

## KEY INDICATOR TO PREDICT THE PROGRESSION OF PDR

optomap *fa*

Research using **optomap *fa*** reveals that 50% of eyes with baseline predominantly peripheral lesions (PPL) are at high risk for diabetic retinopathy (DR) progression.<sup>1</sup>

- DRCRnet Protocol AA reported increased retinal nonperfusion (NP) and PPL are strongly associated with increased DR severity even when adjusted for baseline ETDRS and systemic disease factors.<sup>1,2</sup>
- Previous research with **optomap *fa*** has outlined its use in the evaluation and treatment of DR and vascular disease. ASRS practice guidelines note it is valuable when assessing vascular NP and permeability in the treatment planning process.<sup>3</sup>
- **optomap *fa*** is more reliable for microaneurysm assessment when compared to color fundus photography.<sup>4</sup>
- Studies calculating NP index using Optos **Advance™** measurement tools have found that areas of NP greater than 77.5mm<sup>2</sup> or 107.3 disc areas (DA) are associated with a higher risk of progression to PDR.<sup>5,6</sup>
- **optomap *fa*** is the only single capture ultra-widefield (UWF) to visualize the full extent of NP, as 70% of NP is located outside the posterior pole.<sup>7</sup>
- Optical Coherence Tomography Angiography (OCT-A) has been discussed as an alternative to dye-based angiography. However, no large studies confirm OCT-A to be effective for identification of NP or PPL or for assessing risk of DR progression. In fact, one study found that 17% of peripheral neovascularization (NV) was detected only on UWF-FA and unable to be visualized on widefield (WF) NP OCT-A.<sup>8</sup>

*“UWF-FA may be an effective prognostic marker and should be included in staging systems to better predict risk of worsening over time.”*

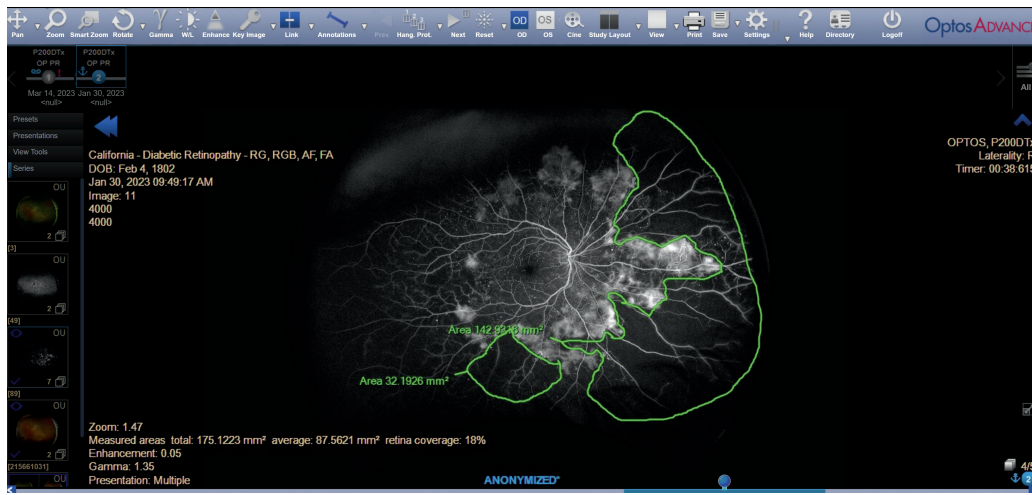
*- Protocol AA, DRCRnet<sup>1</sup>*

See how **optomap** will help you manage your patients. For more information call **800-854-3039** or **BDS@optos.com**.



# CLINICAL SUMMARY

## Further evidence **optomap fa** supports the assessment and care of patients with diabetes



**optomap fa** demonstrating the measurement of nonperfusion.

- At baseline for Protocol AA, FA-PPL were present in 46% of eyes and color-PPL were present in 41% of eyes.<sup>9</sup> Previous research has determined that the presence of peripheral lesions increase a patient's risk of progressing to PDR by a factor of 4.73.<sup>10</sup>
- In the same study, **optomap color rg** and **fa** found that the 4-year rates of disease worsening at baseline were 45% for eyes with mild NPDR, 40% for moderate NPDR, 26% for moderately-severe NPDR, and 43% for severe NPDR.<sup>1</sup>
- Optos**Advance** software allows for the registration of images and monitoring patient's progression over time. NP areas can be quantified and compared between visits. **optomap** UWF images correct peripheral distortion to allow precise and accurate measurements and quantification of vascularized retina.<sup>11, 12</sup>
- **optomap fa** defined the extent of perfused retina in normal subjects as  $20.3 \pm 1.5$  mm with the mean area as  $977.0$  mm<sup>2</sup> which has been used as a baseline clinical reference for NP index and is used in Optos**Advance**.<sup>12</sup>
- The total area of retinal NP, specifically in the periphery, appears to be the determining factor in PDR at a threshold of 118.3 DA.<sup>6</sup>
- WF OCT-A may appear to require less clinical and financial resources than traditional FA, but capturing high quality, easily interpretable images is not always clinically practical. In addition to OCT-A being unable to visualize leakage, some patients may develop NVs indicative of PDR only in the far periphery in response to local peripheral NP with little NP visible in the limited field capturable by OCT-A.<sup>8</sup>
- Neovascularization of the disc is also associated with larger areas of NP in the retinal periphery unable to be captured by traditional small field imaging.<sup>6</sup>
- Perivascular leakage visualized on **optomap fa** has also been shown to be an effective measure of treatment response.<sup>13</sup>

#### References:

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**optomap fa** is available on **California** and **Silverstone** devices.



**Optos UK/Europe**  
+44 (0)1383 843350  
ics@optos.com

**Optos North America**  
800 854 3039  
usinfo@optos.com

**Optos DACH**  
DE: 0800 72 36 805  
AT: 0800 24 48 86  
CH: 0800 55 87 39  
ics@optos.com

**Optos Australia**  
+61 8 8444 6500  
auinfo@optos.com

**Contact us:**

