

Clinical use of fully remote-controlled optical coherence tomography (OCT) during the COVID-19 pandemic



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PURPOSE

- Physical separation is the most effective means of protecting patients and clinical staff from the spread of the coronavirus.
- In order to be able to conduct clinical studies in a safe environment, we have developed an imaging workflow that uses fully remote-controlled diagnostic OCT devices.

METHODS

- Retinal OCT imaging was performed using commercially available OCT devices, remote desktop access software and consumer video conferencing technology on smart phones and tablets.
- This method completely separates the patient from the operator and creates the safest condition during the COVID-19 pandemic.
- We used CIRRUS™ HD-OCT 5000 (ZEISS, Dublin, CA), CIRRUS™ 6000 (ZEISS, Dublin, CA), and PLEX® Elite 9000 (ZEISS, Dublin, CA).
- We used Facetime, Zoom, and Microsoft Teams video conferencing software and TeamViewer remote desktop software.

Retinal OCT imaging studies can be performed safely and effectively in a fully remote-controlled setting

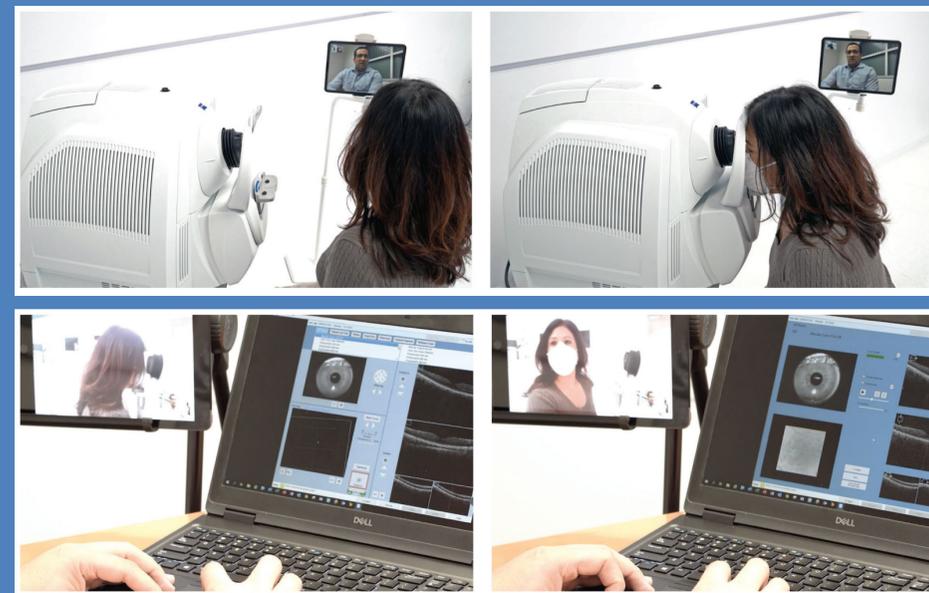
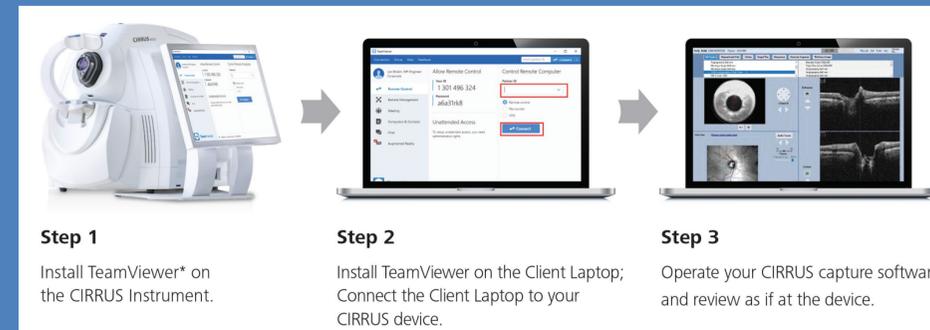
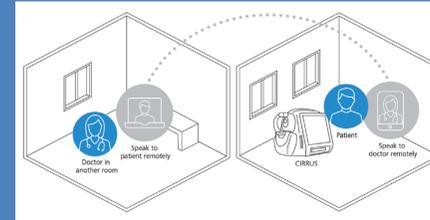


Figure 1. Schematic of remote-control use of Cirrus HD-OCT 6000 using TeamViewer remote desktop software and commercial video conferencing technology.

<https://www.zeiss.com/meditec/int/med-support-now.html>

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Disclosures: JS (E), TC (E), KM (E), PS (E), PM (E), MKD (E) – Carl Zeiss Meditec, Inc.

RESULTS

- From March to November 2020, we conducted 12 remote clinical studies.
- Imaging was performed by 4 different operators.
- We imaged 158 eyes of 79 healthy volunteers ranging from 30-65 years old.
- During each imaging session we captured between 4-10 OCT scans per eye.
- Every imaging session was performed entirely remotely with the volunteer in the office and the operator controlling the device from their home.

CONCLUSIONS

- We have demonstrated that during pandemics like COVID-19, OCT retinal imaging studies can be performed in a safe environment by completely separating patient and operator and using video conferencing and remote desktop software.
- We were able to complete all OCT scan acquisitions requested in the clinical studies. The exam time did not appear to be longer than during in-person exams.