The changing paradigm of an aesthetic practice during the COVID-19 pandemic: An expert consensus

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1. INTRODUCTION

The SARS-CoV-2 pandemic has changed the homeostasis of the medical world, affecting millions worldwide. Amidst the global crisis, other than the health implications, there are major consequences on the world economy. In light of this massive economic slowdown, many nations have ended their lockdowns, albeit on shaky ground. With reopening of services in many countries, dermatology and aesthetic clinics, which were staring at a bleak future, have started opening up with strict standard operating procedures (SOPs) in place. In any pandemic, the need to feel good is inherent to a healthy mental-well-being, and wishing away the need for an aesthetic practice as "nonessential" may appear weak to some. While certain guidelines and expert consensus have recently been published providing an overview of "safe" working protocols, it appears that we are evolving every day in our practices with respect to "what works" and "what does not."

2. METHODS

2.1 Topic selection and Scope of the guidelines

This expert consensus focused on specialized SOPs for minimally invasive, nonsurgical, aesthetic procedures and on optimal use of personal protective equipment (PPE) for self and staff. The scope of this consensus is to address gaps between published guidelines and clinical experience in aesthetic practice. The topic selection was done by two moderators Dr. Malavika Kohli and Dr. Rajat Kandhari (MK and RK) after thorough literature review and experience sharing.
3 | THE EXPERT GROUP

An invitation to participate in the consensus group meeting along with a formulated questionnaire was sent by email by one of the moderators (RK) to seven experts in the field of dermatology and aesthetics, having experience in the working and administration of single or multiple clinics, from different parts of India, in order to avoid a regional bias. The questionnaire focused on scope of the guidelines, the preparation before resuming practice, triaging/categorization patients, PPE and general SOPs and specialized SOPs for aesthetic procedures. (Table S1) While analyzing the questionnaire, the response to general SOPs (cleaning, sanitization etc.) and triaging achieved over a 75% concordance in response the final meeting focussed on PPE and specialized SOPs for aesthetic procedures.

An online meeting of the group members was held on 31 May 2020, using Zoom online app. The virtual meeting was led by the moderators, via a prepared slide deck. Further, the meeting was recorded for final analysis and simultaneous notes were taken. To encourage equal participation the moderators used an open questioning style, however, few of the questions were closed ended (yes/no) to arrive at a consensus.

Analysis of the detailed discussion was divided into the following sections to provide recommendations for optimal and safe “in clinic” functioning for the physician.

1. PPE
2. General SOPs for aesthetic clinics
3. Specialized SOPs for aesthetic procedures

4 | CONSENSUS RECOMMENDATIONS

Seven out of eight experts had reopened their clinics after overcoming initial apprehensions. All the participants agreed that they were functioning at limited capacity in terms of number of staff visiting the clinic, number of days and/or hours at work. Those with more than one center started reopening with a single/flagship center and slowly imposed similar guidelines after 2 weeks of work in other centers. All participants agreed that a “dry run” prior to reopening is crucial for staff training and creating awareness and educating oneself and the staff, as the margin for error learning on the job would be minimal. Moreover, constant updating of oneself and the staff resulted in smoother functioning and execution of new SOPs. The experts agreed upon the fact that the patients have been understanding and appreciative of clinic efforts and responsive in terms of cooperating with protocols. All experts agreed to doing and encouraging tele consultation.

4.1 | PPE

While certain modes of viral transmission have been suggested,5 in a statement issued by the WHO precautions have been laid out for droplet transmission, contact, and airborne precautions for aerosol generating procedures.6 An aerosol is defined as a suspension of fine solid particles or liquid droplets in air or another gas, which maybe produced by either natural or anthropogenic phenomena.7 The coronavirus has the potential to become “aerosolized” by certain procedures leading to a possible airborne transmission. The exact definition of “aerosol generating procedures” (AGP’s) in the theme of aesthetic procedures seems unclear with no clear evidence regarding the same. Although, it is clear that an aerosol generating procedure increases the risk of viral transmission in healthcare workers (HCW) and should only be undertaken when necessary, this is primarily suggested for respiratory and surgical procedures generating aerosols. The different types of aerosol comprise:

1. Respiratory aerosol: Respiratory or upper airway secretions, containing a higher viral content and a greater risk of viral transmission.
2. Surgical or nonrespiratory aerosol: Aerosolisation of blood and tissue fluids leading to relatively lower risk of viral transmission.

