

Eyemaginations 3D-Eye Office

David S. Friedman, MD, PhD, explains how this software facilitates the education of patients while saving clinicians time.

BY GILLIAN McDERMOTT, EDITOR-IN-CHIEF

Educating patients about their glaucoma represents a significant challenge in their care. One difficulty is using language that patients can understand, because ocular anatomy and disease are complex. Time is another obstacle, because physicians tend to be under pressure, and these conversations can be time-consuming. In addition, discussing the same points repeatedly becomes fairly routine for doctors, so their enthusiasm for communicating with patients diminishes. Lastly, patients often do not ask physicians for the explanations they need, because doing so makes them uncomfortable. For that reason, it is difficult for physicians to know whether patients understood them.

Software such as the Eyemaginations 3D-Eye Office (Eyemaginations, Inc., Towson, MD) can help clinicians educate their patients effectively. David S. Friedman, MD, PhD, is Associate Professor of Glaucoma, Ophthalmology and International Health, Johns Hopkins University, Baltimore. In an interview about the technology with *Glaucoma Today*, he commented, "It seems logical that, the better patients understand their glaucoma, the better able they will be to manage it."

THE SOFTWARE IN PRACTICE

Each examination room in Dr. Friedman's office has a computer on which the Eyemaginations software is loaded. Users may create playlists and start them with a

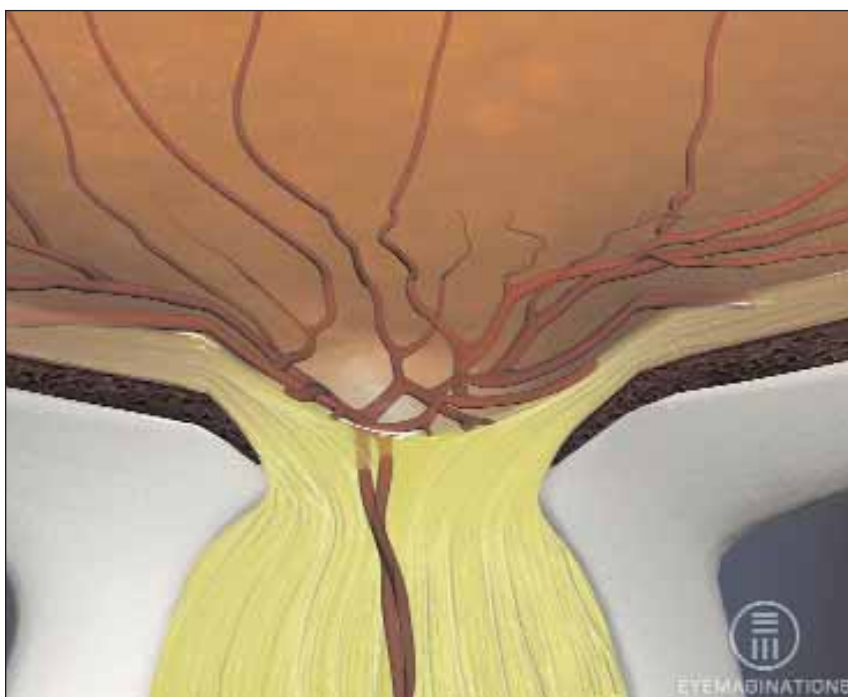


Figure 1. A simulation of optic nerve cupping.

single click of the mouse. Dr. Friedman examines patients before administering dilating eye drops and then launches the video sequence that is appropriate, based on the diagnosis at that point. "I can easily run different automated sequences to cover such topics as ocular hypertension, open-angle glaucoma, the instillation of eye drops, and cataract," he said (Figures 1 and 2). Additionally, users may add their own voiceovers if they do not like the text for a given segment—not possible with earlier versions of the software.

After patients' pupils have dilated, Dr. Friedman returns to complete the examination. "I then build on the information from the videos and ask them what they do not understand," he commented. "The software

(Courtesy of Eyemaginations, Inc.)

3D-EYE HOME

**BY JULIA T. LEWANDOWSKI,
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Eyemaginations, Inc. (Towson, MD), recently launched 3D-Eye Home, a new version of its educational software that allows patients to access the company's animations from their home computers.

