

# Increasing patient and operator protection when using ophthalmic diagnostic devices during the COVID-19 pandemic



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## PURPOSE

- Ophthalmic diagnostic devices require patient and operator to be physically close during the exam.
- Goal of this study is to develop and release protective measures to increase patient and operator protection during COVID-19.

## METHODS

- We applied recommendations by the World Health Organization (WHO), the Center of Disease Control (CDC) and the Environmental Protection Agency (EPA) to the situation in the ophthalmic exam room, and developed, released, distributed, and communicated the resulting protective measures.
- We report the number of website visits, document downloads, and parts distributed from March 2020 through February 2021.

## RESULTS

- Detailed instructions on remote control of ophthalmic devices using remote desktop software or extension on monitors were published, viewed 4,450 and downloaded 1,014 times.
- Custom breath shields separating operator and patient were developed and a total of 82,827 have been shipped, free of charge or at-cost.
- Third party order information for single-use plastic bags and dental barrier film that fit ophthalmic devices and can cover high touch surfaces has been published on a dedicated webpage.

## Barriers and distance between patient and operator increase protection



Figure 1. Illustration of protective measures. A) operation of OCT at a safe 6 ft distance; B) remote controlled operation of an OCT; C) Cleaning instructions for HFA bowl using atomized isopropyl alcohol; D) Breath shields; E) Protective Coverings

Protective Measure	Number of Website Visits	Number of Document Downloads or Parts Distributed
Physical Distance / Remote Control	4,450	1,014
Protective Coverings	4,459	1,352
Breath Shields	179,431	82,827
Cleaning and Disinfection	25,819	11,781

Figure 2. Website visits, document downloads, and parts distributed.

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Disclosures: JS (E), SS (E), TS (E), RB (E), AT (E), KF (E), TC (E), GL (E), EL (E), KR (E), RS (E), AK (E), PM (E), JC (E), PS (E), JT (E) – Carl Zeiss Meditec

## RESULTS (CONTINUED)

- All cleaning instructions have been published in one place (viewed 25,819 times, downloaded 11,781 times).
- Highly accelerated lifetime tests were performed to confirm that frequent cleaning and disinfection of the HFA bowl with a spray of atomized isopropyl alcohol will not damage or alter the performance of the bowl. Updated disinfection instructions have been published and downloaded 8,318 times.
- An additional highly accelerated lifetime test has shown that the bowl inside the HFA can be disinfected using UV-C radiation without damaging the functionality of the perimeter.

## CONCLUSIONS

- In response to the COVID-19 pandemic, we have provided improved cleaning instructions for the HFA family of bowl perimeters, have developed and distributed over 80,000 breath shields, have identified protective coverings for high-touch areas, and have developed and communicated different ways to operate existing devices remotely.
- While we have not been able to quantify the effectiveness of the individual measures, it is our assumption that implementing these measures, which are based on recommendations by the WHO, the CDC, and the EPA, has increased patient and operator protection.