

Game-Changing Advantages of Optomap in Screening for Retinopathy of Prematurity



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Optomap for ROP

- Historical perspectives
- Optos - Game Changing Advantages
- Optos - Top Tips

➤ [Eye \(Lond\)](#). 2013 May;27(5):589-96. doi: 10.1038/eye.2013.45. Epub 2013 Mar 22.

Non-contact ultra-widefield imaging of retinopathy of prematurity using the Optos dual wavelength scanning laser ophthalmoscope

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Affiliations + expand

PMID: 23519279 PMCID: [PMC3650286](#) DOI: [10.1038/eye.2013.45](#)

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It all started in 2012: Incontinentia Pigmenti



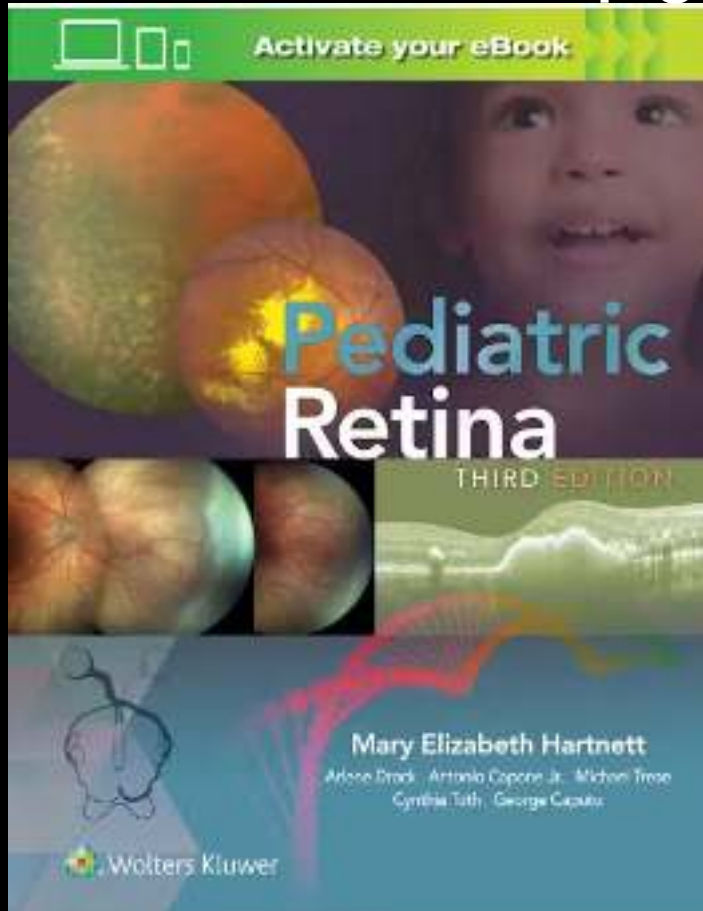
My problem : Retcam Shuttle X-FFA

Paediatric Ophthalmology: David Taylor



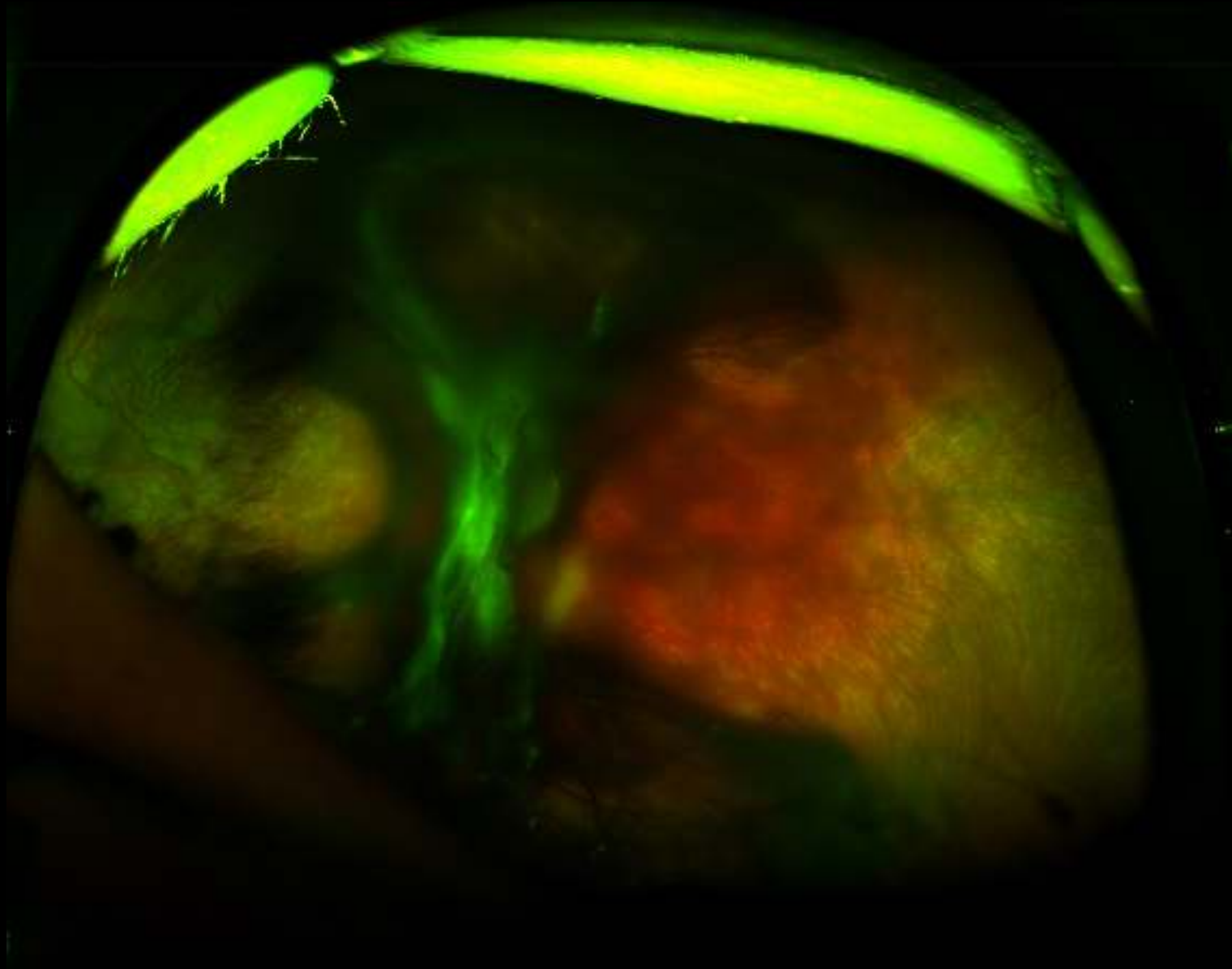
Fig. 8.16 Slit-lamp examination can be performed at almost any age in nearly all children but requires a firm but gentle person to hold the child so that the forehead touches the strap

