

DRIVE-THROUGH IOP CHECKS

With the proper protocol in place, a curbside screening service can be beneficial when eye care services are interrupted.



BY GERAMI SEITZMAN, MD

As at most practices, eye care services at the University of California, San Francisco (UCSF), were interrupted significantly in the early spring by COVID-19. When the initial shutdown occurred, my colleagues and I reviewed a list of the appointments that had been canceled or delayed and identified patients who were at risk of vision loss if their IOP went unchecked during this time.

We then developed a drive-through IOP clinic for these patients, which launched on April 6 (Figure). We mapped out a detailed protocol (see *Protocol for the Proctor Foundation*

Drive-Through IOP Service), equipped our staff with personal protective equipment (PPE), and instituted the use of the Icare ic200 tonometer (Icare USA) with disposable tips to conduct these pressure checks safely.

When our drive-through IOP clinic opened, many patients were nervous about coming inside a medical office, so they were enthusiastic about this offering. They appreciated not having to wait and being able to be screened in a safe and convenient manner. Fortunately, the weather in San Francisco presented no obstacle to executing this service.

IDENTIFYING CANDIDATES

Prior to launching this service at the Proctor Foundation at UCSF, my colleagues and I emphasized that the drive-through IOP checks were not intended to fine-tune long-term glaucoma management, where a fluctuation of 1 to 4 mm Hg can make a difference. Rather, the goal was to screen patients who were at risk for pressure spikes but were otherwise known to have healthy optic nerves. When patients' IOPs measured within a predetermined normal limit, we knew that the remainder of their visit could be safely and successfully



Figure. Sarah Lopez, OD; Miel Sundararajan, MD; and Kareem Moussa, MD, staffing the drive-through IOP check at the Proctor Foundation at UCSF.

managed via telemedicine.

At the Proctor Foundation, we see many patients who have uveitis and are on a long-term regimen of steroid therapy. We also see many patients with chronic external diseases, including atopic conjunctivitis, graft-versus-host disease, and ocular rosacea. These patients require long-term treatment with suppressive steroid drops and must be screened for a potential IOP response. Of course, all ophthalmic patients require a slit-lamp examination for careful monitoring, but at the height of the

COVID-19 shutdown, innovative solutions for patient care were required while we determined the best processes for safely resuming in-person visits.

At times, we have been asked to address a few concerns regarding this protocol. First, some have noted that the IOP readings could be affected by patients turning their heads toward the car window. Second, some have questioned whether the accuracy of the Icare tonometer is equivalent to that of standardized applanation tonometry. Although practice is

required for reliable use of the Icare device, rebound tonometry has been shown to be an accurate screening tool,¹⁻³ and our team is familiar with its use. Further, if we thought that a patient's optic nerve could suffer from a slight change in IOP due to a turned head or the device's range of error, we would not consider that patient to be a candidate for the drive-through IOP clinic. This screening service is designed for patients who are well known to our clinic and for whom a potential steroid-induced IOP spike is a clinical concern.

PROTOCOL FOR THE PROCTOR FOUNDATION DRIVE-THROUGH IOP SERVICE

► Step No. 1: A scheduler outlines the drive-through IOP screening service to patients by phone using the following script.

"Dr. _____ would like to check your eye pressure. In order to minimize exposure between patients and our doctors, we have set up a special eye pressure clinic on Mondays from 9 to 11 AM. At _____ AM [insert visit time], you will drive through our parking lot, and a doctor will meet you at your car. Without rolling down the window, please present the patient ID or state the patient's name via phone if an ID is not available. Roll down the window slightly. If you are not wearing a mask, the doctor will hand you a mask. Once you have put on the mask, the doctor will check your eye pressure. Again, in order to minimize exposure, there will be no talking or discussion. If your eye pressure is normal, you may then leave. If your eye pressure is high, you will be asked to park so that the doctor can take you inside for further examination."

► Step No. 2: Using the electronic health record system, a message is sent to each scheduled patient with the following information.

You have been scheduled for a drive-through eye pressure check only on XX date at XX time. Please be prepared to drive into the Proctor Foundation's parking lot at 95 Kirkham Street. You will remain in your car the entire time. Have an ID with the patient's name and birthdate to present through a closed car window. If you have a mask at home, wear it for this visit. If you do not have a mask, we will provide one.

