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Training staff to get it right with advanced imaging

How to strengthen your practice's knowledge base after the manufacturer's rep leaves.

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Disclosure: Mr. Bennett has no financial relationships to disclose.

The use of ophthalmic imaging has exploded in recent years thanks to the introduction of new technologies and treatment options. In many practices, diagnostic imaging is now a critical component of the comprehensive ophthalmic examination. Physicians frequently use OCT, fundus photography and fundus autofluorescence (FAF) as a foundation for their treatment plans in glaucoma, diabetic retinopathy and macular degeneration.

They use anterior segment OCT to evaluate the cornea, angle and anterior chamber, providing useful measurements in glaucoma, refractive surgery and in diagnosis of corneal conditions such as keratoconus. Angiography remains a valuable tool in the assessment of retinal and choroidal vascular disorders.



Tony Reynolds, COT, OCS, at Drs. Fine, Hoffman and Sims in Eugene, Ore., positions himself in the patient's spot while coworkers Rachel Soldberg, COA, OCS, left, and Brandy Hunt, COA, OCS, review OCT operation.

Implementing these valuable techniques involves more than simply selecting and purchasing the appropriate instruments. With the increased demand and reliance on imaging, practice managers must ensure their staff is adequately trained to perform these diagnostic tests. Unfortunately, many practice managers underestimate or overlook training when they implement new imaging devices and techniques. The challenge for many practices is to continue the training process once the manufacturer's trainer leaves after an hour or two of basic staff training.

DEFINE THE CHALLENGE

Patient management skills a must

Today's imaging devices provide a variety of automated tools and features designed to simplify image capture and analysis. Features such as non-mydratric imaging, eye-tracking, auto-focus, auto-exposure and image sampling can improve image quality, but may also lead to a false perception that diagnostic imaging is easy to perform or requires little training.

Despite what advertisements or sales representatives may tell you, imaging is not always as simple as pushing a button. Do not take for granted the skills a technician needs to obtain a good diagnosis. Even with automatic features and tools, imaging results still depend on the patient's cooperation level, the condition of the eye and the operator's skill.

Good patient management skills, combined with a working knowledge of ocular anatomy and common clinical findings will aid the imager in capturing consistent diagnostic images. Chances are your staff members already possess a general foundation in these areas. The next step is to provide them with the resources to advance to a higher level of proficiency in ophthalmic imaging.

Assess staff proficiency

Before you select training programs and resources for your staff, assess their current skill level and the specific imaging needs of your practice. The training that staff requires to perform routine OCT imaging in a general practice is quite different from what they need to perform angiography or other advanced imaging tests on challenging patient populations.

OCT, fundus photography tips and tricks

Like any other technology, ophthalmic imaging devices require the user to understand how the device functions to get the best results. When training staff, focus on the operation of the device by following these tips.

OCT generates "quality" numbers that assess the signal strength of the scans. They are useful, but it's more important to look at the quality of the OCT scan itself. When evaluating OCT results for quality, the operator should ask:

- Is the scan centered on the area of interest or pathology?
- Does it have good edge-to-edge saturation?
- Is it free from artifacts?

Fundus photography requires the user to correctly adjust the eyepiece reticle and relax accommodation at distance to avoid accommodative shift while she is capturing images.

A commonly taught technique involves adjusting the cross hairs three successive times, noting the diopter setting each time and using the average of these numbers. Unfortunately, this technique actually promotes accommodation to near while recording the numbers.

The best strategy is to ignore the dioptric measure altogether, relax accommodation and pay constant attention to the cross hairs and the image of the retina. As long as the cross hairs and the aerial image of the fundus both appear sharp at capture, the focus will be correct.

Viewing-lamp brightness can also affect focus. The brighter the view, the better the focus. Unfortunately, viewing levels that promote good focus can be uncomfortable for the patient, adversely affecting cooperation. A simple technique that can help both photographer and patient is to briefly turn the lamp up to adjust focus and then drop it down to a more tolerable level.

Expect a learning curve for each individual performing these tests. They can only acquire some skills through experience. Repetition is necessary for each staff member to move beyond the basic training the device manufacturer provides. Make sure your employees get the appropriate support and opportunity to refine their skills.

Identify staff leaders

In some settings it may be practical to identify one or two staff members who are primarily responsible for the majority of imaging tests. This shortens the learning curve because just one or two individuals account for most of the repetitions.

In high-volume practice settings, managers and physicians may want all technical staff trained to perform routine imaging. This model offers greater flexibility in staffing clinics, especially when covering multiple offices, but can also make it difficult to achieve a high level of consistent image quality. Whatever your practice staffing model, consider training a necessity to plan for and budget.

OUTSIDE TRAINING

Meetings and seminars

The most comprehensive and practical training opportunities traditionally have been found at educational programs the Ophthalmic Photographers' Society (OPS), Association of Technical Personnel in Ophthalmology (ATPO) and Joint Commission on Allied Health Personnel in Ophthalmology (JCAHPO) offer. These non-profit organizations support the education and certification of ophthalmic medical personnel and offer excellent national and regional educational programs that include imaging techniques.