Pediatric Retina: Hartnett

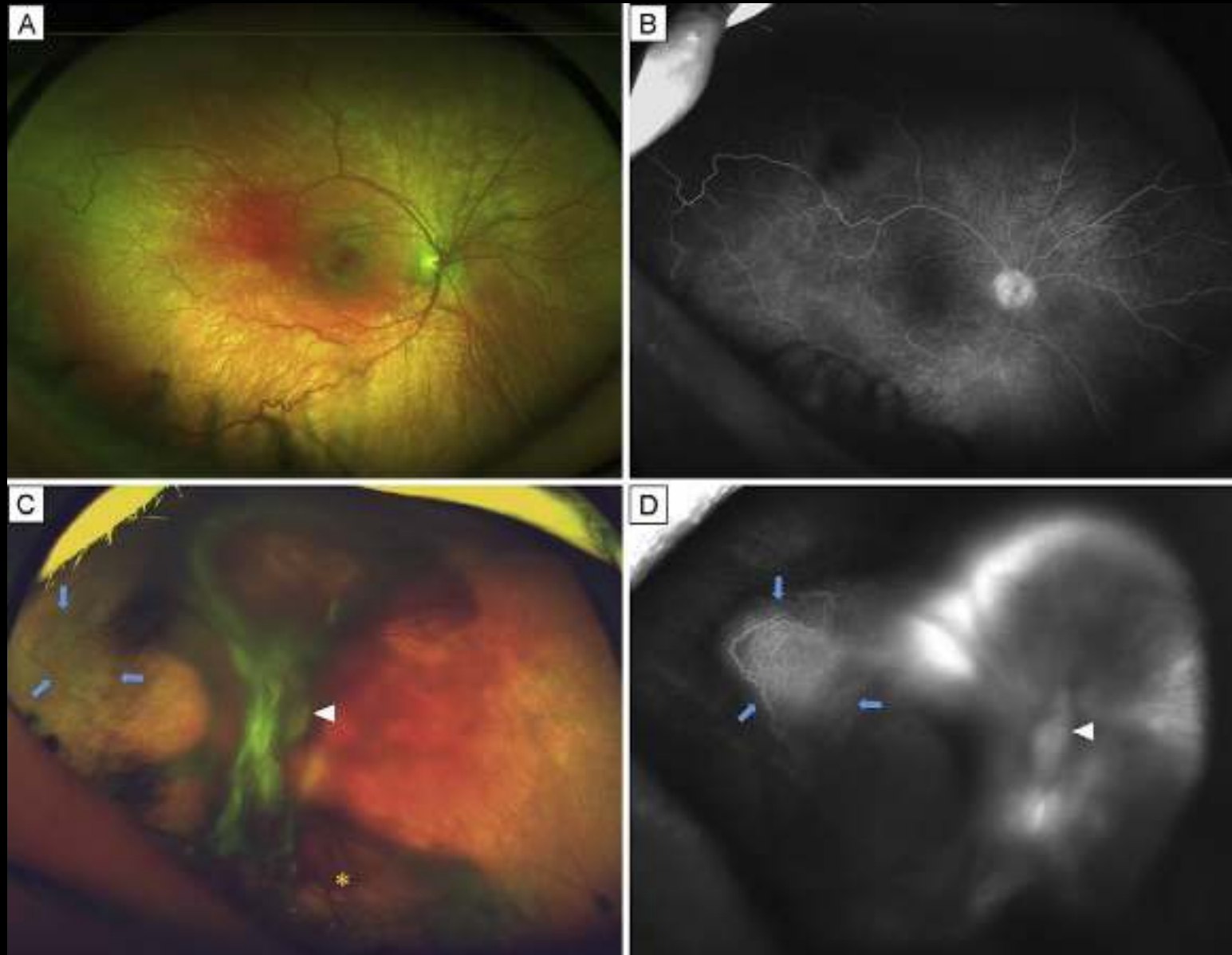


Optos examination can be performed at almost any age in nearly all children but requires a firm but gentle person to hold the child so that **the eyes can be pointed to the machine**.

How it all started.....2012



Non-contact ultra-widefield retinal imaging and fundus fluorescein angiography of an infant with incontinentia pigmenti without sedation in an ophthalmic office setting.



Non Contact tool for ROP

Video-IDO



Retcam™ Shuttle



Optos TX™



Optos™
California/Silverstone



Zeiss Clarus™



1926

2001

2003

2006

2012

2017

2021

2025

Today



Keeler Vantage Plus™



Icon™



NeoForus™



Panocam™

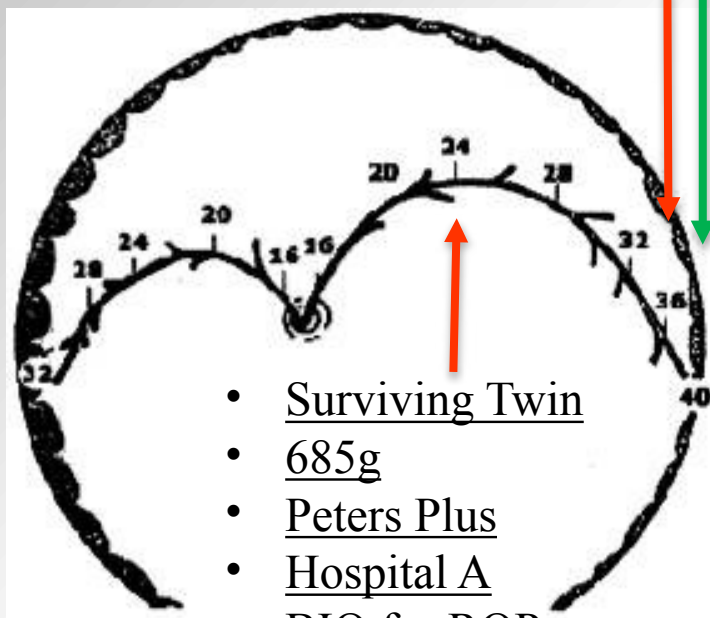
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Optos as Game Changer: E.G. 1 Axial Opacity- Cornea

- Inferior 180D Cyclo-diode @ 38w
- Latanoprost
- NG Acetazolamide

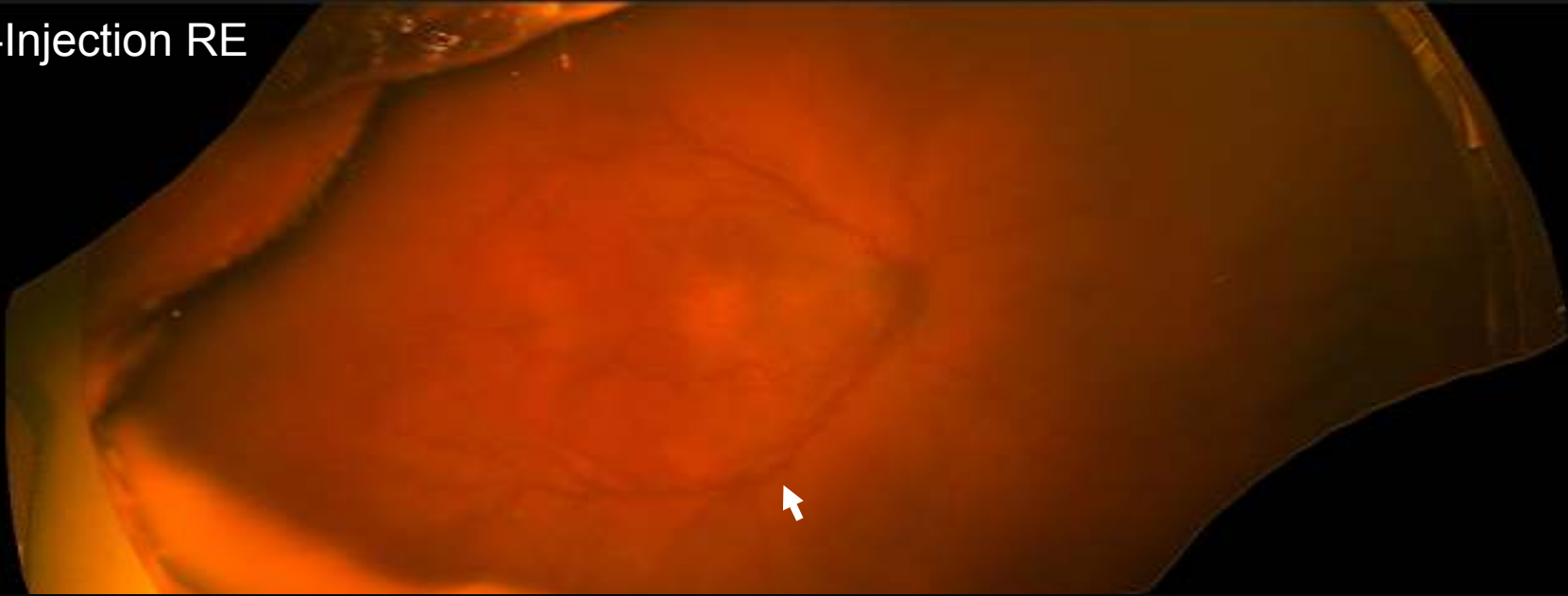
- ? Plus disease right eye



- Surviving Twin
- 685g
- Peters Plus
- Hospital A
- BIO for ROP
- Active Glaucoma



