

# Challenges of oral medicine specialists at the time of COVID-19 pandemic

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The novel coronavirus disease 2019 (COVID-19) had caused major disruptions in medical and dental care across the world, affecting secondary care services that had to rapidly adapt to new circumstances. Postponed and delayed oral medicine (OM) care, deferring non-urgent follow-ups in case of patients because of COVID-19 crisis, and limited access to health care may have lead serious consequences for oral and systemic health (Arduino, Conrotto, & Broccoletti, 2020; Jones et al., 2020). Deferred diagnosis of a malignant condition when suspected or even dysplasia in oral leucoplakia cases vastly implies the clinical outcome, influencing treatment and prognosis, subsequently (Meng, Hua, & Bian, 2020). Suspended routine care provision for patients with other, less severe conditions (hyposalivation, oral lichen planus, oral candidiasis, and recurrent aphthous stomatitis—RAS) could have a significant impact on the patients' well-being and quality of life, if oral medicine cases are not managed consistently and timely. Chronic autoimmune disorders with oral manifestations, such as mucous membrane pemphigoid or pemphigus vulgaris, can be exacerbated as a result of delayed OM follow-ups, dental care and self-management, or even interruption of long-term (pharmaco) therapy (Kasperkiewicz et al., 2020; Martins-Chaves, Gomes, & Gomez, 2020).

To date, the impact of SARS-CoV-2 infection on oral mucosa remains largely unknown. Oral manifestations as tongue ulcers (Chaux-Bodard, Deneuve, & Desoutter, 2020) and dys/ageusia were reported (Baig, Khaleeq, Ali, & Syeda, 2020). As coronavirus reveals its certain neurotropic abilities, it may also potentially affect the salivary glands' function (Xu, Zhong, et al., 2020; Xu, Cui, et al., 2020), and the inhibitory role of saliva in prevention and protection from viral infections can be considerably diminished in case of hyposalivation (Farshidfar & Hamedani, 2020). As the negative impact of COVID-19 infection on oral health seems to be multidirectional (Dziezic & Wojtyczka, 2020), patients should be encouraged to

maintain safely their access to health systems, particularly in case of urgency/emergency problems, and a clear concept for prioritizing procedures in OM with a careful triaging becomes pivotal, as proposed by The Royal College of Surgeons of England (RCSE) (Table 1, RCSE, 2020). Although urgent OM procedures should not be delayed, regardless of COVID-19 status, in some cases they might be potentially postponed if there is a view of a COVID-19 patient recovery within a few days, preferably following a laboratory test. This is the primary role of reorganized OM services in order to minimize the multidirectional impact of COVID-19 on oral health and health services, allowing a further adaptation to a "new normality" in the nearest future, in a response to current situation.

The oral medicine specialists should nowadays develop advanced skills in online OM tele (video) consultations (TC) and remote triaging by setting up a self-care advice and reassurance (Guo, Yuan, & Wei, 2020). Telemedicine/teledentistry (TM/TD) has been underrepresented and underestimated in normal circumstances, so far (Brailo et al., 2015). Along these lines, the RCSE suggested that prescribing service/consultant should manage by telephone consultation the patient's chronic therapies based on systemic corticosteroids or immunosuppressive (dosage adjustment, untoward events). New TM technology (Zoom, Teams, Skype videoconferencing software) may effectively support OM specialists (Villa, Sankar, & Shiboski, 2020), since the patient can submit photograph or video of recorded OM problem, to be entered in the electronic health record, along with clinical notes gathered during TC. Because the main diagnostic value in OM is related to visual assessment, it comes with no surprise that images and videos sent by patient can constitute a crucial element of provisional diagnosis, to give subsequent advice or urgent referral (Bradley, Black, Noble, Thompson, & Lamey, 2010). Even without of tactile assessment, TM can allow continuity of care, initial triaging, and

prioritizing patients' needs. The RCSE recently recommended the involvement of two experienced OM clinicians in decision-making

**TABLE 1** Simplified triaging of oral medicine cases during COVID-19 pandemic (Royal College of Surgeons of England; RCSE, 2020, modified)

