



Service protocol in Oral and Maxillofacial Surgery in times of COVID-19.

Antônio Savio de Medeiros (1) e Geane Rossi Mendes (1)

ORIGINAL ARTICLE

ABSTRACT

This article brings a complete protocol to be followed by all dental professionals who practice the specialty of Oral and maxillofacial surgery.

Keywords: Surgery, Oral surgery, Maxillofacial surgery, Covid-19, Dentistry



Protocolo de atendimento em Cirurgia-Buco-maxilo-facial em tempos de COVID-19

RESUMO

Este artigo traz um protocolo completo a ser seguido por todos os profissionais dentistas que praticam a especialidade da Cirurgia bucal e maxilo-facial.

Palavras-chaves: Cirurgia, Cirurgia bucal, Cirurgia maxilo-facial, Covid-19, Odontologia

Instituição afiliada: 1- Departamento de Cirurgia e traumatologia buco maxilo facial do GOE/UNIAVAN

Dados da publicação: Artigo recebido em 01 de Setembro, revisado em 10 de Setembro, aceito para publicação em 20 de Setembro e publicado em 30 de Setembro.

DOI: <https://doi.org/10.36557/2674-8169.2020v2n10p21-33>



Antônio Savio de Medeiros medeiros345odn@gmail.com



GENERAL

The pandemic situation caused by the new virus 2019-nCoV in which our country is immersed, will take the Emergency Committee of the Faculty of Dentistry of the University of the Republic, to facilitate all Odontologists of Uruguay and Personal Auxiliary maximum scientific information, with the objective of providing useful tools for the prevention and control of cross contamination in the dental clinic. This work would be complementing the different reports for Dentistry in our country.

Public Health Ministry Recommendations

Service coordinator.

- 1 - Postponing consultations, procedures and dental surgery, not urgent, reprogramming the mismas.
- 2 - During the duration of the health emergency period, limit attention only to urgent and emergency consultations and procedures. The urgency and need for a procedure based on clinical judgment and must be taken on a case-by-case basis.
- 3 - Schedule urgent appointments, maintaining distance between patients, avoiding their coincidence in the waiting room.
- 4 - Configured in an emergency, ask the patient if it is possible by telephone about his general health status.

In any circumstance, a proper medical history must be carried out. Assess the state of health of the patient and the presence of pre-existing pathologies, which complicate the treatment to carry out the pathognomonic treatment of the Corona Virus disease: headache, fever, tinnitus,odynophagia, ageusia, dysgeusia, dysnea, decay, conjunctivitis, dysosmia or anosmia, abdominal pain, vomiting, diarrhea, thrombosis, etc. ¹⁾

Hay who knows if he has kept in touch with people who are carriers of Covid-19. If the patient has these symptoms, he must be referred to his health provider, in order to implement with his doctor an immediate isolation as indicated by the Ministry of Public Health's regulations.

COVID-19 and maxillofacial surgery

The COVID-19 pandemic is a global problem with a major impact on Oral and Maxillofacial Surgery. ²⁻⁴

The idea of this work is to bring colleagues who develop Oral Surgery, the specialty in Oral Surgery and Traumatology and maxillofacial patients who need to be surgically



intervened, a guide for the development of practical issues in this very complicated moment for our society.

The surgical procedures, which involve the region of the naso, oro, pharyngotracheal region, represent a great risk of virus aerolization, which has a very important degree of concentration in this region. Before any procedure in this region the viruses are airborne and remain suspended for 3 hours in the environment, as the work published in China has been shown, especially shown by the women of the professions, Dentists, Oral and Maxillofacial Surgeons, Otorhinolaryngologists and Anesthesiologists.²⁻³

Measures to be taken

- All election procedures must be postponed and rescheduled.
- *The exposure that there is no more secure.*
- *When there is exposure, it must be held in the most secure way possible.*
- The urgency is the priority.
- Attention to urgency must be carried out in a conservative manner to the extent of the possibilities.
- The emergencies that require intervention must be carried out with all known bio-security measures.
- Emergency procedures, those that compromise the airway, epistaxis, facial trauma that requires intermaxillary fixation, oncological surgery, ATM dislocation, acute joint block.
- All patients should be considered as infected and if it is possible they should consider at least 2 negative tests separated by 24 hours. each one, with the possibility of having false negatives as a result.⁵