Pre-Injection RE

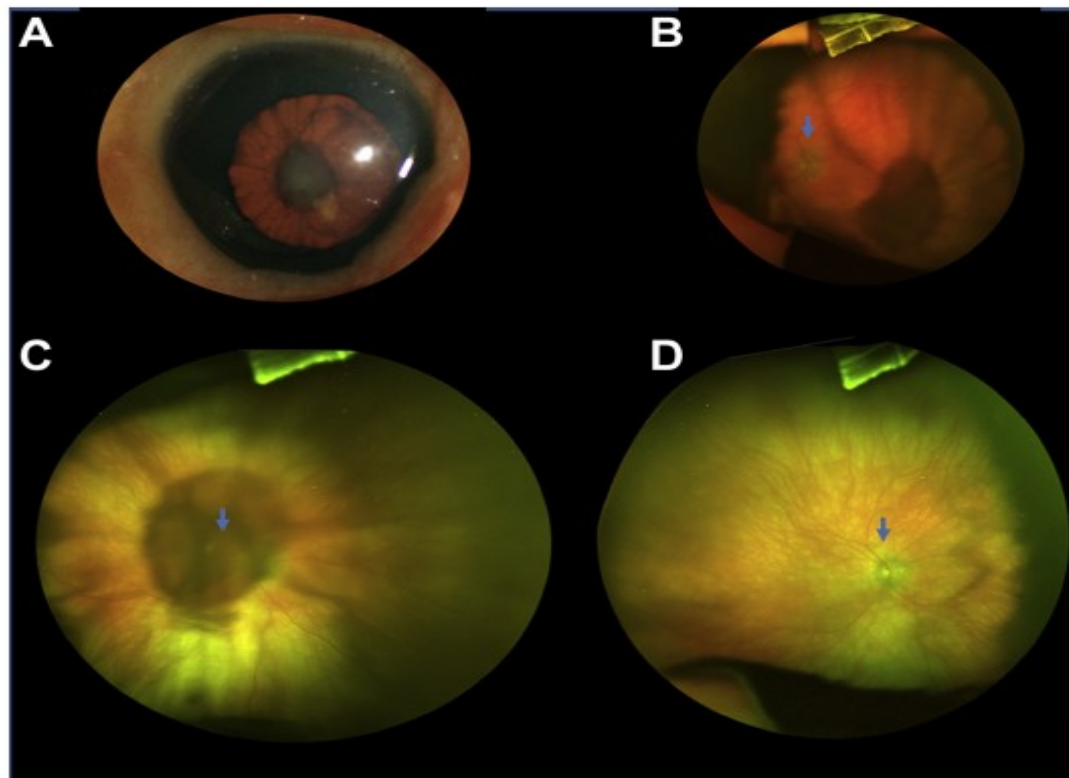


3 days post Injection Colour RE



Optos as Game Changer: E.G. 2 Axial Opacity- Cataract

Pictures & Perspectives



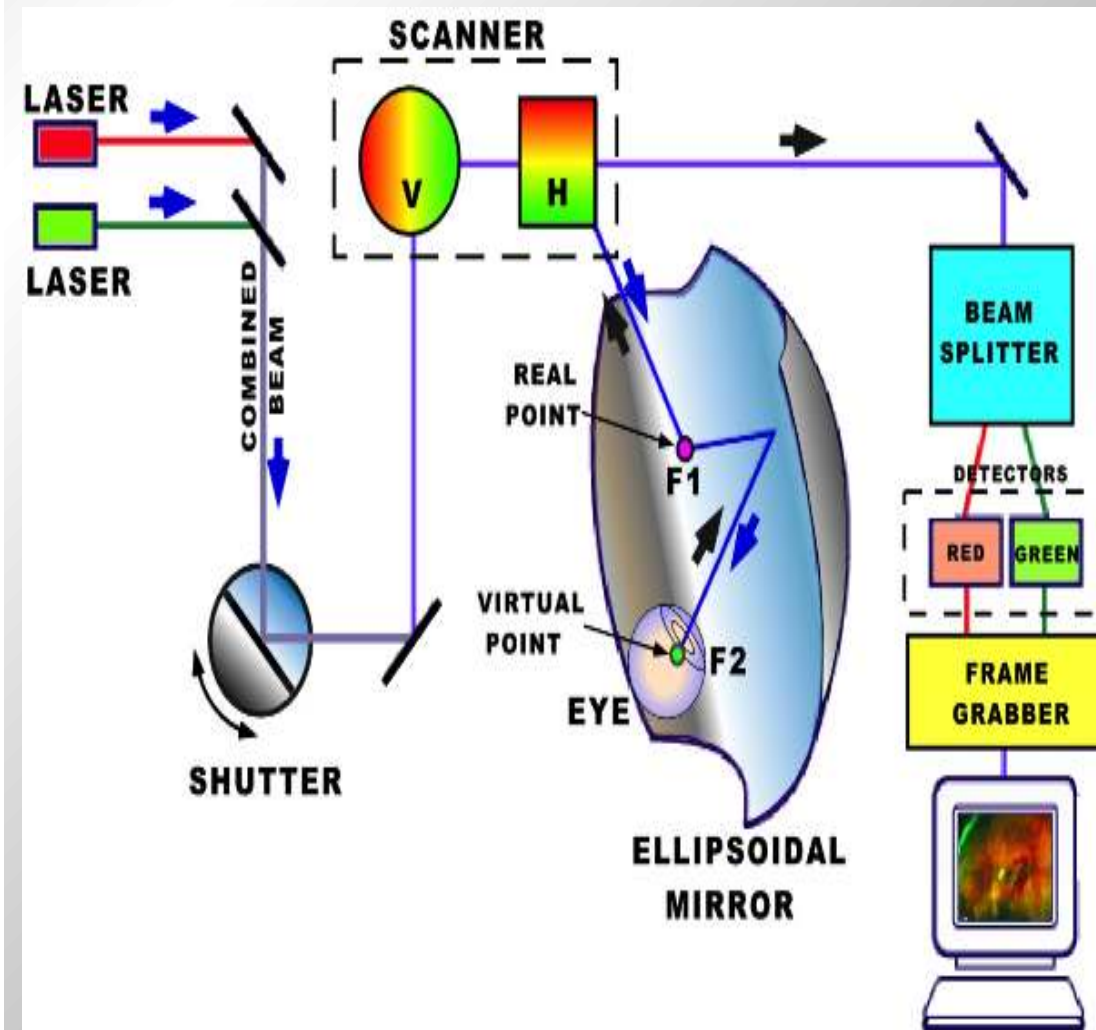
Retinopathy of Prematurity Status: Invisible with Indirect Ophthalmoscopy but Established with Optos Ultrawide-Field Retinal Imaging

Indirect ophthalmoscopy by an expert failed to visualize the retina because of lens opacity and tunica vasculosa lentis (A) in a 34-week-old child born at 27 weeks and weighing 1000 grams. The Optos California (Dunfermline, Scotland) has a 0.3-mm scanning laser beam that is scattered less than achromatic light and has a virtual focal point behind anterior surface of the lens. (B) The field of view increased as the flying baby position approximated the eye to the camera. Cataract artefact blocked the disc (C, blue arrow), and when the scanning beam entered the eye in an adjacent clear zone (D), retinopathy of prematurity was absent. (Magnified version of Fig 1A-D is available online at www.aaojournal.org).

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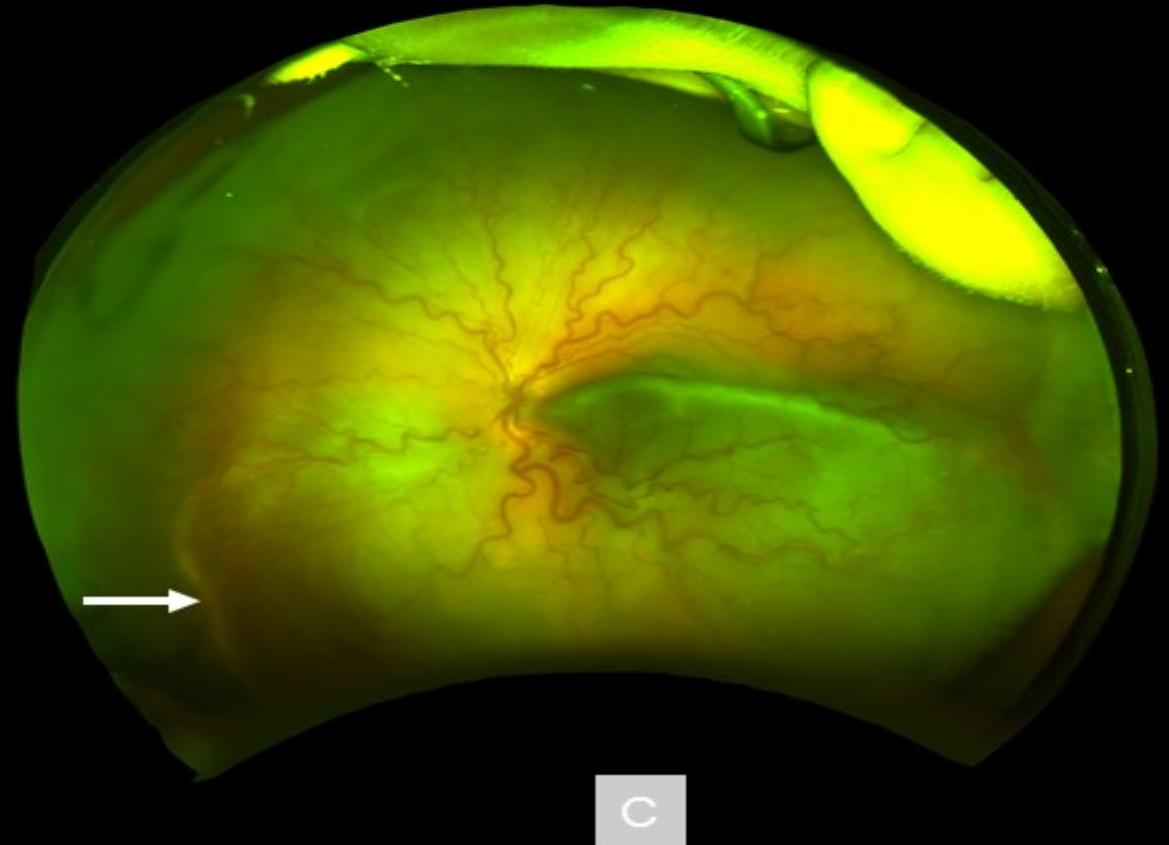
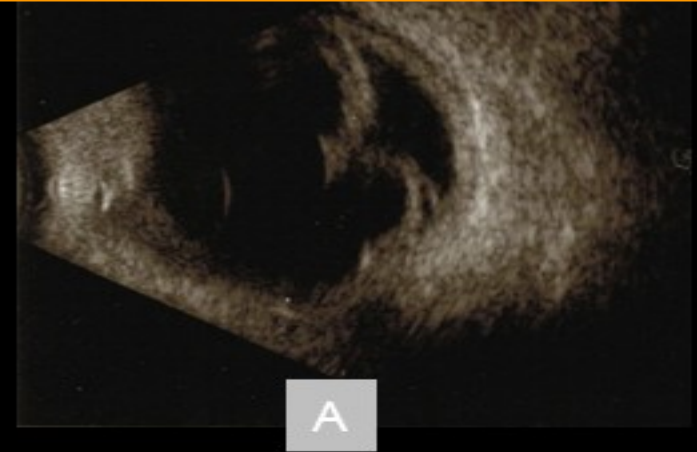