The WHO defines “droplets” as >5 μm in diameter and “airborne particles” as <5 μm in diameter.8 Droplet transmission is the result of larger particles, which have the tendency to settle on the ground and on nearby surfaces. This type of transmission occurs due to proximity of the HCW with the patient. In contrast, the occurrence of airborne transmission is due to smaller particles, which maybe suspended in the air for long periods and can infect people distant from the source (eg, AGP’s)PPE consists of protective apparel and/or equipment designed for providing protection against infectious agents to HCW’s and their patients. The appropriate use of PPE is crucial, and the decision regarding the PPE to be used is based on the setting between the HCW and the patient, the procedure being carried out, the secretions produced. The panel recommendations for PPE are discussed below.

4.2 | General principles of PPE

4.2.1 | Types of masks

Globally, recommendations for protection of HCW’s against COVID-19 for nonaerosol-generating procedures (nonAGP’s) are conflicting.9-12 With the barrage of masks available, choosing the right one becomes crucial. The expert panels recommendation and the differing types of masks have been elaborated (Table 1). The panel felt that while the role of the staff and the type of procedure would be key factors defining the type of mask used, the space in the clinic would also be a defining factor, as certain clinics would be smaller wherein maintaining an “ideal social distance” (6 ft apart/2 arm’s length) maybe a challenge.13 In such scenarios, an N95 respirator maybe used by the support staff as well (Figure 1).

Use of N95 facial facepiece respirator (FFR)
1. All the experts unanimously agreed upon the use of N95 respirators for themselves, particularly when involved in non-AGP’s close contact procedures or AGP’s.
2. Proper donning and doffing\textsuperscript{15,16}. The exact steps for donning and doffing of the N95 FFR have been illustrated (Figures 2 and 3).

3. Beard hair: It is recommended for one to be clean shaven, however, beard styles such as soul patch, side whiskers, pencil, toothbrush, lampshade, zorro, zappa, walrus, painter's brush, chevron, and handlebar maybe considered.\textsuperscript{17} The recommendations are to make sure that the N95 FFR is well fitted on face.

4. Use of N95 FFR in Sikhs: The religious beliefs in the Sikh population, leads to an inability to trim or cut the beard hair leading to difficulty in achieving a tight fit of the respirator. In such cases, either a Powered Air-Purifying Respirators (PAPR) maybe used, which provides facial coverage despite the facial hair or any facial irregularity.\textsuperscript{18} PAPRs are more expensive than N95 FFR's. Else, the individual in question can make use of a "cotton cloth" or "thatha" around the beard and tie a knot on the top of the turban. This allows for coverage and a smooth surface over the facial hair for the respirator to sit on and achieve a tight fit.

5. Extended use and reuse of N95 FFR
   - Use of paper bags: While only considered single use masks, all panel members agreed to reuse of their masks. A 5-mask set maybe used by each individual, along with four brown paper, breathable bags, which are marked 1 to 5. After use of first mask, it should be placed in the paper bag and allowed to dry for 4 days. It should be reused on day 6. The masks maybe used sequentially in such a manner and once all masks have been used five times, they should be discarded. Use of a disposable, surgical three ply mask/face shield on top of the respirator will further prevent it's contamination.\textsuperscript{19} This was being followed by three of the panelists and has been suggested as an additional safe practice. The physiological burden (heart rate, oxygen saturation, tidal volume, respiratory rate, etc.) of using a surgical mask over an N95 respirator has been a matter of concern and while using it for short durations appears to have no significant physiological burden, studies with usage over longer periods are suggested in order to consider this as a routine practice or recommendation in daily practice.\textsuperscript{20}
   - UVC (254 nm) at the appropriate dosing\textsuperscript{21} or vaporous hydrogen peroxide\textsuperscript{22} if available can be used for decontamination of the N95 mask.

6. Valved vs Nonvalved: The exhalation valves in N95 FFR's are designed to allow for ease of breathing and wearer comfort, however, their protective efficacy has been questioned. Data states that presence of an exhalation valve does not compromise the protective ability of the respirator, however, since the valve allows for exhalation and decreases breathing resistance it could allow the spread of any infectious agents that are carried by the wearer\textsuperscript{23} and hence should be discouraged.

