Disinfect surfaces after treatment</p>	2 mins after disinfecting the room	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Date of first publication 01/05/2020</p> <p>Latest update No update</p> <p>https://www.fdiworldental.org/sites/default/files/media/documents/protocolo_de_bio-seguridad_para_la_atencion_a_pacientes_y_prevenccion_del_covid-19_en_clinicas_y_consultorios_odontologicos.pdf</p>	<p>speed drill, 3-in-1 syringe</p> <p>Permitted treatment Non COVID-19: suggests emergency treatment</p> <p>COVID-19: suggests emergency treatment only. COVID-19 patients should ideally be treated in a high level health institution (hospital)</p>		<p>Surgical cap/hat</p> <p>Disposable apron</p>	High volume suction			
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	
<p>Country Brazil</p> <p>Source Biosafety Working Group of the São Paulo Regional Dentistry Council</p> <p>Date of first publication 01/04/2020</p> <p>Latest update No update</p> <p>http://www.crosp.org.br/uploads/arquivo/747df5ff505e7beff33c1a5ff5d6f12a.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe</p> <p>Permitted treatment Non COVID-19: suggest providing care with no further specification. Treat all patients as suspected COVID-19</p> <p>COVID-19: suggests providing care with no further specification</p>	Non COVID-19	<p>Face mask - FFP2 or N95 masks or superior. Do not use surgical masks</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical cap/hat</p> <p>Disposable apron</p>	<p>Mouthwash - 0.12% chlorhexidine digluconate; or, hydrogen peroxide 10 vol, diluted in aqueous solution (1%)</p> <p>Rubber dam</p> <p>High volume suction</p>	Avoid any extra or unnecessary equipment	15 minutes	No
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	
<p>Country Bulgaria</p> <p>Source Recommendations/instru</p>	<p>Definition Not reported</p> <p>List of AGP instruments and</p>	Non COVID-19	<p>Face mask - FFP2 or FFP3 mask depending on availability</p> <p>Goggles/face visor</p>	Mouthwash - 1% hydrogen peroxide specific mouthwash not CHX	General ventilation	60 minutes	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>ctions from the crisis headquarters of the Bulgarian Dental Union</p> <p>Date of first publication 03/06/2020</p> <p>Latest update No update</p> <p>https://bzs.bg/препоръки-инструкции-от-кризисния-ща/</p>	<p>procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggest providing care with no further specification. COVID-19: suggests providing care with no further specification</p>		<p>Surgical gown</p> <p>Surgical cap/hat</p>				
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19
<p>Country Burkina Faso</p> <p>Source Ordre National des Chirurgiens Dentistes du Burkina Ministère de la Santé</p> <p>Date of first publication Not reported</p> <p>Latest update Not reported</p> <p>URL not available</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: emergency treatment only COVID-19: emergency treatment only. Unclear if COVID-19 patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	Non COVID-19	<p>Face mask - Surgical mask or FFP2</p> <p>Goggles/face visor</p> <p>Surgical gown – if available</p> <p>Surgical cap/hat</p> <p>Wear rubber boots</p>	<p>Mouthwash - hydrogen peroxide 1% or povidone-iodine solution 0.2% mouthwash the day before and/or on the day of treatment</p> <p>High volume suction</p>	Not reported	Not reported	No
		COVID-19	As non COVID-19	As non COVID-19	Not reported	Not reported	
<p>Country Canada</p> <p>Source Royal College of Dental Surgeons of Ontario COVID-19: Managing</p>	<p>Definition Any dental procedure where aerosolised particles are expected to be generated by dental instrumentation</p>	Non COVID-19	<p>Face mask - Level 2 or 3 surgical mask or N95 respirator</p> <p>Fit-test required</p> <p>Eye protection OR face shield</p>	Not reported	Not reported	Not reported	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Infection Risks During In-person Dental Care</p> <p>Date of first publication 15/03/2020</p> <p>Latest update 31/05/2020</p> <p>https://www.rcdso.org/en-ca/rcdso-members/2019-novel-coronavirus/covid-19--managing-infection-risks-during-in-person-care</p>	<p>List of AGP instruments and procedures high-speed, low-speed and other rotary handpieces, powered scalers, and 3-in-1 syringes.</p> <p>Permitted treatment Non COVID-19: provide in-person care for all deferred, non-essential, and elective services, in addition to emergency and urgent care.</p> <p>COVID-19: patients who need urgent and emergency care that cannot be delayed</p>		Protective gown (optional)				
		COVID-19	<p>Face mask - N95 respirator</p> <p>Fit-test required</p> <p>Eye protection AND face shield</p> <p>Protective gown</p>	<p>Must avoid AGPs whenever possible and use the lowest aerosol-generating options when necessary.</p> <p>Mouthwash - 1% - 1.5% hydrogen peroxide or 1% povidone-iodine for 60 seconds (acknowledges the lack of documented evidence)</p> <p>Rubber Dam</p> <p>High volume suction</p>	<p>The operatory must be left empty (with the door closed) to permit the clearance and/or settling of aerosols. length of time that the operatory must be left empty (the fallow time) is determined by the air changes per hour (ACH). The aim is to achieve 99.9% removal of airborne contaminants (Detailed ACH table provided)</p>	Depends on ACH but if information not available minimum fallow period is 3 hrs.	
<p>Country Chile</p> <p>Source Division of Disease Prevention and Control Oral Health Department</p> <p>Date of first publication Not reported</p> <p>Latest update Not reported</p> <p>http://www.colegiodontistas.cl/inicio/wp-content/uploads/2020/04/orientaciones-atencion-</p>	<p>Definition Aerosol-generating procedures in dental practice are those that involve the use of high-speed handpieces, 3-in-1 syringes and powered scalers</p> <p>List of AGP instruments and procedures High speed handpieces, 3-in-1 syringe, powered scalers</p> <p>Permitted treatment Non COVID-19:</p>	Non COVID-19	<p>Face mask - FFP2 or N95</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown</p>	<p>Mouthwash - 1% hydrogen peroxide for 30 seconds prior to dental care</p> <p>Rubber dam</p>	Avoid any extra or unnecessary equipment	Not reported	No
		COVID-19	As non COVID-19	As non COVID-19	Treat suspected or confirmed COVID-19 patients in an isolated room that limits filtration of air to the rest of the clinic	Not reported	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
odontologica-covid-19.pdf	<p>suggests providing care with no further specification</p> <p>COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>						
<p>Country China</p> <p>Source Chinese Stomatological Association - Chinese Response to COVID-19 in Dental Field</p> <p>Date of first publication Not reported</p> <p>Latest update 06/05/2020</p> <p>URL not available</p>	<p>Definition During dental practice, large quantities of droplets and aerosols can be produced through the oral power device from patients' saliva, blood and secretions, which poses high risk of a disease transmission environment between dentists and patients</p> <p>List of AGP instruments and procedures High speed handpieces, powered scalers</p> <p>Permitted treatment Non COVID-19: suggests emergency treatment only COVID-19: suggests AGPs are not provided</p>	Non COVID-19	<p>Face mask - N95, N99</p> <p>Goggles/face visor</p> <p>Surgical gown (disposable isolation suits)</p> <p>Disposable surgical cap/hat</p>	<p>Mouthwash – type not specified. Avoid using the spittoon. Instead, instruct the patient to cover mouth with the disposable mouthwash cup and then spit mouthwash into the cup, then the nurse should immediately use strong suction to reduce the generation of droplets and aerosols</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>If spatter exists during practice, it should be performed in an independent room</p> <p>Maintain airflow and make fresh air infuse ceaselessly indoor by opening a window or using air purification device</p> <p>Twice daily (noon and end of day), disinfection by irradiation with ultraviolet lamp for 30-60 minutes, then open the window for General ventilation for at least 30 minutes</p> <p>Surface disinfection after each treatment.</p> <p>500 mg/L-1000 mg /L chlorine-containing disinfectant, (non-</p>	30-90 minutes	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
					corrosion resistant surfaces) or, 75% ethanol and disposable disinfection wipes		
		COVID-19	Not reported	Not reported	Not reported	Not reported	
Country Colombia	Definition Not reported	Non COVID-19	Face mask - FFP2 or N95 respirator Fit test required Goggles/face visor Surgical gown Surgical cap/hat Disposable apron	Mouthwash - chlorhexidine (0.2%) or Povidone Iodide (2.0%) or hydrogen peroxide (1.5%) for one to two minutes Rubber dam	Not reported	Not reported	No
Source Ministry of Health and Social Protection (Ministerio de Salud y Protección Social Bogotá)	List of AGP instruments and procedures High speed handpieces, slow speed drill, 3-in-1 syringe						
Date of first publication May 2020	Permitted treatment Non COVID-19: suggests providing care with no further specification	COVID-19	As non COVID-19	As non COVID-19	Not reported	Not reported	
Latest update No update	COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital						
https://www.minsalud.gov.co/Ministerio/Institucion al/Procesos%20y%20procedimientos/GIPS31.pdf							
Country Costa Rica	Definition Not reported	Non COVID-19	Face mask (type not reported) Goggles/face visor Surgical gown Surgical cap/hat	Mouthwash - pre-procedure mouthwash with 1% hydrogen peroxide (10 cubic centimetres diluted in one litre of water) Rubber dam	Not reported	Not reported	Yes
Source Ministry of Health (Ministerio de Salud Costa Rica)	List of AGP instruments and procedures High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe						
Date of first publication 27/03/2020		COVID-19	Not reported	Not reported	Not reported	Not reported	
Latest update							

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
No update https://www.ministeriode.salud.go.cr/sobre_ministerio/prensa/docs/lineamientos_odontologos_v2_27032020.pdf	Permitted treatment Non COVID-19: suggest providing care with no further specification COVID-19: Suggests emergency treatment only in a dedicated COVID-19 centre or hospital						
Country Croatia Source Croatian Chamber of Dental Medicine Date of first publication 04/05/2020 Latest update No update https://www.hkdm.hr/novost/1836/Smjernice-i-protokoli-za-otvaranje-i-rad-ordinacija-dentalne-medicine-i-dentalnih-laboratorija	Definition Not reported List of AGP instruments and procedures High speed handpieces, 3-in-1 syringes, powered scalers, Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital	Non COVID-19	Face mask - N95 or FFP2 Goggles/face visor Surgical cap/hat	Procedures that generate large amounts of aerosols (e.g. high speed handpieces, 3-in-1 syringes, powered scalers) should be avoided Mouthwash - chlorhexidine 0.20% solution rinse for 60 s and gargle for 15 s Hydrogen peroxide (H ₂ O ₂) 1% (one percent hydrogen peroxide) - gargling for 15 seconds and rinsing for 30 seconds Rubber dam	Keep windows open to ventilate the area and / or turn on General ventilation Disinfect clinic with UV air disinfection system if fitted (wavelength 254 nm). Protect materials and liquids sensitive to UV radiation. Use only at night when there are no people in the premises	Not reported	No
		COVID-19	Face mask - FFP3 Goggles/face visor Surgical cap/hat Shoe covers	Not reported	Not reported	Not reported	
Country Denmark Source SUNDHEDSSTYRELSEN, Danish Health Board	Definition Aerosols are formed by procedures using instruments with water and air List of AGP instruments and	Non COVID-19	Face mask - The mask must retain at least 98% of microorganisms (type II), but does not have to be R type. Must be changed regularly and	In order to prevent the spread of infection from asymptomatic patients requiring an AGP, a test for SARS-CoV-2 may be prescribed in advance of the procedure. The	At the end of treatment, the treatment room must be briefly ventilated before the next patient	Not reported	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Date of first publication 18/04/20</p> <p>Latest update 22/04/20</p> <p>https://www.sst.dk/da/udgivelser/2020/haandteringen-af-covid-19-kritisk-funktioner-i-tandplejen</p>	<p>procedures High speed handpieces, slow speed drill, 3-in-1 syringe, powered scaler</p> <p>Permitted treatment Suggests testing every patient for COVID-19 before providing care and postponing any appointment while the patient is COVID-19 positive</p>		<p>always after each patient</p> <p>Goggles/face visor - Visor or goggles can be multiple use, cleaned and disinfected (according to the manufacturer's instructions) between each patient. In case of supply difficulties, full-face visors can be used alone (except for surgical procedures). Ordinary glasses and magnifying glasses can be used if they are designed for protection.</p> <p>Surgical gown - long-sleeve disposable coat and long-sleeve cuff</p> <p>Disposable apron</p>	<p>procedure must be scheduled so that test responses are available before performing the AGP</p> <p>Rubber dam</p>			
		COVID-19	Not reported	Not reported	Not reported	Not reported	
<p>Country Dominican Republic</p> <p>Source Ministry of Health</p> <p>Date of first publication Not reported</p> <p>Latest update Not reported</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/recomendaciones_para_la_gui%C3%A1_de_apertura_de_los_servicios_odontologicos</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Slow speed drill, 3-in-1 syringe, intra-oral radiography</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: suggests providing care with no</p>	Non COVID-19	<p>Face masks – type not specified but should be according to treatment</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cap/hat</p> <p>Disposable apron</p> <p>Shoe covers</p>	<p>Mouthwash - 1% hydrogen peroxide mouthwash, 0.2% Povidone iodine or cetylpyridinium or any other effective mouthwash. Keep in mouth 30 seconds and spit</p> <p>High volume suction</p>	<p>General ventilation</p> <p>Avoid wearing jewellery and accessories</p>	5-10 minutes	No
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19		