Optos as Game Changer: E.G. 3- Small pupil

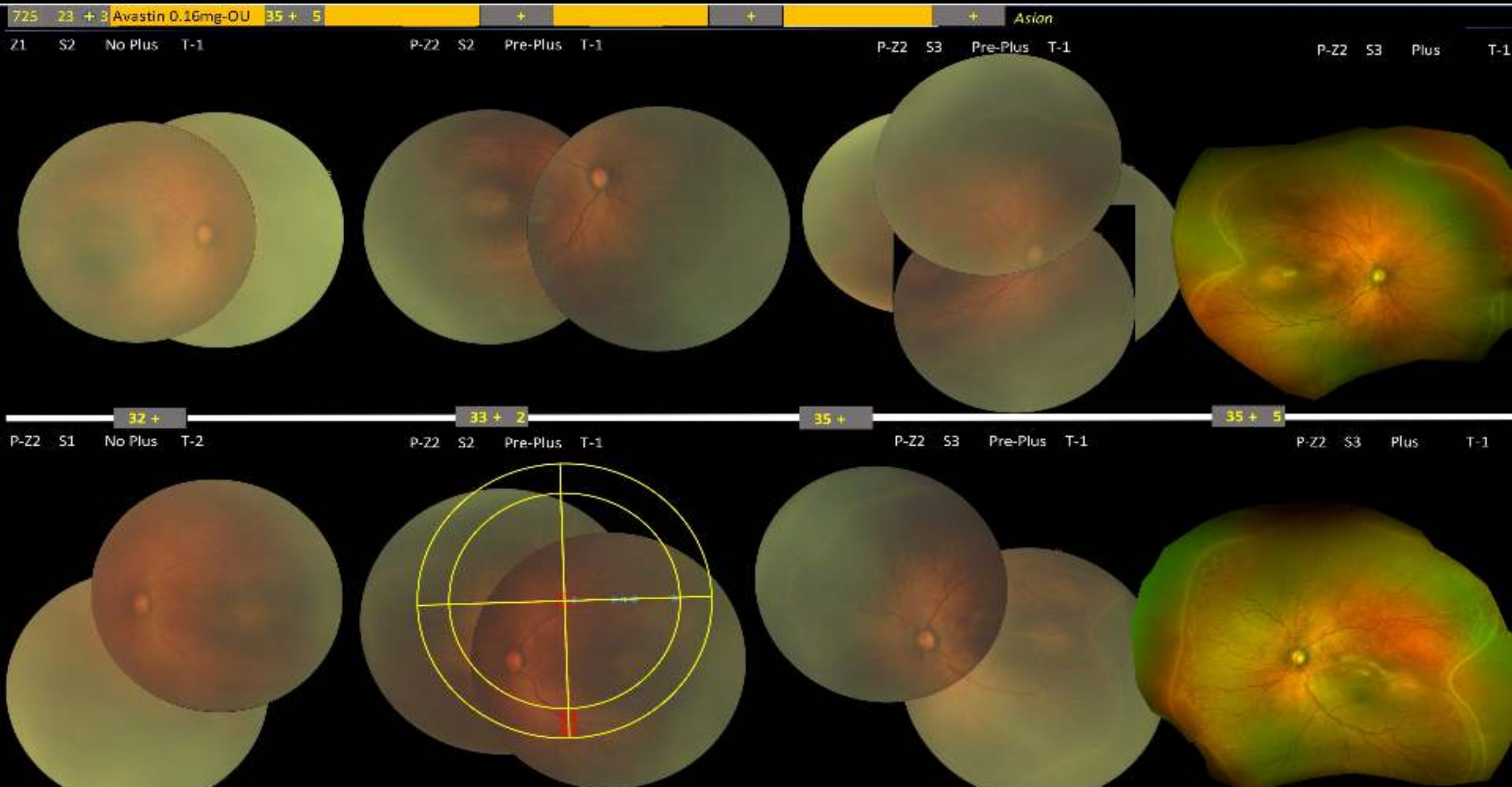
Post laser concave presumed t-RD in left eye with poor mydriasis



Post laser concave presumed t-RD in left eye with poor mydriasis



Optos as Game Changer: E.G. 4 - Pigmented Fundi



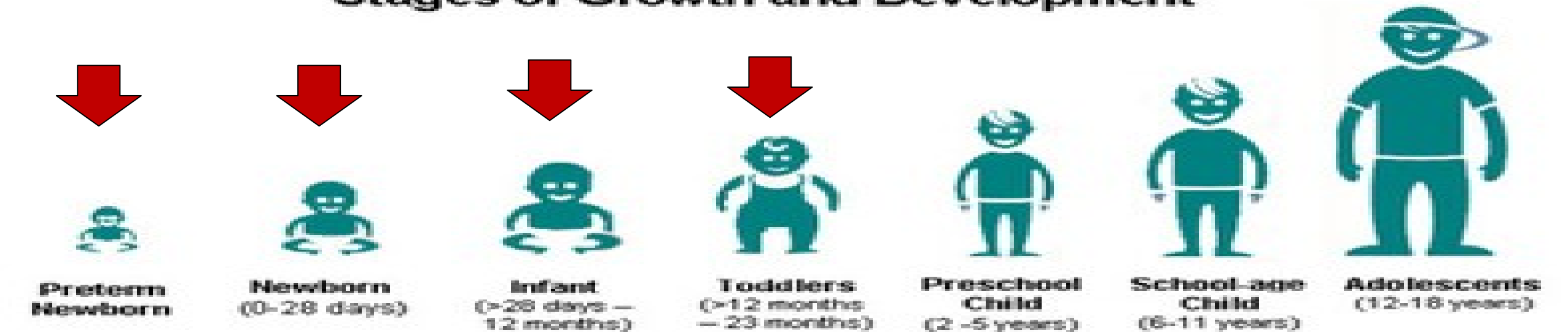
[Optos as Game Changer: E.G. 5: Anti-Vegf Follow Up](#)

