



# COVID-19 and Oral Diseases: How can we Manage Hospitalized and Quarantined Patients while Reducing Risks?

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## ABSTRACT

We know the importance of managing the oral health of patients with Coronavirus Disease 2019 (COVID-19) and the risk of acquire it in all healthcare workers. Dental pathologies are very frequent and there is a risk of facing many dental emergencies in the following weeks and months. Therefore, here we propose some simple procedures attempting to prevent them.

**Keywords:** Coronavirus, COVID-19, dental emergencies, risk management

## INTRODUCTION

The novel Coronavirus, officially named as SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2), is a newly diagnosed virus, responsible for the so-called Coronavirus Disease 2019 (COVID-19), associated with a highly aggressive form of pneumonia (1).

This virus appears to be extremely contagious, even when compared to SARS, and the COVID-19 can be so severe that a high percentage of people may need invasive mechanic ventilation, in cases of the development of an acute respiratory distress syndrome (ARDS) (1).

In Italy, as of today, more than 150 thousand people have been infected, with an estimated fatality rate of 12.77% (2).

The healthcare professionals are widely exposed to the risk of contracting this virus; given its high infectivity, it is not surprising that they represent the 9% of all the infected individuals (2).

Moreover, dentists are also in extreme danger of acquire this disease; as direct transmission, since cough or sneeze or droplet transmission is the main way of spreading this disease, dental practitioners are exposed to high risk of contracting, and then spreading, COVID-19, due to their direct exposure to saliva and blood (3).

As a consequence, the most recommended guideline is that dentists should avoid scheduling any patient, and provide only

emergencies during this outbreak; The Italian Ministry of Health has established that acute infections (such as an abscess), traumas and other forms of severe pain should be treated adopting several personal protection measures, such as wearing FFP-2 masks; despite of the short length of these appointments, the risk of contracting the disease still stands.

But if, after a short triage, the dentist suspects the patient might have contracted the virus, he should postpone the appointment and contact his general practitioner.

Another concern is that many patients must be quarantined as a means of stopping the outbreak or are admitted into a hospital. These patients might suffer from dental emergencies during their quarantine. Furthermore, many studies have demonstrated that oral health influence systemic diseases (4-15).

## MANAGEMENT OF NON-HOSPITALIZED PATIENTS

Given the high probability that the SaRS-CoV-2 outbreak in Italy and in all countries might last for several months, more strict guidelines have to be defined in order to provide urgent care to bed-ridden or quarantined patients, in order to avoid an unexpected rise of severe odontogenic infections.

Our suggestion is to maintain an extremely high level of oral hygiene in these patients in order to avoid any emergencies; therefore they should wash their teeth at least

twice a day, floss daily and use a 1% povidone-iodine mouthwash 3 to 4 times a day; this doesn't only reduce the risk of dental emergencies, but it also reduces the oral viral load and might, even if there is no evidence, reduce the risk of contaminating the surrounding environment.

This mouthwash could also be administered before any medical inspection to reduce the risk of healthcare professionals contracting the disease.

Still, if a dental emergency eventually develops, and the patient cannot see a dentist, we advise some solutions that can be offered as a temporary remedy.

If the discomfort comes from a third molar area or an abscess, we advise using an antibiotic therapy (Azithromycin 500 mg 1 per day for 3 days) and a mouthwash 3 times a day, as mentioned before, and applying a chlorhexidine gel twice a day over the area.

The same method can be used for diminishing the pain caused by third molar pericoronitis (4,8,10).

Some emergencies in these patients can also be treated with some over the counter (OTC) products; if a cemented crown comes loose, the application of a temporary cement that can be easily found in a pharmacy, and that can be delivered to the patient's home, can avoid a trip to a dentist office, while at the same time diminishing the discomfort and avoiding the closure of the interocclusal and mesiodistal space.

Likewise, if a removable prosthesis causes heavy discomfort, the application of an OTC soft removable liner can temporarily allow the patient to maintain a healthy eating plan.

Clearly these procedures only remove some of the symptoms, but do not treat the disease; therefore, it is imperative to instruct patients to maintain high levels of oral hygiene, in order to prevent worsening of these conditions.

If the patient suffers from some symptoms that can be linked to an acute or chronic pulpitis, or some periapical disease, it can be administered an OTC pain reliever: the assumption of Acetaminophen, can temporarily reduce pain (16).

One should also remember that at the time being, according to the European Medicines Agency, there is no confirmed link between Ibuprofen and a worsening of Covid-19. Therefore, NSAIDs should be used to control higher pain and swelling in patients that cannot receive proper dental care (17).

The difficult of seeing a dentist might lead to a higher number of Intensive Care Units patients admitted as a consequence of an odontogenic infection; a phenomenon that has notably intensified in the last years (17).

## MANAGEMENT OF HOSPITALIZED PATIENTS

For intubated patients we recommend to adopt all the procedures needed for keeping high levels of oral hygiene; therefore, following what has been previously reported in the literature in an effort to avoid ventilatory assisted pneumonia (6), an operator should daily inspect the oral cavity, using a flashlight and a gauze to move soft tissues away, brushing their teeth using a single-use small toothbrush with a small amount of toothpaste and cleaning their dentures with the same toothbrush, and then applying some 1% Povidone-Iodine

mouthwash with a gauze over all teeth surfaces, slowly massaging the gum (18).

This procedure can help to maintain a good oral hygiene and reduce oropharyngeal colonization (19).

This point should be stressed out, as it has been reported that the procedures for preserving oral health are not so well known among emergency care personnel (20), but they can prevent oral diseases and could prevent the spread of pathogenic microorganisms (21).

Applying these simple measures might severely reduce the number of patients that must receive dental treatment, therefore reducing the risk of transmission, and might help isolated people who suffer from acute conditions.

## CONCLUSION

We must be aware of the high risk of COVID-19 infection in health workers, moreover in dentists. On the other hand, many people may currently need dental cures, and dental professional must have practical and easy to do protocols to avoid potential cross infections.

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