7. Counterfeit N95 FFR: An original and NIOSH certified respirator mask should have an approval label on or within the packaging and this can be seen on the mask itself in an abbreviated form. One may look out for certain signs to make sure the FFR is not fake (Figure 4).\textsuperscript{24}

8. Seal check or Fit Test
   - Positive seal check: on exhalation the face piece should bulge.
   - Negative seal check: on inspiration face piece should collapse.
   - Fogging: While minimal fogging of glasses is inevitable, due to water vapor released via the edge of the mask, it may suggest that the FFR may not be air tight. It is recommended to squeeze the metal frame on the upper edge of the mask in such cases and re-assess the fit of the mask.

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TABLE 1 Different types of masks

| Type of mask                                      | Filtration efficiency/characteristics                                                                 | Expert comments                                                | Approval            | Fit test                  |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------|---------------------------|
| Cloth mask                                       | Single layer fabric: 5%-80% efficiency for particles <300 nm Multiple layers, combination of fabrics (cotton-silk/cotton-chiffon) enhances efficiency.\textsuperscript{14} | Who should use: Not ideal for clinic use/use by health care workers. | Not FDA approved    | Loose fit                 |
|                                                   |                                                                                                      |                                                                  |                     | Fit testing requirement—no |
| Surgical mask (medical mask)                     | Triple layered with moderate level of filtration Fluid resistant provides protection against large droplets, splashes and sprays of bodily fluids. | Who should use: Patient, reception staff and support staff. Risk reduction by at least 80% is estimated if both patients and staff are using. | Cleared by US FDA\textsuperscript{a} | Loose fitting requirement—no |
| N95/N99/N100 filtering facepiece respirator (FFR) | High level of filtration: 95% of particles >0.3 µm (N95) 99%-100% of particles >0.3 µm (N99/100) | Who should use: -Doctors, therapists and staff at entry point screening patients. -Anyone involved in AGP's. | NIOSH\textsuperscript{b} certification | Tight fit |
|                                                   |                                                                                                      |                                                                  |                     | Fit testing requirement—yes | Ideally not reusable |
| Elastomeric half face respirator (P100)           | High filtration efficiency.\textsuperscript{c} Can use filters providing 95%, 99% or 100% efficacy | Who should use: -Only for high risk AGP's                        | NIOSH certified      | Tight fit |
|                                                   |                                                                                                      |                                                                  |                     | Fit testing requirement—yes | Reusable |

\textsuperscript{a}Federal Drug Authority, United States.

\textsuperscript{b}National Institute for Occupational Safety and Health and the United States CDC.

\textsuperscript{c}Filtration performance maybe enhanced during active usage, as testing done under "worse case scenarios" of high air flow and using high penetrating aerosols (0.3 nm diameter).
4.2.2 | Gloves

Following strict hand hygiene along with use of nonpowdered, latex gloves are adequate for examination of patients and/or consultation room. The recommendations for hand hygiene include use of an alcohol-based hand sanitizer (60% ethanol or 70% isopropanol) or hand wash for at least 20s with soap and water.25

- Nitrile gloves are preferable over latex gloves in the procedure rooms, as they are resistant to damage by chemicals or disinfectants, and are hypoallergenic.
- Housekeeping staff may use nitrile or rubber gloves which cover above the wrists.
- While donning of gloves one must make sure the gloves extend to cover above the wrist of the isolation gown.

A. Face shield and goggles:
- The panel agreed upon the use of a face shield as a routine measure in current circumstances, during all consultations and procedures as it not only provides protection to the mucosal surfaces but also prevents inadvertent touch to the face, eyes, nose or mouth with a contaminated hand.
- Face shield and/or goggles are a must in AGP’s.
- Use of face shield/goggles may result in fogging at times due to expired air escaping from the mask, in such circumstances one may reassess the fit of the mask or seek the use of well fitted antifogging goggles (Figure 5).26

B. Coverall or gowns
- Disposable, below knee, SpunbondMeltblownSpunbond (SMS) material, breathable gowns are adequate for consulting and examination. An autoclavable, below knee, surgical cloth gown for routine consultations was suggested by three of the experts, however, the panel did not arrive at a consensus for this.
- Coveralls maybe in SMS material, SMS material with laminate and no polypropylene base and SMS material with laminate and a polypropylene base. The coveralls with laminate and the polypropylene bases are the most effective in preventing viral transmission but also the most uncomfortable with regards to breathability.27
- Full laminated, coverall’s are usually not required in an aesthetic practice. If a coverall is used, one coverall should be used per patient and these maybe reserved for AGP’s. One may use a 60-70 gsm, coverall, as extrapolated from data during the Ebola outbreak.
- A plastic apron maybe used over the gown, in procedures involving body fluid splatter or splash.

