



2 **Maxillofacial surgery and COVID-19, The Pandemic !!**

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6 The pandemic of novel coronavirus disease (COVID-19) is
7 having an unprecedented impact on all aspects of our lives.
8 Never in the history of mankind, have we faced a global
9 public health issue of this enormous magnitude with its
10 impact across a spectrum of economic activity, travel,
11 governance, education, and the like.

12 As the world responds to this crisis with behavior
13 modifications like social distancing, lockdowns, and quar-
14 antine of suspected cases, healthcare providers are at the
15 frontline in the fight against the coronavirus. The pandemic
16 has deeply affected the delivery of services by the various
17 healthcare specialities. We maxillofacial surgeons are
18 particularly vulnerable to transmissible diseases by way of
19 droplet transmission both due to the area of work and the
20 type of instrumentation.

21 The long and unpredictable incubation periods
22 (0–27 days, mean 6.4 days) [1] of the virus in COVID-19
23 patients expose us to the risk of treating asymptomatic
24 patients. Worse still, many patients who are harboring the
25 virus may conceal their flu like symptoms or might be
26 convalescing from the disease.

So How Do We Go About Fulfilling Our Professional Obligations? 27
28

As professionals, we are always rigorous about infection 29
control. Nevertheless, it is worthwhile to review our cur- 30
rent practices of infection control to tighten them even 31
further. The COVID-19 can remain infectious on inanimate 32
surfaces for 2 h up to 9 days, depending on the tempera- 33
ture, humidity, type of surface and viral load [2]. 34

It takes the entire team to avert cross-infection—staff, 35
nurses, paramedics, trainees, and waste handlers. The head 36
of the maxillofacial surgery unit should use the opportunity 37
to reiterate and reinforce the best practices in hospital 38
infection control including the use of hand hygiene prac- 39
tices, barrier techniques, the use of personal protective 40
equipment (PPE), disinfection of surfaces, and sterilization 41
of equipment. Appropriate use of disinfectants and meth- 42
ods of mopping of surfaces like the triple-bucket method 43
should be monitored at the highest level. Sodium 44
hypochlorite 0.1% for 1 min has found to be effective 45
against coronavirus [2]. The collection, segregation, and 46
transport of infectious waste from COVID-19 patients 47
should be done under the guidance of the Infection Control/ 48
Biomedical Waste Management Officer of the institute. 49

Telescreening, telemedicine, and triaging will have to be 50
put to optimal use in the Covid scenario. The Medical 51
Council of India (MCI) has recently framed guidelines for 52
the practice of telemedicine allowing telephonic and online 53
consultations [3]. These shall decrease the footfall in the 54
departments and enable the surgeon to decide when an 55
operative intervention is necessary. Most maxillofacial 56
surgeons are well trained with the operational triage pro- 57
tocols to be adopted in scenarios of mass disasters, wars, or 58
accidents. 59

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60 Patients should be encouraged to seek online and tele- 113
 61 phonic consultations by displaying telephone numbers on 114
 62 departmental websites. While consulting, it is important to 115
 63 ask relevant history including travel history to COVID-19- 116
 64 affected locations, the presence of symptoms such as fever, 117
 65 shortness of breath, cough, and loss of smell/taste. 118

66 Positive responses to either of the questions should raise 119
 67 concern, and elective care should be postponed for 120
 68 3 weeks. 121

69 We should exert our professional discretion and avoid 122
 70 elective procedures at all costs to protect our community, 123
 71 our patients, our staff and ourselves. Exceptions are only to 124
 72 be made for emergency care. Both the CDC (Centers for 125
 73 Disease Control) [4] and the AOCMF [5] have recom- 126
 74 mended that all elective procedures should be postponed/ 127
 75 rescheduled during the pandemic till clear management 128
 76 strategies are identified. 129

