

Low Risk of COVID-19 Spreading Through Tears

It is unlikely that patients with coronavirus disease 2019 (COVID-19) are shedding virus through their tears, according to a study published in the journal *Ophthalmology*.

Ivan Seah, MD, National University Hospital, Singapore, and colleagues collected tear samples from 17 patients with laboratory-confirmed COVID-19 from the time they showed symptoms until they recovered about 20 days later. On some days, both tears and nasopharyngeal swabs were collected at the same time. These samples were delivered to different labs for processing.

Of the patients, none presented with ocular symptoms. However, 1 patient developed conjunctival injection and chemosis during their stay in the hospital. Of the patients, 14 presented with upper respiratory tract symptoms including cough, rhinorrhoea, and sore throat.

Neither viral culture nor reverse transcription polymerase chain reaction (RT-PCR) detected the virus in their tears throughout the 2-week course of the disease. While the patients' tears were clear of virus, nasopharyngeal swabs still tested positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

“To our knowledge, this is the first study comparing viral shedding in tears with nasopharyngeal swabs results during the course of COVID-19 infection,” the authors concluded. “In this study, there was no evidence of SARS-CoV-2 shedding in tears through the course of the disease. Viral load detected in nasal and throat swabs are elevated for a period of approximately 2 weeks from the onset of COVID-19 symptoms.”

“In this study, the tear sampling time-points cover these 2 weeks of active infection, providing a good representation of the full disease course,” they added. “All tear samples tested negative even when nasopharyngeal swabs continued to test positive. Furthermore, patients with symptoms of upper respiratory tract infections did not demonstrate any viral shedding in tears, suggesting the hypothesis of the lacrimal duct as a viral conduit may not be true. Most importantly, only 1 patient developed ocular symptoms during the disease course and no evidence of SARS-CoV-2 could be found in the tear samples. This suggests that transmission through tears regardless of the phase of infection is likely to be low.”

Reference: [https://www.aaojournal.org/article/S0161-6420\(20\)30311-0/pdf](https://www.aaojournal.org/article/S0161-6420(20)30311-0/pdf)

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