4.2.3 | Head and shoe covers

- The panel agreed upon the use of head caps during “close contact” procedures and these should be worn by the patient and the doctor/therapist. If wearing a coverall, that itself would provide head coverage, else a surgical head cap should be used.
- Experts felt that that if regular cleaning and sanitation of the premises is being carried out, the use of shoe covers is not mandatory.
- If shoe covers are used they should be made ideally be impermeable, for example, plastic
- One of the experts on the panel suggested the use of washable rubber slippers for patients and staff in place of shoe covers.

4.3 | General principles of PPE

- The common principles regarding use of PPE, including hand hygiene prior donning and during doffing of PPE, protocols of donning/doffing and correct disposal should be repeatedly discussed with the clinic staff.
- A room with a mirror is ideal for donning and doffing of PPE. Developing a “buddy system” may help, that is, a team member who may observe the donning and doffing process.28

FIGURE 1  Different types of masks for clinical use. A, surgical three-layered mask; B, N95 Filtering facepiece respirator without valve; and C, Elastomeric halfpiece face respirator (P100)
FIGURE 2  Proper technique of donning a N95 respirator. A, Cup the respirator in hand, allowing the straps to hang below; B, pull the top strap over the head and place it on the crown of the head above ears; and C, pull the bottom strap over the head and secure at the back of the neck, and mold the nose clip to achieve a good seal.

FIGURE 3  Proper technique of doffing a N95 respirator. A, Not touching the front of the respirator, use two hands to grab the bottom strap and pull over your head and B, grab the upper strap, pull to the sides, then over your head.
Phones, jewelry, and other items in the pockets should be removed before donning the PPE.

The person should have eaten, should be well hydrated and should have used the washroom.

The order for donning/doffing of PPE:
Donning—Gown/Coverall → Mask → eye shield → gloves.

Doffing (each step should be followed by alcohol hand rub while doffing PPE)—Gloves → eye protection → gown → respirator/mask (hand wash with soap and water)

The use of PPE gear should be judicious and not misused in current circumstances which would only lend more burden to the already present global shortage of good quality PPE.

The recommendations for PPE requirements of the staff have been enumerated (Table 2).

**TABLE 2**  PPE requirement as per staff

| Recommended PPE | Comments |
|-----------------|----------|
| Reception desk  | Surgical 3 ply mask cap  |
|                 | Surgical 3 ply mask glove |
|                 | Face shield OR maintain distance of 1 m from patients. |
|                 | Low risk  |
|                 | Follow "no touch" policy |
|                 | Encourage electronic payments |
| Screening staff | N95 FFR cap |
|                 | Gloves |
|                 | Gown (Autoclavable cloth gown or disposable below knee length gown) |
|                 | Face shield |
|                 | Moderate risk |
| OPD staff/ waiting area | Surgical 3 ply mask/ N95 FFR cap |
|                 | Gloves |
|                 | May use autoclavable cloth gown |
|                 | -Low to moderate risk |
|                 | -If patient interaction is "close contact" such as counseling, etc. then an N95 FFR maybe used. |
| Therapists      | Nonaerosol generating procedures |
|                 | N95 FFR cap |
|                 | Gloves |
|                 | Face shield |
|                 | Autoclavable cloth gown/disposable below knee gowns |
|                 | Aerosol generating procedures |
|                 | Full PPE with coverall |
|                 | Moderate to high risk |
| House-keeping/ Cleaning staff | Surgical 3 ply mask face shield |
|                 | Plastic apron |
|                 | Elbow level rubber gloves |
|                 | -Moderate risk |
|                 | -Housekeeping staff should be made aware to encourage patients to wash hands in the restroom after the seats are covered by the lid to prevent aerosolization. |
|                 | -Use of sodium hypochlorite after every use. |
4.4  |  Complications with PPE