77 Operative interventions should be limited to manage- 130
 78 ment of maxillofacial trauma including emergent airway 131
 79 management and bleeding, patients who need drainage of 132
 80 infections (e.g., Ludwig's angina) and oncosurgery proce- 133
 81 dures where a delay in management would adversely affect 134
 82 the outcome or could cause a permanent disability will 135
 83 need urgent attention. 136

84 The reverse transcriptase PCR using throat/nasal swabs 137
 85 or serological tests for COVID-19 test may not be available 138
 86 at most centers; when available, they may take 24–48 h. 139
 87 Since prompt intervention may be required in cases of 140
 88 severe infections or pan-facial trauma (particularly patients 141
 89 with bleeding, altered sensorium, or unconscious patients), 142
 90 it would be safer to assume them to be Covid positive till 143
 91 proven otherwise. It also needs to be cautioned that nega- 144
 92 tive results do not preclude COVID-19 infection and 145
 93 should not be used as the sole basis for patient management 146
 94 decisions. Negative results should be combined with clin- 147
 95 ical observations, radiologic findings (CT scans of the 148
 96 lungs to look for any active lung involvement), patient 149
 97 history, and epidemiologic information. 150

98 As with most respiratory infections, droplets are the 151
 99 main source of transmission from COVID-19 patients. 152
 100 While treating COVID-19 positive or suspected patients, 153
 101 the N 95 (FFP2) [5] masks plus face shield should be used 154
 102 as a minimum requirement, during aerosol and surgical 155
 103 smoke generating procedures (like the use of handpieces, 156
 104 electrocautery, and ultrasonic instruments). It is important 157
 105 to mention that N95 masks were not found to be adequate 158
 106 to prevent transmission in Chinese surgeons and PAPR's 159
 107 (powered air purifying respirators) had to be used to pre- 160
 108 vent transmission from Covid patients [5]. Further, triple 161
 109 layered protection gowns and head caps are recommended 162
 110 to prevent fomite-based transmission.

111 Studies have shown that SARS and MERS were highly
 112 susceptible to Betadine rinse [6] and it can be assumed that

a preprocedural rinse with the agent might reduce the load
 of coronaviruses in saliva. Povidone Iodine has been shown
 to have significant virucidal activity for about three hours
 and recently it has been recommended to coat the oral
 cavity and nasal passages of both the patient and the
 operating team before the procedure [7].

Intraoral radiographs like IOPA or occlusal views can
 stimulate gag reflexes and induce coughing should be
 avoided and substituted by extraoral techniques like OPG
 and cone beam CT.

On the clinical side, conservative treatment to preserve
 form and function must be instituted. Closed reduction of
 fractures (using IMF screws, Bridle wire stabilization or
 Eyelet wiring) should be preferred over open surgery where
 stability can be achieved without ORIF. This shall shorten
 operating time and facilitate early discharge. In situations
 where ORIF is absolutely necessary, transcuteaneous
 approach (after applying a bio-occlusive dressing over the
 mouth post IMF) should be preferred over an intraoral
 approach [5].

Whenever possible patients with suspected or confirmed
 COVID-19 infection should not be treated in a routine
 practice setting, instead, they should only be managed in
 negative pressure theaters or airborne infection isolation
 rooms AIIRs.

Intubation should be performed by an experience anes-
 thetist to limit the number of attempts and also in a manner
 that generates less coughing. The surgical team should
 enter the theater after 20 min of intubation with appropriate
 PPE to minimize the aerosol-based transmission. When
 doing open surgery, scalpel should be preferred over
 monopolar cautery and repeated suction/irrigation should
 be minimized; and when achieving hemostasis with bipolar
 cautery lowest power settings should be used. Absorbable
 sutures should be preferred to minimize unnecessary trips
 for their removal.

In sum, the COVID-19 situation continues to evolve,
 and given the significant ongoing research throughout the
 world, we as Maxillofacial surgeons have to remain
 updated to use the information to help our patients in a way
 that we minimize risk to the operating team and also help
 prevent community spread.

Compliance with Ethical Standards

Conflict of interest The authors declare that there is no conflict of
 interest.

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