Investing in Technology for a Diagnostic Payoff

The CX-1 camera has helped improve patient workflow with high-quality imaging.

BY NEIL F. NOTAROBERTO, MD

Investment in technology allows a practice to provide the best care possible for patients while providing highly effective equipment to one's staff. One example is the recent introduction of a digital retinal camera into our practice, the CX-1 Hybrid Digital Mydriatic/Non-Mydriatic Retinal Camera (Canon). Compared with the previous technology we were using, we were impressed by its capabilities, and we have purchased 3 for our practice network.

CAMERA TECHNOLOGY

The CX-1 is an actual EOS camera has been adapted exclusively for ophthalmic use, which provides 2 specific benefits. First, the EOS technology has been designed with a high-resolution sensor, so that small hemorrhages, faint spots in the periphery, and individual capillaries are visible. Second, the EOS camera is operated by simple push-button operation so that the trained eye-care professionals in our practice can intuitively change modes and adjust functions mid-exam.

The CX-1 retinal camera can shift between mydriatic and nonmydriatic imaging mid-exam. In addition, the operator can switch into 5 different photography modes—color, fluorescein angiography, red-free, cobalt, and fundus autofluorescence—allowing faster and more efficient image capture. These different modalities help us to make a more definitive diagnosis because of the ability to view the eye through a variety of filters and angles (Figures 1-4). Because the CX-1 retinal camera connects through provided software to a central server, images are automatically saved and can be accessed and processed instantly.

OUTPUT

The machine's LCD monitor displays guides that automatically determine the base length for acquiring stereo images. Images captured on the machine can be instantly displayed on a computer monitor through software that provides the ability to examine multiple images simultaneously while enhancing these shots with digital tools. Previous cameras we have used did not have the ability to stream images in real time. Faster exam times and times to diagnosis have resulted, allowing us to provide more streamlined care.

Figure 1. Fluorescein angiogram with a minimal loss at high magnification. Note areas of efficient high-ratio contrast due to the dedicated chip-based image processor found on all EOS cameras.

EASE OF USE

The CX-1 retinal camera has been a key asset to us in building and managing an efficient practice. The camera we used previously was more complicated and difficult to use, which required training and investing in a dedicated retinal photographer to become specialized on the machine. There was a serious issue with this system.

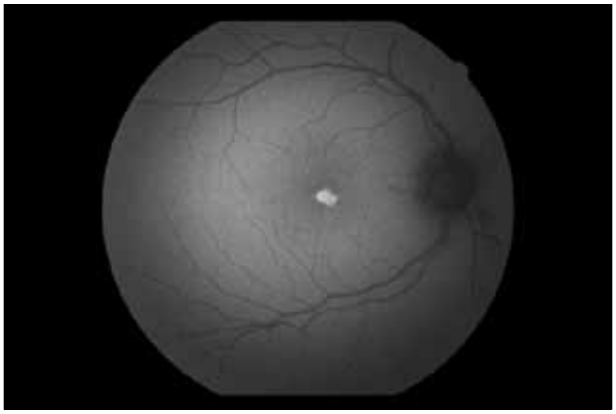

Figure 2. Autofluorescence photograph illustrating clarity at this wavelength due to dedicated on-board chip-based digital image processor.

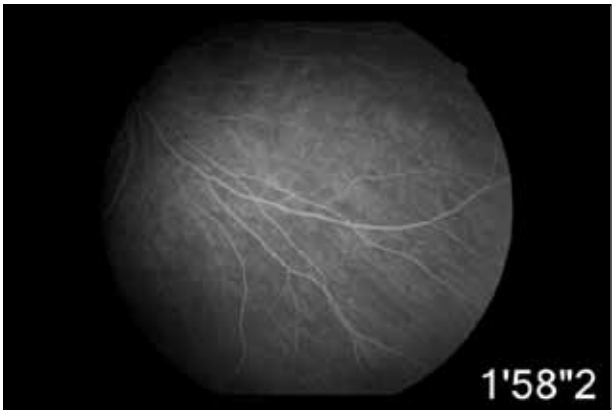

Figure 3. Mid-peripheral images taken by a newly trained photographer. Excellent focus and view with minimal training.

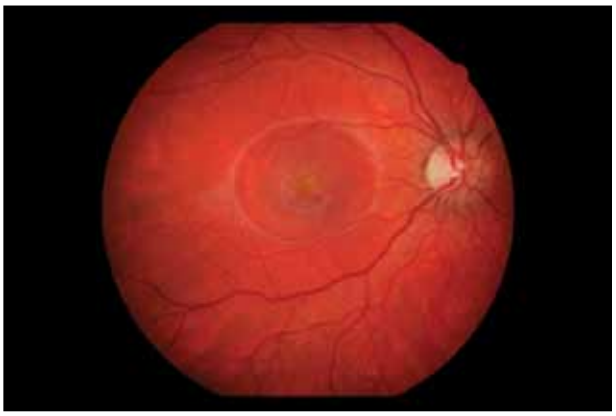

Figure 4. Color fundus photograph without blown color highlights and automatically adjusted by dedicated on-board chip-based digital image processor.

When the dedicated photographer left the practice, was backed up with appointments, or took a vacation, it slowed our pace and negatively impacted the diagnostic process. The technology and software integrated into the CX-1 retinal camera is so intuitive and easy to use that we have completely eliminated this issue. Now, we can train our entire staff in a matter of hours, and everyone can become proficient on the camera. This helps make managing our workflow, appointments and diagnosis much easier than we ever imagined.

SUMMARY

Recent technological advancements have had an incredible positive effect on our ability to provide quick diagnoses. From increasing the image quality and supporting efficient workflows to providing new and interactive ways to engage a patient in the process, technology is supporting the eye care industry in ways we never thought possible. With the innovative features provided on instruments such as the Canon CX-1 retinal camera, we are able to reach more confident diagnoses more quickly and more efficiently than ever before. ■

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