COVID-19 INFECTION CONTROL AND PREVENTION IN OPHTHALMOLOGY OFFICES

PRE- APPROVED TEMPLATE

Title: Office Procedures to Reduce the Risk of COVID-19 Transmission to Patients and Staff

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Project Description	COVID-19 is a global pandemic of a highly transmissible respiratory virus with significant morbidity and mortality. Despite the need for social distancing, the practice of retina involves the necessity of directly seeing many patients who require intravitreal injections to prevent loss of vision. Most of these patients fit into high risk categories in terms of their risk for death from COVID-19 disease. The purpose of this project is to devise strategies that will minimize the risk of transmission of COVID-19 to patients and to also protect office staff and physicians from acquiring COVID-19.
Background Information	Strategies for reducing transmission of COVID-19 include various efforts to promote social distancing and prevent exposure of individuals to infectious viral particles. The rapid spread of the pandemic is creating severe shortages of personal protective equipment for health care workers making the execution of these strategies challenging.
Project Setting	Group Practice
Study Population	My practice is making a number of process changes to mitigate the spread of COVID-19 to patients and staff. **The major process changes are listed below:** • Signs have been placed at the entrance informing patients that they should not enter the office if they are sick and that they should contact their primary care doctor. They should call our office to reschedule. • A staff member is checking the temperature of every patient and staff member entering the office. Patients with temperatures over • 99.5 will be rescheduled. Staff members are instructed not to come to work if sick. • Patients are instructed to return to their cars to wait to be called (via cellphone if possible) after checking in with the front desk. • We have purchased thermometers for all staff for home monitoring of themselves and household members. • All surfaces in exam rooms are being disinfected every two hours. Employees are to disinfect keyboards when they use one beyond their workstation. Waiting room chairs are being disinfected twice a day. Trash is being emptied at least daily. • Written protocols have been given to all staff regarding these new office policies as well as instructions on proper hand washing and social distancing. • Gloves and masks are now routinely used for both examination of patients

	and injections. • Plastic sleeves previously used to hold papers relevant to each patient have been discontinued. • Tissues and hand sanitizer have been placed in the waiting room for patient use. • Efforts are being made to minimize the movement of patients from room to room. • Office equipment and other frequently touched surfaces, such as doorknobs, are being disinfected several times a day. • Patients with known COVID-19 disease and eye emergencies should be cared for in a hospital setting with Airborne Infection Isolation Rooms, if possible. • Non-urgent or emergent patients have been rescheduled. • All elective surgeries have been postponed. • Efforts are being made to obtain additional personal protective equipment such as "sneeze guards" for our slit lamps.

Quality Measures	The primary objective of our COVID-19 policy is to minimize the risk of transmission to patients and staff. In order to best achieve social distancing, our goal is to minimize the number of persons in the office. Two measures of this goal will be the number of patients seen before and after the initiation of the policy and also the number of hours worked by our staff before and after the policy was implemented. In addition, the number of staff ultimately infected will be monitored although it will be very difficult to assess whether these infections were work related or community acquired. In addition, due to the limited ability to test for COVID-19, the exact incidence of COVID-19 among ill employees may be unknown. Throughout and at the conclusion of the 30 day period, the staff will be consulted to determine to what degree the policies were able to be implemented and what changes should be made to make these policies more effective.
Project Interventions and Improvement Period	Under "Study Population" I have already listed changes our practice is making as part of our COVID-19 policy. Some of these protocols are consistent with our previous practices although we have given our staff written instructions on these measures to reinforce them (i.e. washing hands between each patient for 20 seconds with soap and warm water). The disinfection protocols include new elements such as cleaning office machinery (i.e. fax machines, etc) and keyboards. Other aspects of the disinfection protocol involve increased frequency of disinfection of surfaces in patient care areas. All of the other aspects of the plan are new and designed to minimize the number of patients physically present in the office and to maximize social distancing. Other strategies are being considered (such as telemedicine visits) but may be of limited potential due to the inherent nature of retina practice. Consideration is also being given to creating a team approach to patient care in which providers are working alternate weeks to permit substitution of a second team if another became exposed to or demonstrated evidence of COVID-19.
Project Team	I initiated the discussions of COVID-19 preparedness in our practice on 3/9/2020. I instructed my practice administrator and the managers of my clinical, front desk and billing departments to meet and create guidelines for staff to follow to mitigate the risk of acquiring COVID-19 infection. I have asked them to follow guidelines which I reviewed with them from the CDC, WHO, American Society of Retina Specialists, American Academy of Ophthalmology as well as local hospitals and health authorities. My partners and I are meeting in a virtual manner on a regular basis with our management team to implement and enforce our plan.