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
en la republica dominicana debido a la pandemia covid-19.pdf	further specification. No restriction for COVID-19 patients except triage prior to treatment to identify higher risk and take precautions.						
<p>Country Ecuador</p> <p>Source Ministry of Health</p> <p>Date of first publication 28/05/2020</p> <p>Latest update No update</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/protocolo_para_atencion_odontologica_durante_la_emergencia_sanitaria_por_covid_-_19.pdf</p>	<p>Definition Avoid procedures that involve the generation of aerosols, that is particles generated while using a manual cutting instrument, a rubber dam, low-speed rotating instruments, little irrigation or refrigeration in high-speed rotating instruments, avoiding the use of air-spray from the syringe triple and replace it with drying cotton swabs or gauze.</p> <p>List of AGP instruments and procedures High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe, powered scaler, intra-oral radiography</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no</p>	<p>Non COVID-19</p>	<p>Double gloving</p> <p>Face mask - N95 or equivalent</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cap/hat</p> <p>Disposable apron</p>	<p>Mouthwash – pre-procedure 0.2% Povidone or 1% hydrogen peroxide for 30 seconds</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>General/natural ventilation</p> <p>Avoid jewellery and accessories</p>	10 minutes	No
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
	further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital						
Country Estonia Source Ministry of Health Date of first publication 07/02/2020 Latest update 21/05/2020 URL not available	Definition Not reported List of AGP instruments and procedures Not reported Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests AGPs are not provided	Non COVID-19	Face mask - Surgical mask	Mouthwash – one minute mouth rinse prior to starting any dental procedure, such as mouth rinses containing 1% hydrogen peroxide or 0.2% - 1% Povidone or 0.05% - 0.1% cetylpyridinium chloride 4 handed dentistry with high volume suction recommended	Not reported	Starting from the end of the patient appointment 45 min	No
		COVID-19	Not reported	Not reported	Not reported	Not reported	
Country Finland Source Sector of administration of the Ministry of Social Affairs and Health Date of first publication Not reported Latest update 01/06/2020 <a href="https://thl.fi/fi/web/infektio-
taudit-ja-rokotukset/taudit-
ja-torjunta/taudit-
ja-
taudinaiheuttajat-a-
o/koronavirus-covid-">https://thl.fi/fi/web/infektio- taudit-ja-rokotukset/taudit- ja-torjunta/taudit- ja- taudinaiheuttajat-a- o/koronavirus-covid-	Definition Not reported List of AGP instruments and procedures High speed handpieces, slow speed drill with air and water cooling, 3-in-1 syringe, powered scalers Permitted treatment Non COVID-19: suggests providing care with no further specification	Non COVID-19	Face mask - ff AGPs used, FFP2 or FFP3 respirator or surgical mouthpiece (class 2R) Full face visor can be used instead of goggles Surgical cap/hat	Mouthwash - 1-1.5% hydrogen peroxide spray or iodine Betadine (10 mg/ml) spray for 1 minute Rubber dam High volume suction	Not reported	Not reported	Yes
		COVID-19	Face mask - FFP2 or FFP3 Goggles with side protection, face shield	PTG or KKTT examination is used for imaging. Intraoral images are taken only if PTG or KKTT imaging is not possible.	Not reported	Following aerosol generation, personnel remaining in the room must wear a respirator for at least 30 minutes	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
19/ohje-suun-terveydenhuollon-yksikoille-covid-19-epidemian-aikana	COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital		Surgical gown – A long-sleeved disposable liquid-impervious jacket Surgical cap/hat			after the end of treatment.	
Country France Source Haute Autorité de Santé (HAS) Date of first publication 14/05/2020 Latest update 25/05/2020 https://www.has-sante.fr/jcms/p_3184961/fr/mesures-et-precautions-essentielles-lors-des-soins-bucco-dentaires-apres-le-deconfinement	Definition Not reported List of AGP instruments and procedures High-speed handpieces, 3-in-1 syringe, powered scaling, air polishers Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital	Non COVID-19	Face mask - FFP2 Goggles/face visor Surgical gown for AGPs where rubber dam can't be used, surgical extraction or ultrasonic scale (high risk of body fluid projections) Surgical cap/hat Disposable apron for AGPs with rubber dam or conservative treatment (low risk of body fluid projections) Shoe covers	Dental air polishing is not advised The dentist should consider the most efficient way to reduce aerosols Contra-angle should be preferred to turbine Use water cooling system to a minimum Mouthwash Rubber dam High volume suction	General ventilation Do not use AGPs in a room without windows unless having a fresh air handling unit (FAHU) No consensus regarding air conditioning systems	15 minutes window opened and door closed	Yes
		COVID-19	As non COVID-19 but shoe covers not advised	As non COVID-19	As non-COVID-19	As non-COVID-19	
Country Germany Source Institut der Deutschen Zahnärzte Date of first publication Not reported	Definition Not reported List of AGP instruments and procedures Not reported Permitted treatment Non COVID-19:	Non COVID-19	Face mask - surgical mask Goggles/face visor	Only use of water or air on 3-in-1 syringes, use of slow speed Mouthwash - 30ml 1.5% hydrogen peroxide (or equivalent) for 1 minute before treatment	Not reported	General ventilation of clinical room for 30 mins	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Latest update 24/04/2020 (version 3)</p> <p>https://www.idz.institute/publikationen/sonstiges/system-von-standardvorgehensweise-n-fuer-zahnarztpraxen-waehrend-der-coronavirus-pandemie.html</p>	<p>suggests providing care avoiding AGPs using low speed instrumentation</p> <p>COVID-19: Suggests providing care avoiding AGPs using low speed instrumentation. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>			Rubber dam High volume suction			
		COVID-19	<p>Face mask - FFP2</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cap/hat</p> <p>Shoe covers</p>	As non COVID-19	Not reported	As non COVID-19	
<p>Country Greece</p> <p>Source Instructions for dental employees in dentists and patients</p> <p>Date of first publication Not reported</p> <p>Latest update Not reported</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/odigies_pros_odontiatroys_erg_azomenoys_se_odontiatr_eia_kai_astheneis_0.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	Non COVID-19	<p>Face mask - FFP2/FFP3 or N95/KN95 for up to 8-10 hrs</p> <p>Fit test required</p> <p>Surgical cap/hat</p> <p>Shoe covers</p>	<p>Mouthwash – 1% Peroxide for 30 seconds</p> <p>Rubber dam</p> <p>High volume suction</p>	Not reported	Not reported	No
		COVID-19	As non COVID-19	As non COVID-19	Not reported	Not reported	
<p>Country Guatemala</p> <p>Source Estomatologic Callege of Guatemala</p>	<p>Definition Dental treatments involve the use of equipment that produces aerosols (drops of saliva and blood less than 5</p>	Non COVID-19	<p>Face mask - N95 or FFP2</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown</p>	<p>Mouthwash - 1% hydrogen peroxide or 0.2% Povidone Iodine for 1 minute</p> <p>Rubber dam</p>	General ventilation The use of air renewal or filtering devices using original HEPA filters or by plasma they can also represent	Fallow period recommended but time not reported	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Date of first publication 01/05/2020</p> <p>Latest update No update</p> <p>https://www.fdiworldental.org/sites/default/files/media/documents/protocolo_de_bioseguiridad_odontologica_con_enfasis_en_covid-19.pdf</p>	<p>micrometers in diameter that, in a suspected or positive case, are loaded with viruses</p> <p>List of AGP instruments and procedures High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe, powered scaler, intra-oral radiography</p> <p>Permitted treatment Non COVID-19: suggests emergency treatment only</p> <p>COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>		<p>Surgical cap/hat</p> <p>Disposable apron</p> <p>Shoe covers</p>	High volume suction	<p>a measure of contagion control cross between patient and patient. The air conditioning should ideally be turned off, unless it has a filter and extractor</p> <p>negative pressure room</p> <p>Air disinfection treatments by air using ozone or rays type C ultraviolet (UV-C), although effective against other coronaviruses have not been studied against SARS-CoV-2. High doses, could be harmful. The room should be vacated during use. Follow the manufacturer's recommendations in each case. If using UV-C sources, the complete coverage of all surfaces must be ensured</p> <p>Avoid jewellery and accessories</p>		
		COVID-19	Not reported	Not reported	Not reported	Not reported	
<p>Country Honduras</p>	<p>Definition Not reported</p> <p>List of AGP instruments and</p>	Non COVID-19	<p>Face mask - N95 or FFP2</p> <p>Goggles/face visor</p>	Mouthwash - 1% hydrogen peroxide or 0.2% Povidone Iodine or water with salt	General ventilation - HEPA filters and negative pressure room		Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Source College of Dental Surgeons of Honduras</p> <p>Date of first publication Not reported</p> <p>Latest update Not reported</p> <p>http://www.cop.org.pe/wp-content/uploads/2020/04/PROTOCOLO-DE-BIOSEGURIDAD-PARA-EL-CIRUJANO-DENTISTA.pdf</p>	<p>procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: unclear if patients are treated</p>		<p>Surgical gown</p> <p>Surgical cap/hat</p> <p>Disposable apron</p> <p>Shoe covers</p>		Avoid jewellery and accessories		
COVID-19 unclear if patients are treated							
<p>Country India</p> <p>Source Dental Council of India</p> <p>Date of first publication 05/07/2020</p> <p>Latest update No update</p> <p>http://www.dciindia.gov.in/Admin/NewsArchives/Dental%20Clinics%20Protocols%20Final.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests treating patients in a dedicated COVID-19 centre or hospital</p>	Non-COVID	<p>Recommended during all aerosol (preferably completely avoid) and non-aerosol based dental procedures, if carried out.</p> <p>Face mask - triple layer surgical mask and N95 respirator</p> <p>Goggles/face visor (both to be used, fitting goggles with a soft tissue seal)</p> <p>Disposable gowns (change daily)</p> <p>Suitable head caps</p> <p>Shoe covers</p>	<p>Mouthwash - Preoperative 1% hydrogen peroxide. Do not use a spittoon. Use the same sink that had been used for washing the hands and face</p> <p>Rubber dams and high-volume saliva ejectors</p> <p>High volume suction</p>	<p>General ventilation - If possible, use directional airflow, such as from fans, to ensure that air moves through staff work areas before patient treatment areas – not the reverse. A qualified industrial hygienist, General ventilation engineer, or other professionals can help ensure that General ventilation removes, rather than creates, workplace hazards.</p> <p>Fumigate clinics and other areas at the end of the day as per manufacturer's instructions based on the type and</p>	Not reported	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
					area of the dental clinical room. Fumigation is done on daily basis in clinical or high contact areas and biweekly in non-clinical or low contact areas.		