Low-priority OM conditions	High-priority OM conditions (urgent)
Ulceration of oral mucosa lasting <2 weeks and likely being caused by trauma or local dental infection	Ulceration of oral mucosa causing difficulty with swallowing/eating that persisted for at least 2 weeks and is unlikely being caused by trauma or local infection
Swelling of oral mucosa or jawbones that is likely being caused by trauma or local dental infection and can be resolved by emergency dental care	Swelling of alveolar bones lasting more than 2 weeks and is unlikely caused by trauma or local odontogenic infection
Self-resolving oral mucosa/gingivae blistering/ulceration that tend to reduce and subside	Persisted oral mucosa/gingivae blistering/ulceration that tends to widespread, lasting more than 2 weeks
Painful swelling of major salivary glands that tends to be controlled by analgesics or antibiotics	Non-painful swelling of major salivary gland that tends to worsen
Acute lymphadenopathy as a result of acute odontogenic infection that can be resolved by emergency dental care (antibiotic, extraction, drainage)	Severe orofacial pain in the trigeminal region that cannot be controlled with over the counter (OTC) analgesics
Pre-existing, persisted dry mouth and/or burning mouth sensations	Persistent acute lymphadenopathy, progression of pre-existed lymphadenopathy (suspected malignancy)
	Paraesthesia within trigeminal nerve region of unknown origin

process, as an interim measure and result of ceases routine treatment planning (RCSE, 2020). This clinical protocol may prevent the occurrence of diagnostic errors and safeguard double verification of optimal standard of care during COVID-19 crisis.

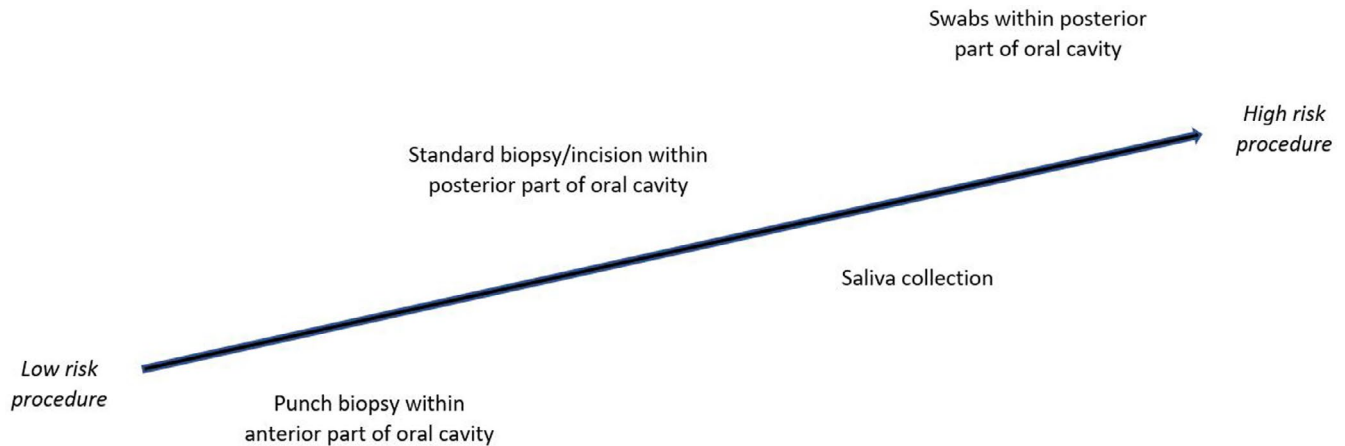
As for maxillofacial and otolaryngology disciplines, OM had to adjust standard protocols to the COVID-19-related new reality, in order to provide protection for staff and patients. Due to common and confirmed SARS-CoV-2 reservoir in saliva and oropharyngeal area, as well as a potential risk of occurrence of microdroplets, also OM clinicians can be potentially exposed to increased risk of COVID-19 (Braz-Silva, Pallos, Giannecchini, & To, 2020; Xu, Cui, et al., 2020). There is no specific and universal guideline for the personal protective equipment (PPE) use dealing with OM procedures in COVID-19-positive/negative cases. Interestingly, the recent guidance launched by British Association of Oral and Maxillofacial Surgeons, and also

Ear, Nose, Throat (ENT) UK society, advises the use of enhanced PPE for any maxillofacial and/or ENT activities, including base-line examination within nasal, oropharyngeal and oral cavity areas (ENTUK, 2020).

However, literature is still scanty on the risk of exposure to aerosolized hazardous suspension of fine liquid droplets during OM clinical sessions. Nevertheless, vast majority of OM interventions are deemed to be treated rather as non-aerosol-generating procedures (non-AGP), because they do not usually require ultrasonic scalers, air polishing or high-speed rotor use. However, the special safety measures for staff seem to be justified until evidence-based protocols are launched. Prolonged saliva collection, along with intraoral drainage, some extraoral tests (Schirmer's test), intensive wound irrigation and ultrasonic nebulization could potentially produce microdroplets or splatter, so can microbiological and immunoassays swabs (Colavita et al., 2020; Meng et al., 2020). Even if most OM activities are low risk considering bio-aerosol formation, for some interventions multi-sized droplets/splatter presence during OM interventions may be unavoidable, along with complex continuum of respiratory secretions microdroplets from oropharynx.