These programs include a variety of didactic lectures and hands-on workshops at basic through advanced course levels. A combination of experienced imaging educators, vendor representatives or physicians commonly teach the courses. These programs also offer continuing education credits necessary for certification or recertification. Despite the high costs associated with educational travel, these programs often provide the most comprehensive and effective training results.

These organizations provide support for education in other ways as well. Membership in ATPO and OPS provides additional resources, such as the *Journal of Ophthalmic Photography*, online message forums, discounts for in-person and online educational programs and peer-networking opportunities.

Online training resources

These organizations' and manufacturers' websites can provide general or equipment-specific guidance.

- **Ophthalmic Photographers' Society:** <http://www.opsweb.org/>
- **Joint Commission on Allied Health Personnel in Ophthalmology:** <http://www.jcahpo.org/>
- **ACTIONed for the Eyecare Team:** <http://action.jcahpo.org/>
- **Heidelberg Engineering:** www.heidelbergengineering.com/us/academy-education/
- **Carl Zeiss Meditec:** http://meditec.zeiss.com/meditec/en_de/services/training-and-education/ophthalmology.html
- **Optovue:** <http://optovue.com/videos/>
- **Canon USA:**
www.usa.canon.com/cusa/healthcare/products/eyecare/standard_display/HealthcareTechnologies_EducationVideos

Online educational resources

Depending on the size of your technical staff and budget for education, having them attend traditional educational programs may not be cost-effective or feasible. In that case, you may want to look at some of the available online training resources. The same professional organizations also provide a variety of online resources such as tutorials, recorded lectures and webinars. Some are free, while others offer CE credits for a reasonable fee. OPS, ATPO and JCAHPO all provide online offerings separately and through a consortium of allied health groups in ophthalmology known as ACTIONed.

Some of the major instrument manufacturers also provide online educational resources specific to their devices. Programs may include live webinars or on-demand content such as tutorials, recorded courses and how-to guides. Some of these resources are physician-oriented, but often they offer several training tools for imagers as well.

TRAINING IN-HOUSE

Customized programs

Larger practices may benefit from an internal training program. Establishing an in-house program for your practice can be useful for primary training or as an adjunct to some of the previously mentioned programs. An in-house training program can be tailored to your practice's specific needs and available resources.

Formalizing a program of monthly educational sessions demonstrates a commitment to high standards in imaging that helps keep staff engaged and motivated to perform at that level. The best combination for such a program may be a mix of didactic lectures and informal, hands-on sessions with the instruments. Practice physicians can provide periodic lectures on the diagnostic uses of imaging, what they look for in the test results and how imaging influences their treatment decisions.

Building staff camaraderie

One of the best ways for an individual to learn is through teaching others. If you have a curriculum or list of techniques you want to include in your training program, your imaging staff could divide this list among themselves and present small sections to their peers. This technique not only builds individual skills, but also promotes staff camaraderie.

This approach can be as simple as informal in-service sessions to review maintenance and cleaning procedures, discuss troubleshooting measures and offer tips for handling challenging situations. Time spent with a physician at the instrument reviewing interesting cases or unusual findings can be incredibly valuable to both physician and support staff. It creates a culture of communication, supports education and better patient care. Periodically bringing in an outside speaker to provide a different perspective may spice things up and help maintain interest in continued learning.

Ready-made curricula

If you would rather have a formal curriculum, you might want to consider following the content outline for one of the certification programs OPS or JCAHPO offer. They base these outlines on surveys that identify the most commonly performed tasks and skills in ophthalmic imaging. The respective certification guides include the content outlines that one can find online for free.

JCAHPO offers three levels of technician certification (COA, COT, COMT) that include ophthalmic imaging skills, while the OPS offers two advanced imaging certification programs (CRA and OCT-C) with extensive lists of requisite skills in imaging. Using these outlines for an in-house training program can also help prepare staff for achieving certifications.

Another ready-made curriculum can be found in the imaging protocols for clinical trials the study sponsor or imaging reading centers publish. Clinical trial protocols not only include specific imaging requirements that may be useful in clinical settings, but also provide tips and tutorials on how to achieve consistent, high-quality results. If your practice participates in a clinical trial or you otherwise have access to these protocols, they can be a useful resource.

Allow for flexibility

Using these methods, ophthalmic medical personnel can effectively be trained to follow a standard imaging protocol or “cookbook” approach to testing. You can do this by creating specific protocols based on the presenting diagnosis or the preferences of different practitioners.

Standardization is useful to a point, especially in promoting consistency between different operators. But it can also be restrictive if a protocol is enforced too rigidly. Encourage imagers to go beyond a standard approach to investigate unexpected or coincidental findings. The advanced imager will also know when to cut a protocol short and prioritize the most important views in challenging situations. With appropriate training, you can have confidence that your imaging staff will know when to adhere to a planned protocol and when to adapt to a specific clinical situation.



Rachel Soldberg, COA, OCS, left, points to the user interface of an OCT device at Drs. Fine, Hoffman and Sims in Eugene Ore., while Brandy Hunt, COA, OCS, observes.

As utilization of ophthalmic diagnostic imaging continues to grow, the need for training grows with it. Make sure your practice is prepared to meet these training needs by providing the resources your staff needs to perform these valuable diagnostic tests. **OM**

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