



FLASH INFO ERN-EYE COVID N°002 v1.0

DATE : 8TH APRIL 2020

AUTHORS : Pr Petra Liskova, General University Hospital, Prague, Czech Republic
Pr Stephen Tuft, Moorfields Eye Hospital, London, United Kingdom

What is the chance of SARS-CoV-2 virus transmission with tears or conjunctiva?

Are ophthalmologists at increased risk of contracting COVID-19?

The clinical spectrum of COVID-19 disease, and the primary mode of transmission of the SARS-CoV-2 virus by respiratory droplet spread, has been well reported. These studies show an association between severe morbidity and death and increased age, as well as with comorbidities such as hypertension, diabetes, and pulmonary disease [1].

The risk of virus transmission in the community is high and an estimated 15-20% of individuals have an asymptomatic infection with a viral load similar to individuals with disease [2]. Disease suppression by social distancing and home isolation of cases and contacts has become the core management strategy [3]. Hospitals can be a focus for virus transmission and healthcare workers are at increased risk of infection.

There are anecdotal reports that ophthalmologists may be at an especial risk of infection, which raises the possibility that virus transmission could follow contact with tears or conjunctiva [4]. However, conjunctivitis is an uncommon sign (0.8%) with COVID-19. One study of 30 patients with COVID-19 disease and secondary pneumonia (9 severe) only identified viral RNA in the tears of one patient, who also had conjunctivitis [5], but, to date, SARS-CoV-2 virus has not been cultured from conjunctiva.

The conclusion is that the virus does not easily replicate in the conjunctiva, and that transmission of disease by this route is unlikely. However, general strategies to minimize risk are still essential and all patients should be examined as if they were potentially shedding SARS-CoV-2. These measures include minimizing face to face contact and all non-urgent ophthalmic appointments should be cancelled.

Ophthalmologists should wear appropriate personal protective equipment according to local guidelines, use a slit lamp breath shield, a fluid resistant mask, and goggles to further protect the mouth, nose and eyes. Finally, older clinicians (>70 years) should be removed from direct clinical care pathways.

Evidence suggests that SARS-CoV-2 RNA is only present in tears and conjunctival secretions of COVID-19 patients if they have conjunctivitis. The potential for respiratory droplet spread following close face to face examination means that protective eye wear and a face mask are recommended as part of the personal protective equipment.





**European
Reference
Network**
for rare or low prevalence
complex diseases

 **Network**
Eye Diseases (ERN-EYE)

MAIN SOURCES and REFERENCES:

1. REPORT OF THE WHO-CHINA JOINT MISSION ON CORONAVIRUS DISEASE 2019 (COVID-19). FEBRUARY 16-24, 2020. [HTTPS://WWW.WHO.INT/DOCS/DEFAULT-SOURCE/CORONAVIRUSE/WHO-CHINA-JOINT-MISSION-ON-COVID-19-FINAL-REPORT.PDF](https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf).
ACCESSED 5 MARCH 2020.
2. MIZUMOTO K, KAGAYA K, ZAREBSKI A, CHOWELL G. 2020. ESTIMATING THE ASYMPTOMATIC PROPORTION OF CORONAVIRUS DISEASE 2019 (COVID-19) CASES ON BOARD THE DIAMOND PRINCESS CRUISE SHIP, YOKOHAMA, JAPAN, 2020. EURO SURVEILL 25.
3. REPORT 9 - IMPACT OF NON-PHARMACEUTICAL INTERVENTIONS (NPIS) TO REDUCE COVID-19 MORTALITY AND HEALTHCARE DEMAND. [HTTPS://WWW.IMPERIAL.AC.UK/MRC-GLOBAL-INFECTIOUS-DISEASE-ANALYSIS/COVID-19/REPORT-9-IMPACT-OF-NPIS-ON-COVID-19/](https://www.imperial.ac.uk/MRC-GLOBAL-INFECTIOUS-DISEASE-ANALYSIS/COVID-19/REPORT-9-IMPACT-OF-NPIS-ON-COVID-19/) ACCESSED 8 APRIL 2020.
4. XIA J, TONG J, LIU M, SHEN Y, GUO D. EVALUATION OF CORONAVIRUS IN TEARS AND CONJUNCTIVAL SECRETIONS OF PATIENTS WITH SARS-COV-2 INFECTION. J MED VIROL. 2020 FEB 26. DOI: 10.1002/jmv.25725.

ERN-EYE WEBSITE related links:

<https://www.aao.org/headline/alert-important-coronavirus-context>

<https://www.sfo-online.fr/actualites/recommandations-covid-19-pour-les-ophtalmologistes-15-mars-2020>



Co-funded by
the European Union