Stages of Growth and Development



Toddlers and Infants: Better Images with Optos

Stages of Growth and Development



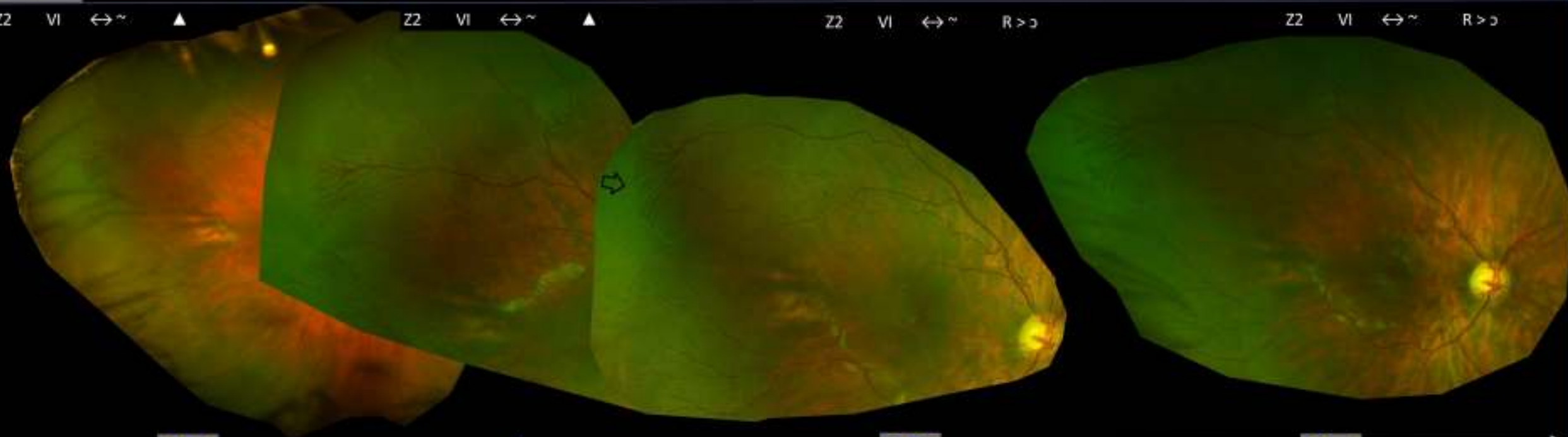
Learn the flying baby technique

Z2 VI ↔ ~ ▲

Z2 VI ↔ ~ ▲

Z2 VI ↔ ~ R>3

Z2 VI ↔ ~ R>3



60+1

+

65+1