		COVID-19	As non COVID-19 except FFP3 instead of triple layer surgical mask	As non COVID-19	As non COVID-19	Not reported	
Country Ireland	Definition Not reported	Non COVID-19	Face mask - FFP2 Fit test required Eye protection Disposable apron Surgical cap/hat and shoe covers not recommended	Mouthwash not recommended Rubber dam High volume suction	Not reported	Room clearance time after AGP is not required unless a patient has known or suspected COVID-19	No
Source Irish Dental Association	List of AGP instruments and procedures Not reported						
Date of first publication Not reported	Permitted treatment Non COVID-19: suggests providing care with no further specification						
Latest update 15/05/2020	COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital	COVID-19	As non COVID-19	As non COVID-19	Increased General ventilation by opening window or mechanical method.	60 minutes after an AGP is performed on a patient with known or suspected COVID-19 in a room that is not mechanically ventilated the room should be vacated for 60 minutes after completion of treatment before cleaning commences.	
https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/dental-services/Guidance-ManagingInfectionRisk-DentalServices-COVID19.pdf							
Country Italy	Definition Not reported but refers	Non COVID-19	Face mask - FFP2 Goggles and face visor	Minimise procedures that can produce aerosols. Prioritise minimally invasive	Shoes must be cleaned and	10-15 minutes	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Source All major Italian dental associations – available from the Italian government website</p> <p>Date of first publication 30/05/2020</p> <p>Latest update No update</p> <p>http://www.salute.gov.it/portale/news/p3_2_1_1_1.jsp?lingua=italiano&menu=notizie&p=dalministero&id=4835</p>	<p>to published protocols for AGPs</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Minimise procedures that can produce aerosols. Prioritise minimally invasive restorative procedures (hand instruments only). Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>		<p>Single use gown (water resistant)</p> <p>Single use cap/hat</p>	<p>restorative procedures (hand instruments only).</p> <p>Mouthwash - hydrogen peroxide solution 1% or Povidone-iodine 0.2% for 1 minute followed by another mouthwash with chlorhexidine 0.2-0.3% for 1 minute</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>disinfected at the end of the day</p> <p>Natural General ventilation/air renovation for 10-15 minutes. If air conditioning is used, filters need to be changed once a week</p>		
		COVID-19	<p>As non COVID-19</p> <p>Reported that there is no evidence that double gloving is effective for the management of suspected or confirmed cases</p>	As non COVID-19	As non COVID-19	As non COVID-19	Not reported
<p>Country Kenya</p> <p>Source Ministry of Health, Director of Healthcare Services, Oral Health Services</p> <p>Date of first publication 24/03/2020</p> <p>Latest update No update</p> <p>https://www.health.go.ke/wp-</p>	<p>Definition Partially</p> <p>List of AGP instruments and procedures 3-in-1 syringe</p> <p>Permitted treatment Non COVID-19: suggests emergency treatment only</p> <p>COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular</p>	Non COVID-19	<p>Double gloving</p> <p>Face masks - N95 for hospital staff</p> <p>Face shield</p> <p>Disposable apron</p> <p>Waterproof footwear</p>	<p>Rubber dam</p> <p>High volume suction</p>	Not reported	Not reported	No
		COVID-19	As non COVID-19	<p>Rubber dam</p> <p>High volume suction</p>	Not reported	Not reported	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
content/uploads/2020/06/Guidelines-for-Dental-Practicce-with-respect-to-COVID-19-Pandemic.pdf	practice or a dedicated COVID-19 centre or hospital						
Country Kosovo Source Practical guidelines for dentistry professionals in the private sector during the COVID-19 virus pandemic Date of first publication Not reported Latest update Not reported http://osk-ks.org/wp-content/uploads/2020/05/Rekomandimet-e-OSK-per-ordinancat-private-1.pdf	Definition Not reported List of AGP instruments and procedures High speed handpieces, 3-in-1 syringe, powered scaler Permitted treatment Limit use of AGPs Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital	Non COVID-19	Face mask - N95 Goggles/face visor Surgical gown/protective clothing Shoe covers recommended for patients on entering clinic	Mouthwash - 1% hydrogen peroxide for 30 seconds Rubber dam High volume suction	General ventilation - natural ventilation avoid use of air conditioning	Not reported	No
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	Not reported	
Country Malaysia Source Malaysian Dental Association Safety Advisory to Dental Practitioners during the current Concern of COVID - 19 Infection in the initial relaxation	Definition Not reported List of AGP instruments and procedures Not reported Permitted treatment Non COVID-19: suggests providing	Non COVID-19	Face mask - surgical masks and N95 Goggles/face visor Surgical gown (waterproof) Surgical cap/hat	Mouthwash - 1% hydrogen peroxide or 0.2% Povidone preoperative antimicrobial mouthwash Rubber dam High volume suction	Improve General ventilation in the dental surgery: opening windows, General ventilation fan, air cleaner, HEPA Room Filter Surface disinfection procedures with 62-71% ethanol, 0.5% hydrogen peroxide	There is a need to observe a reasonable turnover time between patient and disinfection of clinical contact surfaces	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>phase of Movement Control Order</p> <p>Date of first publication Not reported</p> <p>Latest update 01/05/2020</p> <p>https://mda.org.my/home/wp-content/uploads/2020/05/MDA_advisory_COVID19_relaxation_phase_MC_O.pdf</p>	<p>care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>				<p>or 0.1% sodium hypochlorite. Other biocidal agents such as 0.05-0.2% benzalkonium chloride have also been suggested but were reported by some to be less effective</p>		
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	
<p>Country Malta</p> <p>Source Office for the Deputy Prime Minister. Ministry for Health</p> <p>Date of first publication Jun-20</p> <p>Latest update No update</p> <p>https://deputyprimeminister.gov.mt/en/health-promotion/covid-19/Documents/mitigation-conditions-and-guidances/Guidance_Dental_Practices_12Jun20.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures High and slow speed handpieces, powered scalars, 3-in-1 syringes, gagging/retching due to intra-oral radiography or an infected patient coughing</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated</p>	Non COVID-19	<p>PPE requirements stratified based on low medium and high risk procedures.</p> <p>Face mask - N95 or other respirators that offer a higher level of protection should be used. If not available, a combination of a surgical mask and full face shield/visor should be used.</p> <p>Goggles/full face visor</p> <p>Surgical cap/hat for medium risk procedures</p> <p>Disposable apron</p> <p>Shoes should be clinical shoes which are kept on premises and disinfected after every use, if not disposable shoe covers should be worn.</p>	<p>Mouthwash, If AGP 1% hydrogen peroxide, 0.2% Povidone or a combination of Chlorhexidine (0.5-0.12%) + CPC (0.01-1%) rinse prior to treatment.</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>General ventilation - Keep windows open during procedure if no other means of General ventilation. Ensure space is well ventilated. Windows must be closed if there is an air purification system in place which is turned on.</p> <p>Consider the use of upper-room ultraviolet germicidal irradiation as an adjunct to higher General ventilation and air cleaning rates</p>	<p>20 minutes to keep the window open after procedure prior to commencing disinfection and reprocessing of the clinical area. If no General ventilation of windows, 30 minutes. If air purification offers 6 air changes hourly, clinic can be disinfected after 15 minutes of resting time.</p>	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
	COVID-19 centre or hospital	COVID-19	Face mask - N95 or other high level respirator Goggles with side protection, face visor Surgical gown covering full length of arms Surgical cap/hat		Schedule patient for last appointment of the day and clean surfaces after the patient is dismissed and before first patient of the morning with Sodium Hypochlorite	Not reported	
Country Mexico Source Ministry of Health Date of first publication 21/05/2020 Latest update 21/05/2020 https://www.fdiworldental.org/sites/default/files/media/documents/recomendaciones_para_la_practica_odontologica_ante_covid-24.pdf	Definition Not reported List of AGP instruments and procedures High speed handpieces, 3-in-1 syringe Permitted treatment Non COVID-19: emergency treatment only COVID-19: emergency treatment only. Patients can be treated in practice with appropriate PPE, otherwise patients must be treated in a designated COVID-19 centre or hospital	Non COVID-19	Face mask - N95 Goggles/face visor Surgical gown	Mouthwash (type not reported)	Not reported	Not reported	No
		COVID-19	Face mask - N95 Goggles/face visor Surgical gown Shoe covers	As non COVID-19	Not reported	Not reported	
Country Montenegro Source Dental Chamber of Montenegro Protocol for providing dental treatment during the COVID-19 epidemic	Definition Not reported List of AGP instruments and procedures Not reported Permitted treatment Non COVID-19:	Non COVID-19	Face mask - N95 /FFP2 Goggles/face visor	Mouthwash - 1% hydrogen peroxide or Povidone iodine	Not reported	60 minutes	No
		COVID-19	As non COVID-19	As non COVID-19	Not reported	As non COVID-19	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Date of first publication Not reported</p> <p>Latest update Not reported</p> <p>https://www.fdiworldental.org/sites/default/files/media/documents/protokol_za_pruzanje_stomatoloskog_lijecenja_tokom_epidemije_covid-19_0.pdf</p>	<p>suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>						
<p>Country Morocco</p> <p>Source Ordre national des medecins dentistes du Maroc</p> <p>Date of first publication 21/05/2020</p> <p>Latest update 21/05/2020</p> <p>https://drive.google.com/file/d/1x8n1etxPIVI_rq7_Z7oG_wjQIHq2BaB3/view</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures</p> <p>High speed handpieces, 3-in-1 syringe, powered scaling, air polishers</p> <p>Permitted treatment</p> <p>Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	<p>Face mask - FFP2/N95/KN95</p> <p>Goggles/face visor</p> <p>Surgical gown - for treatments with high risk of body fluid projections</p> <p>Disposable apron - for treatments with high risk of body fluid projections</p>	<p>Use slow speed drill instead of high speed handpieces. Limit the water cooling system to a minimum when using handpieces</p> <p>Mouthwash - 1% hydrogen peroxide or 0.2% Povidone-iodine</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>No AGP in treatment room window unless adequate General ventilation available</p> <p>Air cooling system should be limited when AGPs are performed</p>	<p>15 mins following AGPs</p>	<p>No</p>
		<p>COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-10</p>	<p>As non COVID-19</p>	
<p>Country Mozambique</p>	<p>Definition Not reported</p>	<p>Non COVID-19</p>	<p>Face mask - N95 or FFP2</p> <p>Goggles/face visor</p>	<p>Mouthwash - 1% hydrogen peroxide or 0.2% Povidone Iodine or water with salt</p>	<p>Not reported</p>	<p>Not reported</p>	<p>No</p>

