

## COVID - 19

**THE ROLE OF PEDIATRICIAN DURING THE PANDEMIC**

**\*Ramachandran P**  
**\*\*Sunil Srinivasan**

**Abstract :** *With the emergence of the corona virus disease 2019 pandemic, many containment measures were imposed including lockdowns. As the lockdown is gradually eased out, there are recommendations put in place by both the government as well as international and national professional bodies for restarting and continuing of child health care delivery in a safe manner. The pediatrician has to put in place new norms in terms of infection prevention and control practices, training and motivation of fellow healthcare workers, immunization practices, telemedicine and selfcare to render continuous quality healthcare and to mitigate risk of infection to all including oneself and to the patients.*

**Keywords:** *Post lockdown, Preparation, Infection prevention and control, Patient examination, Immunization.*

The emergence of corona virus disease 2019 (COVID19) pandemic has left many pediatric and general practitioners in a quandary. Many small hospitals, private clinics and consultation rooms were initially closed following government guidelines on lockdown. Patients were persuaded to contact their doctors by phone and avoid attending any health care facility for minor problems. For serious illnesses they were referred to bigger institutions, government or private. Immunization services were kept in abeyance. In April 2020, the state Governments and professional bodies like Indian Medical Association (IMA) and Indian Academy of Pediatrics (IAP) came out

with recommendations for private practitioners to resume their practice keeping in mind the ‘the do’s and don’ts’. Guidelines for immunization services were issued. For safe and successful patient care, pediatrician has to develop the skills of effective leadership, communication, teamwork and guidance. As the situation is dynamic and evolving, the recommendations nationally and regionally are likely to be updated and the practitioner has to keep abreast of them. Effective infection control protocols in the outpatient setting can prevent unnecessary exposures to COVID among patients, healthcare personnel and visitors at the facility. In this article, a practical approach to outpatient care of children in the post-lockdown period is summarized.

**State of pandemic**

As on third week of May 2020, the infection is continuing in many parts of our country with large numbers affected in many metropolitan cities like Mumbai, Delhi, Chennai, Ahmedabad and Kolkata. The important fact relevant to practicing pediatricians is that majority of the infected people are asymptomatic or mildly symptomatic and children (0-18 years) form a very small percentage of infected, ranging 1.2% (Italy) to 10% (Iceland) of total cases.<sup>1</sup> In Tamilnadu, as on fourth week of May, children less than 12 years constitute 6.18% (1003 out of 16,277 persons tested positive) (The Hindu newspaper, Chennai Edition, May 25, 2020).

**Preparation**

It has been said time and again by many experts that the virus is here to stay. Hence, the changes in our practice should stay with us and become the ‘new normal’. We need to prepare ourselves and adopt new strategies. Financially, we have to make sure that there is adequate cash flow, in case of quarantine and enough securities, in case our family members get hospitalized.

The following preparations will help us to resume the services effectively.

**Mental readiness**

This is probably the most important preparation. The pediatrician should be willing to see his patients and help them and the parents, of course, with proper

---

\* Professor of Pediatrics,  
Sri Ramachandra Medical College and  
Research Institute, Chennai.

\*\* Consultant Pediatrician,  
President 2018,  
Indian Academy of Pediatrics, Tamil Nadu and  
National Convener 2020, Smart Clinic 2.0,  
Trichy.  
email: ramachandran.paeds@gmail.com

precautions in place. There is no halfway about it. Proper communication with parents and strict observation of 'infection prevention and control (IPC) practices will mitigate the risk of transmission.

### **Knowledge**

Keeping abreast of the disease from reliable sources like Indian Academy of Pediatrics (IAP), Indian Council of Medical Research, Ministry of Health and Family Welfare, Government of India (MOHFW,GOI), Centre for Disease Control (CDC) and World Health Organization (WHO) is necessary. Internet based learning has become the new norm and we have to embrace it and apply to our practice judiciously. IAP website ([www.iapindia.org](http://www.iapindia.org)) has provided important GOI notifications and guidelines.<sup>2</sup>

### **Government regulations and advisory**

As the infection due to severe acute respiratory distress syndrome corona virus-2 (SARS-CoV-2) is just 5 months old and been having a significant impact in India only since March 2020, the MOHFW, GOI and respective state governments have been coming out with regulations and advisory periodically based on the available data and knowledge. As the situation is dynamic, so are the regulations. It is better for the clinician to download the government recommendations in a dedicated file and refer to them when required. There were many strict restrictive measures during the initial periods under Epidemic disease Act 1897 and the Disaster Management Act 2005, which had a bearing on the function of health care workers (HCWs) and health facilities. These have been partially relaxed taking into account the ground realities, need for accessible health care and the likely trajectory of the pandemic.