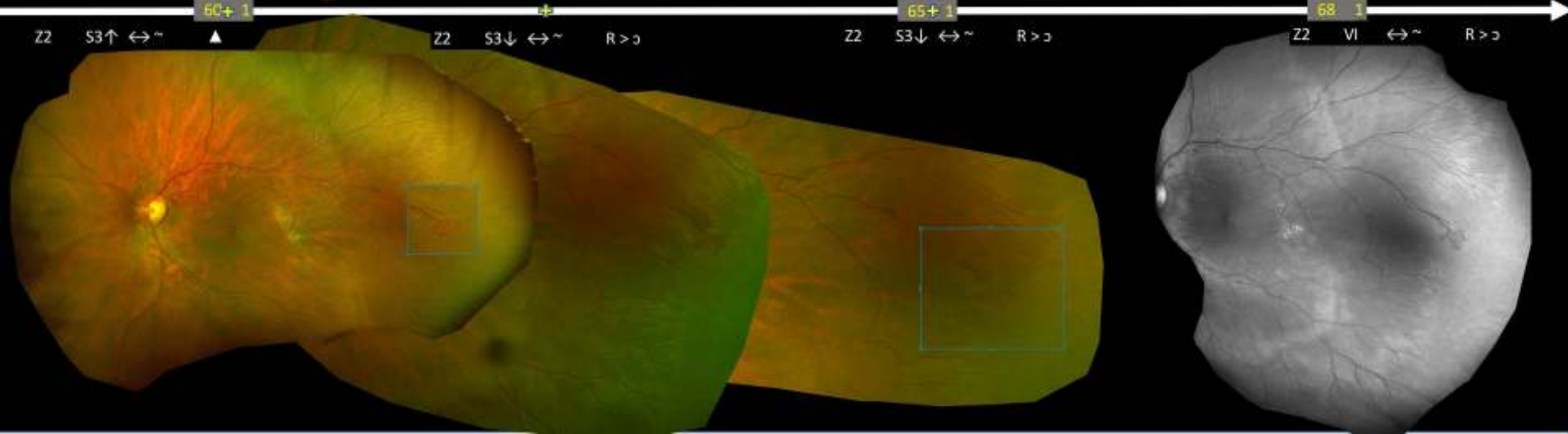
68 1

Z2 S3↑ ↔ ~ ▲

Z2 S3↓ ↔ ~ R>3

Z2 S3↓ ↔ ~ R>3

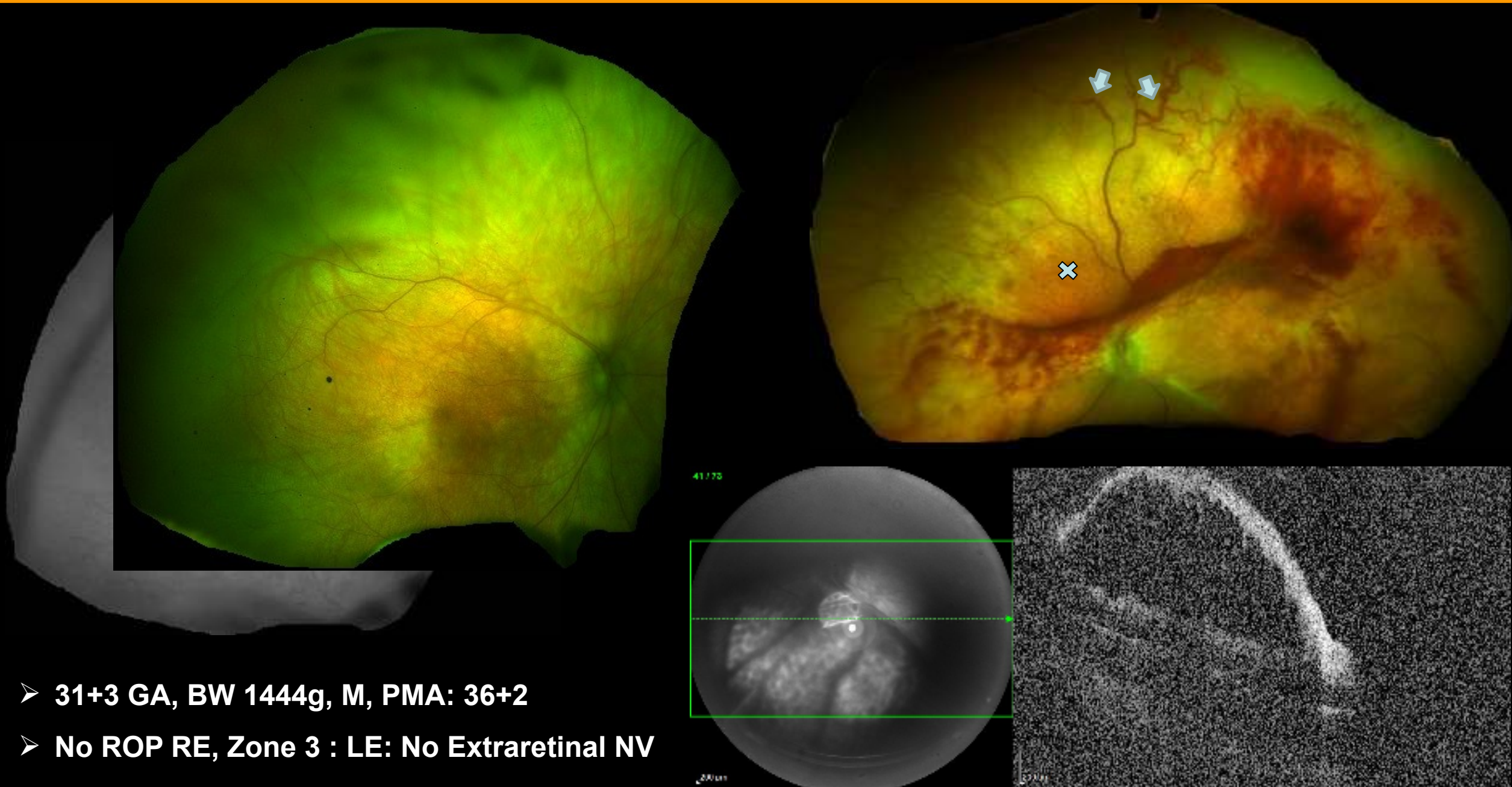
Z2 VI ↔ ~ R>3



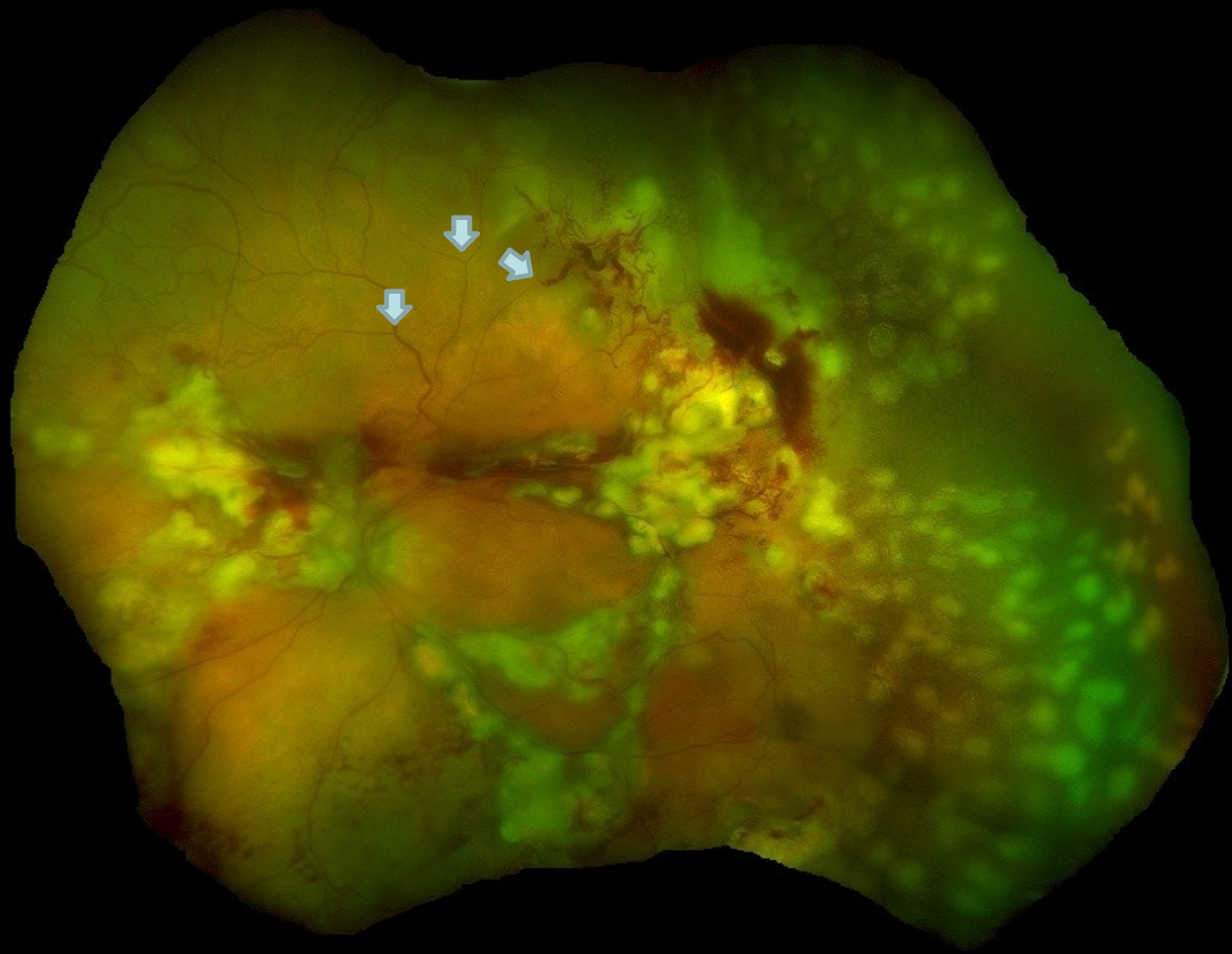
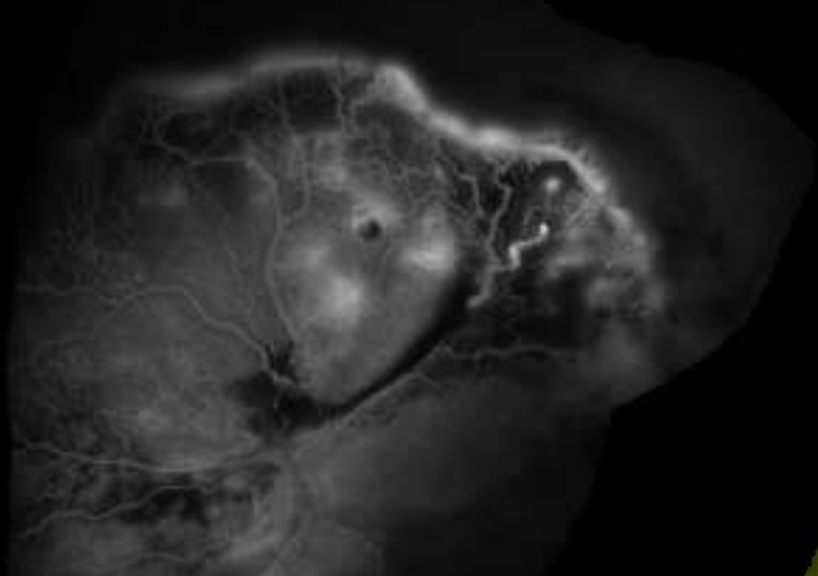
Optos as Game Changer: E.G. 6: FFA without GA in a baby

