

## Incremental innovations in pediatric ophthalmology department during the COVID-19 pandemic: An experience from a tertiary eye care hospital

Dear Editor,

As we all are aware that the coronavirus pandemic emerged as a dominant force with multiple challenges for all the ophthalmologists and health care workers. Pediatric ophthalmology as a subspecialty cannot be neglected. Children can be the asymptomatic carriers of the viral infection. From the beginning, there were challenges to manage these pediatric patients with utmost safety without compromising the quality. We would like to share our experience from the pediatric ophthalmology department of a tertiary eye hospital briefing adaptations for the patients as well as the medical team that we made in response to COVID-19.

The use of masks, hand hygiene, and social distancing have been emphasized globally since the beginning of the pandemic. At our center, a fixed number of patients are allowed at one point of time. All patients are screened for mask quality and if needed 3 ply surgical masks are provided. Only one parent/attender is allowed with each patient. Hand wash and alcohol-based sanitizer use is mandatory. All patients, attenders, and staff undergo thermal screening before hospital entry along with COVID-19 consent. While screening they are required to sanitize their footwear on a mat soaked in 2.25% Benzalkonium Chloride.<sup>[1]</sup> These mats are replaced after every 20 patients. All the doors and windows are kept open. Air conditioners have been switched off, and usage of fans is promoted for air circulation. Alternate sitting system is followed to ensure physical distancing. Staff members have been equipped with appropriate personal protective equipment (PPE). All the team members have been trained for frequent use of hand sanitizer.

The preferred practice pattern guidelines for Pediatric Ophthalmology issued by All India Ophthalmological Society,<sup>[2]</sup> played an instrumental role in managing the

patients. We along with these incorporated few extra modifications at our center. These include: 1) Use of disposable IV tubings to make adjustable ear loops [Fig. 1a]. 2) Photoscreener to screen patients safely with an acrylic sheet physically separating the patient and the screener. 3) Modified refraction cubicles using an acrylic shield [Fig. 1b]. 4) Visual acuity is tested for all patients, and retinoscopy is



**Figure 1:** (a) Image depicting intravenous plastic tubing piece being used on the ear loops of mask for pediatric patients. (b) Image depicting modified refraction cubical with an acrylic sheet allowing safe examination by the refractionist. (c) Image of the Safe Slit lamp Shield (SSS) of size 67.30 × 44.45 cm with inverted U shaped cuts at the bottom installed on a slit lamp for facilitating examination. (d) Image depicting Pediatric Ophthalmologist safely examining the child with the help of prism glasses (Lazy eye glasses)

avoided until indicated. 5) Slit lamps have been shielded with our self-designed breath protectors which allow safe examination of patients [Fig. 1c].<sup>[3]</sup> 6) Loops are being used for examination. This allows safe distance and avoids unnecessary exposure to aerosols. 7) Prism glasses are being used for ocular examination of infants [Fig. 1d]. This allows examination from safe distance while patient rests in the mother's lap. 8) Indirect ophthalmoscopes have been fitted with a plastic sheet that prevents aerosol exposure; generated by children while examining them in a restrained position.

We have been examining around 80–90 patients per day in our outpatient department safely since the past 4 months with these adaptations. These modifications have played a huge role in managing these patients during the pandemic. We believe that these safe practice patterns can be adopted by all pediatric ophthalmologists globally and will be a boon during this pandemic.

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#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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#### Conflicts of interest

There are no conflicts of interest.

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#### References

- Gong C, Jiang X, Wang J. Application of bacteriophages to reduce Salmonella contamination on workers' boots in rendering-processing environment. *Poult Sci* 2017;96:3700-8.
- Saxena R, Singh D, Jethani J, Sharma P, Sinha R, Sharma N, *et al.* Prepared in association with the AIOS pediatric and pediatric ophthalmology, strabismus and neuro-ophthalmology practice in the COVID-19 era: All India ophthalmological society guidelines. *Indian J Ophthalmol* 2020;68:1300-5.
- Khadia A, Nachiappan S, Kalita IR. Slit-lamp shield: Maintaining a balance between ergonomics and safety. *Indian J Ophthalmol* 2020;68:2486-9.

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