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
Source Ministry of Health Date of first publication 20/03/2020 Latest update No update https://www.fdiworldental.org/sites/default/files/media/documents/protocolo_de_atendimento_nos_servicos_de_estomatologia_covid-19.pdf	List of AGP instruments and procedures Surgical hand pieces and powered scalers Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital			Rubber dam			
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	Not reported	
Country Myanmar Source Myanmar Dental Association Date of first publication 23/03/2020 Latest update No update https://www.fdiworldental.org/sites/default/files/media/documents/recommendations_to_member_dental_surgeons.pdf	Definition Not reported List of AGP instruments and procedures 3-in-1 syringe Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests emergency treatment only	Non COVID-19	Face mask - medical mask for both patients & attendants (type not specified) Goggles/face visor	Since intraoral radiographs stimulate saliva and cough, use extra-oral panoramic radiography and cone beam radiographs Preoperative antimicrobial mouth rinse should be given to the patient before any procedure to reduce microbe load Rubber dam High volume suction	Not reported	Not reported	No
		COVID-19	Not reported	Not reported	COVID-19 suspected should be treated in well-ventilated room as the last patient to avoid the disease spread and disinfection should		

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
					be done as soon as the procedures are finished		
<p>Country Netherlands</p> <p>Source The Royal Dutch Dental Association</p> <p>Date of first publication 21/04/2020</p> <p>Latest update 29/06/2020</p> <p>https://www.knmt.nl/sites/default/files/20200629_1_eidraad_mondzorg_corona_clmc_v_4.0.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Suggests providing care with no further specification. Unclear if COVID-19 patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Guidance does not explicitly specify non COVID-19 or COVID-19 patients</p>	<p>Face mask - FFP2 reserved only for those patients with COVID-19 symptoms or confirmed COVID-19</p> <p>Type II/R or Type II + face visor</p>	<p>1% hydrogen peroxide for 1 minute. (3% H₂O₂ with water) pre-procedural rinses</p> <p>Rubber dam</p> <p>High volume suction</p> <p>large mist vacuum</p>	Not reported	Not reported	No
<p>Country New Zealand</p> <p>Source Dental council, Ministry of Health</p> <p>Date of first publication 05/01/2020</p> <p>Latest update 06/09/2020</p> <p>https://www.dcnz.org.nz/assets/Uploads/COVID/level1-guidelines9Jun20.pdf</p>	<p>Definition</p> <p>List of AGP instruments and procedures High speed handpieces, 3-in-1 syringe, air polishing, powered scalers</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	<p>PPE recommended for non-COVID-19 patients is independent of using AGPs</p> <p>Face mask - surgical mask (level 2 or above)</p> <p>Goggles/face visor</p> <p>Surgical gown</p>	<p>Mouthwash</p> <p>Rubber dam</p>	Negative pressure room	Not reported	Yes
		<p>COVID-19</p>	<p>Face mask - N95 or FFP2</p> <p>Full face visor over goggles or prescription glasses</p> <p>Long sleeve impervious gowns</p> <p>Surgical cap/hat</p> <p>Disposable apron</p>	<p>Preferably use a slow speed handpieces that operates at ≤ 40000 rpm, and where possible turn the chip air off, to minimise the aerosol generated during the procedure.</p> <p>Mouthwash</p> <p>Rubber dam</p>	<p>General ventilation</p> <p>Negative pressure room</p>	<p>After treating a probable or COVID-positive patient when aerosol generating procedures have occurred, the room should remain closed for a stand-down period of 20</p>	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
			Shoe covers	High volume suction		minutes prior to cleaning.	
Country Norway Source Norway Dental Health Service – FHI (Folkehelseinstituttet) Date of first publication 03/12/2020 Latest update 26/05/2020 https://www.fhi.no/nettpub/coronavirus/helsepersonell/rad-til-tannhelsetjenesten/#tannbehandling-av-pasienter-som-ikke-er-mistenkt-sannsynlig-eller-bekreftet-med-covid19	Definition Aerosol-generating procedures include certain procedures involving the patient's airways List of AGP instruments and procedures High speed handpieces, slow speed drill, 3-in1 syringe, powered scalers, air polishing device Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital	Non COVID-19	Face mask - surgical mask type II or IIR Goggles/face visor Surgical cap/hat Disposable apron	Mouthwash - 1% hydrogen peroxide (H ₂ O ₂) for at least 1 minute before dental treatment Rubber dam/low suction High volume suction	Not reported	Not reported	Yes
		COVID 19	Face mask - FFP2 or FFP3 Goggles/face visor Surgical gown Surgical cap/hat	Minimise use of handpieces; ultrasonic scaler or aero-polishing devices should not be used, suction and cotton rolls to dry Mouthwash - 1% hydrogen peroxide (H ₂ O ₂) for at least 1 minute before dental treatment Rubber dam/ High volume suction	General ventilation system and size of the treatment room	Fallow period stated but time not reported	
Country Panama Source Odontologic Association of Panama Date of first publication 16/03/2020	Definition Dental procedures which generate misting of saliva outside the patients' oral cavity are considered as AGP List of AGP instruments and procedures	Non COVID-19	Face mask - N95, KN95 or FFP2 mask for AGPs. Surgical face mask for non AGPs Fit test required Goggles/face visor Surgical gown	Mouthwash - preparatory rinse with 1.5% hydrogen peroxide or 0.2% iodine-povidone for 3 seconds High volume suction	General ventilation AGPs conducted in an isolated room to avoid circulating air to the rest of the practice Avoid jewellery and accessories	Not reported	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Latest update 16/05/2020</p> <p>URL not available</p>	<p>High speed handpieces, intra-oral radiography</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests emergency treatment only in a dedicated COVID-19 centre or hospital</p>		<p>Surgical cap/hat</p> <p>Disposable apron</p>				
		COVID-19	Not reported	Not reported	Not reported	Not reported	
<p>Country Paraguay</p> <p>Source Ministry of Health</p> <p>Date of first publication Not reported</p> <p>Latest update 07/05/2020</p> <p>https://www.mspbs.gov.py/dependencias/portal/adjunto/Of3634-Protocoloatencionodontologica.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures High speed handpieces, slow speed drill, 3-in-1 syringe, intra-oral radiography</p> <p>Permitted treatment Non COVID-19: suggests urgent and emergency treatment only</p> <p>COVID-19: Suggests urgent and emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	Non COVID-19	Not reported	<p>Mouthwash - 1 % hydrogen peroxide or 0.2% Povidone Iodine or water with salt</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>General ventilation</p> <p>HEPA filters and negative pressure room</p> <p>UV light/Ozonisation/fumigation/ fogging</p> <p>Notes that as of the date of this report, none of the aforementioned has conclusive scientific evidence regarding covid-19 in the dental office environment and does replace the cleaning and disinfection procedures of the area.</p>	<p>60 minutes – low risk AGP</p> <p>120 minutes - moderate risk AGP</p> <p>180 minutes – high risk AGP</p>	No
		COVID-19	Not reported	As non COVID-19	As non COVID-19	As non COVID-19	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
Country Peru Source Ministry of Health Date of first publication Not reported Latest update Not reported https://cdn.www.gob.pe/uploads/document/file/716209/DIRECTIVA_SANITARIA_N_100-MINSA-2020-DGIESP.pdf	Definition Aerosols are defined as particles that measure less than 50um diameter List of AGP instruments and procedures High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe, powered scaler, intra-oral radiography Permitted treatment Non COVID-19: suggests urgent and emergency treatment only COVID-19: Suggests urgent and emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital	Non COVID-19	Face mask - surgical mask Fit test required Goggles/face visor Surgical gown Surgical cap/hat Disposable apron	Mouthwash - Hydrogen peroxide or Povidone-iodine Rubber dam High volume suction	Avoid any extra equipment/accessories	Not reported	Yes
		COVID-19	As non COVID-19 but wear N95 or FFP2 instead of surgical face mask	As non COVID-19	As non COVID-10	Not reported	
Country Philippines Source Philippine Dental Association Science Committee Date of first publication Not reported Latest update 31/05/2020	Definition Dental procedures which generate misting of saliva outside the patients' oral cavity are considered as AGP List of AGP instruments and procedures High speed handpieces, 3-in-1	Non COVID-19	Double gloving of non-sterile examination over gloves. Gloves should be tapped to the wrists Face mask - N95 or FFP Fit test required Goggles/face visor Surgical gown	Mouthwash - 1% hydrogen peroxide or 0.2% Povidone is recommended at the start and during entire procedure, since SARS-CoV-2 may be vulnerable to oxidation. Rinse initially for 60 seconds, swab in children and patients who are unable to rinse	AGPs can only be conducted in a negative pressure room. AGPs can only be conducted in a negative pressure room. Air flow in the operatory and waiting area should be away from you and your staff.	5 minutes (negative pressure room only)	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
https://www.fdiworldental.org/sites/default/files/media/documents/interim_guidelines_on_infection_prevention_during_covid-19_pandemic.pdf	<p>syringe, powered scaler</p> <p>Permitted treatment Non COVID-19: suggests emergency treatment only</p> <p>COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>		Surgical cap/hat	Rubber dam High volume suction	<p>Open windows or use mechanical General ventilation to increase air changes</p> <p>Clinic staff should ensure that infected air to be delivered out should be sterilized so as not to infect other individuals where infected air is blown out.</p> <p>The US CDC advises dental clinics to consider using HEPA air filtration units DURING and AFTER AGP to reduce particle and droplet counts. CDC advises placing HEPA filter beside the patient's chair, NOT BEHIND the dental health worker.</p> <p>Ultra Violet Germicidal Irradiation (UVGI) - an established means of disinfection and can be used to prevent the spread of certain infectious diseases.</p>		

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
					Ultra Violet Germicidal Irradiation (UVGI) - an established means of disinfection and can be used to prevent the spread of certain infectious diseases.		
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	
<p>Country Poland</p> <p>Source The Polish Dental Association</p> <p>Date of first publication 08/04/2020</p> <p>Latest update NA</p> <p>https://doi.org/10.5114/jos.2020.94168</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	<p>Face mask - FFP2 or FFP3 (depending on the risk of the patient)</p> <p>Goggle/face visor</p> <p>Surgical Gown</p> <p>Surgical cap/hat</p>	<p>Mouthwash - 1% hydrogen peroxide solution, 0.2% Povidone iodine solution, or 0.2% chlorhexidine-alcohol solution</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>HEPA 14 filters recommended as general ventilation method.</p> <p>UV light and Ozone mentioned as optional</p>	<p>Room General ventilation suggested, but no specific time provided.</p>	Yes
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	
<p>Country Portugal</p> <p>Source Direcao Geral da Saude (Directorate General of Health)</p>	<p>Definition AGPs are defined as any procedures that involve a rotating instrument or an air-water syringe</p> <p>List of AGP instruments and</p>	<p>Non COVID-19</p>	<p>Double gloving</p> <p>Face masks (type not specified)</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cat/hat</p>	<p>Mouthwash</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>General ventilation</p>	<p>Not reported</p>	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Date of first publication 01/05/2020</p> <p>Latest update No update</p> <p>https://www.ond.pt/covid-19/procedimentos/</p>	<p>procedures Not reported</p> <p>List of permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests urgent and emergency treatment only</p>		<p>Disposable apron</p> <p>Shoe covers</p>				
		<p>COVID-19 - Urgent treatments only</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>Not reported</p>
<p>Country Romania</p> <p>Source Not reported</p> <p>Date of first publication 25/05/2020</p> <p>Latest update Not reported</p> <p>https://www.dsptimis.ro/data_files/content/legislatie-covid/files/ordin-873-2020.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification</p>	<p>Non COVID-19</p>	<p>Face mask - disposable surgical mask (changed after each patient). If a standard N95, FFP2, FFP3 mask or equivalent is used, the specific rules of use apply (change to a maximum of 4 hours).</p> <p>Goggles/face visor (protective screen) will be disinfected after each patient or, if they are disposable, will be replaced.</p> <p>Surgical cap/hat</p> <p>Disposable gown</p> <p>Shoe protection</p>	<p>Limit use of particle and aerosol generating procedures and equipment if absolutely necessary, they are scheduled at the end of the working day</p> <p>Mouthwash - both before and at end of treatment for at least 30 seconds using 1% or 1.5% hydrogen peroxide or Povidone iodine 0.2% -10 % (watch out for allergic reactions)</p> <p>Rubber dam</p> <p>High volume</p>	<p>Dental interventions are provided only in rooms with automatic or natural ventilation (window)</p>	<p>Open door / window for at least 15 minutes, after each patient</p>	<p>No</p>
		<p>COVID-19</p>	<p>Face mask - FFP2 / KN95 or FFP3 (standard or equivalent)</p> <p>Goggles/face visor</p> <p>Surgical gown - non-sterile waterproof long-sleeved surgical gown</p>	<p>As non Covid-19</p>	<p>As non Covid-19</p>	<p>As non Covid-19</p>	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
			<p>Surgical cap/hat - disposable waterproof cap</p> <p>Disposable waterproof apron/cape</p> <p>Disposable protective boots or disposable waterproof coveralls</p>				
<p>Country Singapore</p> <p>Source Ministry of Health Circular 132/2020 – Gradual resumption of dental services after COVID-19 circuit breaker period</p> <p>Date of first publication 14/02/2020</p> <p>Latest update 21/05/2020</p> <p>https://www.healthprofessionals.gov.sg/docs/librariesprovider1/default-document-library/moh-cir-no-132_2020_21may20_dental-services-after-cb-period67b93be2bc2542d18c675325ab75f730.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggest urgent/emergency dental care prioritised but a wide range of dental procedures with AGPs are permitted only where no other option is possible</p> <p>COVID-19: suggests AGPs are not provided</p>	<p>Non COVID-19</p>	<p>Face mask - surgical mask</p>	<p>Mouthwash - 1% hydrogen peroxide or 0.2% - 1% povidone or 0.05% - 0.1% cetylpyridinium chloride for 60 seconds</p> <p>Rubber dam</p> <p>High volume suction</p> <p>4-handed dentistry</p>	<p>Not reported</p>	<p>45 minutes</p>	<p>No</p>
		<p>COVID-19</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>	
<p>Country Slovakia</p> <p>Source Methodological guidelines of the Chief Expert for the Department of Dentistry</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p>	<p>Non COVID-19</p>	<p>Face mask - FFP2/N95</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown (change after each AGP)</p>	<p>Mouthwash – 1% Hydrogen peroxide</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>General ventilation – large extractor</p>	<p>Not reported</p>	<p>No</p>