Complications with PPE are not uncommon, particularly with prolonged usage. The prevalence rate of PPE associated cutaneous adverse effects among first line HCW's has been demonstrated to be as high as 97%.\(^\text{30}\) Wearing PPE for >6 h at a stretch predisposed individuals to a higher risk of cutaneous adverse effects. Burning, itching, stinging, and tightness are common, and these result in face-touching behavior and compromise the efficacy of the PPE. Gloves appear to be the most common culprit, causing allergic contact dermatitis, overhydration, and subsequent skin maceration and erosion. Skin indentations and abrasions due to overtight masks and goggles are common, as are pressure injuries on the skin of the ear. Medical masks can also lead to throat irritation, acne, folliculitis, aggravation of rosacea, and seborrheic dermatitis. Wearing full coveralls and gowns can lead to hyperhidrosis and folliculitis. The commonly affected sites are the nasal bridge, hands, cheek and forehead.\(^\text{30}\) Most panelists felt they were comfortable wearing a gowns, well fitted N95 FFR and a face shield, however, prolonged periods of use did become uncomfortable.

Recommendations for avoiding cutaneous adverse effects are mentioned:

1. Maintain cool room temperature\(^\text{31}\) and/or adequate ventilation.
2. Wear loose-fitting clothing/scrubs underneath PPE.
3. Moisturization of hands and face with barrier restoring creams and/or use of zinc ointment before donning and after doffing the PPE.\(^\text{31}\)
4. Make sure the FFR is "well fit" and not "overtight". The lips touching the front of the mask is suggestive of a tight fit and can become uncomfortable for the user.
5. The retroauricular area maybe covered with a surgical cap before putting on ear PPE.\(^\text{31}\) Use of plastic handles, at the back of the head for the straps of the respirator have also been suggested to reduce pressure injury.\(^\text{22}\)

4.5  |  SOP's for Aesthetic procedures

This section was discussed at length under three sections:

1. Risk categorization of the aesthetic procedures
2. Preprocedure recommendations
3. Specialized SOP's for aesthetic procedures

4.6  |  Risk categorization

As compared to certain other specialities, for example, dental, ENT, etc. the general risk of transmission associated with aesthetic procedures is low. Seven of the eight experts agreed to having started low to medium risk aesthetic procedures in their practices, with appropriate protective measures. We have categorized the procedures as low, medium or high risk on the basis of the following:

a. Procedure-related factors: the factors directly related with the procedure being carried out have been enumerated (Table 3)

b. Environmental factors

The environmental factors associated with the risk of transmission would essentially include:

- **Space in the procedure room:** The space in the room and number of individuals in the room at the time of procedure—If the basic social distancing norm (6 ft, 2 arm's length)\(^\text{13}\) is not being able to be maintained one may avoid the presence of an assistant inside the procedure room whenever possible. Further, if an assistant is required, during a procedure requiring "close contact" the use of an N95 FFR with a face shield would be pertinent.

**The room ventilation/rapid air turnover in the room:** The ventilation rate, airflow direction and pattern are important components of the ventilation system.\(^\text{23}\) Once infectious droplets are released, the airflow in the room, the ventilation and the air turnover time are

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**TABLE 3**  Procedure-related factors determining the risk of a procedure

| Low risk | Medium risk | High risk |
|----------|-------------|-----------|
| **Nonaerosol (NAGP) vs Aerosol generating procedures (AGP)** | NAGP | AGP |
| **Duration of procedure** | Short duration | Short/Long duration | Short/Long duration |
| **Site at which procedure is performed** | Nonfacial areas/facial areas with mask | Facial areas without mask (NAGP) | Facial/Nonfacial areas (AGP) |
| **Patient protection** | Wearing mask | Not Wearing mask | Not wearing (face)/Wearing (nonfacial) |
| **Physician should wear** | N95 FFR, Surgical cap, Disposable gown/surgical cloth gown, Gloves | N95 FFR, Surgical cap, Face shield/goggles, Disposable gown, Gloves | N95 FFR, Surgical cap, Face shield/goggles, Full coverall |

*The N95FFR maybe combined with a surgical 3ply mask on top or one may consider the use of a P100 Elastomeric halfpiece face respirator.*
4.7 | Preprocedure recommendations

a. Consent form: All the panelists agreed that they had modified their pre-existing consent forms for procedures. The modified forms mention, the risk of transmission involved with the visit to the clinic premises, and stresses upon the willingness to go ahead with the procedure under the current circumstances. Further, the consent form should also mention that in the event of the transmission of SARS-CoV-2 the patient should not hold the doctor or clinic liaison. The modified forms should also mention that in the event of transmission of the procedure under the current circumstances. Further, the consent form should also mention that in the event of the transmission of SARS-CoV-2 the patient should not hold the doctor or clinic liaison. The modified forms should also mention that in the event of transmission.

