

**COVID-19 INFECTION CONTROL AND PREVENTION IN OPHTHALMOLOGY OFFICES**  
**PRE- APPROVED TEMPLATE**

**Title:** COVID-19 Impact Mitigation at Rockwood Eye Center

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<b>Project Description</b>	<p>Transmission of respiratory viral illnesses is very likely to be occurring frequently with baseline conditions standard precautions taken in our current practice environment.</p> <p>This project is undertaken with the aim of preventing exposure of our patients, staff, and providers to SARS-CoV-2 while still delivering ophthalmic care to patients with vision threatening conditions.</p>
<b>Background Information</b>	<p>Early in the COVID-19 pandemic course we recognized that our patient population is particularly vulnerable to being severely impacted by COVID-19. The reason for this enhanced risk is related to the advanced age and highly prevalent cardiovascular and pulmonary comorbidities exhibited by many of our patients which have been identified as risk factors in critical illness and death in COVID-19. Furthermore, our waiting rooms are very crowded at times and the nature of the clinical practice of ophthalmology presents many challenges to proper social distancing practices.</p> <p>Annually our clinic performs approximately 3750 encounters across five clinical sites and nine providers. We provide routine medical and surgical ophthalmic/optometric care as well as urgent and emergent referral care for four hospital emergency rooms and seven urgent care locations in the community.</p> <p>The aim of this project is to continue to provide the emergent and urgent level care to our population while minimizing the risk of SARS-CoV-2 exposure and transmission among patients and staff.</p>
<b>Project Setting</b>	<p>Multi-Specialty Group Surgical Center</p>
<b>Study Population</b>	<p>A comprehensive evaluation of our clinic processes was undertaken, and areas identified requiring intervention were as follows:</p> <ul style="list-style-type: none"> <li>• Patient visit urgency triage and strategic scheduling</li> <li>• Reorganization of waiting room space to allow for social distancing</li> <li>• Screening of patients entering the clinical spaces</li> <li>• Elimination of non-essential fomites</li> <li>• Patient isolation of suspected and conformed COVID-19 positive cases</li> <li>• Hand hygiene and personal protection use, enhancement, and conservation</li> <li>• Enhancement and creation of disinfection schedules of site</li> </ul>

<p><b>Quality Measures</b></p>	<p>Our baseline practice has been to screen patients for mild URI symptoms at our front desks during flu season and to provide/require a mask be worn by any patient reporting symptom. No temperature screening nor a detailed travel history were previously routinely performed. In times of normal operation, our waiting rooms were arranged to maximize seating and capacity and comfort with available shared reading materials and refreshments. These spaces have been cleaned daily without a focus on scheduled and documented disinfection. Patient have previously been allowed to have as many accompanying escorts as was desired reasonable without formal restriction. At normal volumes frequently as many as four providers share a single waiting room and crowding becomes an issue. Our baseline policy is for afebrile staff with mild URI symptoms to wear a mask while at work. Some slit-lamps in our offices are equipped with a small (4.5"x5.5") acrylic shield in a minority of the clinical lanes.</p>
<p><b>Project Interventions and Improvement Period</b></p>	<p>Initial interventions began in late January 2020 with travel screening at the time of patient intake to determine if patients had traveled to Wuhan China or been in contact with any known COVID-19 patients, and exhibited fever, cough, or runny nose. Any patients with a positive possible exposure history were to be masked and placed in a dedicated isolation room in the least utilized portion of the facility at each site before being assessed by the provider utilizing Airborne Respirator Contact Precautions defined by the CDC. The list of screening travel countries was expanded to Italy, Iran, all of china, Hong Kong, Japan, and South Korea in late February.</p> <p>On March 16th, "Stop Signs" were placed at all the clinic building entrances which instructed patients and visitors not to enter the building if fever or upper respiratory infection symptoms were present. A telephone number was provider to have the patient call to reschedule and a referral was provided to a respiratory clinic triage nurse. Patient escorts were restricted to one person at this time.</p> <p>Beginning March 17th ambulatory elective surgical procedures were halted, and a decision was made to limit clinical visits to only urgent or emergent encounters starting on March 23rd. The nursing staff from our ASC was redeployed to perform patient screening functions.</p> <p>A screening nurse was stationed at the building entrances to do in-person travel and URI symptoms screen as well as a temperature measurement on each patient entering the building. All staff were formally screened for symptoms and the absence of a fever was documented in order to begin in-office work each day.</p> <p>30-40% of waiting room chairs were eliminated and spaced out several feet to allow for social distancing. Magazines and complimentary beverages/cups were eliminated.</p>

