Article • When Will Things Go Back to Normal? Long-Term Effects of the COVID-19 Pandemic on Neuro-Developmental Optometric Care

Mehrnaz D. Azimi Green, OD • Chevy Chase, Maryland
Amanda R. Zeller Manley, OD • Chevy Chase, Maryland

Mehrnaz D. Azimi Green, OD
The Vision & Conceptual Development Center
Chevy Chase, Maryland

Board-Certified: College of Optometrists in Vision Development

OD: Nova Southeastern University, Ft. Lauderdale, FL

BA: Biology, St. Mary's College of Maryland, St. Mary's City, MD

Amanda R. Zeller Manley, OD
The Vision & Conceptual Development Center
Chevy Chase, Maryland

Board-Certified: College of Optometrists in Vision Development

OD: Nova Southeastern University, Ft. Lauderdale, FL

BSc: Microbiology & Cell Science, University of Florida, Gainesville, FL

ABSTRACT

Just as the COVID19 virus evolves and continues to affect the lives of billions of people around the globe, neuro-developmental optometric physicians are constantly monitoring, making changes, and updating their offices, as well as the treatment and care of their patients, to keep both patients and staff safe. Each day, more and more information is becoming available about COVID. We now know more about its transmission, which steps help reduce its transmission, and which steps do not. As we learn more about COVID and adapt to the safety precautions necessary to keep our communities safe, we adapt our protocols. The following article will discuss COVID protocols instituted at the Vision & Conceptual Development Center due to COVID, what has been updated, and what policies may be maintained even when the pandemic ends.

Keywords: COVID-19, telehealth, neuro-developmental optometry, pandemic, vision therapy, neuro-visual rehabilitation

Web-Based EHR Platform

While the Vision & Conceptual Development Center (VCDC) had a scheduling and billing program that could be accessed remotely, we had not converted our charts from paper to electronic prior to the pandemic and had no immediate plans for doing so. In March 2020, before stay-at-home orders were announced, the situation was looking ominous. We scanned the charts of our active vision therapy patients into a HIPAA-compliant, cloud-based platform that staff could easily access from home. As it became apparent that we would be providing telehealth for a prolonged period of time, we sought out a vendor that would provide a relatively easy transition from paper charts to electronic health records. While complete transition is an ongoing process, we switched vendors in July 2020, and it has been more beneficial than we expected. All documents, even those created on paper (Keystone Visual Skills, VO Star) are scanned into the patient's online record, allowing access 24/7. This has improved the ease of telehealth services, including parent conferences and virtual vision therapy sessions. No longer do we have to hunt for misplaced paper records. There has been an added benefit of reduced expense and a more patient-friendly interface compared to our old system.

Virtual Sessions

In March 2020, VCDC was under stay-at-home orders.[1] Initially, our office was all virtual; we were seeing all of our patients through telehealth evaluations and therapy.[2] When we resumed seeing patients in the office in July 2020, we alternated between in-office therapy one week and virtual therapy sessions the next. This was useful because it reduced the number of patients and staff in the office at one time. Staff would also alternate between in-office and virtual therapy every other week, seeing their same patients. This would have avoided a total closure of the office had there been an exposure to someone who tested positive to COVID-19, as it would have only affected half of our patients and staff. At that time, there was a higher demand for patients to continue virtual-only vision therapy. This reduced the number of therapists who needed to come into the

office, allowing some to remain at home and see all of their patients virtually.

Virtual therapy sessions allowed our patients to continue treatment during the COVID closures. They have also been wonderful for times where patients otherwise would not be able to attend their therapy appointments; for example, during climate-related closures, quarantining, transportation challenges, and vacations, to name a few. However, for many of our patients, virtual therapy sessions are not ideal. Many patients, especially those with special needs, need to have in-person interactions in order to learn and to grow through therapy. Those with brain injury have discomfort with screens. Some parents are unable or unavailable to support their children during virtual sessions. Some children are unable to focus and participate in Zoom sessions, and sometimes there is difficulty within the family regarding scheduling the use of computer/mobile devices and eliminating other types of streaming. "Zoom fatigue" due to parents and children all working remotely compounds many of these issues. It is our impression that over time, parents have become increasingly overwhelmed with the demands of working from home while supporting children with distance learning,[2,3] and they benefit from regular in-office visits when possible. By March 2021, the entire VCDC staff was fully vaccinated, and we resumed weekly in-office vision therapy for those who desired it. By the summer of 2021, most of our patients resumed in-office therapy. We continue to offer virtual vision therapy visits for those who request it and who are good candidates.

When transitioning to in-office examinations, we continued to use telehealth visits to limit the time needed to be spent in the office. Initially, all patients would have a telehealth history session (one hour for new patients, thirty minutes for progress evaluations/recall appointments). There would also be a one-hour telehealth conference for new patients to go over the results of the new-patient evaluations.

