EIDON WideField TrueColor Confocal Scanner:

A Breakthrough in Fundus Imaging

Retinal Imaging is playing an increasingly important role in ophthalmology. Technical advances in this field are leading to radical changes in the diagnosis and monitoring of several retinal pathologies, and in the objective assessment of responses to treatments and surgery.

The introduction of EIDON Wide field TrueColor Confocal Scanner (by CenterVue; Padova, Italy) to the market has set a new standard in retinal imaging. The device uses confocal technology and white LED light illumination, a unique combination that offers details-rich images and high-fidelity to actual retinal colors. This provides eye care practitioners with an authentic perception of the retinal anatomy, giving all those details which can aid in the detection, diagnosis and follow-up of pathologies.

Yoshitaka Oka, M.D, from the Oka Eye Institute, Fukuoka, Japan, emphasized that a high-quality imaging system such as this is a very valuable tool to educate patients about the need to better manage their condition through treatment or surgery, and to better explain to them the need for further examinations. "EIDON arrived to my clinic in September 2016, and immediately became an indispensable device in my clinical practice," shared Dr. Oka.

"In fact, EIDON has allowed me to obtain a completely new and different concept of a wide-field, high-resolution retinal image – one that represents a real breakthrough compared to any other fundus camera or scanning laser ophthalmoscope (SLO) system available in the market today," he added.

Superior Image Quality

The primary benefit of EIDON confocal technology is the superior and unique-in-its-kind image quality that facilitates and improves the detection of changes in the retina. It is known that early signs of retinal diseases may be missed with a direct examination or with low resolution fundus imaging systems. However, EIDON's detail-rich images, even through cataracts or other media opacities, aid in detecting the slightest morphologic abnormalities.

According to Dr. Oka, EIDON's technology makes it the perfect tool to image and document pathologies, like in the screening of diabetic retinopathy. The high-resolution images generated by EIDON enable surgeons to conduct an examination over time of the smallest symptoms of diabetic retinopathy (DR) – symptoms like microaneurysms, dot hemorrhages and retinal neovascularization – that are otherwise hard to detect in standard fundus camera and direct ophthalmoscopy examination. "This is why I think EIDON is also the perfect tool for DR screening and DR stage evaluation," he said.

Also, the sharpness of the images in EIDON, due to its confocal optical engine, is able to clearly show the wrinkling of the retinal surface and the thinnest superficial retinal folds typical of the epiretinal membrane (ERM). "All these details are generally not distinguishable or completely lost in a typical fundus camera image. This is why I can certainly state that capturing the ERM is one of the most valuable capabilities of EIDON," said Dr. Oka.

Imaging in Difficult Visualization Conditions

Even in difficult imaging conditions, such as in cases of cataract and small pupils, EIDON's confocal technology still allows the instrument to take an image of the retina, where traditional fundus cameras cannot (a crucial limitation in several cases). "More importantly, EIDON is able to take an image of the fundus through a poorly dilated or non-dilated pupil (down to 2.0 mm), allowing for improved patient flow, facilitating operator activities and reducing patients' waiting times," explained Dr. Oka.

Wide-Field View

EIDON provides an 89-degree image of the retina with a single exposure. In addition, multi-field imaging allows for the automatic creation of a 163-degree montage: an essential tool in managing and follow-up peripheral lesions.

EIDON TrueColor confocal technology applied to wide-field imaging improves the detection, analysis, and monitoring of pathologies affecting the peripheral retina, preserving the sharpness and details of the pictures even in the periphery accurately documenting the extent and location of these diseases.

Ease of Use

The device is very easy-to-use and requires minimal operator involvement: in full automatism it aligns the patient's pupil, focuses on the retina, and captures a single 89-degree image of each eye, taking less than one minute.

"At the same time, the device is also very comfortable for the patient, since it uses a non-intense light source that softly flashes the patient's eye," explained Dr. Oka.

Multiple Imaging Modalities

EIDON technology supports different imaging modalities. In addition to the unique TrueColor imaging option, the device also allows the acquisition of infrared, red-free and autofluorescence (optional) photographs of the retina.

"Autofluorescence imaging in particular provides interesting support in the diagnosis of several diseases, since it overcomes the evaluation of the simple retinal anatomy, opening a window in the evaluation of retinal metabolism (without the risk of allergic reactions due to fluorescent dye, as in fluorangiography)," Dr. Oka concluded.

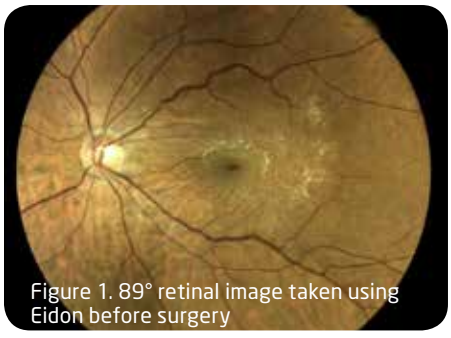

Figure 1. 89° retinal image taken using Eidon before surgery

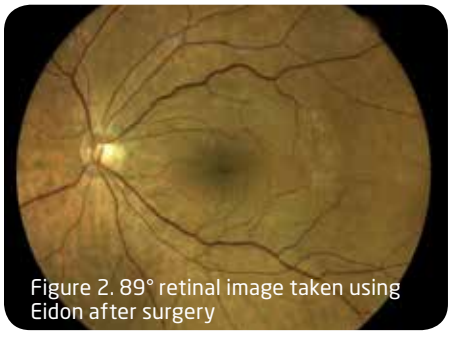

Figure 2. 89° retinal image taken using Eidon after surgery

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