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
for the provision of healthcare during the COVID-19 pandemic Date of first publication 20/05/2020 Latest update No update https://www.health.gov.sk/?covid-19-metodicke-usmerenia	Permitted treatment Limit use of high speed handpieces, powered scalars, and air polishers Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital		Surgical cap/hat Shoe covers				
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	Not reported	
Country Slovenia Source Expert recommendations for the treatment of patients in dental clinics during the release of measures in the field of dentistry in the context of COVID-19 Date of first publication 06/05/2020 Latest update No update https://www.gov.si/assets/ministrstva/MZ/DOKUMENTI/Koronavirus/Zobozdravstvo/Strokovna-priporocila-za-obravnavo-pacientov-v-zobozdravstvenih-ordinacijah-v-casu-	Definition Not reported List of AGP instruments and procedures Not reported Permitted treatment Non COVID-19: Prioritise those with problems or undergoing a course of treatment. Routine care not obviously restricted but not encouraged. Limit AGPs where possible COVID-19: patients, treated at selected emergency dental clinics and limited to emergency care	Non COVID-19	Face mask - FFP2/N95 for up to 4 hours wear Goggles/face visor Surgical gown – water repellent Surgical cap/hat	Not reported	Not reported	Not reported	No
		COVID-19	Face mask - FFP3 or FFP2 mask Goggles/face visor – disinfect after each patient Surgical gown – waterproof and should be changed after each patient Surgical cap/hat	Not reported	Not reported	10 minutes	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
sproscanja-ukrepov-na-podrocju-zobozdrav.docx			Shoe covers - alternatively use special disinfectable footwear				
<p>Country South Africa</p> <p>Source SADA (South African Dental Association) Dental Protocol in Response to the COVID-19 Pandemic – A South African Private Practice Perspective</p> <p>Date of first publication May-20</p> <p>Latest update No update</p> <p>https://cdn.sada.co.za/files/clinical-resources/downloads/coronavirus/SADA%20DENTAL%20PROTOCOL%20IN%20RESPONSE%20TO%20THE%20COVID19%20PANDEMIC%202020.pdf?v=20200630112402</p>	<p>Definition Any patient and medical care procedure that results in the production of airborne particles (aerosols)</p> <p>List of AGP instruments and procedures 3-in-1 syringe, powered scalers, high and slow speed hand pieces with or without water coolant, surgical hand pieces, high speed hand pieces, maxillofacial and oral surgery where high-speed devices are used, lasers.</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Dentists need to assess their environment to assure optimal isolation and general ventilation, and see the patient at the end of the day. Otherwise, these patients need to be seen in a specific</p>	Non COVID-19	<p>Face mask – FFP2/N95</p> <p>Fit test required</p> <p>Goggles, glasses with side protection and face shields. Disinfect with 70% isopropyl after each procedure.</p> <p>Surgical gown (disposable and reusable) and coveralls. Must meet the following criteria: sterile if reusable, long sleeves to cover arms and water resistant. Cloth gowns are not recommended, as they are not water resistant. Commercially available reusable gowns should be water resistant, washable and sterilisable according to manufacturer's recommendations.</p> <p>Surgical cap/hat - patient could be provided with disposable headwear. Additional hair cover is recommended when working in a sterile or high-risk environment with long hair and beards.</p> <p>Plastic aprons are not recommended for dental and surgical purposes</p>	<p>Utilise lowest aerosol-generating equipment and instrumentation when delivering any type of restorative or hygiene care.</p> <p>Mouthwash - the patient must rinse their mouths immediately with hydrogen peroxide (1% for 2 periods of 30 seconds each) or Povidone-iodine rinses (0.23% to 1%) as well as nasal spray. Although not scientifically tested or proven, we strongly suggest that the patient use the same rinsing procedure as before contact at the completion of the appointment</p> <p>The use of Listerine and chlorhexidine is not supported by the literature</p> <p>Rubber dam</p> <p>High volume suction</p> <p>Postoperative sanitation</p>	<p>General ventilation</p> <p>Perform disinfectant fogging only for extraordinary circumstances and purposes in patient-care areas. Disinfectant fogging recommendations refer to the spraying of chemicals, such as formaldehyde or phenol-based agents, to decontaminate environmental surfaces or disinfect the air in health care facilities. Newer technologies involving fogging for room decontamination fogging-type applications, such as ozone mists or vaporised hydrogen peroxide, have become available and are preferred.</p>	Not reported	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
	COVID clinic or hospital, not in a regular practice		because they do not provide full body and arm cover. Shoe covers Patient could be provided with disposable overshoes and shoe covers. It is suggested that overshoes and shoe covers should be single patient use.				
		COVID-19	As non COVID-19	Keep appointments short COVID-positive or suspected positive patients need to be scheduled for the end of the day or referred to areas where they can be managed safely (a dedicated facility or a hospital theatre environment recommended)	Optimal patient isolation General ventilation - Remember to factor in enough time for General ventilation specific attention to your own environment and disinfection of the treatment area between cases	Not reported	
Country Spain Source Spanish National Dentistry Council Date of first publication 13/04/2020 Latest update 01/05/2020 https://www.consejodentistas.es/comunicacion/actualidad-consejo/notas-	Definition Interventions that generate aerosols are considered riskier including tracheotomies, all operative activity that requires high-speed rotary instruments, phases in carving in prosthodontics, surgery that involves the generation of aerosols (implantology, osteotomy, etc.),	Non COVID-19	Double gloving >2mts No face mask. 1-2mts surgical face mask. <1mts FFP2 face mask. If AGP, use FFP2 mask and in specific cases consider using FFP3 masks Fit test - After hand wash, put on the mask,	Mouthwash - pre-procedural 1% hydrogen peroxide, 0.2% Povidone iodine or 0.05 cetylpyridinium chloride. 0.1% mouthwash for 30 seconds. Avoid the use of spittoons and use disposable cups. Rubber dam High volume suction	General ventilation - Although numerous systems are available for air filtration, none present concrete scientific effectiveness against SARS-CoV2. Methods include: - ozone purification - purification with chlorine dioxide - use of	15 minutes between patients	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
de-prensa-consejo/item/1783-plan-estrategico-de-accion-para-clinicas-dentales-durante-el-periodo-de-desescalada.html	<p>certain phases in orthodontics (removal of brackets and polishing) etc.</p> <p>AGPs are categorised by No AGPs, AGP and AGPs with high risk of spillage.</p> <p>List of AGP instruments and procedures High speed handpieces, 3-in-1 syringes, powered scalers, surgical handpieces, hard tissue lasers, air polishers</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification. AGPs are classified as low, medium and high risk depending on PPE</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>		<p>then adjust and fit test in nose and chin.</p> <p>Goggles/face visor - certified eye protectors based on the UNE-EN 166: 2002 standard for protection against liquids can be integral glasses against drops or face shields against splashes.</p> <p>Surgical gown</p> <p>Surgical cap/hat</p>	<p>The usual work clothes and footwear must be exclusively for work, avoiding the use of street clothes or footwear in the office. It is important to avoid wearing rings, bracelets, pendants, watches or other items, since they behave like reservoirs of COVID 19</p>	<p>hypochlorous acid</p> <ul style="list-style-type: none"> - purification by generation of hydroxyl radicals (OH) - use of UVC radiation - use of negative pressure or high pressure, associated with HEPA (High-Efficiency Particulate Air) filters <p>The Spanish Society for Environmental Health (SESA) advises against chlorine dioxide and ozone in disinfecting the air against the coronavirus. The Ministry of Health in in Spain, does not recommend hypochlorous acid. The use of UVC rays in the dental field is not indicated While hydroxyl radical generating systems are effective with other viruses, it is not yet documented for SARS-Cov-2</p>		
		COVID-19	As non COVID-19	Avoid mouthwash	As non COVID-19	Not reported	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Country Switzerland</p> <p>Source Swiss Dental Association</p> <p>Date of first publication 17/04/2020</p> <p>Latest update 28/05/2020</p> <p>https://www.sso.ch/fileadmin/upload_sso/5_Newsletter/2020/Covid-19-Positionspapier4-6-F.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	<p>Face mask - surgical mask or FFP2 mask if rubber dam can't be used</p> <p>Goggles/face visor</p>	<p>Mouthwash - 1.5% hydrogen peroxide solution or Povidone-iodine solution mouthwash for 30 seconds</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>General ventilation – windows or adequate General ventilation system</p>	<p>At least 15 minutes for complete airing of room post AGP</p> <p>Forbidden to treat patient in a room without window or adequate General ventilation system</p>	<p>No</p>
		<p>COVID-19 - Only in case of absolute emergency that can't be postponed</p>	<p>Face mask - FFP2 worn for up to 30 minutes following last AGP and as long as patient is in the room</p> <p>Goggles/face visor</p> <p>Surgical gown</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>Up to 30 minutes</p>	
<p>Country Tunisia</p> <p>Source Conseil National d'Ordre des Médecins Dentistes de la Tunisie</p> <p>Date of first publication 12/04/2020</p> <p>Latest update 11/05/2020</p> <p>https://cnomdt.tn/docs/relatedInfo/protocole-covid4-cnomdt-26.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	<p>Face mask - FFP2</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cap/hat</p>	<p>Use slow speed drill instead of high speed handpieces</p> <p>Mouthwash - hydrogen peroxide or Povidone-iodine</p> <p>Rubber dam whenever possible</p> <p>High volume suction</p>		<p>15 minutes</p>	<p>No</p>
		<p>COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Country United Arab Emirates (Dubai)</p> <p>Source Dubai Health Authority</p> <p>Date of first publication 2/06/2020</p> <p>Latest update No update</p> <p>https://services.dha.gov.ae/sheryan/wps/portal/home/circular-details?circularRefNo=CI-R-2020-00000236&isPublicCircular=1&fromHome=true</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	<p>Face mask - N95</p> <p>Goggles/face visor</p> <p>Surgical gown for AGPs</p> <p>Separate shoes for clinical activities</p>	<p>Mouthwash - 1% hydrogen peroxide or 0.2% Povidone iodine</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>Designated room, HEPA filter</p>	<p>20 minutes between appointments</p>	<p>No</p>
		<p>COVID-19</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>	
<p>Country UK - England</p> <p>Source Office of the Chief Dental Officer, England</p> <p>Date of first publication 06/04/2020</p> <p>Latest update No update</p> <p>https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/06/C0575-dental-transition-to-recovery-SOP-4June.pdf</p>	<p>Definition Aerosol generating procedures (AGPs) are defined as any medical and patient care procedure that results in the production of airborne particles (aerosols).</p> <p>List of AGP instruments and procedures High-speed handpieces and high speed surgical handpieces, powered scalers, 3-in-1 syringe</p> <p>Permitted treatment Non COVID-19: Suggests providing care with no further</p>	<p>Non COVID-19</p>	<p>Face mask - FFP3 for AGPs</p> <p>Fit test required</p> <p>Goggle/face visor</p> <p>Surgical gown</p> <p>Rubber dam/low suction</p> <p>High volume suction</p>		<p>Windows in neutral pressure rooms should be opened, or extractor fans that vent to the exterior should be used as air passing externally will be highly diluted and is not considered to be a risk. The greater the number of air changes per hour (General ventilation rate), the sooner any aerosol will be cleared. to be a risk</p>	<p>Negative pressure room: 20 minutes</p> <p>Neutral room: 60 minutes</p>	<p>No</p>
		<p>COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	<p>As non COVID-19</p>	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
	<p>specification. Whilst in sustained community transmission treat all patients as high risk. Treatment with extra care and PPE, minimise APGs</p> <p>COVID-19: Suggests emergency treatment only in a dedicated COVID-19 centre or hospital</p>						
<p>Country UK - Northern Ireland</p> <p>Source Health and Social Care Board</p> <p>Date of first publication 06/04/2020</p> <p>Latest update 22/06/2020</p> <p>http://www.hscbusiness.hscni.net/pdf/Preparation%20for%20the%20Re-establishment%20of%20the%20GDS%20Update%202022%20June%2020.pdf</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures High speed handpieces, powered scalers, 3-in-1 syringe, slow-speed drill with coolant spray (e.g. surgical extractions), air abrasion and air polishing</p> <p>Permitted treatment Non COVID-19: suggests emergency treatment only</p> <p>COVID-19: Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	Non COVID-19	<p>Face mask - FFP3</p> <p>Fit test required</p> <p>Goggles/face visor</p> <p>Surgical gown</p>	<p>Rubber dam</p> <p>High volume suction</p>	<p>General ventilation (Windows may be opened)</p>	<p>After providing an AGP, it is recommended that the room is left vacant with the door closed for 20 minutes in a negative pressure isolation room or 60 minutes in a neutral pressure room before cleaning and decontamination</p> <p>If your practice has an air flow system or equivalent in place manufacturers guidance should be sought regarding the possible reducing air settling time with 6 air changes recommended prior to cleaning and decontamination</p>	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
		COVID-19	As non COVID-19	As non-COVID-19	As non-COVID-19	As non-COVID-19	
<p>Country UK - Scotland</p> <p>Source Scottish Dental Clinical Effectiveness Programme</p> <p>Date of first publication 25/05/2020</p> <p>Latest update 06/12/2020</p> <p>http://www.sdcep.org.uk/wp-content/uploads/2020/06/SDCEP-Resuming-General-Dental-Services-Following-COVID-19-Shutdown-Update-120620.pdf</p>	<p>Definition Aerosol generating procedures (AGPs) are defined as any medical or patient care procedure that results in the production of airborne particles (aerosols).</p> <p>List of AGP instruments and procedures 3-in-1 syringe, high-speed handpieces, powered scalers</p> <p>Permitted treatment Non COVID-19: suggests urgent and routine treatment but no AGP treatment. COVID-19: suggests AGP treatment in a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	No AGP related advice /recommendations	No AGP related advice /recommendations	No AGP related advice/recommendations	No AGP related advice /recommendations	No
		COVID-19	No AGP related advice /recommendations	No AGP related advice /recommendations	No AGP related advice /recommendations	No AGP related advice /recommendations	
<p>Country UK - Wales</p> <p>Source Chief Dental Officer, Wales</p> <p>Date of first publication 08/06/2020</p> <p>Latest update No update</p>	<p>Definition AGPs are procedures that create aerosols (air suspension of fine ($\leq 5\mu\text{m}$) particles)</p> <p>List of AGP instruments and procedures High speed handpieces, air polishers, powered scaler, air polishing,</p>	Non COVID-19	<p>Face mask - FFP3 or FFP2</p> <p>Fit test - Copies of fit test certificates (where issued) and records of fit tests (pass and fail) for each staff member and each mask type should be retained by the practice.</p>	<p>Mouthwash mentioned but document indicates lack of evidence regarding COVID-19</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>Space appointments to ensure social distancing. Book at the end of a session</p> <p>Schedule time for procedure and time for decontamination (to include air clearance in an appropriate room)</p>	60 minutes when air changes per hour (ACPH) is not known. Expert infection control team advice should be sought when calculating times. If the patient has evidence of immunity (laboratory) or of being non-infected	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
https://gov.wales/sites/default/files/publications/2020-06/standard-operating-process-for-non-covid-19-dental-centres-providing-aerosol-generating-procedures-in-wales.pdf	<p>Slow speed drill, 3-in-1 syringe)</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification</p> <p>COVID-19: Suggests providing care with no further specification. Treat patients in a dedicated COVID-19 centre or hospital</p>		<p>Full face shield if FFP is not water resistant</p> <p>Surgical gown</p> <p>Disposable apron - Only if gown is not water repellent</p>		<p>Negative pressure room with known air changes per hour</p> <p>General ventilation - Windowless surgeries with no air changes should not be used. Windows should be open where appropriate (this may not be appropriate where closed environment, negative pressure systems are in place). Air conditioning which recirculates air into the surgery should be switched off if it is linked to other practice areas Air conditioning that removes air from the environment should be switched on (venting of extractor fans must be assessed alongside the risk of contamination of other areas) with notices placed at the vents. Seek advice in relation to air conditioning as required. (Seek advice for windowless surgeries as these</p>	<p>(laboratory) and there is no possibility of infection on the day of treatment, the patient may be treated with standard infection control measures with no additional settle time. Leave the room for 60 minutes after an AGP.</p> <p>Measurements can be taken by health and safety/ infection control teams to determine air changes per hour for each surgery and the exact time needed. If this has taken place, records of measurements and advice should be kept.</p> <p>The current recommended time for negative pressure rooms is 20 minutes. If a negative pressure room then with 12+ air exchanges leave for 20 minutes</p>	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
					<p>should not routinely be used for AGP</p> <p>Air purifiers and devices to improve air quality can be considered but there is insufficient evidence on their effectiveness in relation to COVID-19 at this time. If practices wish to consider these pieces of equipment, they should seek advice (contact the dental COVID-19 lead who will ask for advice from the local Infection Prevention Control Teams). Any decision should be clearly documented and retained by the practice for possible future reference. The default position otherwise is to follow the guidance described above</p> <p>Fogging techniques (with e.g. hypochlorous acid) are not currently recommended</p>		
		COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	As non COVID-19	
Country Ukraine	Definition Not reported	Non COVID-19	Face mask – type not specified	4-handed dentistry	General ventilation	20-30 minutes	No