### **Cross-talking**

Despite the guidelines and the scientific principles, maximum practical solutions are likely to come from our professional colleagues who are also in the same boat. Exchange of ideas and innovative solutions with constant revision is a way-out to overcome unique problems. No two practices or clinics are the same. Each practitioner has to adopt the good practices according to his situation.

### **Manpower training and support for HCWs**

Private practitioners barring a few exceptions may just have one or two semi/unskilled persons to help them in patient management. Their role was confined to cleaning the premises and regulating the patient entry during consultation. These HCWs are the ones who have stood by them at all times. It is imperative to take care of their

needs and concerns during this stressful period. The financial problems faced by them are much higher than those of the doctors who also have to anticipate reduced earnings in the next few months. The HCWs also need psychological support and assurance. Besides, they need upgradation of knowledge and necessary skills related to IPC practices. HCWs are infected in much higher numbers and as per a study in Delhi in April 2020; one in every 15 COVID cases is a HCW.<sup>3</sup> Clear instructions regarding their role and personal protection must be emphasized and periodically reinforced. Continuous supervision is needed so that they may not fault in wearing appropriate personal protective equipment (PPE) and maintaining all IPC practices. These general principles are also applicable to the out-patient settings of bigger units and teaching institutions.

### **Preparation of team members**

- Personal protection gear: Ensure adequate availability and knowledge of use.
- Instructions to refrain from touching the eyes, nose, and mouth with potentially contaminated gloved or ungloved hands.
- Rotation of duty hours with adequate intervals.
- Instructions on interaction with parents:
  - Safe distance while questioning
  - Not to touch any documents or old records
  - Making sure that the attendant and older children above 2 years are wearing mask
  - Cashless payment or handling cash with gloves and collection in separate bags to be handled after 72 hours.
  - Avoid weighing unless absolutely necessary and cleaning surface of weighing machine after each use
  - Minimal waiting time and maximal distance between families
- Psychological: Staff can be demotivated, due to various conflicting ideas in the social media. Comforting words and clear explanations will be very helpful. Extra incentives during this season will be encouraging.

### **Parent and family education**

Besides the economic and social impact, many parents also face great anxiety about their children's risk of getting the infection in the post-lock down period especially with

schools re-opening. An empathetic pediatrician is a great support for them. Realistic information has to be given to the family members regarding the nature of infection spread and all the possible safe practices to be followed by them and the children. Unnecessary fear or panic is to be avoided. The pediatrician should discuss with them upfront his plans and type of private practice and alternative support. Though professional charges are allowed for teleconsultations, discretion can be exercised for individual patients. The following clear instructions to parents will help in IPC practices.

- **Appointments:** Scheduled to avoid crowding and promote smooth turnover.
- **Accessibility:** Over the phone 24/7 availability of an experienced staff if possible; otherwise the pediatrician's availability over phone.
- **Briefing:** What should be brought to clinic (one change of dress, one water bottle) and what not to bring (old records, toys, etc). Attendants above 60 years to be instructed not to accompany the child.
- **Payment:** Cashless if possible and the methods to do so.

### Hospital/Clinic setting<sup>3,4</sup>

#### Flow of patients

At entry

- Hand sanitization should be universal for anybody entering the clinic and a mask if not already worn by them. Children less than 2 years of age are not expected to wear a mask.
- All parents and visitors should have Aarogya Setu app for contact tracing or their address and phone numbers have to be documented.
- Screening questionnaire for fever/ influenza like illness (ILI) should be administered and temperature checked.
- Anyone coming with fever or ILI should be directed to a separate 'Fever clinic' in all facilities where children with fever/ILI should be directed to, examined and managed as per the Government order in some states.<sup>5</sup>
- Proper signages should be provided for patients to go to designated areas without hassle.

Waiting area

- Schedule consultations appropriately and avoid waiting as much as possible

- Adequate distance of minimum of 1 meter on sides, front and back between waiting persons including children should be ensured. Alternate seats can be barricaded to maintain social distancing.
- Health information posters related to COVID-19 and prevention can be displayed.
- Playthings, toys, books etc., should be removed.
- Depending on the facilities available, segregate the children coming for immunization and other illnesses in terms of space and if not possible, in time by prior appointment.
- If a separate fever clinic is not possible to create, children with fever/ILI should be given separate time and not be allowed to wait with other children brought for well baby check or immunization.
- Ensure adequate ventilation in all places by keeping the doors and windows open.