In some situations by the characteristics of the urgency the emergency is not possible to consider the realization of this protocol of 2 tests alternated for 24 hours. and it is essential to approach the patient immediately.¹ Consideration should be given to limiting contact with these patients by the 60-year-old major surgical person, with background pathology, as immuno-suppressed, with respiratory upheavals and other comorbidities. Limit surgical personnel to personal experience with surgical experience and residents will be compromised gradually in accordance with their training. All procedures must be considered of high risk and must have the aerolization of particles in each surgical procedure. It is also necessary to count on the appropriate infrastructure to carry out this procedure. Mask N95, 99 or 100, conventional cap, with shield overprotector on the cap, lenses, on impermeable tunic, 2 pairs of non-porous guantes, cap and zapatones. Other protocols propose different types of masks,



FFP3, FFP2 o PAPR, que dan una mejor protección^{4,6}. If you want to check the quality of the materials according to the international quality standards and do not use the copies. For the request for complementary imaging examinations, it is important to consider the use of extraoral examinations to reduce the contagion of the acting person. Chest radiography is mandatory in all surgeries with general anesthesia. It is necessary to individualize this request that in many opportunities and pathologies the retro apical image is required. Computed tomography must be considered and justified by a cost theme that it disadvantages.

Surgical considerations

- I) Airway management
- The intubation must be performed by the anesthesiologist but trained by the surgical team in surgery with general anesthesia.
- The surgical team must wait 20 minutes outside the operating room at the time of the patient's intubation and enter the same with the appropriate equipment 20 minutes later.
- According to the literature consulted, 99% of the virus is present, disappears in the largest percentage in approximately 14 minutes. ⁽⁶⁻⁷⁾
- It is not necessary to leave during extubation, due to the fact that at the moment the patient discharges, the extubation is placed on an oxygen mask, which protects the aerosol generated in that instant. ^{2-3,5}
- The tracheotomy in patients with the Corona Virus or the disease developed must be carried out just as when the patient does not have it.
- Following the same indications and contraindications of the technique.
- In case you have to perform the technique, it must be performed if it is possible with a small incision, by an experienced surgeon, with the treatment of the bleed with a bipolar tube, preferably monopolar, with the least possible airflow.
- II) Facial trauma
- This procedure must be carried out by an experienced surgeon, with the least number of possible assistants. If you prefer closed procedures to open, depending on the diagnosis.
- A) Mandibular fracture
- A1 - Close reduction with intermaxillary fastening screws and 0.5mm wire, malleable.
- A2 - Cold scalpel, preferably with monopolar cauterium, in the mucous incision.



- A3 -Use of bipolar catheter for hemostasis.
- A4 - Use of self-tapping screws on monocorticales with cutter.
- A5- When there is a rotating instrument, irrigation must be limited.
- A6 -Si hay rotación must be the low speed.
- A7 -If the fracture requires the use of mini plates or reconstruction plates, the approach should be done by extraoral route, preferably on the intraoral.
- A8 -If osteotomy is required, it must be accurate with a powerful saw.
- B) Fractures of the Middle Tercio de la Cara
- B1- Consider the closed treatment over the open, always and when the fracture is stable.
- B2 - Considering the use of the Carroll-Girard screw, for the reduction, preferably the intraoral approach and making the fixation with 2 plates, would be sufficient.
- B3 - Cold scalpel preferably on the monopolar, in mucous incisions.
- B4 - Repeated suction and irrigation.
- B5 - Bipolar cauterium for hemostasis.
- B6 - Self-tapping screws,
- B7 - If osteotomy is required, use powerful saws.
- C) Fractures of the Upper Tercio de la Cara / Fractures of Frontal Sine
- C1 - Consider not performing fracture treatment that does not affect the function.
- C2 - When the frontal sinus obliteration or cranialisation of the sinus occurs, curettes of the sinus mucosa must be performed.
- C3 - The minimum possible irrigation must be done.
- C4 - Bipolar cauterium for hemostasis.
- C5 - Self-tapping screws.
- C6 - If osteotomy is required, use powerful saws.
- III) Oncology
- If the surgery and radiation treatment is equivalent to the surgical treatment, the surgical treatment is recommended.
- Considerations for all we must consider a surgical case.