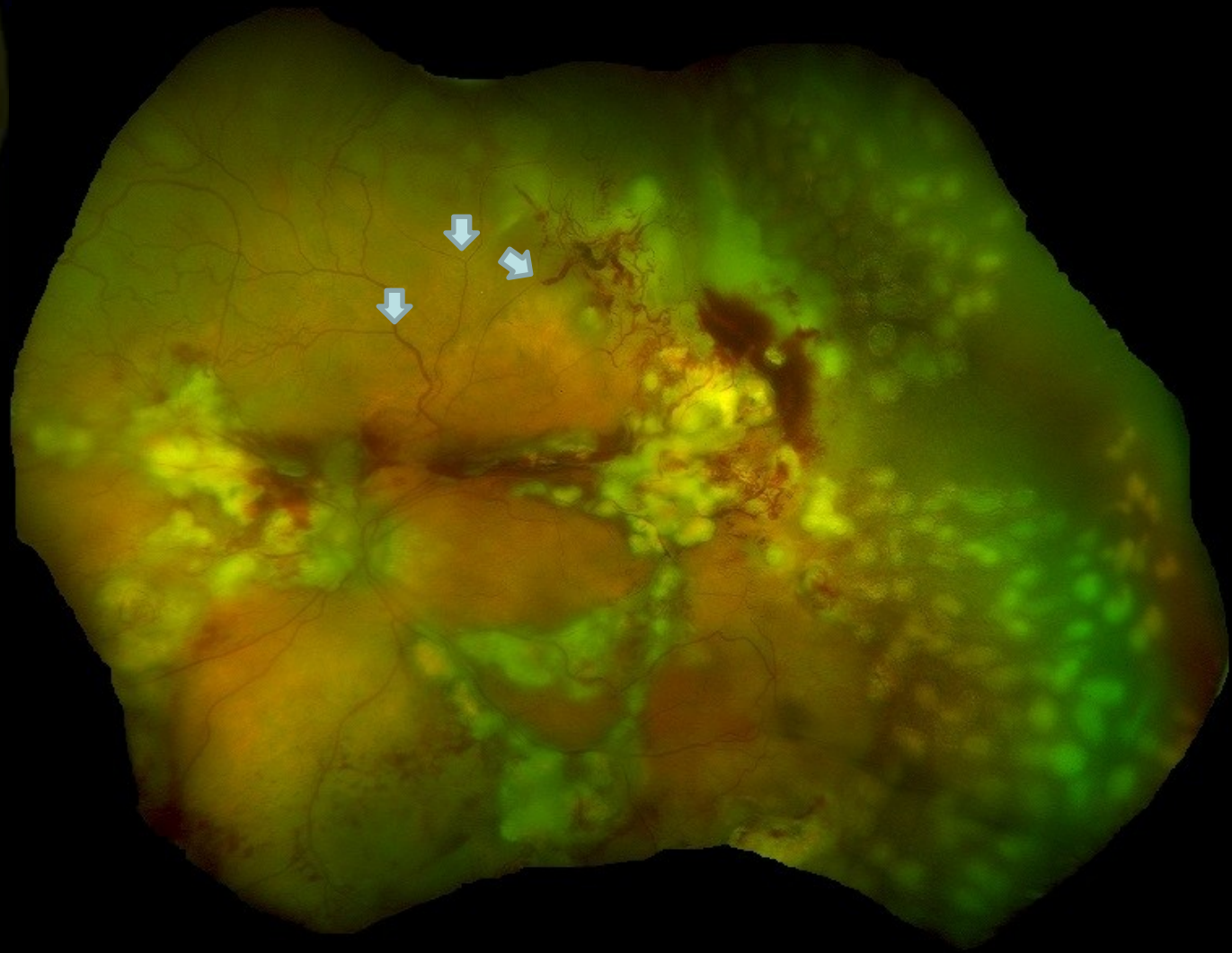
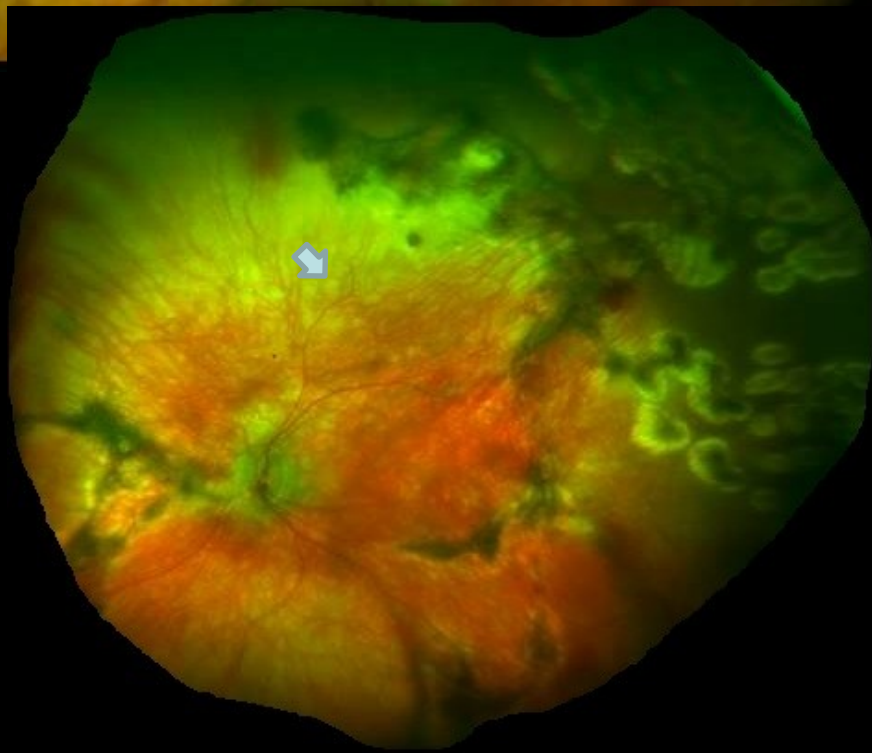
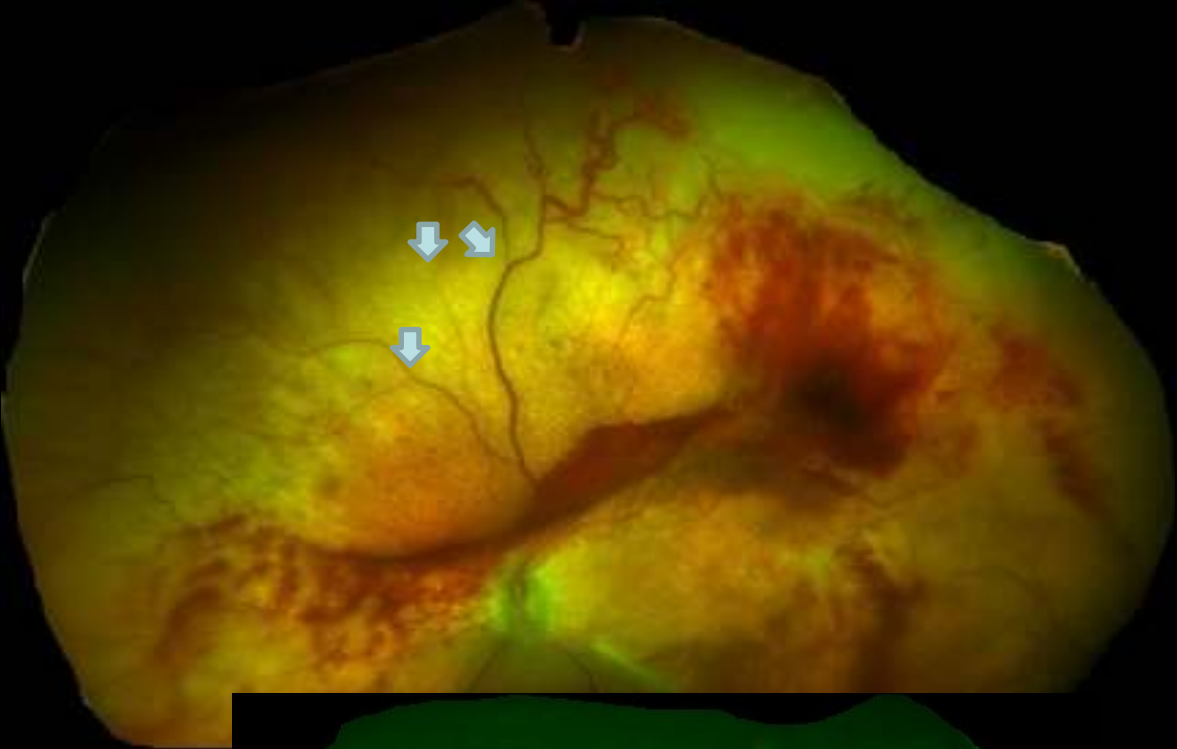


Case 2: Coats Disease in Premature baby screened for ROP



- 31+3 GA, BW 1444g, M, PMA: 36+2
- No ROP RE, Zone 3 : LE: No Extraretinal NV





Optos as Game Changer: E.G. 7: Training : Neonatal Nurse Led Screening



What is in the cabinet?



OP Neonatal Network



Reading

Northampton

Stoke
Mandeville



Oxford

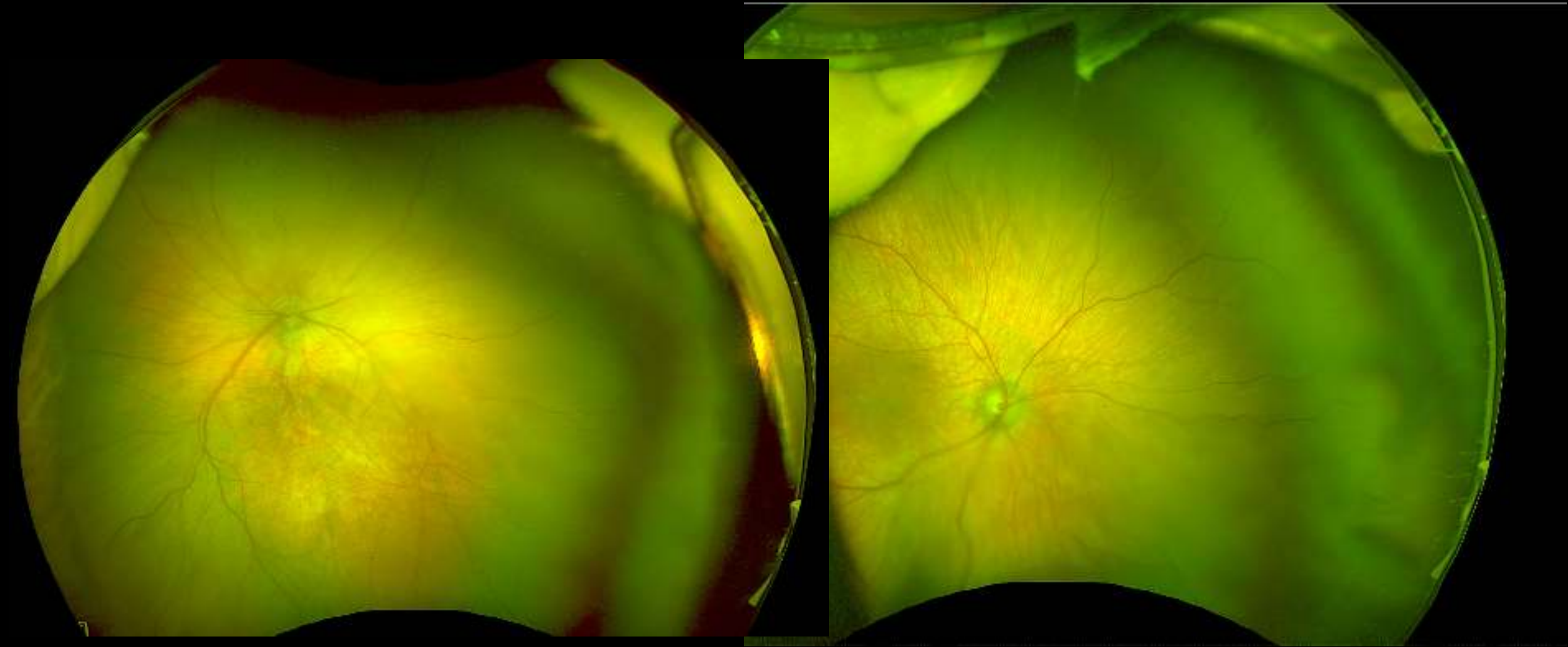
Wexham
Park



Milton
Keynes



Game changer?: Visualising the ora serrata



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- *Optos - Top Tips*

Top-Tip 1 : Speculum & Tape (Especially FFA), Hydrate Cornea



Vertically held baby without speculum?