"No matter how clearly we try to explain glaucoma to patients, they do not know enough about ocular anatomy to understand their disease or why we recommend a specific treatment," said Cynthia Matossian, MD, a private practitioner from Ewing, New Jersey, in an interview with *Glaucoma Today*.

For example, most patients know that they are supposed to use eye drops to lower the pressure in their eyes, but they do not really understand why their IOPs are elevated. 3D-Eye Home's chapter on glaucoma includes a detailed animation that shows how aqueous flows from the posterior to the anterior chamber before exiting the eye through the trabecular meshwork. This demonstration helps patients understand how a healthy eye works and how treatments such as medical therapy, laser surgery, and filtration procedures relieve pressure in their eyes and prevent their glaucoma from progressing.

Steven Reto, OD, a private practitioner from West Chester, Pennsylvania, estimates that approximately 5% of his glaucoma patients (who compose approximately 10% of his practice) have tried 3D-Eye Home. It is a useful educational tool, he said in an interview with *GToday*, because almost all of his patients, even the older ones, have access to a computer.

"I give them a disc or send them an email that directs them to the Eyemaginations Web site," he commented. "I indicate the topics that the patients should watch by placing checkmarks on the menu that appears on the CD's jacket and on the Web site's introductory page [Figure 1]. They just click on the icons, and the program automatically launches the animations. I see 3D-Eye Home as a tool that extends the services I provide from my office to patients' homes."

Dr. Matossian also values the software's educational aspects. "I tell patients that their watching 3D-Eye Home is like a homework assignment," she said. "I encourage them to watch the animations, jot down their questions, and bring them back for their next visit. This exercise engages the patients to learn more about their ocular conditions."

Darrell White, MD, a private practitioner from Westlake, Ohio, uses 3D-Eye Home in two ways: (1) to prepare patients for their initial appointments and (2) to reinforce the information he presents during office visits. "We welcome all new patients to our practice with an email that invites them to view topics in 3D-Eye Home that are related to the reason for their



Figure 1. Patients click the icons on the introductory page to view recommended animations.

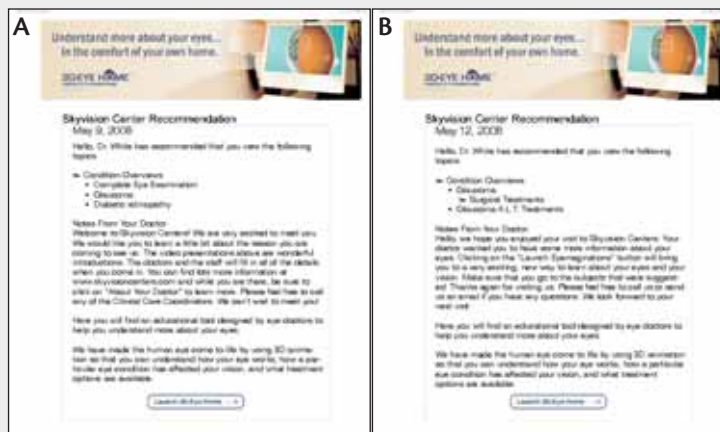


Figure 2. Dr. White sends introductory (A) and follow-up (B) emails that direct his patients to view specific animations.

visit," he said. "Approximately 1 week after the appointment, we send them a follow-up email that prompts them to view the topics that we discussed" (Figure 2).

In addition to providing basic information about the etiology of glaucoma, 3D-Eye Home prepares patients for more invasive treatments. "People can be very sensitive about their eyes, especially when it comes to surgery," said Dr. White. "The animations show what happens during laser and filtration surgery without making patients uncomfortable. Because they access the animations from their home computers, they can review the information as many times as they want."

Cynthia Matossian, MD, acknowledged no financial interest in the product or company mentioned herein. She may be reached at cmatossian@matossianeye.com.

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(Courtesy of Eyemaginations, Inc.)