When it is your turn for the eye pressure reading, you will roll down your window, and the doctor will take the measurements. This will not hurt, and no eye drops will be required. If your eye pressure is too high, we will ask you to park and come into the clinic for an urgent evaluation after the other patients in the drive-through line have been evaluated. If your eye pressure is fine, we will ask you to drive home carefully, and we will follow up with you by phone or with a video visit.

Thank you for being flexible with us as we think of creative ways to take the best care of you during this crisis. Stay well!

► Step No. 3: An on-site doctor measures the patient's IOP in accordance with the following information and guidance.

All doctors working at the drive-through IOP check wear N-95 masks covered by surgical masks, eye shields, and gloves. Gloves are changed after each patient encounter. The Icare ic200 tonometer (Icare USA) is used to measure IOP. Bins are required for the disposal of gloves and Icare packaging.

If a patient's IOP measures at a concerning level (based on the department-determined threshold or, in some cases, a patient-specific threshold), the patient is asked to remain in the parking lot. He or she will have an urgent in-clinic appointment after the drive-through clinic concludes, or he or she may be brought into the clinic immediately, depending on staffing that day.

In this version of the drive-through, the goal is to minimize doctor-patient contact, which is why we are only checking IOP. We want this encounter to be fast and for the patient to be able to drive away. Every patient with normal eye pressure should have a same-day telephone encounter in which anatomy and physiology are discussed based on their IOP measurement, and the appropriate E&M code is selected. Although every effort to communicate with the patient should be made, if a same-day follow-up is not scheduled, then a brief visit E&M code can be selected; a telehealth visit should be scheduled at least 8 days later based on the current rule that E&M codes may be billed only once a week.

The drive-through IOP service is not a sufficient triaging clinic for fine-tuning slowly progressive chronic open-angle glaucoma. However, many patients in our clinic are on long-term steroid therapy for complex corneal conditions and uveitis, and this service allows us to determine whether a telehealth visit is appropriate. The Icare device does have a learning curve, and properly positioning the patient prior to obtaining the IOP measurement is key.

—Prepared by Gerami Seitzman, MD,
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DRIVE-THROUGH DETAILS

Patient visits to the drive-through IOP clinic were limited to a 2-hour block of time once weekly and scheduled every 5 to 10 minutes to optimize efficiency and PPE use. Providers dressed in PPE, including N-95 masks, eye protection, and gloves. Patients arrived by car, remained in their vehicles, and held their identification up to a closed window. If required, a surgical mask was provided to the patient.

Performing tonometry with a non-contact rebound tonometer eliminated the need for anesthetic eye drops. The tonometer was disinfected, and all single-use items were disposed of and replaced after each patient encounter.

If a patient's IOP exceeded a predetermined threshold value, he or she was asked to park and enter the clinic for further examination, including applanation tonometry.

Threshold values of concern varied based on clinical circumstances. Either the treating physician indicated the threshold value for a specific patient's care, or a general threshold of 28 mm Hg was set for patients known to have healthy optic nerves. If a patient's IOP was within normal limits, he or she could depart and participate in a follow-up telehealth visit to discuss further management.

FUTURE PLANS

In early fall 2020, two major events affected the Proctor Foundation and our drive-through IOP clinic. First, we established physical distancing guidelines and waiting room restrictions for ambulatory visits, and we transitioned back to a mostly regular schedule of seeing patients indoors. Second, our clinic moved to a new building. Whereas our former building had a big private parking lot that

was amenable to the circular flow of the drive-through IOP clinic, our new building is located in a more crowded city area. However, if the number of local COVID-19 cases spikes again and we need to restrict outpatient visits, we are prepared to quickly reimplement the drive-through IOP service.

1. Takagi D, Sawada A, Yamamoto T. Evaluation of a new rebound self-tonometer, Icare Home: comparison with Goldmann applanation tonometer. *J Glaucoma*. 2017;26(7):613-618.
2. Bitner DP, Freedman SF. Long-term home monitoring of intraocular pressure in pediatric glaucoma. *J AAPOS*. 2016;20(6):515-518.
3. Go MS, Barman NR, House RJ, Freedman SF. Home tonometry assists glaucoma drainage device management in childhood glaucoma. *J Glaucoma*. 2019;28(9):818-822.

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