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Editorial

Ophthalmology Practice in the Age of COVID-19

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The outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 was a stark reminder of the importance of robust public health education and containment strategies for infectious diseases in an era of globalization. SARS was a viral respiratory illness which was transmitted almost exclusively by symptomatic patients and had a relatively high mortality of 11% [1]. Healthcare workers accounted for 20% of those affected [1,2]. Careful isolation of symptomatic patients using well-established containment strategies effectively ended the epidemic in a short time.

COVID19 is quite different. Approximately 25% of infected patients are asymptomatic, 80% have mild symptoms, fatality rate is lower (about 2% compared to 11% for SARS), and reproductive number (average number of individuals infected by one person) is likely higher (about 2 - 3 compared to about 2 for SARS) [3]. Transmission from asymptomatic persons is now well established [3].

Hence for this pandemic, containment strategies will not work. We need to be in full mitigation mode and look for every potential opportunity to reduce congregation of patients and staff at every possible place, starting even before patients enter the building. We have to assume that every visitor to our office is potentially infected.

We need to implement algorithms for patients who are acutely ill and who also have visual symptoms to explore alternatives to the traditional face-to-face examination. We can explore the possibility of provider "visits" by telephone, text monitoring systems, video conferences, or other telehealth and telemedicine methods to reduce unnecessary visits. If this is not possible then we need to prepare our outpatient facility to safely triage and manage patients with respiratory symptoms.

A day prior to each patients appointment, the patients are telephoned and infectious criteria are evaluated to determine risk: (1) presence of infective symptoms or signs (e.g. fever, cough, sneezing or shortness of breath), (2) a visit to an infected area during the past 14 days, and (3) close contact with patients who received a diagnosis of COVID-19. While this of course will not detect asymptomatic carriers, it can greatly assist those at risk of transmitting COVID-19.

Preparing our facility would include placing highly visible signs at the clinic entrance with instructions on hand hygiene, respiratory hygiene and cough etiquette, ensuring adequate supplies of tissues, hand soap, waste receptacles and alcohol-based hand sanitizer in readily accessible areas. Only patients should be permitted in the building, family members can be contacted via cellphones to convey any important information following the consultation. Face masks (N95) should be available at the building entrance and should be worn by all patients. Patients should be kept at least 6 feet apart at check-in and markings on the floor should direct patients where to stand or sit in waiting areas. Prolonged periods of waiting should be avoided. At peak times it may be necessary to have patients wait outside the building in their cars, thus avoiding having large numbers of patients in close proximity to each other in the building. Droplets can travel up to 26 feet after coughing or sneezing [4,5]. Examinations should be kept as short as possible with patients required to use hand sanitizer before entering the examination room, healthcare providers should wear eye protection, masks, gloves and gown and slit lamp should be fitted with an enlarged sneeze guard. In cases where patients have respiratory symptoms and vision threatening issues, staff should be altered ahead of time using the screening questionnaire on the day prior to their appointment and they should be placed in

an isolation room with a negative pressure ventilation system immediately upon entering the building. Examination rooms should all be thoroughly sanitized with 70% ethyl alcohol following patient examinations. Studies have shown reductions in surrogate coronavirus infectivity when treated with ethyl alcohol [5]. In the operating room, it has been reported that viral particles can become aerosolized, therefore it is recommended to wear an N95 mask under the standard operating room equipment in addition to a face shield.

On a local level we should work with local and state public health organizations, healthcare coalitions, and other local partners to understand the impact of the outbreak in your area and modify clinic protocols accordingly. It is important to optimize our supply of personal protective equipment and if possible have several sources so availability is not disrupted.

In terms of our staff we should, where possible, allow our support staff to work from home. If this is not possible we must monitor essential healthcare facility staff and operations closely including educating staff regarding self-monitoring for any symptoms before going to work (fever, cough, sneezing, respiratory symptoms) and to call supervisor if these occur, educating all staff regarding public health recommendations outside of work including 6 ft rule, social distancing, hand hygiene, avoiding unnecessary journeys and activities. Consider health checks before employees enter the building including questionnaire for respiratory symptoms and a temperature check. It is also important to plan for absenteeism, which could include extending hours, cross-training current employees, or hiring temporary employees. If a healthcare worker develops symptoms, local and national protocols should be immediately activated including calling the primary care physician for advice on local department of health protocols and community containment strategies, including isolation, contact tracing, monitoring, and quarantine.

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Conflict of Interest

None.

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