b. Preparation of the procedure room: Disinfection of the surfaces along with the treatment bed or chair with 1% sodium hypochlorite, cleaning the laser hand piece with 70% ethanol (swabs or wipes), change of disposable bedsheets per patient (30 gsm, nonwoven, SMS material) is done prior to each new patient. During the changeover period it is wise that to open the windows allowing for ventilation in the room is the facility exists. Additional items in the room such as hand held mirrors, headbands, etc. maybe kept inside and only used as and when needed and disinfected afterwards. At the end of each day, fogging at least in the procedure rooms should be undertaken in a single well-ventilated negative-pressure room with the doors shut. While negative pressure ventilation can limit the contamination of the adjacent areas, it is not possible in all aesthetic setups.

c. Preparation of the patient: Whether, there is actually spread of infection or virion-based transmission from the skin and for how long SARS-CoV-2 persists on the skin is unclear. Until we have more data on this aspect, following the preprocedure disinfection protocol and strict hand hygiene is crucial. Patients hands are disinfected at their entry into the clinic with an alcohol-based hand rub. The face and extrafacial sites are disinfected with hypochlorous acid 1% (Lasercyn dermal spray) or alcohol swab (70% ethanol). Povidone iodine should be used in the nares with the help of a cotton tip applicator for procedures on the face or where the mask of the patient needs to be off. Where available povidone iodine nasal spray (0.23%) should be used for nasal or intra oral procedures. Eye drops have also been suggested for use wherein one drop is diluted 1:100. Further, mouth rinse with hydrogen peroxide wash (1%-3%) followed by povidone iodine rinse for 30 s, should be used for perioral procedures and the patient be made to spit back in a disposable glass, to avoid splatter. The patients should be provided with a disposable headband or surgical cap in order to keep the hair out of the way.

d. Procedure time: All the panelists agreed upon the fact that they were giving more time in between two procedures (30 min to 1 h). Well ventilated rooms with a rapid air turnover time may afford to give lesser time between procedures, while those with poor ventilation, for example, basement may practice more caution. Where feasibility exists alternating rooms for procedures would help. Alternating treatment rooms for the next scheduled procedure where the feasibility exists would give adequate time for turnover of the air in the room and for disinfecting surfaces, particularly after AGP's.

4.8 | Specialized Protocols for aesthetic procedures

1. Lasers and Energy based devices (EBD's)

The use of laser and EBD's, requiring contact of the skin with the laser tip, particularly need to be handled with caution. The cases for laser procedures maybe divided into low, medium or high risk (Table 4). Further, certain points regarding the procedures maybe taken into consideration.

a. Aerosol generation and risk of transmission of COVID-19

Certain laser systems, (ablative CO2, erbium YAG) lead to "plume" production on contact with the target tissue. This surgical plume comprises debris and vapor, which is released into the immediate environment. Data in the past has revealed the presence of human papillomavirus (HPV), human immunodeficiency virus (HIV), cytophagia, poliovirus, and hepatitis in surgical smoke. Further, use of lasers have also revealed increased HPV infections due to direct lesional contact. Moreover, the occurrence of a "true" infection by laser plume has not been documented. Currently, there is no solid evidence of the transmission of COVID-19, via aerosol generated by laser use on the skin. However, in view of the transmission occurring through respiratory droplets, there remains a theoretical
risk of virus aerosolization, and the panel agreed, that for all personnel involved in laser procedures generating aerosol full precautions should be taken (Table 4).

b. Use of smoke evacuators
A good quality smoke evacuator system is efficient and convenient to use and would be required for AGP’s and for procedures where larger amounts of smoke are produced. There are different types of filters present in smoke evacuators (charcoal, high-efficiency particulate air [HEPA] and ultra-low particulate air [ULPA]), however, currently the most effective smoke evacuation system is the triple-filter system, comprising a combination of a prefilter for capturing large particles, a ULPA filter, and a special charcoal.

c. Fomite borne spread in the laser operating room
There is data that the median half-life of COVID-19 is 5.6 h on stainless steel and 6.8 h on plastic and it may be detected for up to 2 days on plastic and 3 days on stainless steel. Laser machines themselves can be a potential source of fomite borne transmission of SARS-CoV-2 and following measures maybe employed in order to reduce such transmission:
- Following strict hand hygiene practices and thorough preprocedure cleaning as explained above.