#### Disinfection and cleaning

- Provision of sanitizing hand rub and hand wash facilities with soap and water is ensured at multiple places.
- Public areas like waiting areas and toilets have to be disinfected once in 2 hours with 1% hypochlorite (bleach) or 5% benzalkonium solution.
- Weighing machines and stethoscopes have to be disinfected after every patient use. (Table I)

#### Personal protection equipments (PPEs)

The PPEs are to be used based on the risk profile for HCW. Table II gives the basic PPE required.

The following points are to be remembered while using PPE:

- Standard precautions are to be followed all the time
- PPEs are not alternative to other important IPC practices such as hand hygiene, safe distancing and cough etiquette
- PPEs are to be disposed as per the IPC regulations
- In practice, N95 masks and face/ eye shields may be restricted to fever clinics, suspected and confirmed COVID wards and aerosol generating procedures such as nebulization and sample collection. Many practitioners prefer to use N95 mask also during well baby and other non-COVID consultations in view of significant number of infected asymptomatic persons.

**Table I. Cleaning different areas of clinic<sup>2-4</sup>**

Area/items/Frequency	Item/equipment	Process	Method
Floor of the clinic / Waiting area- 2 hourly	Dust mop/damp mop 3 buckets (Plain water, detergent solution with water, 1% sodium hypochlorite)	Sweeping, Cleaning, Daily mopping	i) Sweep with dust mop/damp mop ii) Next, mop the area with water and detergent solution - Then clean the mop in plain water and squeeze iii) Repeat this in the remaining area iv) Then, mop the whole area again with 1% hypochlorite solution starting at the far corner of the room and work towards the door
Railings, doorknobs, surfaces (reception desk, doctors table) - Every 4 hours	Damp cloth, Detergent solution with water 1% sodium hypochlorite solution	Clean and wipe	- Clean with damp mop - Wipe with hypochlorite or detergent and water
Stethoscope, thermometer (axillary) - between every patient	70% alcohol based rub/ spirit swab	Clean and wipe	Wipe with alcohol based rub/spirit swab

**Table II. PPEs for different areas<sup>2,3,6,7,8</sup>**

Setting	Risk stratification	Recommended PPE	Other precautions
Registration/ Front desk	Mild risk	Triple layer mask, Latex examination gloves	Physical distancing at all times
Doctor	Mild risk*	Triple layer mask **, Latex examination gloves	Hand sanitization after every patient examination No aerosol generating procedures such as nebulization
Nurses	Mild risk*	Triple layer mask** Gloves	Minimum distance of one meter needs to be maintained.
Pharmacist	Mild risk	Triple layer mask, Latex examination gloves	Frequent use of hand sanitizer over gloves

\* Categorised as moderate risk by IAP; \*\*IAP- N95 mask

MoHFW,GOI<sup>8</sup> and others - For non COVID setting, mild risk

### Video/tele consultations

This is promoted as much as possible. The recent notification by Government of India clearly spells out the type, charging of professional fees and the drugs which can be prescribed.<sup>9</sup>

### Consultation planning<sup>10</sup>

- Provide as many tele consultations as possible. Clear instructions are provided regarding the charges for follow-up consultations and new consultations.

- When scheduling appointments by phone, provide instructions to persons with or without signs or symptoms of COVID-19 on how to arrive at the clinic, including which entrance to use and the precautions to take (e.g., how to notify clinic staff and follow triage procedures)
- Make them wait in their vehicle and inform them through phone when their appointment is due.
- If possible, schedule appointment for any child with illness at the end of day and complete the well child consultations earlier.

- Do not have people waiting at OPD or diagnostic areas; minimize the waiting time by providing spaced appointments.
- Discourage walk-in patients.
- Keep the doors of consulting room open so that nobody needs to touch them while opening or closing.
- Keep a separator or rope to avoid people touching the registration counter.
- Patients with respiratory symptoms can directly go to a separate room spacious and airy and sit in the centre of the room where they cannot touch anything in the surrounding and they can be quickly examined and sent.
- Inform all patients, that if they or any close contact have cough or fever, they should call first and not visit the clinic/hospital without tele consultation.