- 6-week waiting period for spinal cell carcinoma of the oral cavity, oropharynx, larynx, hypopharynx.
- Cancer that compromises the airway.
- Tired cancer of rapid growth that compromises the airway.
- Cancer of salivary glands, with a high degree of malignancy and progress.
- T3 and T4 Melanoma .
- Cellular spinocarcinoma, with fast skin growth and regional disease.
- Salvage surgery, for persistent or recurrent illness.
- High degree of sino-nasal malignancy, without effectiveness in conservative treatment.
- All cancer patients undergoing surgery must be tested to detect the Corona Virus without being asymptomatic. Asymptomatic patients who have to be operated on for tumors have a post-operative condition but are more complicated than those who have not.
- We work with a strict relationship with other surgical disciplines, Otorhinolaryngology, Plastic Surgery, in order not to coincide with three patients, one of each specialty in the CTI, with pathologies that involve mucous membranes.
- As a measure of possibilities, I have a solo box for Oral and Maxillofacial Surgery. ²
- IV) Considerations on dental procedures (adapted from AAOMS 03/17/2020)
- Procedures in the oral cavity are considered to be of high risk.
- Asymptomatic patients require conservative and surgical treatments to be postponed and scheduled in later closings.
- Patients who are being investigated for a virus that has a positive test and has acute infections or active illnesses, should be treated with the protocol including the N-95.99 mask or 100 that are ideal.
- In those cases in which there have been conservative treatments, extraction should be carried out more quickly and thus avoiding the installation of infectious processes.
- Surgical dental emergencies: a) dental emergencies: hemorrhage: bleeding profusely difficult to control, b) infection and increase in the extra-intraoral diffuse volume,
- Other dental emergencies: pulpitis, pericoronaritis, periodontitis, abscess, acute alveolar abscess, GUNA, pathological fabric impostergable by its clinical aspect.



Service protocol in Oral and Maxillofacial Surgery in times of COVID-19
Antônio Savio de Medeiros e Geane Rossi Mendes

- The place of care must be disinfected before and after the care of patients and it must be given enormous importance to this indication.
- The physical space of the care must be packaged before and after each care.
- Hand washing is essential for both the patient and the operator. The patient must enter the clinic with clean hands and hands washed with water, soap and alcohol in gel.
- Professionals should take out rings, pulses and watches before putting them on. It must be carried out by the professional and hand washed before each treatment.
- Tapabocas N-95 o FFP2 o FFP3y will see with the blade, protection lenses, zapatones, on waterproof tunic preferably, for 2 pairs.
- Vacuuming must be carried out with connectors or with low speed vacuum cleaners to avoid aerosols. ⁽²⁻³⁾
- The hygiene and post-treatment descriptions, based on the dentist's retreat, which must be filed, due to the exposure to the contaminating agent in front of the operator, supporting it on the tunic in the previous sector and doing it fuerza hacia adelante so that the loops of la over tunic break. Everything must be enrolled until you withdraw it, 2dos. pairs, touching with the fingers the inner part of it on tunic with the included hands, depositing all in the indicated container. Remove the barriers and remove the internal water, wash the hands with water and wash before the question of having touched part of the contaminated material. ^{4, 6-7, 11}

STRATEGIC ACTION PLAN FOR THE FACULTY OF DENTISTRY OF THE UNIVERSITY OF THE REPUBLIC, FOR THE PERIOD AFTER THE CRISIS CREATED BY COVID-19

- The Faculty of Dentistry, must have the necessary supplies to prepare the infrastructure for the development of the Clinics in the Faculty.
- -Preparing the Facultad in all areas of circulation of persons with the washing protocol and environmental care.
- -The Surgical Clinic, the Dental Assistants' Space and the Surgical Block, according to the same hygiene protocol, as well as the waiting area for patients.

Specific measures in the Surgical Clinic and the surgical block

Before care

- - Questionnaire to the patient (telephone screening).