In case of oral lesions associated with local trauma, traumatic factors ought to be removed in minimally invasive and way, for example by adjusting a denture with slow speed handpiece or placing a temporary dressing, and thus avoiding aerosol-generating procedure (AGP), (RCSE, 2020). While a precise classification of intraoral OM procedures according to risk of microdroplets exposure is currently lacking, it would be more than welcome to protect staff and patients. The initial proposal of simplified arrangement of OM interventions based on potential risk of droplet formation and transmission during clinical practice is presented in Figure 1. Salivary reservoir, in particular, should be considered as one of the main factor in AG, since a recent study reported cases of COVID-19 with positive salivary swabs, while negative nasopharyngeal swabs (qPCR molecular test) (Azzi et al., 2020). This phenomenon could result from distribution of ACE2 protein, the functional receptor for SARS coronavirus within different regions of oral and oropharyngeal mucosa (Xu, Zhong, et al., 2020; Xu, Cui, et al., 2020).

In conclusion, while expecting more specific evidence, it appears to be feasible considering and recall precautionary measures, based on the most recent literature (Coulthard, 2020), that can be implemented for some at high-risk OM procedures for bio-aerosol. In addition, high-risk OM interventions should be carried out in a surgery with an efficient negative-pressure and evacuation systems; hence, the installation of advanced air ventilation systems in also OM premises can facilitate removal of airborne pathogens from clinical environment. More frequent use of high-volume aspiration during even a basic OM procedure can reduce airborne contamination. The clinical use of these additional measures could play an important role especially in the management of medically compromised individuals, who compose a major group of OM patients. Specific guidelines related to oral medicine practice are evolving, and the most adequate management of oral medicine problems during COVID-19 time are yet to be proposed.



**FIGURE 1** Proposed gradation of selected OM clinical interventions based on degree of potential risk of microdroplets and splatter occurrence, according to the presence of saliva reservoirs, ACE2 receptor distribution within oral cavity and risk of gag reflex

To minimize the staff exposure to a potentially COVID-19-infected but asymptomatic patient, a wider clinical application of point-of-care (POC) rapid RT-qPCR molecular testing for SARS-CoV-2 in OM clinics would support clinical management and save precious enhanced PPE for medical workforce (Nörz et al., 2020). Due to the likelihood of re-infection and insufficient immunity, it seems prudent to introduce rapid screening for all patients with unknown COVID-19 status who need particularly an urgent OM procedure. It has to be noted that COVID-19 immune assays IgM/IgG rapid tests may be inadequate for triaging the emergency patients with suspected COVID-19 (Cassaniti et al., 2020). World Health Organization (WHO) recommend molecular PCR-based tests as “gold standard,” although they require more time for obtaining results (1 hr 10–15 min for serological tests) (WHO, 2020). Undoubtedly, a similar invention of chair-side POC tests could be extremely useful for other suspected infections having oral cavity manifestations, including those with viral/bacterial origin (EBV, HSV, HPV, TB etc.), to rule out other causative factors and support diagnostic protocol.

We welcome professional bodies, including British Society of Oral Medicine and European Association of Oral Medicine, to provide the up-to-date recommendations for OM specialty, supporting secondary health care during COVID-19 crisis. With this in mind, a re-organization of OM will be required, accompanied by investments, to address the COVID-19 crisis at adequate level of safety, considering the infrastructure of outpatient OM units. It is important to pursue our professional efforts to maintain the OM care system running effectively and without interruptions, thus protecting our patients, as well as the staff from infection.

#### CONFLICTS OF INTEREST

None to declare.

#### AUTHOR CONTRIBUTION

**Arkadiusz Dziedzic:** Conceptualization; Project administration; Resources; Writing-original draft; Writing-review & editing. **Elena Maria Varoni:** Data curation; Writing-review & editing.

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**How to cite this article:** Dziedzic A, Varoni EM. Challenges of oral medicine specialists at the time of COVID-19 pandemic. *Oral Dis*. 2022;28(Suppl. 1):904-907. <https://doi.org/10.1111/odi.13520>