**Patient examination**

- Keep a distance of three feet while taking history
- Avoid throat examination unless absolutely necessary.
- Avoid auscultation as much as possible, auscultate from back if needed; Blue tooth stethoscope is gaining more attention during this COVID era. It is a simple cost effective device to auscultate children safely during the pandemic period. All it requires is an old stethoscope with a workable diaphragm, and a blue tooth device, costing approximately Rs.3000. Commercial variants are available which are manufactured indigenously, some with artificial intelligence that filter surrounding noise and can be shared across iOS and android platforms. A simpler variant can be designed by the following procedure. Cut the tubing of the stethoscope about 2 inches from the chest piece. From the blue tooth device, the mike can be removed and soldered to the chest piece. Connecting wires are threaded through the tube and then connected with the speaker, Fix the blue tooth speaker securely to the tubing and make sure the diaphragm of the stethoscope is screwed tight. This blue tooth device is then paired to a mobile which is kept in the examining room. The blue tooth stethoscope is ready for use. (Figs.1,2,3,4).
- Either the mother or fully protected HCW, can switch on the blue tooth speaker and keep the stethoscope over the chest of the child, at various places as indicated by the doctor. The pediatrician can ring up the paired mobile from any place and use either headphones or loudspeaker to hear the auscultated sounds.



**Fig.1. Assembling blue tooth stethoscope**



**Fig.2. Cut steth with blue tooth device**



**Fig.3. Steth opened up to show tip of receiver at the central hole**



**Fig.4. Bluetooth device**

- Viewing old records: Preferably digital, e.g., IAP approved software.
- Prescription: Preferably digital, like IAP approved software.
- Maintain supply of masks, disinfectant/sanitizer and other personal protective equipment.

- Disinfect all things that one touch us during work: including computers, keyboards, scanners, door handles, BP instrument, stethoscope, SpO<sub>2</sub> monitor with alcohol swab (Table I).
- Infant weighing scales can be washed with soap and water. Separate clean paper (news paper) should be used for every baby to prevent risk of hypothermia and cross infection.
- While the Pediatrician returns back home from clinic, he should wash feet first, then hands, face, change clothes (keep them in separate box for washing), decontaminate all surfaces he may have touched including car and finally wash hands again with soap and water. Mobile can be cleaned with a soft cloth and 70% alcohol after switching off.
- Doctors with cough and fever should opt for self-quarantine and COVID assessment.

### **Immunization**<sup>11-13</sup>

#### **General instructions for vaccination clinics**

1. It is strongly recommended to have exclusive vaccination sessions and exclusive vaccination rooms. A polyclinic/ nursing home/ hospital should have segregated vaccination areas with separate entrance and exit.
2. Give vaccinations by appointment only.
3. Well-baby visits may be combined with immunizations.
4. Utilize every healthcare visit for immunization, provided there are no contraindications and the interval between vaccines are maintained as per published guidelines.
5. It is essential that the doctor and supporting staff utilize adequate PPE. In a vaccination clinic, surgical masks and gloves are necessary along with scrupulous hand hygiene.
6. All other IPC practices outlined above are to be followed stringently in vaccination sessions too

#### **Prioritizing vaccines in routine immunization**

- Vaccinate newborns in maternity set up, before discharge with BCG, OPV and Hepatitis B vaccines.
- Prioritize primary vaccination series: DPT, Hep B, Hib, OPV/IPV, rotavirus vaccines, PCV, influenza, varicella and MR/MMR. Avoid postponing these vaccines.

- Prioritize pneumococcal and influenza vaccines to vulnerable groups. Healthcare personnel should be upto date in their age appropriate vaccinations.
- Typhoid conjugate vaccines may be clubbed with the influenza vaccine at 6 months or MR/MMR at 9 months.
- Hepatitis A vaccines and HPV vaccines may be postponed to a later date if logistic issues of transport, etc., exist.
- Multiple vaccines can be administered in the same session without fear of any increased adverse effects.
- Boosters may be postponed to a later date, if logistic issues of transport, etc. exist.

#### **Preparing one's own family to handle COVID pandemic**

- **Explanation:** The pediatrician has to explain about the disease to all his family members. Even young children can understand a few aspects of the disease.
- **Protection:** Hand washing, disinfection, distancing from elders as needed, physical activity, healthy diet, regular food habits and sleep.
- **Sharing:** Information regarding financial situation with spouse, location of important documents like house deeds, cheque books, aadhar card, etc. Telephone numbers of important contacts like lawyer, auditor, close family members, as well important passwords to be accessible to spouse.
- **Contingency plan:** If one of the spouses falls ill or has to be quarantined (a distinct possibility), what should the other members of the family be doing, and who should be responsible. Hospitalization options and insurance to be utilized may be planned.