	<p>Intake pens, clipboards, and signature pads used by patients were disinfected after each use. Timers were set in the office at 30-minute interval and all common surfaces in the waiting room and shared clinical space are being wiped down with disinfectant. The larger building undergoes a wipe-down disinfection of surfaces such as elevator buttons, railings, and touch pads every hour.</p> <p>Staff were strategically furloughed to minimize office presence.</p> <p>Clinical lanes are completely disinfected between every patient encounter per usual protocol. A larger 11"x17" transparent shield was fashioned and placed on all slit lamps.</p> <p>In the event that an emergent laser peripheral iridotomy or in-office retinopexy needed to be performed on a COVID-19 positive patient, plans were made for isolation and decontamination of the procedure room and as well as to ensure the necessary PPE is in place.</p>
<p><b>Project Team</b></p>	<p>Department Section Head (myself)  Initiation of clinical volume curtailing measures. Organization of urgent and emergent case coverage with strategic provider clinical schedule assignments to minimize waiting room volumes. Procurement of needs and materials as well as design, construction, and installation of enhanced slit lamp shield barriers.</p> <p>Practice Manager  Staff scheduling and implementing strategic furloughs. Reorganization of waiting room seating and elimination of fomites. Tracking and documenting in office disinfection schedule as well as employee temperature and URI symptoms attestation. Procurement of necessary PPE to care for patients including possible COVID-19 positive patients. Interfacing with larger clinic building initiative to make staff available for hourly disinfection schedule.</p> <p>ASC Manager  Managing redeployment of nursing staff to main clinical site and overseeing patient entrance screening.</p>

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**Section 2. Project Evaluation**

<b>PROJECT SUMMARY</b>	Review the effect and adjustment of implementing the policy changes after a minimum of 30-days and in the following sections, please prepare a brief summary of the project highlighting the data collected, effectiveness of the measurement approach, interventions and the overall impact of the project.
<b>BASELINE DATA</b>	<p>Provider Staffing Level Daily Average Percentage (Week 0): Numerator: 6.6 providers/day average, (range 5-7 providers) Denominator: 9 possible providers for an Average rate: 73.3% provider presence</p> <p>Support Staffing Level Daily Average Percentage (Week 0): Numerator: 23.3 staff/day average, (range 20-26 staff) Denominator: 30 possible staff Average rate: 77.7% staff presence</p> <p>Daily Patient Encounters (week 0): Numerator: 92.4 patients/day average Denominator: Prior 6-month daily average: of 183.3 encounters Average rate: 50.4% of normal encounter volume*  *(provider vacations and a departure account for this depressed value)</p> <p>Employees Calling in Sick Daily Average (week 0) Numerator: 2.4 employees calling in sick/day (range 2-4)  Denominator: 39 employees  Average rate: 6.2% of employees out sick daily baseline</p>
<b>FOLLOW-UP DATA</b>	<p>Provider Staffing Level Daily Average Rate (Week 1-4):  Numerator: 2.1 providers/day average, (range 1-3 providers) Denominator: 9 possible providers  Average rate: 22.8% provider presence</p> <p>Support Staffing Level Daily Average Rate (Week 1-4):  Numerator: 14.0 staff/day average, (range 11-19 staff)  Denominator: 30 possible staff  Average rate of 46.7% staff presence</p> <p>Daily Patient Encounters (week 1-4):  Numerator: 28.0 patients/day average (range 13-24)  Denominators: Prior 6-month daily average: of 183.3 encounters, week 0 daily Average: 92.4 encounters  Volumes: 15.2% of normal encounter volume, 30.3 Percent of week 0 encounter volume</p> <p>Employees Calling in Sick Daily Average (week 1-4)  Numerator: 0.75 employees calling in sick/day average (range 0-2) Denominator: 39 employees  Average rate: 1.9% of employees out sick daily</p>

<p><b>PROJECT IMPACT</b></p>	<p>On analysis it is my feeling that this project achieved our intended aims. In the weeks of the intervention period we were able to maintain an average provider presence of 32% of our baseline. With careful and specific triage and schedule trimming performed by our providers while in clinic, we were able to decrease our clinic patient volumes to 30.3% of week 0 baseline levels, and 15.2% of our more typical patient volumes. Staffing levels were decreased to 60% of baseline values. Our percentage of staff calling out sick was 31.3% of the baseline value though low in both phases of the project overall. Certainly, our goal was to have no staff contract COVID-19 and to date we have achieved this.</p>
<p><b>PROJECT REFLECTION</b></p>	<ul style="list-style-type: none"> <li>• <b>Do you feel that the project was worthwhile, effective?</b> Yes</li> <li>• <b>How might you have performed the project differently?</b>  With improved remote access for our staff, we may have enabled them to work more effectively from home, thus decreasing the need to have them in the office to call patients and restructure the schedules based on the recommendations of the providers. This lack of home access for staff is a function of our larger corporate entity policy.</li> <li>• <b>Please offer suggestions for other ophthalmologists undertaking a similar project.</b>  Working closely with your management team is critical and having a call schedule rotation in place in advance can be very helpful. The American Academy of Ophthalmology and articles recommended by the American Board of Ophthalmology were helpful resources in identifying and planning response practice interventions.  The creation of enlarged slit lamp shield was initially performed with translucent polypropylene (file folder) rather than a truly transparent material due to rapid availability. These initial shields proved difficult to use and ultimately impractical. Special 10 mil acetate sheets were ordered from a print binding supplier which proved a much superior material as it is truly transparent.</li> </ul>