

# Ultra-Widefield Fluorescein Angiography for Detection of Peripheral Retinal Pathology

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## Abstract

**Objective:** To determine the utility of ultra-widefield imaging in the diagnosis and management of retinal disease.  
**Title:** The Use of Ultra-Widefield Photography and Fluorescein Angiography in the Management of Retinal Disease  
**Purpose:** To determine clinical scenarios when ultra-widefield imaging provides information relevant to patient diagnosis and management, beyond that offered on either clinical exam or standard imaging.  
**Methods:** We performed a retrospective review of over 300 patients who were imaged by ultra-widefield photography and/or angiography with the Optomap® FA Dynamic Ultra-Widefield Angiography System (Optos plc, Dunfermline, Scotland, UK) to determine if this modality altered diagnostic or management considerations in vascular disease or peripheral vitreoretinal disease.  
**Results:** The widefield imaging system allowed for increased detection of mid-peripheral and far peripheral vascular abnormalities, including peripheral ischemia and neovascularization in a variety of retinal diseases. For peripheral vitreoretinal disease, it provided a more thorough ability to monitor conditions along sequential examinations, rather than aiding in initial diagnosis.  
**Conclusions:** The use of ultra-widefield imaging is a useful adjunct for diagnosis and management of retinal vascular disease and peripheral vitreoretinal disorders.



## Results

- Identify fellow eye pathology (Case 1)
- Identify full extent of pathology and direct treatment accordingly (Case 2)
- Identify source of pathology and direct treatment (Case 3)
- Provide prognostic and educational information to patients

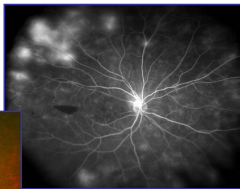
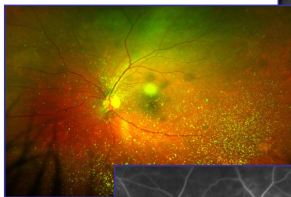
## Purpose

- Determine the utility of ultra-widefield imaging in the diagnosis and management of retinal disease.

## Methods

- Review of all patients of two physicians who were imaged with the Optomap® FA Dynamic Ultra-Widefield Angiography System (Optos plc, Dunfermline, Scotland, UK) in a private practice over a 6 month period.
- All images categorized by diagnosis
- Clinical utility was assessed for each set of images.
- Cases identified where management was guided or changed based on results of ultra-widefield imaging.

## Case 1



Diabetic Patient. The right eye (far above) with active proliferation; imaging of fellow eye, initially not suspected to harbor significant proliferative activity, does show similar disease.

### Patient Demographics

Diagnosis	No.	Percent
AMD	26	13%
Vascular Occlusion	21	11%
CME	8	4%
Coats	5	3%
Diabetes	112	57%
POHS	8	4%
Other	10	5%
Uveitis	7	4%
<b>Total</b>	<b>197</b>	<b>100%</b>

### Imaging Guided Treatment

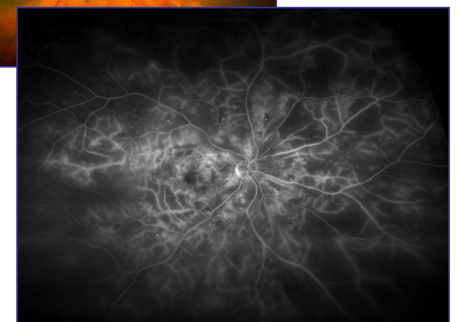
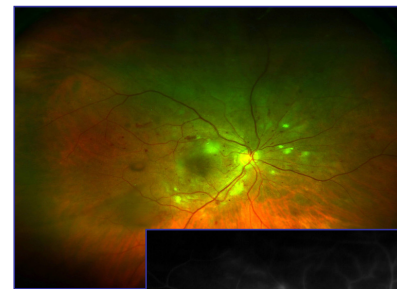
Diagnosis	No.	Percent*
BRVO	3	14%
Coats	1	20%
Uveitis	2	29%
Diabetes	17	15%
<b>Total</b>	<b>23</b>	<b>12%</b>

### Imaging Prompted Treatment

Diagnosis	No.	Percent*
BRVO	0	0%
Coats	1	20%
Uveitis	1	14%
Diabetes	27	24%
<b>Total</b>	<b>29</b>	<b>15%</b>

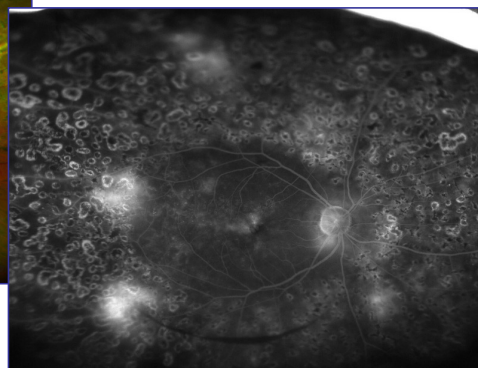
\*Percent of patients with that diagnosis

## Case 2



A patient with diabetic macular edema and widespread peripheral non-perfusion. Intravitreal avastin was administered.

## Case 3



Diabetic Patient: Recurrent hemorrhage after PRP laser. Identified 4 areas of NVE that underwent focal thermal ablation

## Conclusions

The use of ultra-widefield imaging is a useful adjunct for diagnosis and management of retinal vascular disease and peripheral vitreoretinal disorders.

It can both guide planned treatment and provide additional diagnostic information to prompt needed treatment.