Top-Tip 2 : **Extend neck, Lower hand to touch camera for proprioceptive cues**

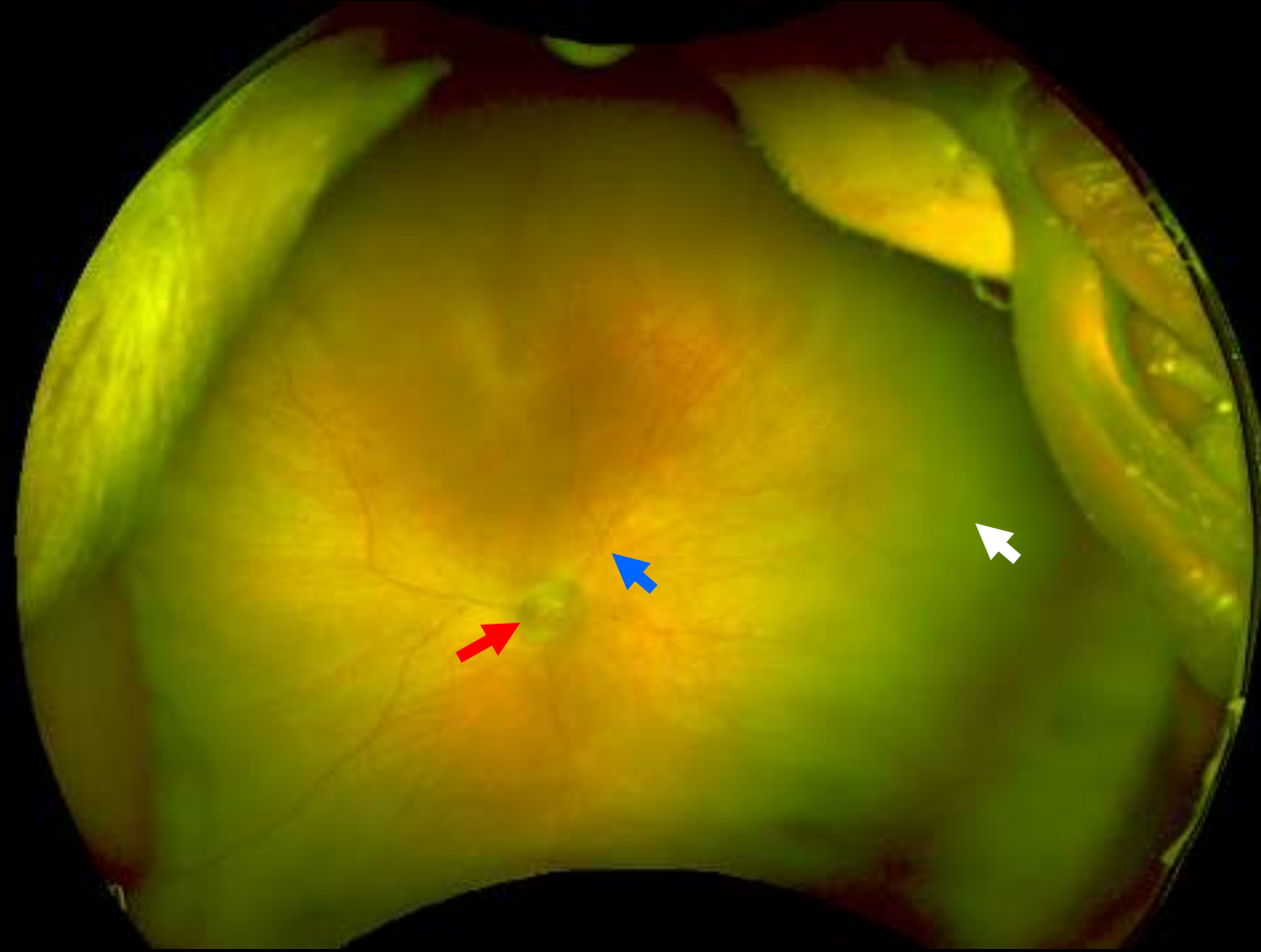
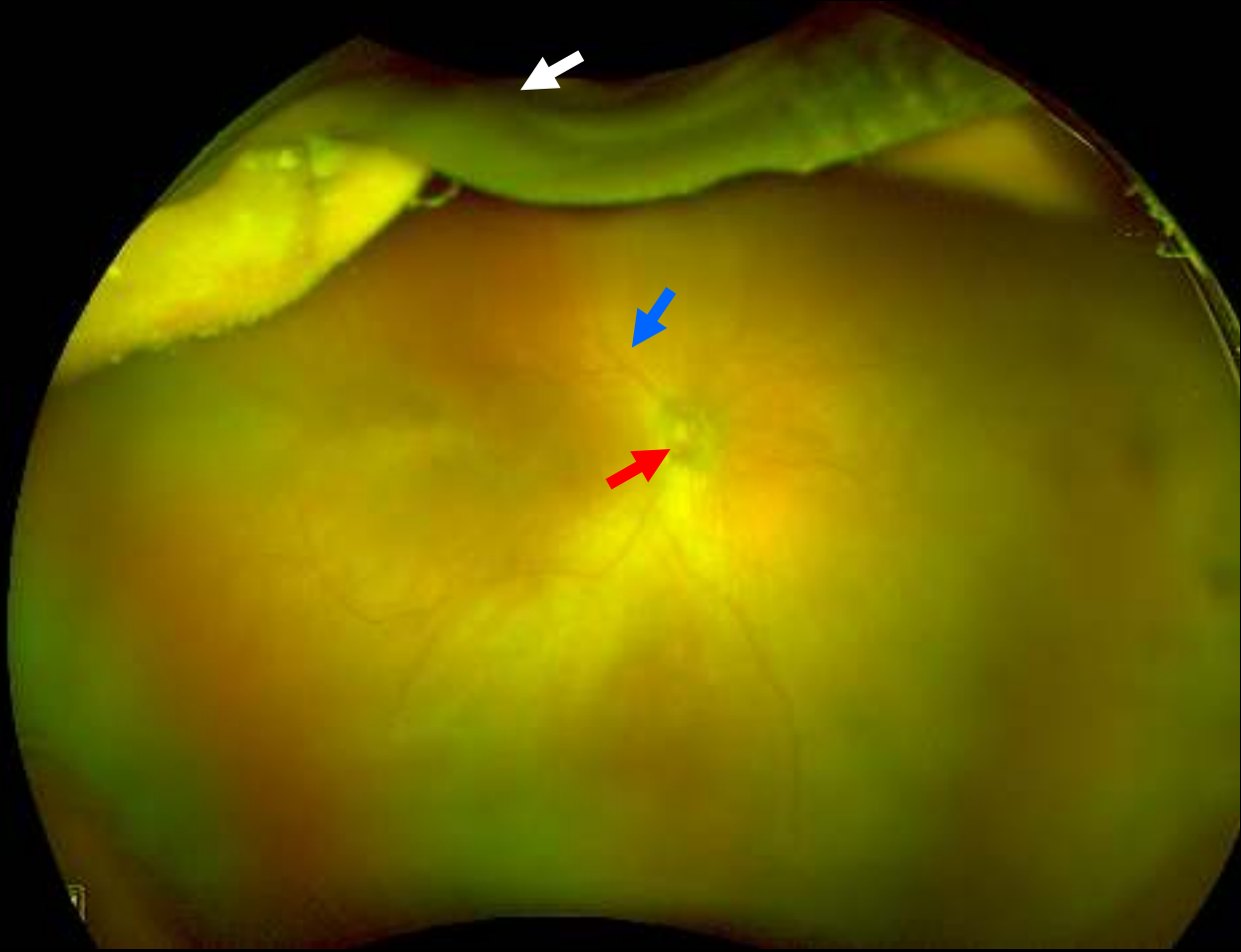


Top-Tip 3 : Horizontal Flying baby with Index fingers to support speculum



- *Bells Phenomenon*
- *Improved visualisation of superior and inferior retina*

Top-Tip 3 : Horizontal Flying baby with Index fingers to support speculum



Top-Tip 3 : Specialised Swaddle



Modified flying baby technique



Use of specialised swaddle

Final Top-Tip 4 : Min 2 staff-Colours ; 4 staff for FFA (Include parents ?)

Google

Oxford retinopathy of prematurity virtual reality video



[//www.youtube.com/watch?v=iH6r44pugKA](https://www.youtube.com/watch?v=iH6r44pugKA)



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