#### **Points to Remember**

- *Be prepared, mentally, physically and financially, to handle this pandemic.*
- *Safety guidelines, personal and personnel protection, can never be taken too lightly, even if the rest of the society are not compliant.*
- *Give priority to catch up vaccination in the initial days of resuming practice and designate separate times and space for handling healthy children.*
- *Telemedicine, phone consultation, use of social media to communicate our plans, judicious use of our instruments of practice, planned consultation, and meticulous screening of patients are the new normal.*

- ***Parent and family education goes a long way in the smooth handling of our practice.***

## References

1. Birmingham Health Partners. COVID-19: Research Update Pediatrics. Issue#APR\_V3.03 Date: 2<sup>nd</sup> Apr 2020. www.Birminghamhealthpartners.co.uk. Accessed 16<sup>th</sup> May 2020.
2. Website: www.iapindia.org. Accessed 20<sup>th</sup> May 2020.
3. Association of Health care Providers (India) and Public Health Foundation of India (PFHI) Post Lockdown Lifting: Resumption of Hospital Services: A Protocol Document. ahpi.in AHPI\_Training\_programs.html. Accessed 12<sup>th</sup> May 2020.
4. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control>. Accessed on 15<sup>th</sup> May 2020.
5. G.O. (M) No. 181, Health and Family Welfare Department, Tamilnadu dated 08.04.2020 and Guidelines G.O.(Ms) No. 210, Health and Family Welfare Department, Tamilnadu dated 09.05.2020. [https://cms.tn.gov.in/sites/default/files/go/hfw\\_e\\_181\\_2020.pdf](https://cms.tn.gov.in/sites/default/files/go/hfw_e_181_2020.pdf). Accessed 14<sup>th</sup> May 2020.
6. Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages Interim guidance 6<sup>th</sup> April 2020.WHO. [https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-\(covid-19\)-and-considerations-during-severe-shortages](https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-(covid-19)-and-considerations-during-severe-shortages). Accessed 17<sup>th</sup> May 2020.
7. <https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf>. Accessed on 17<sup>th</sup> May 2020.
8. Novel Coronavirus Disease 2019 (COVID-19): Additional guidelines on rational use of Personal Protective Equipment (setting approach for Health functionaries working in non-COVID areas). Updated on 15<sup>th</sup> May 2020. <https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf>. Accessed 25<sup>th</sup> May 2020.
9. <https://www.mohfw.gov.in/pdf/Telemedicine.pdf>. Accessed 17<sup>th</sup> May 2020.
10. IAP-COVID 19 bulletin. Available at www.iapindia.org. Accessed on 21<sup>st</sup> May 2020.
11. Guiding principles for immunisation activities during COVID-19 pandemic, 26<sup>th</sup> Mar 2020. WHO/2019- nCoV / immunization services/2020. Accessed 16<sup>th</sup> May 2020.
12. Enabling delivery of Essential Health Services during the COVID-19 outbreak, Guidance note, MOHFW, 25<sup>th</sup> Mar 2020. Accessed 16 May 2020.
13. ACVIP Guidelines on Immunizations during COVID-19 Pandemic. www.iapindia.org. Accessed on 19<sup>th</sup> May 2020.

## CLIPPINGS

### ***CDC guidance on antibody testing.***

- Do not use antibody tests to determine a person's immune status until evidence confirms that antibodies provide protection, how much antibody is protective and how long protection lasts.
- Antibody testing can help establish a clinical picture when patients have late complications of COVID-19 illness, such as multisystem inflammatory syndrome in children.
- Antibody test results should not be used to diagnose someone with an active infection with symptoms.
- Antibody tests can support the clinical assessment of COVID-19 illness for people who are being tested 9 to 14 days after illness onset, in addition to recommended virus detection methods such as PCR. This will maximize sensitivity, as the sensitivity of nucleic acid detection is decreasing and serologic testing is increasing during this time period.
- People who receive positive results on an antibody test but don't have symptoms of COVID-19 or have not been around someone who may have COVID-19 are not likely to have a current infection. They can continue with normal activities, including work, but still take steps to protect themselves and others.
- People who receive positive results on an antibody test and who are currently or recently sick or have been around someone with COVID-19 should consult health authorities and get advice as its significance is not clear.

***Content source: www.cdc.gov.National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases Page last reviewed: May 28, 2020. Accessed on 10<sup>th</sup> June 2020.***