Although time-consuming, we find that new patients and parents of new patients appreciate the time and attention taken to understand them or their child before the evaluation. We find that patients/parents feel more comfortable discussing their child's history unmasked at their home and provide a more complete picture of their child's condition. Before this visit, the doctor has reviewed the intake form and all reports and records sent. After reviewing the history, the doctor decides the most appropriate exam components for the patient and explains what the exam will look like. This has been helpful for patients/parents to understand what will be done during the examination. These new-patient history sessions also allow the doctor to ask follow-up questions, to request information, and to allow for time to retrieve and to review other medical records before the in-person examination. We have continued to use these new-patient telehealth visits and will continue even after the pandemic is over.

Telehealth history sessions before progress-evaluation and recall appointments are now offered per patient/parent request. We find that once our patients and their families have had their initial evaluation, they feel more comfortable discussing their histories in person at the time of the examination.

Transitioning to telehealth visits for parent conferences after a new-patient evaluation was a move that we thought would be temporary. However, with the convenience of having this meeting during the workday without needing to account for travel time, we are finding that these appointments are easier to schedule, have a much higher rate of having both parents present for the conference, and will be an option that we will continue to offer. Having all of the patient's medical records online, such as RightEye reports, Van Orden Stars, etc., the doctor is easily able to show the parents all of the findings that would otherwise be presented in person. With most people, both patients and doctors, becoming much more knowledgeable about using video conference technology over the past year, these conferences occur seamlessly and will be continued in the future.

Masks

Masks continue to be required at all times in the office for all patients over the age of two and for all staff. With the rise of the Omicron variant, we now require N95-equivalent masks of employees and N95 or double surgical masks of all patients over two years of age. For patients under the age of two or who are unable to maintain wearing a mask, appointments are made during off-peak times to limit exposure to other patients.

Masks do limit non-verbal communication, such as smiling and lip reading, and they provide a barrier for understanding verbal communication. This has been a challenge for patients who have difficulties with receptive language and auditory processing challenges, as these patients are unable to see most facial expressions to read the other's mood and intent. It is difficult for patients who have articulation

challenges as well; by limiting their lips, they may be difficult to understand or get easily frustrated when asked to repeat what they have said. It is also often difficult for special needs patients to maintain wearing masks. In addition, non-verbal patients are also limited due to masks in their ability to communicate via facial expressions.

Despite its challenges, we do not anticipate discontinuing mask wear anytime soon. They are an excellent barrier to COVID-19. We may continue to insist at times that patients wear a mask, even when the pandemic is over, when they have a runny nose or any cold/allergy symptoms.

Frequent Patient Hand-Washing and Sanitizing

Continued hand-washing/use of hand sanitizers before patients enter the therapy room or doctor's office and frequent hand sanitizing during exams and therapy will be continued. Given the ease of hand sanitizing and washing, and the habit of it that most patients have now ingrained over the last 18 months, we will continue to require this in the future. It allows the patient and staff member to remain safe and also prevents the spread of COVID or other germs to future patients with minimal time required.

Temperature Checks

Our county continues to require the patient's temperature to be taken before they are permitted to remain in a healthcare facility. Temperatures of 100.4 degrees or over indicate a fever caused by an infection or illness. However, temperature checks are considered controversial by many. Some argue that the contact-less thermometers are inaccurate because they are looking at skin temperature and not core temperature, and they are easily affected by outdoor/room temperature and humidity levels. Others argue that they are often incorrectly used and thus are unreliable. Because people can spread COVID-19 without displaying any symptoms, and many who have COVID remain symptom-free, checking whether a patient has a fever is not an accurate screening device for COVID-19.[4-7] We continue to use detailed questionnaires with COVID-19 symptoms and exposure history that must be filled out before entering the office. In the future, we may discontinue temperature checks when given the green light by our county health department. We will consider checking temperatures on patients, especially non-verbal patients or those too young to provide accurate feedback, when we suspect that they may be ill.

Washing/Sanitizing Between Patients

Since at the time of this writing most of our patients are children not yet eligible to be vaccinated against COVID-19, while the Delta and Omicron variants cause increased community transmission, we continue to maintain levels of cleaning and sanitation more stringent than the baseline currently recommended by the Centers for Disease Control.[8] We sanitize all equipment, tables, and chairs between patients. We will continue to wash all equipment between patients in the future. Pre-COVID, all ocular equipment was wiped down with alcohol between patients, and manipulatives, such as blocks and pegs, were washed weekly. Tables were washed at the end of the day or more frequently as needed. Chairs were washed by the cleaning team twice per week; more frequently by office staff if needed. Because of COVID, we are finding that our patients really appreciate the full sanitizing that occurs between patients; it gives them a feeling that they are safe because they are in an office that is taking steps to stop the spread of COVID. In the future, we will continue to clean all equipment and the tables between patients. This makes the most sense for our patient population. We work with a high number of adults and children who have compromised immune systems and who would be more susceptible to germs encountered on equipment. We also allow them to use more hand sanitizer if they feel more comfortable. Cleaning is also helpful for many of our developmentally delayed patients. These patients often mouth equipment; in the past, we would clean the object after it became soiled. By preemptively sanitizing every piece of equipment, we are preventing patients from getting sick from what they just mouthed.