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Section 2. Project Evaluation

PROJECT SUMMARY	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.
BASELINE DATA	The performance measures will be compared between February, 2020 and April, 2020. February was the last month in which no modifications were made in practice procedures to mitigate the effects of COVID-19 and April was the first full month of modifications. Performance measures to be compared are listed below with the baseline values for February, 2020: February • New Patients: 125.0 • New Patients per day: 6.6 • Follow-ups: 925.0 • Follow-ups per day: 48.7 • Injections: 645.0 • Injections per day: 33.9 • Lasers: 4.0 • Lasers per day: 2.1 • Surgeries: 13.0 • Surgeries per day: 0.7 • Diagnostic tests: 1,274.0 • Diagnostic tests per day: 67.1 • Technician hours worked: 2,931.0 • Technician hours worked per day: 154.3
FOLLOW-UP DATA	The following chart reports the performance measures including the data from April, 2020 (after application of the mitigation measures): Performance Measures February April Percentage decrease New Patients 125.0 38.0 New Patients per day 6.6 1.7 73.7% Follow-ups 925.0

	393.0 Follow-ups per day 48.7 17.9 63.3% Injections 645.0 593.0 Injections per day 33.9 27.0 20.6% Lasers 4.0 11.0 Lasers per day 2.1 0.5 76.3% Surgeries 13.0 6.0 Surgeries per day 0.7 0.3 60.1% Diagnostic Tests 1,274.0 651.0 Diagnostic Tests per day 67.1 29.6 55.9% Technician Hours Worked 2,931.0 2,538.0 Technician Hours Worked per day 154.3 11.5.4 25.2%

PROJECT IMPACT	The results of the interventions demonstrate that my practice was able to achieve a significant reduction in all measures studied through aggressive rescheduling of non-urgent or emergent patients. The decrease in new and follow-up patient visits per day (73.7% and 63.3% respectively) was greater than the decrease in injections and surgeries per day (20.6% and 60.1% respectively) since a higher percentage of the injections and surgeries are urgent or emergent. The percentage decrease in technician hours worked per day does not fully reflect the decrease in patient exposure that our technicians have experienced. Many of the current hours worked by the staff include time spent working on special projects that easily allow for effective social distancing. During the study period, our interventions were successful in protecting our staff. Although one staff member did contract COVID-19 outside of the office (the staff member had close contact at home over a period of days with an infected person), we are unaware of any staff or patients who contracted COVID-19 in our office.
PROJECT REFLECTION	• **Do you feel that the project was worthwhile, effective?** Yes • **How might you have performed the project differently?** Throughout the time-frame that my practice has adapted to the "new normal", we have continuously searched for additional measures to protect both our staff as well as the vision of our patients. Another measure that could have been evaluated is the percentage of injections that are performed without testing or examination (a means of maximizing social distancing while patients are in the office). In addition, I have concerns that routine patients with intermediate non-exudative age-related macular degeneration who have been rescheduled are at risk to develop exudative findings. To better monitor these patients at home, advanced technologies such as the Foresee Home can be utilized to allow earlier detection of potential problems. I am beginning to incorporate this technology into my practice. • **Please offer suggestions for other ophthalmologists undertaking a similar project.** I would recommend that other ophthalmologists be creative about finding ways to protect their staff and patients from contracting COVID-19. Offices will vary from place to place both in terms of their physical layout and in regards to the type of patient mix and personnel they will encounter. Although some of the measures I used in my practice are common sensical, others are not, and each ophthalmologist will need to tailor their project to the unique circumstances which they face.