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
<p>Source National Academy of Medical Sciences of Ukraine</p> <p>Date of first publication 08/05/2020</p> <p>Latest update No update</p> <p>http://amnu.gov.ua/spilni-rekomendaciyi-du-institut-stomatologiyi-ta-shhelepno-lyczevoyi-hirurgiyi-namn-ukrayiny-i-go-asocziacziya-stomatologiv-ukrayiny-shhodo-protvepidemichnyh-zahodiv-v-stomatologichnyh-zakladah-ohor/</p>	<p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification. Minimise AGPs</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>		<p>Goggles/face visor</p> <p>Surgical gown/protective suit</p>	<p>Mouthwash</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>Quartz Lamps</p>		
		COVID-19	Not reported	Not reported	Not reported	Not reported	
<p>Country Uruguay</p> <p>Source Ministry of Health</p> <p>Date of first publication Not reported</p> <p>Latest update Not reported</p> <p>https://www.gub.uy/ministerio-salud-publica/sites/ministerio-salud-publica/files/documentos/noticias/MSP_RECORNACIONES_ODONTOLOGOS_HIGIENISTAS_DENTALES.pdf</p>	<p>Definition The practice of dentistry, as well as the use of dental instruments and equipment, can generate aerosols that contain droplets of water particles, saliva, blood, microorganisms and other wastes. These biological materials settle on the environment and work surfaces, dental care personnel and the patient</p> <p>List of AGP instruments and procedures</p>	Non COVID-19	<p>Face mask - N95 or FFP2</p> <p>Goggles/face visor</p> <p>Surgical gown</p> <p>Surgical cap/hat</p> <p>Disposable apron</p>	<p>Mouthwash - 70% alcohol, 3% hydrogen peroxide or 10 volumes (medical hydrogen peroxide) or iodopovidone pre- and post-treatment</p> <p>High volume suction</p>			No
		COVID-19	Not reported	Not reported	Not reported	Not reported	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
	<p>High speed handpieces, 3-in-1 syringe, intra-oral radiography</p> <p>Permitted treatment Non COVID-19: suggests emergency treatment only</p> <p>COVID-19: Suggests providing care with no further specification. Treat in a dedicated COVID-19 centre or hospital</p>						
<p>Country USA</p> <p>Source American Dental Association (ADA)</p> <p>Date of first publication 24/04/2020</p> <p>Latest update 06/09/2020</p> <p>https://success.ada.org/~media/CPS/Files/Open%20Files/ADA_Return_to_Work_Toolkit.pdf?utm_campaign=covid-19-Return-to-Work-Toolkit&utm_medium=email&_hsmi=86924194&_hsenc=p2ANqtz-HVpP4Wh9sKaPqxGZlA1G9Ro1coYT29m3pRXN1TDeZSalr3_-PzyReYsAnmYdx6fX_rJmFesmgepGb1_VhbsxZ6Zu6g&utm_content=86</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Not reported</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification.</p> <p>COVID-19: Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	<p>Non COVID-19</p>	<p>Face mask - surgical face mask, N95 or KN95</p> <p>Fit test required for N95 and KN95. Annual fit testing requirement lifted and currently unavailable</p> <p>Goggles/face visor</p> <p>Surgical gown (clinical judgement)</p> <p>Surgical cap/hat (clinical judgement)</p> <p>Shoe covers (clinical judgement)</p>	<p>Rubber dam</p> <p>High volume suction</p> <p>Use hand scaling instead of ultrasonic scaling</p>	Not reported	Until further evidence demonstrates a clear answer, the ADA is not making a recommendation on waiting for a specific time period to begin cleaning the operatory.	No
		<p>COVID-19</p>	As non COVID-19	As non COVID-19	Not reported	As non COVID-19	

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
924194&utm_source=hs_automation							
<p>Country USA</p> <p>Source Centers for Disease Control and Prevention (CDC)</p> <p>Date of first publication Not reported</p> <p>Latest update 17/06/2020</p> <p>https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html</p>	<p>Definition Not reported</p> <p>List of AGP instruments and procedures Avoid use of dental handpieces, 3-in-1 syringe, powered scalers</p> <p>Permitted treatment Non COVID-19: suggests providing care with no further specification. Treat all patients as high risk with extra care and PPE if necessary</p> <p>COVID-19: Suggests providing care with no further specification. Avoid AGPs if possible. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital</p>	Non COVID-19	<p>Face mask - N95 or a respirator that offers a higher level of protection such as other disposable filtering face piece respirators, powered air-purifying or elastomeric respirators.</p> <p>Fit test – dental health-care personnel should be medically cleared and fit tested if using respirators with tight fitting face pieces</p> <p>Goggles, protective eyewear with solid side shields or a full face shield</p> <p>Gown or protective clothing</p>	<p>Mouthwash</p> <p>Rubber dam</p> <p>High volume suction</p>	<p>General ventilation - systems that provide air movement in a clean-to-less clean flow direction... are better at protecting staff and patients.</p> <p>Consider the use of a HEPA air filtration unit while the patient is undergoing and immediately following an AGP to reduce aerosol concentrations and increase the effectiveness of the turnover time. Place the HEPA unit near the patient's chair but not behind the DHCP.</p> <p>Consider the use of upper-room ultraviolet germicidal irradiation as an adjunct to higher General ventilation and air cleaning rates</p> <p>Ensure to account for the time required to clean and disinfect operating rooms between patients when</p>	Not reported	Yes

Country	AGP details	COVID-19 status	Personal protective equipment	Procedural mitigation	Environmental mitigation	Fallow time	Linked evidence
					calculating your daily patient volume		
		COVID-19	Face mask - N95 or higher level respirator Fit test Goggles/face visor Surgical gown		AGPs should ideally take place in an airborne infection isolation room	Not reported	
Country Zimbabwe	Definition	Non COVID-19	Not reported	Not reported	Not reported	Not reported	No
Source Zimbabwe Dental Association COVID-19 Dental Practice Recommendations/Guidelines	List of AGP instruments and procedures High speed handpieces, 3-in-1 syringe and scaler use	COVID-19	Face mask – ideally N95 Goggles/face visor Protective gown	Manage emergency without the generation of aerosol Mandatory use of hydrogen peroxide mouth rinse before dental procedures Rubber dam	Not reported	Not reported	
Date of first publication Not reported	Permitted treatment Non COVID-19: suggests providing care with no further specification. AGPs undertaken with standard precautions COVID-19: Suggests emergency treatment only with AGPs if possible. If AGP required, undertake proper COVID-19 precautions. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital						
Latest update 22/04/2020 https://www.fdiworlddental.org/sites/default/files/media/documents/covid-19_dental_practice_recommendations_guidelines.pdf							

Non COVID-19 refers to patients who are presumed to have negative COVID-19 status; COVID-19 refers to patients with suspected or confirmed positive COVID-19 status. ABHR, alcohol-based hand rub, ACH, air changes per hour; AGP, aerosol generating procedure; HEPA, high-efficiency particulate air; HVAC, heating ventilation and air conditioning

Appendix 2. AGP reported by country

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Argentina Source: Ministry of Health - Ministerio de Salud Argentina COVID-19 Recomendaciones Para Odontologia Date of first publication: 10/06/2020 Latest update: No update</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/covid-19_recomendaciones_para_odontologia.pdf</p>	Yes	High speed handpieces, slow speed drill, 3-in-1 syringe, powered scalers	Suggests prioritising emergency treatment but treatment is not limited to emergencies	Suggests urgent treatments only and avoiding AGPs as much as possible. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Australia Source: Australian Dental Association Date of first publication: Various publication dates and updates</p> <p>https://www.ada.org.au/Covid-19-Portal/Dental-Professionals</p>	Yes	High speed handpieces, Surgical handpieces, 3-in-1 syringe, Powered scalers (sonic/ultrasonic), Air polishers, Lasers	Suggests taking standard precautions	Suggests AGPs are avoided for suspected COVID-19 cases. Urgent or emergency treatment only for confirmed cases in a dedicated COVID-19 centre or hospital, not in a regular practice
<p>Country: Austria Source: Austrian Dental Chamber Date of first publication: 03/04/2020 Latest update: 04/05/2020</p> <p>https://stmk.zahnaerztekammer.at/zahnaerztinnen/informationen-corona-virus/</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification
<p>Country: Belgium Source: Conseil de l'Art Dentaire on behalf of the Service Public Fédéral de Santé Publique Date of first publication: 19/04/2020 Latest update: 24/05/20</p> <p>https://5199.f2w.fedict.be/sites/default/files/documents/2020-04-19_covid-19_modification_20200524_-_protocole_soins_dentaires.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggest treating patients in a dedicated COVID-19 centre or hospital, not in a regular practice