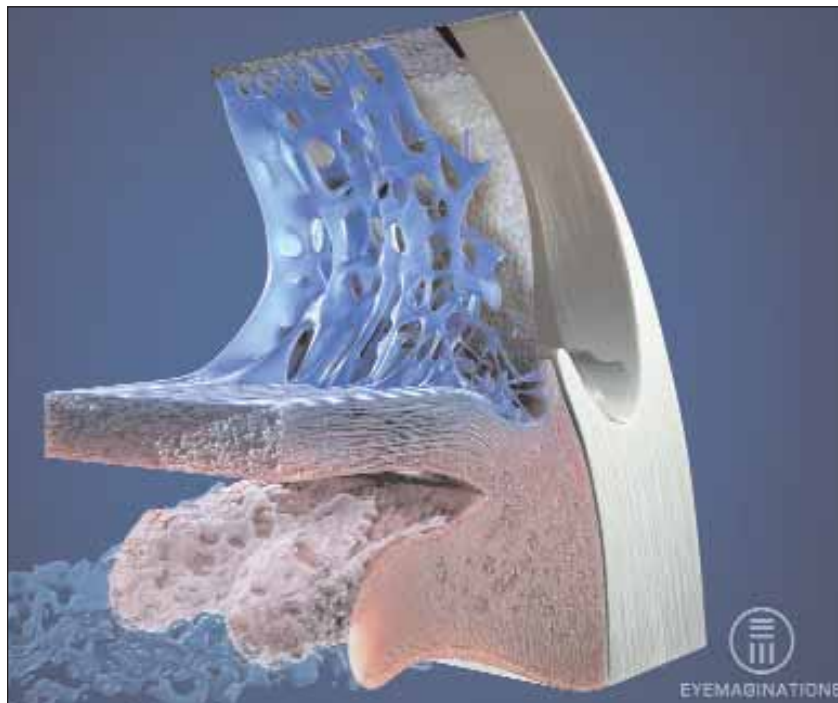


Figure 2. A 3D representation of the trabecular meshwork and ciliary body.

also allows me to draw on high-quality cartoons that clearly demonstrate the ocular anatomy to illustrate and individualize my explanations. I find that this and the software package's other visual components help my patients understand more clearly the disease process and the treatment options."

CAVEATS

At present, the Eyemaginations 3D-Eye Office does not cover all of the elements of informed consent for surgery. According to the company, however, clinicians should bear in mind that this software is designed to educate patients, not to provide surgical informed consent. The manufacturer is developing a product, 3D-Eye Consent, that will address this need. Currently, Dr. Friedman said, only the cataract surgery module contains enough details to be truly thorough enough for informed consent. The company reports adding the following animations, however, to its recently released version 4.4 of the software: trabeculectomy; glaucoma treatment overview; glaucoma testing overview; and shunts.

TIPS

A key benefit of the system is being able to start a video sequence quickly before leaving to see the next patient. Dr. Friedman recommends that new users request the company's assistance when setting up the quick-launch keys in order to save time. According to

Eyemaginations, Inc., version 4.4 of the software has the quick-launch keys preset.

His second recommendation is to remember to use the software. This may seem an obvious point, but, in the bustle of a clinical day, it is easy to forget to incorporate the technology into one's usual sequence of activities. Practitioners must find a way to make using the software a part of their routine.

Dr. Friedman also pointed out that "the Eyemaginations 3D-Eye Office is meant to augment the interaction between patients and clinicians. It is therefore important to have the computer in a place where patients can watch the videos and where physicians can return to discuss the material with them."

CLOSING THOUGHTS

Whether the Eyemaginations 3D-Eye Office improves patients' compliance with prescribed therapy is unknown. "In the Glaucoma Adherence and Persistency Study,¹ my colleagues and I looked at the drivers of patients' adherence," Dr. Friedman said. "One component was the level of concern that they had about losing vision in the future. Another component that was a predictor of better adherence was if doctors called patients to remind them of their visits. Based on our findings, my feeling is that patients who are better informed about their glaucoma are more likely to adhere to prescribed therapy. Tools such as the Eyemaginations 3D-Eye Office may help."

One benefit of the software is that it saves clinicians time by covering the basics. Explained Dr. Friedman, "This allows me to focus on the areas that patients found confusing and their particular concerns. As a result, I can have deeper, individualized conversations with my patients and thus provide them with better care." □

David S. Friedman, MD, PhD, acknowledged no financial interest in the product or company mentioned herein. Dr. Friedman may be reached at (410) 614-1342; dfriedma@jhsph.edu.

1. Friedman DS, Hahn SR, Gelb L, et al. Doctor-patient communication, health-related beliefs, and adherence in glaucoma results from the Glaucoma Adherence and Persistency Study. *Ophthalmology*. March 3, 2008 [Epub ahead of print].