- Preferably, schedule through the Patient Admission Registration Service and approve the instance to conduct the minimum interrogation to assess the clinical condition of the patient. In the event that the patient competes before calling, as usually happens in a clinical trial, he must be received by the assistant who will deliver a form with the evaluation questions of the surgical risk.
- - Dental emergency concept. It is very important to have in mind what must be considered an unavoidable dental emergency. Having established gravity concepts and acting accordingly, the following must be considered as urgent: the pain, the infection, the trauma, the hemorrhage, the joint block, the dislocation of the (Temporulatory Articulation. (ATM)
- - Instructions to the patient before entering the surgical block.
- The patient must compete only at the clinic without accompaniment, unless he requires it due to some disability or justified cause.
- It must enter without reloj, pulseras, caravans, rings Etc.
- The virus stays on time on metal surfaces. It should be punctual at the time mentioned.
- To challenge the proposed interrogation.
- Fleet the hands with alcohol in gel for 20 seconds.
- In the hypothetical case of crossing with another patient, you must keep a distance of 2 meters.
- In case of paying the consultation in treasury it is ideal to do it with the card and not the money.
- - Protocol for reception of patients. It will be necessary to mark a suitable distance in the place of reception for the patient, ideal 1.8 meters and separated from the patient by an acrylic mat. The person who receives it must wear a mask and lenses. At that time, alcohol and gel will be given to the patient to fleet the brothers.
- - Clinical organization protocol.
- Waiting room
- Sort the waiting room with a minimum of sacks and if not possible, reduce the number of patients in care per shift.
- The sillas deberán will be separated at least with 2 meters of distance between them.
- -Espacios Generales
- Remove automatic towels and dryers from the toilets and towels using disposable paper. Pack and clean them and provide liquid soap and gel alcohol.



- Put them in instructional baths on how to wash hands and prohibit the use of teeth in the bathroom. Do not connect central air conditioning units in the public spaces of the facility and the clinics. Air the common spaces to the extent possible every 10 minutes.
- -Protocol of movement in the Clinic or in the Surgical Block.
- You must enter the clinic and assist in the place of care. The patient could not wander around the clinic or touch any surface of the misma.
- In the surgical block I have to be changed as usual, if there is a box to attend.

During care

- Before the patient comes to the clinic:
- This organization will allow the preparation of the appropriate instruments to receive this patient, as well as preparing the necessary protocol.
- The professional must put on the attention team.
- In the case of instruments that are not going to be used to remove the bell which must be stored in closed places to avoid cross contamination.
- Carry out the usual protocols for preparing the sillón and accessory materials with the classic protection barriers.
- It is recommended that the patient enter the clinic with shoes.
- Work for 4 hands facilitates attention and reduces cross-contamination.
- It should be clear what is going on in the clinic.
- I go to the patient clinic.
- Once the patient is in the clinic, the door must be closed to prevent the viral spread that will occur during treatment.
- Used in the case of the patient, the hands must be filled with alcohol in gel.
- Cover the patient with an impermeable plastic field and put eye protection on the patient if aerosol is to be performed.
- Preferred fields for the patient should be 1.10 x80, water repellents
- Before performing any intraoral procedures, the patient will be asked to perform a mouth swab with hydrogen peroxide or povidone-iodine. Inquire about allergy to iodine.



- It is necessary to perform the protection of the points and the vacuum with sterile barrels.
- The vacuum cleaner must be of high fluidity.
- The patient must sign the surgical consent. ^{4 - 5 , 8 , 10}
- Conception of interventions of high risk:
- Extraction of retained teeth.
- Osteotomies.
- Dental implants.
- Conception of reduced risk interventions
- Dental extractions from normally implanted teeth.
- Suture retreat.
- Drainage of oral septic processes.
- Conception of treatment concentration
- Consider in the clinic the surgical block, the interrelation with other dental specialties, in order to concentrate the treatment of the patient and help to solve his pathology in the shortest possible time.
- Example: prosthesis and surgery, endodontics and surgery, etc.

