

# COVID-19 OCULAR ASSOCIATIONS IN THE SCIENTIFIC LITERATURE: SYNOPSIS 26

The COVID-19 pandemic began in December and has affected people in nearly every country in the world. We provide a summary of ocular-related associations with COVID-19 in the literature, and we plan to update this as we become aware of new manuscripts. Thus far, it appears that approximately 1-5% of COVID-19 patients experience conjunctivitis and very few COVID-19 patients exhibit virus in their tears.

## Lawrenson JG and Buckley RJ. COVID-19 and the Eye. OPO. 2020

### • Ocular Manifestations

- Based on estimates from 9 reports of hospitalized patients in Asia, the prevalence of conjunctivitis in COVID-19 patients is approximately 4%
- COVID-19 may predispose patients to thrombotic disease, including retinal vascular occlusions, but the cause of such side effects is unknown
- In a case series, OCT revealed hyper-reflective lesions at the ganglion cell and inner plexiform layers; some of those cases also exhibited cotton wool spots and hemorrhages

### • Infection of Tears and Conjunctiva

- While conjunctival cells have the receptor to bind SARS-CoV-2, they lack the protease necessary to do so
  - It is unlikely that SARS-CoV-2 is transmitted through the tears

### • Personal Protective Equipment

- Virus likely spread through:
  - Exhaled respiratory droplets of 5  $\mu$ m diameter or larger (coughing, sneezing, and speaking)
  - Droplets smaller than 5  $\mu$ m (aerosols, similar to influenza transmission)
  - Contaminated surfaces (half-life varies, but about 6 hours)

- Should use single-use tips when possible
- Should disinfect diagnostic lenses with ethanol-based solutions
- Shields on equipment
- Masks should be worn by doctor and patient
- Physically distance and minimize contact time
- Routine, thorough hand hygiene
- **Conclusion:** “The evidence base for the SARS-CoV-2 virus and COVID-19 disease is expanding at a phenomenal rate. This has led to a wider understanding of the risks to both patients and practitioners of eye care procedures and how these risks can be minimized. We all look forward to the advent of effective antiviral therapies and/or vaccines, but until they are available, it is likely that these alterations to our professional practice will remain in place.”



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