Equipment can be cleaned in front of the patient before use and then cleaned again after use. It can be marked with a sign that it is clean/sanitized. After using equipment, it is put into a bucket or storage container to be sanitized before being stored.

Air Purifiers and Fans

We have large air purifiers in every room of the office. Air purifiers help reduce COVID-19 particulates in the air. Fans allow fresh outside air to be circulated into the office. In addition to our screening questionnaire, wearing masks, and social distancing, the air purifiers and fans are part of our COVID-19

plan to reduce exposure in the office.[9] They also help patients feel more confident and comfortable in the office. They do produce some noise, so they can be a mild challenge for patients who have difficulty with hearing, particularly since these patients are not getting visual lip reading due to the masks. It can be difficult for staff to hear the patients, especially young children with significant language challenges, if they do not articulate clearly. Patients may get nervous that they are not communicating well due to their expressive language delay or articulation challenge and may be uncomfortable repeating themselves.

To put patients at ease and work around these difficulties, the doctors will mention during the video histories that the fans and air purifiers are installed for their safety but may make it slightly difficult to hear. We emphasize that they should feel free to ask the doctor to repeat herself and not to feel sensitive if someone asks them to repeat themselves.

Vision Therapy Kits

We provide a notebook with necessary equipment needed for vision therapy, including red/green glasses, a translucent eye patch, a Brock string, and other small tools that the patient uses near their face. This was traditionally given to the family and kept at home. During the pandemic, we have instructed patients to bring their kits to every appointment and to use their own equipment when possible. This allows our patients to feel safer, reduces the time spent cleaning materials, and reduces wear and tear on office equipment. It also helps us with home vision therapy compliance. Patients become more comfortable doing the home therapy when they are familiar with the equipment and feel more confident doing the home activities. Because they are using the kits regularly, we have seen a reduction in lost equipment. We also have more insight into their home practice: if their Brock string is all wound up and still in its bag, chances are the patient is not doing that activity as prescribed.

Encouraging Patients to Stay Home When Feeling Sick with Virtual Therapy as an Option

When a patient or their family has any symptoms, we encourage patients to stay home and whenever possible convert the appointment to a virtual telehealth visit. In the past, we had many parents bring an "under-the-weather" child into the office to avoid scheduling a make-up session. Now it's easier than ever for patients to keep their appointment virtually if they are well enough to do so, without bringing minor illnesses into the office.

Sliding Glass Window Between Administrative Area and Waiting Room

In addition to providing a barrier to keep staff safe, the sliding glass window aids in noise cancellation to keep the administrative area more private. This reduces sounds when answering phone calls and keeps clinical conversations more private in order to support HIPAA requirements better.

Flexible Workstations

To limit the number of patients in each room and to allow for ample social distancing, therapists have become more flexible and creative regarding where they perform certain tasks. Equipment that previously had a specific location in the office is moved to various locations as needed. For example, when available, doctors' exam lanes are used for VT to increase social distancing.

Staggering Start/Stop Times and Increasing Cleaning Time Between Appointments

All appointments used to be 50 minutes in length, starting on the hour. Since COVID, we have been stagging the start of therapy/exams on the half hour. This has not been difficult for the administrative staff to schedule, and clinical staff keep up with their own schedules. This reduces the number of patients/families in the waiting area, allowing for a calmer (less happy-hour) feel and more social distancing. It has had the added benefit of reducing stress on the administrative team by creating a steadier stream of patients throughout the day, rather than quiet periods punctuated by frenzy. We also reduced the session duration to 45 minutes to allow sufficient time for new cleaning protocols.

Being Smarter About Home Practice

In the office, we are easily able to understand where a patient is fixating and how accurate their eye movements are. However, depending on how the patient is facing their computer, we may not be able accurately to understand where they are looking to monitor fixation in a virtual encounter. Also due to connection challenges, there may be a lag in seeing what is presented or the stream may freeze and be hard to see. To address these challenges that primarily affect ocular sensorimotor procedures, we have introduced NeuroVisual Trainer[10] to our virtual and home therapy toolkit. NeuroVisual Trainer is

a web-based computer program that allows us to customize the home treatment plan for each patient, with a variety of oculomotor, fusion, and perceptual activities. We have found it easy for patients to use, and it allows monitoring of the patient's progress by the therapy team through a provider dashboard. Since implementing NeuroVisual Trainer, we have seen an increase in patient compliance with home practice.

Conclusion

When will things go back to normal? When was the last time you practiced normally? Personally, we haven't practiced "normal" optometry in almost 20 years. We're always learning more at conferences, from our colleagues, from our patients, and from the literature and research that is published. We are continuously making choices to help our patients, regardless of what the standard of care is in general optometry and ophthalmology. As we have learned more about the COVID-19 virus, we have learned how to keep our patients, our staff, and ourselves safe. We have to continuously keep learning: keep following the latest research, keep learning from our patients, and keep learning from our colleagues so that we can keep ourselves and our patients healthy.

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Correspondence regarding this article should be emailed to Mehrnaz D. Azimi Green, OD, at DrGreen@VisionTherapyDC.com

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