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Bolivia Source: College of Dentists of La Paz Date of first publication: 01/05/2020 Latest update: No update</p> <p>https://www.fdiworldddental.org/sites/default/files/media/documents/protocolo_de_bio-seguridad_para_la_atencion_a_pacientes_y_prevenccion_del_covid-19_en_centreas_y_consultorios_odontologicos.pdf</p>	Yes	High speed handpieces, slow speed drill, 3-in-1 syringe	Suggests emergency treatment only	Suggests emergency treatment only but patients should ideally be treated in a high level health institution (hospital)
<p>Country: Brazil Source: Biosafety Working Group of the São Paulo Regional Dentistry Council Date of first publication: 01/04/2020 Latest update: No update</p> <p>http://www.crosp.org.br/uploads/arquivo/747df5ff505e7beff33c1a5ff5d6f12a.pdf</p>	Yes	High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe	Suggests providing care with no further specification	Suggests providing care with no further specification
<p>Country: Bulgaria Source: Recommendations/instructions from the crisis headquarters of the Bulgarian Dental Union Date of first publication: 03/06/2020 Latest update: No update</p> <p>https://bzs.bg/препоръки-инструкции-от-кризисния-щаб/</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification
<p>Country: Burkino Faso Source: Ordre National des Chirurgiens Dentistes du Burkina Ministère de la Santé Date of first publication: Not reported Latest update: Not reported</p> <p>URL not available</p>	No	None reported	Suggests emergency treatment only	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country Canada</p> <p>Source Royal College of Dental Surgeons of Ontario COVID-19: MANAGING INFECTION RISKS DURING IN-PERSON DENTAL CARE</p> <p>Date of first publication 15/03/2020</p> <p>Latest update 31/05/20</p> <p>https://www.rcdso.org/en-ca/rcdso-members/2019-novel-coronavirus/covid-19--managing-infection-risks-during-in-person-care</p>	Yes	high-speed, low-speed and other rotary handpieces, powered scalers, and 3-in-1 syringes.	in-person care for all deferred, non-essential, and elective services, in addition to emergency and urgent care.	Patients who need urgent and emergency care that cannot be delayed
<p>Country: Chile</p> <p>Source: Division of Disease Prevention and Control Oral Health Department</p> <p>Date of first publication: Not reported</p> <p>Latest update: Not reported</p> <p>http://www.colegiodontistas.cl/inicio/wp-content/uploads/2020/04/orientaciones-atencion-odontologica-covid-19.pdf</p>	Yes	High speed handpieces, 3-in-1 syringe, powered scalers	Suggests providing care with no further specification	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: China</p> <p>Source: Chinese Stomatological Association - Chinese Response to COVID-19 in Dental Field</p> <p>Date of first publication: Not reported</p> <p>Latest update: 06/05/2020</p> <p>URL not available</p>	Yes	High speed handpieces, powered scalers	Suggests emergency treatment only	Suggests AGPs are not provided in COVID-19 patients
<p>Country: Colombia</p> <p>Source: Ministry of Health and Social Protection - Ministerio de Salud y Protección Social Bogotá</p> <p>Date of first publication: May 2020</p> <p>Latest update: No update</p> <p>https://www.minsalud.gov.co/Ministerio/Institucional/Procesos%20y%20procedimientos/GIPS31.pdf</p>	Yes	High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe	Suggests providing care with no further specification	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Costa Rica Source: Ministry of Health - Ministerio de Salud Costa Rica Date of first publication: 27/03/2020 Latest update: No update</p> <p>https://www.ministeriodesalud.go.cr/sobre_ministerio/prensa/docs/lineamientos_odontologos_v2_27032020.pdf</p>	Yes	High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe	Suggests providing care with no further specification	Suggests emergency treatment only treated in a dedicated COVID-19 centre or hospital
<p>Country: Croatia Source: Croatian Chamber of Dental Medicine Date of first publication: 04/05/2020 Latest update: No update</p> <p>https://www.hkdm.hr/novost/1836/Smjernice-i-protokoli-za-otvaranje-i-rad-ordinacija-dentalne-medicine-i-dentalnih-laboratorija</p>	Yes	High speed handpieces, Powered scalers (sonic/ultrasonic)	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Denmark Source: SUNDHEDSSTYRELSEN, Danish Health Board Date of first publication: 18/04/20 Latest update: 22/04/20</p> <p>https://www.sst.dk/da/udgivelser/2020/haandtering-af-covid-19-kritisk-funktioner-i-tandplejen</p>	Yes	High speed handpieces, Surgical handpieces, Slow speed drill, 3-in-1 syringe, Powered scalers (sonic/ultrasonic)	Suggest testing every patient for COVID-19 before providing care	Suggest postponing any appointment while patient is COVID-19 positive
<p>Country: Dominican Republic Source: Ministry of Health Date of first publication: Not reported Latest update: Not reported</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/recomendaciones_para_la_gui%C3%A1_de_apertura_de_los_servicios_odontologicos_en_la_republica_dominicana_debido_a_la_pandemia_covid-19.pdf</p>	Yes	Slow speed drill, 3-in-1 syringe, intra-oral radiography	Suggests providing care with no further specification	Suggests providing care with no further specification except triage patients prior to treatment to identify higher risk and take precautions. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Ecuador Source: Ministry of Health Date of first publication: 28/05/2020 Latest update: No update</p>	Yes	High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe, powered	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
https://www.fdiworlddental.org/sites/default/files/media/documents/protocolo_para_atencion_odontologica_durante_la_emergencia_sanitaria_por_covid_-_19.pdf		scaler, intra-oral radiography		dedicated COVID-19 centre or hospital
<p>Country: Estonia Source: Ministry of Health Date of first publication: 07/02/2020 Latest update: 21/05/2020</p> <p>URL not available</p>	No	None reported	Suggests providing care with no further specification	Suggests AGPs are not provided in COVID-19 patients
<p>Country: Finland Source: Sector of administration of the Ministry of Social Affairs and Health Date of first publication: Not reported Latest update: 01/06/2020</p> <p>https://thl.fi/fi/web/infektiotaudit-ja-rokotukset/audit-ja-torjunta/audit-ja-taudinaiheuttajat-a-o/koronavirus-covid-19/ohje-suun-terveydenhuollon-yksikoille-covid-19-epidemian-aikana</p>	Yes	High speed handpieces, Slow speed drill, 3-in-1 syringe, Powered scalers (sonic/ultrasonic)	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: France Source: Haute Autorité de Santé (HAS) Date of first publication: 14/05/2020 Latest update: 25/05/2020</p> <p>https://www.has-sante.fr/jcms/p_3184961/fr/mesures-et-precautions-essentielles-lors-des-soins-bucco-dentaires-apres-le-deconfinement</p>	Yes	High speed handpieces, 3-in-1 syringe, Powered scalers (sonic/ultrasonic), Air polishers	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Germany Source: Institut der Deutschen Zahnärzte Date of first publication: Not reported Latest update: 24/04/2020 (version 3)</p> <p>https://www.idz.institute/publikationen/sonstiges/system-von-standardvorgehensweisen-fuer-zahnarztpraxen-waehrend-der-coronavirus-pandemie.html</p>	No	None reported	Suggests providing care avoiding AGPs using low-speed instrumentation	Suggests providing care avoiding AGPs using low-speed instrumentation. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Greece Source: Instructions for dental employees in dentists and patients Date of first publication: Not reported Latest update: Not reported</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/odigies_pros_odontiatroys_ergazomenoys_se_odontiatreia_kai_astheneis_0.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Guatemala Source: Estomatologic Colledge of Guatemala Date of first publication: 01/05/2020 Latest update: No update</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/protocolo_de_bioseguridad_odontologica_con_enfasis_en_covid-19.pdf</p>	Yes	High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe, powered scaler, intra-oral radiography	Suggests emergency treatment only	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Honduras Source: College of Dental Surgeons of Honduras Date of first publication: Not reported Latest update: Not reported</p> <p>http://www.cop.org.pe/wp-content/uploads/2020/04/PROTOCOLO-DE-BIOSEGURIDAD-PARA-EL-CIRUJANO-DENTISTA.pdf</p>	No	None reported	Suggests providing care with no further specification	Unclear if patients are treated
<p>Country: India Source: Dental Council of India Date of first publication: 05/07/2020 Latest update: No update</p> <p>http://www.dciindia.gov.in/Admin/NewsArchives/Dental%20Centres%20Protocols%20Final.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggest treating patients in a specific COVID-19 centre or hospital, not in a regular practice

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Ireland Source: Irish Dental Association Date of first publication: Not reported Latest update: 15/05/2020</p> <p>https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/dentalservices/Guidance-ManagingInfectionRisk-DentalServices-COVID19.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Italy Source: All major Italian dental associations – available from the Italian government website Date of first publication: 30/05/2020 Latest update: No update</p> <p>http://www.salute.gov.it/portale/news/p3_2_1_1_1.jsp?lingua=italiano&menu=notizie&p=dalministero&id=4835</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Kenya Source: Ministry of Health, Director of Healthcare Services, Oral Health Services Date of first publication: 24/03/2020 Latest update: No update</p> <p>https://www.health.go.ke/wp-content/uploads/2020/06/Guidelines-for-Dental-Practice-with-respect-to-COVID-19-Pandemic.pdf</p>	Yes	3-in-1 syringe	Suggests emergency treatment only. Treat all patients as high risk with extra care and PPE if necessary	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Kosovo Source: Practical guidelines for dentistry professionals in the private sector during the COVID-19 virus pandemic Date of first publication: Not reported Latest update: Not reported</p> <p>http://osk-ks.org/wp-content/uploads/2020/05/Rekomandimet-e-OSK-per-ordinancat-private-1.pdf</p>	Yes	High speed handpieces, 3-in-1 syringe, powered scaler	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Malaysia Source: Malaysian Dental Association Safety Advisory to Dental Practitioners during the current Concern of COVID - 19 Infection in the initial relaxation phase of Movement Control Order Date of first publication: Not reported Latest update: 01/05/2020</p> <p>https://mda.org.my/home/wp-content/uploads/2020/05/MDA_advisory_COVID19_relaxation_phase_MCO.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Malta Source: Office for the Deputy Prime Minister. Ministry for Health Date of first publication: Jun-20 Latest update: No update</p> <p>https://deputyprimeminister.gov.mt/en/health-promotion/covid-19/Documents/mitigation-conditions-and-guidances/Guidance_Dental-Practices_12Jun20.pdf</p>	Yes	High speed handpieces, Slow speed drill, 3-in-1 syringe, Powered scalers (sonic/ultrasonic), Intra-oral radiography	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Mexico Source: Ministry of Health Date of first publication: 21/05/2020 Latest update: 21/05/2020</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/recomendaciones_para_la_practica_odontologica_ante_covid-24.pdf</p>	Yes	High speed handpieces, 3-in-1 syringe	Suggests treating emergencies only	Suggests emergency treatment only. Patients can be treated in practice with appropriate PPE, otherwise patients must be treated in a designated COVID-19 hospital
<p>Country: Montenegro Source: Dental Chamber of Montenegro Protocol for providing dental treatment during the COVID-19 epidemic Date of first publication: Not reported Latest update: Not reported</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/protokol_za_pruzanje_stomatoloskog_lijecenja_tokom_epidemije_covid-19_0.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Morocco Source: Ordre national des médecins dentistes du Maroc Date of first publication: 21/05/2020 Latest update: 21/05/2020 https://drive.google.com/file/d/1x8n1etxPIVI_rq7_Z7oG_wjQIHq2BaB3/view</p>	Yes	Powered scaling, Use of handpieces, air polishing, 3-in-1 syringe	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Mozambique Source: Ministry of Health Date of first publication: 20/03/2020 Latest update: No update https://www.fdiworlddental.org/sites/default/files/media/documents/protocolo_de_atendimento_nos_servicos_de_estomatologia_covid-19.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Myanmar Source: Myanmar Dental Association Date of first publication: 23/03/2020 Latest update: No update https://www.fdiworlddental.org/sites/default/files/media/documents/recommendations_to_member_dental_surgeons.pdf</p>	Yes	3-in-1 syringe	Suggests providing care with no further specification	Suggests emergency treatment only
<p>Country: Netherlands Source: The Royal Dutch Dental Association Date of first publication: 21/04/2020 Latest update: 29/06/2020 https://www.knmt.nl/sites/default/files/20200629_leidraad_mondzorg_corona_clmc_v_4.0.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: New Zealand Source: Dental council, Ministry of Health Date of first publication: 05/01/2020 Latest update: 06/09/2020</p> <p>https://www.dcnz.org.nz/assets/Uploads/COVID/Level1-guidelines9Jun20.pdf</p>	Yes	High speed handpieces, 3-in-1 syringe, Powered scalers (sonic/ultrasonic), Air polishers	Suggests providing care with no further specification	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Norway Source: Norway Dental Health Service – FHI (Folkehelseinstituttet) Date of first publication: 03/12/2020 Latest update: 26/05/2020</p> <p>https://www.fhi.no/nettpub/coronavirus/helsepersonell/rad-til-tannhelsetjenesten/#tannbehandling-av-pasienter-som-ikke-er-mistenkt-sannsynlig-eller-bekreftet-med-covid19</p>	Yes	High speed handpieces, Slow speed drill, 3-in-1 syringe, Powered scalers (sonic/ultrasonic), Air polishers	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Panama Source: Odontologic Association of Panama Date of first publication: 16/03/2020 Latest update: 16/05/2020</p> <p>URL not available</p>	Yes	High speed handpieces, intra-oral radiography	Suggests providing care with no further specification	Suggests emergency treatment only in a dedicated COVID-19 centre or hospital
<p>Country: Paraguay Source: Ministry of Health Date of first publication: Not reported Latest update: 07/05/2020</p> <p>https://www.mspbs.gov.py/dependencias/porta/adjunto/Of3634-Protocoloatencionodontologica.pdf</p>	Yes	High speed handpieces, slow speed drill, 3-in-1 syringe, intra-oral radiography	Suggests urgent care and emergency treatment only	Suggests urgent care and emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Peru Source: Ministry of Health Date of first publication: Not reported Latest update: Not reported</p> <p>https://cdn.www.gob.pe/uploads/document/file/716209/DIRECTIVA_SA_NITARIA_N_100-MINSA-2020-DGIESP.pdf</p>	Yes	High speed handpieces, surgical handpieces, slow speed drill, 3-in-1 syringe, powered	Suggests emergency treatment only	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
		scaler, intra-oral radiography		
Country: Philippines Source: Philippine Dental Association Science Committee Date of first publication: Not reported Latest update: 31/05/2020 https://www.fdiworlddental.org/sites/default/files/media/documents/interim_guidelines_on_infection_prevention_during_covid-19_pandemic.pdf	Yes	High speed handpieces, 3-in-1 syringe, powered scaling	Suggests emergency treatment only	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
Country: Poland Source: The Polish Dental Association Date of first publication: 08/04/2020 Latest update: NA https://doi.org/10.5114/jos.2020.94168	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
Country: Portugal Source: Direcao Geral da Saude (Directorate General of Health) Date of first publication: 01/05/2020 Latest update: No update https://www.ond.pt/covid-19/procedimentos/	No	High speed handpieces, 3-in-1 syringe	Suggests providing care with no further specification	Suggests urgent and emergency treatment only
Country: Romania Source: Not reported Date of first publication: 25/05/2020 Latest update: No update https://www.dsptimis.ro/data_files/content/legislatie-covid/files/ordin-873-2020.pdf	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification
Country: Singapore Source: Ministry of Health Circular 132/2020 – Gradual resumption of dental services after COVID-19 circuit breaker period Date of first publication: 14/02/2020 Latest update: 21/05/2020	No	None reported	Suggests urgent and emergency care is prioritised but a wide range of dental procedures with AGPs are permitted where no other option is possible	Suggests AGPs are not provided in COVID-19 patients

