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## IMPACT OF MULTIMODAL SWEEP SOURCE OCT ON GLAUCOMA MANAGEMENT



The DRI OCT Triton brings a new level of diagnostic capability to your practice.

BY AUGUSTO PARANHOS JR, MD

According to the World Glaucoma Association, OCT is the most important tool we have for diagnosing glaucoma and evaluating the progression of the disease.<sup>1</sup>

With new technology, such as the Swept Source DRI OCT Triton (Topcon), I can determine the association of the retinal nerve fiber layer and the macula.

I am also enthusiastic about being able to evaluate the foveal avascular zone. This technology opens an interesting field of study, and new studies are showing its value for clinicians specializing in glaucoma management.<sup>2,3</sup>

### HIGH-QUALITY IMAGING

As a glaucoma specialist, I spend all day evaluating glaucoma suspects and patients with different stages of glaucoma. I need the most accurate information available in order to evaluate and manage these patients. With good reproducibility and low noise, Topcon's Swept Source OCT (SS-OCT) contributes to a high-quality clinical examination.

In many cases, if I cannot rule out glaucoma, the SS-OCT examination provides very good information on the probability of glaucoma and how often I should see a patient who is a glaucoma suspect. For patients who have glaucoma, the SS-OCT trend analysis is an important tool to evaluate disease progression. Image quality and resolution are excellent, so I can trust what I am seeing.

One of the most important advantages is that I can use SS-OCT in the same way I perform an ultrasonography to

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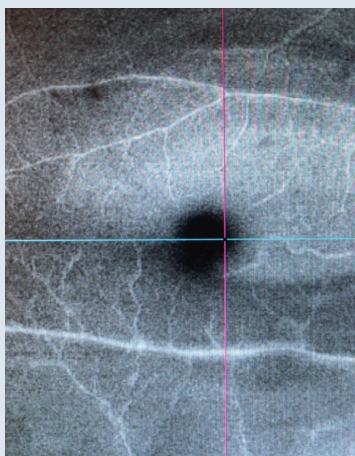
analyze different images in regions of interest. The use of *en face* OCT for small retinal nerve fiber layer defects works this way.

### ANTERIOR IMAGING CAPABILITY

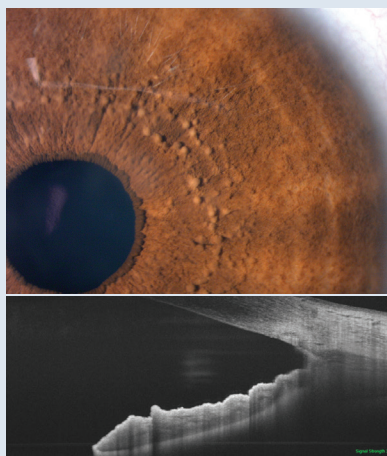
The excellent resolution of the anterior imaging function of the DRI OCT Triton helps me to evaluate the amplitude of the irido corneal angle, the position of an implant immediately after microinvasive glaucoma surgery when visualization is obscured by blood, pachymetry for all patients, and the presence of corneal or iris lesions.

# DEMONSTRATING DRI OCT TRITON'S CLINICAL UTILITY

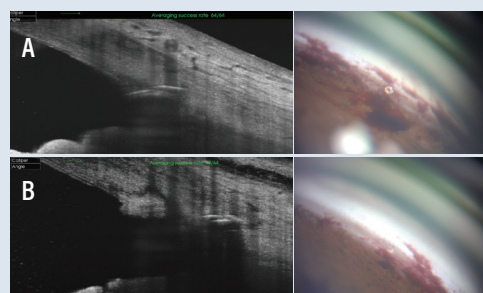
The following cases demonstrate the utility of the DRI OCT Triton (Topcon) in clinical practice.



**Case 1.** *En face* shows two levels of retinal nerve fiber layer damage, one deeper (superiorly) than the other. Note how the retinal nerve fiber layer damage is close to the foveal area. This lesion of the vulnerable zone is important to recognize, as it is suspicious and the patient will need more frequent follow-up and central function evaluation.



**Case 2.** Iris mammillations in a young patient with genetic positive neurofibromatosis type 1 mutation. Because the lesion is denser, it gives a shadow effect just after the mammillations.



**Case 3.** An iStent Trabecular Micro-Bypass Stent (Glaukos) positioned correctly on the trabecular meshwork (A). An iStent placed too deeply (B).

Slit-lamp gonioscopy images are not captured with the DRI OCT Triton.

## VISUALIZATION OF THE LAMINA CRIBROSA AND MORE

With the DRI OCT Triton, I have a clear image of not only the lamina cribrosa but also all the structures surrounding the optic nerve as well as the atrophies and anatomical parameters of each structure.

Regarding the lamina cribrosa itself, thus far, I have used this tool for research purposes only. While it is interesting, there is no clinical parameter to be considered at this time. I believe we are close to using this in our clinical practice, because evidence suggests that the thickness and position of the lamina cribrosa are a risk factor.<sup>4,5</sup> I believe this may be particularly important for myopic eyes.

## CONCLUSION

As glaucoma specialists, we need as much information as possible for all structural parameters to effectively monitor our patients. Most often, glaucoma evaluation involves detecting a change during follow-up visits. We still do not know for sure the meaning of many

parameters, such as lamina cribrosa position and thickness, vascular parameters of the disc and macula, and so on. Collecting all of these data together with what we already know is important and will help us see progression, stability, or even the absence of glaucoma. ■

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