### TABLE 4 Laser procedures risk categorization

| Procedure                                                                 | Risk       | Comments                                                                                                                                  | PPE required                                      |
|---------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Continuous wave CO2                                                      | High       | Aerosol generating procedure.                                                                                                             | Full PPE<sup>a</sup>, Smoke evacuator            |
| Fractional resurfacing                                                   |            | If patients mask is off the risk of NAFR being done on the face is enhanced. Plume generation much lesser compared to continuous wave CO2. | Smoke evacuator (AFR), N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| 1. Nonablative fractional (NAFR)                                         | Facial (Moderate) |                                                                              | Smoke evacuator (AFR), N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| 2. Ablative fractional (AFR)                                             | Extrafacial (Low) |                                                                              | Smoke evacuator (AFR), N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| Q switched NdYAG/Picosecond lasers                                       | Facial (Moderate) | If patients mask is off the risk of laser toning being done on the face is enhanced. Plume generation +/-Tissue splatter minimal, Use disposable brush or cotton buds for application of carbon solution. Significant plume generation and tissue splatter | Smoke evacuator N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| 1. Laser toning                                                          | Extrafacial (Low) |                                                                              | Smoke evacuator N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| 2. Carbon toning                                                         | Facial (Moderate) | Apply laser cooling gel with disposable wooden spatula. Full body /larger body parts maybe deferred/ carried out with caution.            | N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| 3. Tattoo reduction/Pigmentary disorders                                 | Extrafacial (Low) |                                                                              | N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| Laser hair reduction                                                     | Facial (Moderate) | Viral shedding in plasma or serum has been seen. This mode of transmission is not clear. Practice caution while until solid data is available. | N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| Microneedle radiofrequency (MNRF)                                        | Extrafacial (Low) |                                                                              | N95 FFR, Gloves, Gown, Cap, Face shield/goggles |
| High intensity focussed ultrasound (HIFU), monopolar/Bipolar RF, IPL photofacial, excimer | Facial (Moderate) | Potential to cause fomite induced transmission due to their probes.                                                                 | N95 FFR, Gloves, Gown, Cap, Face shield/goggles |

<sup>a</sup>Entails a full coverall, N95 FFR, gloves, gown, cap, face shield/goggles along with use of a smoke evacuator.

**Figure 6** A moderate risk, laser toning procedure of the face, with use of surgical gown, face shield, N95 FFR with a triple layer mask on top, surgical cap and double gloves.
Use of disposable cling films for the laser hand piece and the tubing should be discarded postprocedure. The panel did not arrive at a consensus for the use of cling films. While two of the experts, used cling film for their laser hand pieces, other experts felt that if proper aseptic measures are followed, the use of cling films is not mandatory.

Disinfection of equipment and instruments: The laser hand pieces, tubing and body of the machine, should be cleaned with 1% sodium hypochlorite solution after each procedure. The optics of laser, lens, and sapphire cooling tip on the hand piece should be disinfected with 70% ethyl alcohol.

d. Time spent
The time spent in the procedure room would also entail a potential risk factor for transmission and longer procedures such as full body hair reduction and HIFU/RF procedures particularly on the face may be deferred to a later date. The experts agreed that if a procedure allows the patient to be wearing a mask throughout the procedure, it should be completed in a single sitting irrespective of the time involved. This will not only reduce subsequent patient visits, thereby decreasing the risk of infection, but also help in preserving PPE.

2. Injectables, threads, and lipolysis
The panel categorized the risk involved with injectable procedures in the following manner: (Table 5)

- Use of disposable cling films for the laser hand piece and the tubing should be discarded postprocedure. The panel did not arrive at a consensus for the use of cling films. While two of the experts, used cling film for their laser hand pieces, other experts felt that if proper aseptic measures are followed, the use of cling films is not mandatory.
- Disinfection of equipment and instruments: The laser hand pieces, tubing and body of the machine, should be cleaned with 1% sodium hypochlorite solution after each procedure. The optics of laser, lens, and sapphire cooling tip on the hand piece should be disinfected with 70% ethyl alcohol.

a. Low risk: The mask of the patient can remain on.
b. Medium risk: The mask of the patient is off.
c. High risk: The mask of the patient is off and the procedure involves the oral or nasal mucosa.

