

The Effects of Long Haul COVID-19 on Vision; Similarities to Post-Concussion Vision Symptoms and Findings

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Case Report Abstract

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Background:

COVID-19 symptoms and findings may linger, and has been given the terminology "long COVID". "COVID long-haulers" may suffer with persistent symptoms such as headaches, dizziness, shortness of breath, cognitive dysfunction (or brain fog), and fatigue. While these are the most common symptoms, there have been more than 200 other symptoms reported. Chest pain, speech difficulty, anxiety or depression, muscle aches, fever, and persistent loss of smell, loss of taste are some other symptoms. There is prior information about patients who have recovered from SARS who have gone on to develop chronic fatigue syndrome which worsens with physical or mental activity, and doesn't improve with rest. The same may be true for people who have long haul COVID-19. The Mayo clinic reports that while long haul COVID damages primarily the lungs, it can also damage the heart, kidneys and the brain. In this sense, brain injury from COVID-19 can result in post-brain injury vision symptoms and findings as well. Of the 58.9 million Americans who have reported having COVID, according to The American Academy of Physical Medicine and Rehabilitation, about 11.1 million Americans are living with long COVID-19 symptoms. The numbers continue to rise during the new Omicron variant. Over the past year, a new clinic has been established within our local rehabilitation hospital in order to address the medical rehabilitation needs of COVID long haul patients. Patients have been referred for vision evaluation and treatment. In this case series, six long haul patients are presented, including vision symptoms and findings. Treatments and therapies are discussed. An interesting comparison is made to post-concussion patient symptoms and findings. Optometry as a profession will be seeing this population grow in their practices over the

next several years and we should prepare ourselves for the visual needs of long haul COVID patients.

Case Summary:

5 patients (4 female, 1 male) ages 46-65 presented with new vision symptoms following their diagnosis of "long haul COVID". Symptoms included eyestrain, difficulty reading, near vision blur, diplopia, dizziness, nausea, slow cognitive processing, and headaches. The eyeglass prescriptions required modification for four of the five patients. Prism was prescribed to 2 of the patients. Visual field testing and OCT was recommended for all of the patients. Vision rehabilitation therapies were added to their comprehensive rehabilitation programs, which included vestibulo-ocular rehabilitation. Comorbidities were reviewed to look for common profiles, however the rule was heterogeneity without any true pattern for grouping. Progress was assessed and beneficial therapy interventions were noted, which again were not the same for each patient. The effectiveness of the eyeglass prescriptions was assessed. A return to typical ADL's and work was noted at the conclusion of therapies. Summaries of each case are presented.

Conclusions:

A new large diverse population of patients with vision symptoms is emerging since the COVID-19 epidemic has begun. Patients will present to optometry with numerous symptoms and findings that mimic acquired brain injury and post-concussion vision issues including; eyestrain, difficulty reading, near vision blur, diplopia, dizziness, slow cognitive processing, and headaches. Some of these patients will require changes in their spectacle corrections, tinted lenses, prism, new near reading prescriptions, and vision rehabilitation therapies. Optometry is well-positioned to address these functional visual issues for long haul COVID patients and should become part of the rehab team as early as possible.

Case Report Abstract:

Low Vision / Vision Impairment and Rehabilitation

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