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
https://www.healthprofessionals.gov.sg/docs/librariesprovider11/default-document-library/moh-cir-no-132_2020_21may20_dental-services-after-cb-period67b93be2bc2542d18c675325ab75f730.pdf				
<p>Country: Slovakia Source: Methodological guidelines of the Chief Expert for the Department of Dentistry for the provision of healthcare during the COVID-19 pandemic Date of first publication: 20/05/2020 Latest update: No update</p> <p>https://www.health.gov.sk/?covid-19-metodicke-usmernenia</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Slovenia Source: Expert recommendations for the treatment of patients in dental centres during the release of measures in the field of dentistry in the context of COVID-19 Date of first publication: 06/05/2020 Latest update: No update</p> <p>https://www.gov.si/assets/ministrstva/MZ/DOKUMENTI/Koronavirus/Zobozdravstvo/Strokovna-priporocila-za-obravnavo-pacientov-v-zobozdravstvenih-ordinacijah-v-casu-sproscanja-ukrepov-na-podrocju-zobozdrav.docx</p>	No	None reported	Suggests prioritising those with problems or undergoing a course of treatment. Routine care not obviously restricted but not encouraged. Limit AGPs where possible	Suggests patients are treated at selected emergency dental centres and limited to emergency care
<p>Country: South Africa Source: SADA (South African Dental Association) Dental Protocol in Response to the COVID-19 Pandemic – A South African Private Practice Perspective Date of first publication: May-20 Latest update: No update</p> <p>https://cdn.sada.co.za/files/centreal-resources/downloads/coronavirus/SADA%20DENTAL%20PROTOCOL%20IN%20RESPONSE%20TO%20THE%20COVID19%20PANDEMIC%202020.pdf?v=20200630112402</p>	Yes	High speed handpieces, Surgical handpieces, Slow speed drill, 3-in-1 syringe, Powered scalers (sonic/ultrasonic), Lasers	Suggests providing care with no further specification	Suggest providing care with no further specification. Dentists need to assess their environment to assure optimal isolation and ventilation, and see at the end of the day. Otherwise, these patients need to be seen in a dedicated COVID-19 centre or hospital, not in a regular practice
<p>Country: Spain Source: Spanish National Dentistry Council</p>	Yes	High speed handpieces, Surgical	Suggest providing care with no further	Suggests providing care with no further

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Date of first publication: 13/04/2020 Latest update: 01/05/2020</p> <p>https://www.consejodentistas.es/comunicacion/actualidad-consejo/notas-de-prensa-consejo/item/1783-plan-estrategico-de-accion-para-centreas-dentales-durante-el-periodo-de-desescalada.html</p>		handpieces, 3-in-1 syringe, Powered scalers (sonic/ ultrasonic), Air polishers, Lasers	specification. AGPs are classified as low, medium, and high risk depending on PPE	specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Switzerland Source: Swiss Dental Association Date of first publication: 17/04/2020 Latest update: 28/05/2020</p> <p>https://www.sso.ch/fileadmin/upload_sso/5_Newsletter/2020/Covid-19-Positionspapier4-6-F.pdf</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: Tunisia Source: Conseil National d'Ordre des Médecins Dentistes de la Tunisie Date of first publication: 12/04/2020 Latest update: 11/05/2020</p> <p>https://cnomdt.tn/docs/relatedInfo/protocole-covid4-cnomdt-26.pdf</p>	No	None reported	Suggests providing care, with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: United Arab Emirates (Dubai) Source: Dubai Health Authority Date of first publication: 2/06/2020 Latest update: No update</p> <p>https://services.dha.gov.ae/sheryan/wps/portal/home/circular-details?circularRefNo=CIR-2020-00000236&isPublicCircular=1&fromHome=true</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: UK - England Source: Office of the Chief Dental Officer, England Date of first publication: 06/04/2020 Latest update: No update</p> <p>https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/06/C0575-dental-transition-to-recovery-SOP-4June.pdf</p>	Yes	High speed handpieces, Surgical handpieces, 3-in-1 syringe, Powered scalers (sonic/ultrasonic)	Suggests providing care with no further specification. Whilst in sustained community transmission, suggests treating all patients as high risk. Treatment with extra care and PPE. Minimise AGPs	Suggests emergency treatment only in a dedicated COVID-19 centre or hospital
<p>Country: UK - Northern Ireland Source: Health and Social Care Board Date of first publication: 06/04/2020 Latest update: 22/06/2020</p> <p>http://www.hscbusiness.hscni.net/pdf/Preparation%20for%20the%20Re-establishment%20of%20the%20GDS%20Updated%2022%20June%202020.pdf</p>	Yes	High speed handpieces, Surgical handpieces, 3-in-1 syringe, Powered scalers (sonic/ultrasonic), Air polishers	Suggests emergency treatment only	Suggests emergency treatment only. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: UK- Scotland Source: Scottish Dental Centreal Effectiveness Programme Date of first publication: 25/05/2020 Latest update: 06/12/2020</p> <p>http://www.sdcep.org.uk/wp-content/uploads/2020/06/SDCEP-Resuming-General-Dental-Services-Following-COVID-19-Shutdown-Update-120620.pdf</p>	Yes	High speed handpieces, 3-in-1 syringe, powered scalers (sonic/ultrasonic)	Suggests urgent and routine treatment but no AGP treatment.	Suggests AGP treatment in a dedicated COVID-19 centre or hospital
<p>Country: UK- Wales Source: Chief Dental Officer, Wales Date of first publication: 08/06/2020 Latest update: No update</p> <p>https://gov.wales/sites/default/files/publications/2020-06/standard-operating-process-for--non-covid-19-dental-centres-providing-aerosol-generating-procedures-in-wales.pdf</p>	Yes	High speed handpieces, Slow speed drill, 3-in-1 syringe, powered scalers (sonic/ultrasonic), air polishers	Suggests providing care with no further specification	Suggest providing care with no further specification and treat patients in a specific COVID centre or hospital, not in a regular practice

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Ukraine Source: National Academy of Medical Sciences of Ukraine Date of first publication: 08/05/2020 Latest update: No update</p> <p>http://amnu.gov.ua/spilni-rekomendacziyi-du-institut-stomatologiyi-ta-shhelepno-lyczevoyi-hirurgiyi-namn-ukrayiny-i-go-asocziacziya-stomatologiv-ukrayiny-shhodo-protyepidemichnyh-zahodiv-v-stomatologichnyh-zakladah-ohor/</p>	No	None reported	Suggests providing care with no further specification	Suggest providing care with no further specification and treat patients in a dedicated COVID centre or hospital, not in a regular practice
<p>Country: Uruguay Source: Ministry of Health Date of first publication: Not reported Latest update: Not reported</p> <p>https://www.gub.uy/ministerio-salud-publica/sites/ministerio-salud-publica/files/documentos/noticias/MSP_RECOMENDACIONES_ODONTOLOGOS_HIGIENISTAS_DENTALES.pdf</p>	Yes	High speed handpieces, 3-in-1 syringe, intra-oral radiography	Suggests emergency treatment only	Suggest providing care with no further specification and treat patients in a specific COVID centre or hospital, not in a regular practice
<p>Country: USA Source: American Dental Association Date of first publication: 24/04/2020 Latest update: 06/09/2020</p> <p>https://success.ada.org/~media/CPS/Files/Open%20Files/ADA_Return_to_Work_Toolkit.pdf?utm_campaign=covid-19-Return-to-Work-Toolkit&utm_medium=email&_hsmt=86924194&_hsenc=p2ANqtz-HVpP4Wh9sKaPqxGZIA1G9Ro1coYT29m3pRXN1TDeZSalr3-PzyReYsAnmYdx6fX_rJmFesmgpGb1_VhbsxZ6Zu6g&utm_content=86924194&utm_source=hs_automation</p>	No	None reported	Suggests providing care with no further specification	Suggests providing care with no further specification. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital
<p>Country: USA Source: Centers for Disease Control and Prevention (CDC) Date of first publication: Not reported Latest update: 17/06/2020</p> <p>https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html</p>	Yes	High speed handpieces, Slow speed drill, 3-in-1 syringe, powered scalers (sonic/ultrasonic)	Suggest providing care with no further specification. Treat all patients as high risk, with extra care and PPE if necessary	Suggests providing care with no further specification. Avoid AGPs if possible. Unclear if patients are treated in regular practice or a dedicated

Country	AGPs reported	List of AGP instruments or procedures	Treatment recommendation for Non COVID-19 patients	Treatment recommendation for COVID-19 patients
<p>Country: Zimbabwe Source: Zimbabwe Dental Association COVID-19 Dental Practice Recommendations/Guidelines Date of first publication: Not reported Latest update: 22/04/2020</p> <p>https://www.fdiworlddental.org/sites/default/files/media/documents/covid-19_dental_practice_recommendations_guidelines.pdf</p>	Yes	High speed handpieces, 3-in-1 syringe and scaler use	Suggests providing care with no further specifications. AGPs undertaken with standard COVID-19 precautions	COVID-19 centre or hospital Suggests emergency treatment only without AGPs if possible. If procedure requires AGP, undertake proper COVID-19 precautions. Unclear if patients are treated in regular practice or a dedicated COVID-19 centre or hospital

Non COVID-19 refers to patients who are presumed to have negative COVID-19 status; COVID-19 refers to patients with suspected or confirmed positive COVID-19 status

AGP, aerosol generating procedure