After the care

- Among patients:
- Protocol for cleaning and disinfecting the cabinet
- All clothing used will be removed, eliminating the first two. Guantes y la sobre tunic, hacia afuera.
- They will turn waste into a bag that will be placed in another bag and will turn into a container adapted to that purpose.
- All surfaces must be cleaned with the indicated material and wait a few minutes before another patient enters.
- Carry out the ventilation of the environment and sterilize the current conditions of the material used.
- Eye protection disinfection



- If you put the glasses and the bottle in a 70° alcohol container, place it in a tray with water and water in a 25 ml concentration of water in 5% in 1 liter of water.
- Post operative instructions to patients .
- Post operative indications in writing, and the telephone communication with the patient is very important.
- If you have to ask about the evolution of the procedure carried out and if you have to ask about symptoms after the attention in relation to the COVID-19.
- Cleaning and disinfecting the clinic at the end of the day.
- If you need to complete the consultation, a thorough cleaning of the floor and walls of the clinic
- Dental fillings and working surfaces and adequate ventilation.
- All members of the health team must handle the information as they do at home, while on a working day for the family members. ^{7-8, 11}
- These are recommendations and not mandates, for decisions that must be adjusted to each individual case, in daily practice. Treatments should be the most effective possible .

CONCLUSIONS

We are facing a pandemic that is causing the unity of all, on the ground due to the exponential increase of cases among the population, due to suffering the contagion among health agents and the levels of infrastructure and adequate protection material.

As dentists, we must commit and strive to treat the patient in the safest way and with the most up-to-date recommendations available.

Because of the success of the analyzed international literature, we should have a clear picture of the health status of the patient, perform the pre-surgical screening of SARS-COV2 in all patients who are going to operate on oral and maxillofacial pathologies and do not use infected masks. FFP3 in negative patients and consider the international protocol in infected patients. Obvious of these measures supposes a risk that would attack the ground against the integrity of the patient, the bell of all the surgical team that participates in his attention.



REFERENCES

- 1 - Duque J, Duque D, Pelaez F. El Covid-19, afecta el Sistema Nervioso por una de sus compuertas: El Organó Vasculár de la Lámina Trigeminal y el Nervio Olfatorio, Alerta Neurológica, prueba Disosmia o Anosmia puede ayudar a un diagnóstico. *Int. J. Odontoestomat* 2020;14 (3):285-287
- 2 - Ebben, Seth, et al. "The UIC COVID Coverage Protocol: A Technical Note for Pandemic Oral and Maxillofacial Surgery Call Coverage." *Journal of Oral and Maxillofacial Surgery* (2020).
- 3 - Robiony, Massimo, et al. "Redesigning the Paradigms of Clinical Practice for Oral and Maxillofacial Surgery in the Era of Lockdown for COVID-19: From Tradition to Telesemeiology." *International Journal of Environmental Research and Public Health* 17.18 (2020): 6622.
- 4 - Ida, B., et al. "Management in oral and maxillofacial surgery during the COVID-19 pandemic: Our experience." *British Journal of Oral and Maxillofacial Surgery* (2020).
- 5 - Panesar, Kanvar, et al. "Evolution of COVID-19 Guidelines for University of Washington Oral and Maxillofacial Surgery Patient Care." *Journal of Oral and Maxillofacial Surgery* (2020).
- 6 - Coulthard, Paul, et al. "COVID-19, domestic violence and abuse, and urgent dental and oral and maxillofacial surgery care." *British dental journal* 228.12 (2020): 923-926.
- 7 - Lemos, Pedro, Naomar Almeida-Filho, and Josélia Firmo. "COVID-19, desastre do sistema de saúde no presente e tragédia da economia em um futuro bem próximo." *Brazilian Journal of Implantology and Health Sciences* 2.4 (2020): 39-50.
- 8 - Paraguassu, Eber Coelho. "COVID-19, a relação direta entre o capital, solidariedade e as vidas." *Brazilian Journal of Implantology and Health Sciences* 2.3 (2020): 01-04.
- 9 - Paraguassu, Eber Coelho, et al. "The Covid-19 explosion in the state of Amapá: how is the most preserved region in the Brazilian Amazon currently fighting the SARS-COV 2 pandemic?." *Brazilian Journal of Implantology and Health Sciences* 2.5 (2020): 3-11.
- 10 - Meng, L., F. Hua, and Z. Bian. "Coronavirus disease 2019 (COVID-19): emerging and future challenges for dental and oral medicine." *Journal of Dental Research* 99.5 (2020): 481-487.