Certain procedures for example, periorbital enhancement even though carried out on the upper face, are often done with cannulas and ideally require the mask be off, so that the injector can carry out the procedure comfortably and look out for vascular events. Further, a tight fitting mask during and postprocedure may lead to external compression and/or make evaluation of a unexpected vascular event challenging.

3. Chemical peels
A simple procedure like a chemical peel on the face, would entail close contact and the patient removing the mask. Recommendations from the panel included:
- Prefer leave-on-peels in the current scenario wherein the interaction with the patient can be limited.
- Use only disposable brushes/cotton q tips for application of the peel.
- A 2% glutaraldehyde holding solution may be used for at least 10 h to sterilize used brushes if required.

The risk categorization for chemical peels is below:
- Low risk: Body peels, spot peels on face with mask, peels for nails and periorbital area.

| TABLE 5 | Risk categorization for injectable procedures |
|---------|-----------------------------------------------|
| Low risk | Moderate | High risk |
| Upper face | Upper face | Mid face |
| • Botulinum toxin (Figure 7) | • Periorbital enhancement | • Botulinum toxin for the nose |
| • Temporal augmentation | • Cheek (CK4,CK5) | • Nonsurgical rhinoplasty |
| • Forehead contouring | • Thread lifting | Lower face |
| • Threads | | • Lip enhancement |
| Mid face | | • Perioral soft tissue fillers |
| • Botulinum toxin | | |
| • Cheek (CK1,CK2,CK3) | | |
| Lower face | | |
| • Botulinum toxin for masseters | | |
| • Jawline (JW1) | | |
| Neck and extrafacial | | |
| • Botulinum toxin and hyaluronic acid fillers | | |
| • Threads | | |
| • Injection Lipolysis on extra-facial sites and submental fat | | |

FIGURE 7 A low-risk procedure, involving botulinum toxin of the upper face with patient and physician wearing a mask
TABLE 6  Risk categorization of other aesthetic procedures

| Low risk                  | Moderate risk                  | High risk                  |
|---------------------------|--------------------------------|----------------------------|
| Low level laser light (LLLT) | Non-aerosol generating medical facials | MicrodermabrasionJet infusions/facials |
| Cryolipolysis (body)     | Electroporation                | HydrafacialDermaJet devices |
| IV Injections for        | Cryolipolysis (face)           | Micropigmentation          |
| brightening              | Dermaroller                    | Microblading               |

- Medium risk: Full face peels
- High risk: Peels for the lip

4. Platelet-rich plasma (PRP) and mesotherapy

While viral shedding and the presence of viral RNA has been demonstrated in plasma from COVID-19 patients,\textsuperscript{45} transmission of infection via this route is considered largely theoretical. PRP and mesotherapy procedures, particularly for the scalp comprise a low risk. The recommendations for PRP and mesotherapy are mentioned below:

- Low risk: PRP therapy for scalp and body areas, mesotherapy for scalp and body (stretch marks)
- Moderate risk: PRP and mesotherapy for face

5. Other procedures

Numerous other procedures carried out in an aesthetic clinic have been categorized below (Table 6).

5 | CONCLUSION

The above recommendations do not necessarily signify a "cook book" approach but are learnings over the past few months in an active clinical aesthetic practice during the ongoing pandemic. While one must adapt fast to the "new norms", the real challenge would lie in the strength of the practitioner to balance one’s own and our staffs mental health, to attain equilibrium of financial setbacks with concerns over self, staff, and patient safety, and to conduct practices in a just manner. The well-known adage to "lead as an example" is the best reinforce of safe practices and general wellbeing.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Dr Rajat Kandhari: Conception of design, acquisition, analysis and interpretation of data as moderator of the expert consensus. Involved in drafting the main manuscript. Dr Malavika Kohli: Conception of design, acquisition, analysis and interpretation of data as moderator of the expert consensus. Involved in drafting the main manuscript. Dr Shrilata Trasi: Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Maya Vedamurthy—Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Sachin Dhawan—Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Kamlakar Shetty—Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Chiranjiv Chhabra—Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Kamalak Shetty—Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Sachin Dhawan—Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Renita Ranj—Valuable inputs for acquisition of data. Involved in drafting the main manuscript. Dr Rajat Kandhari

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