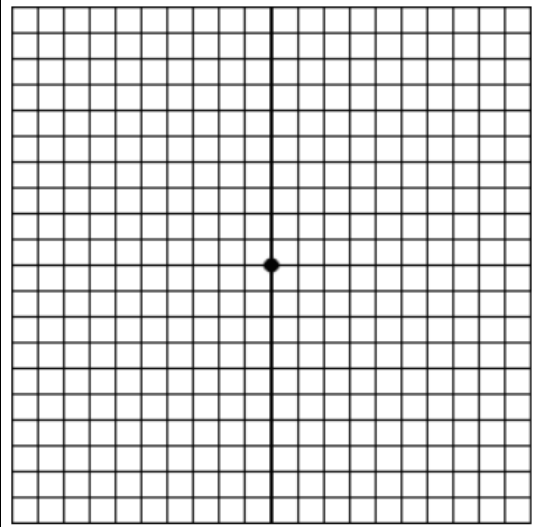


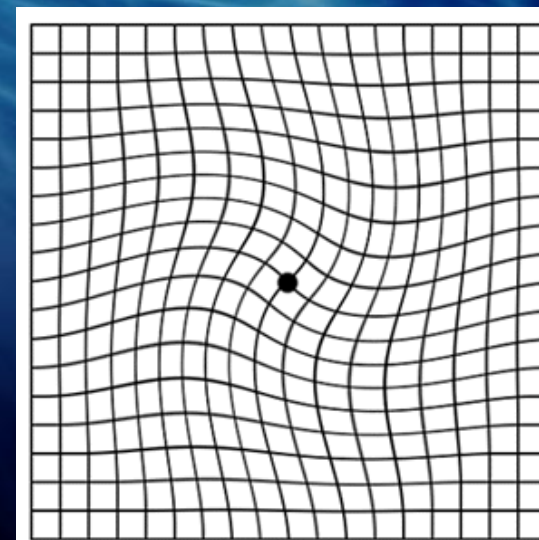


Southern Eye Specialists

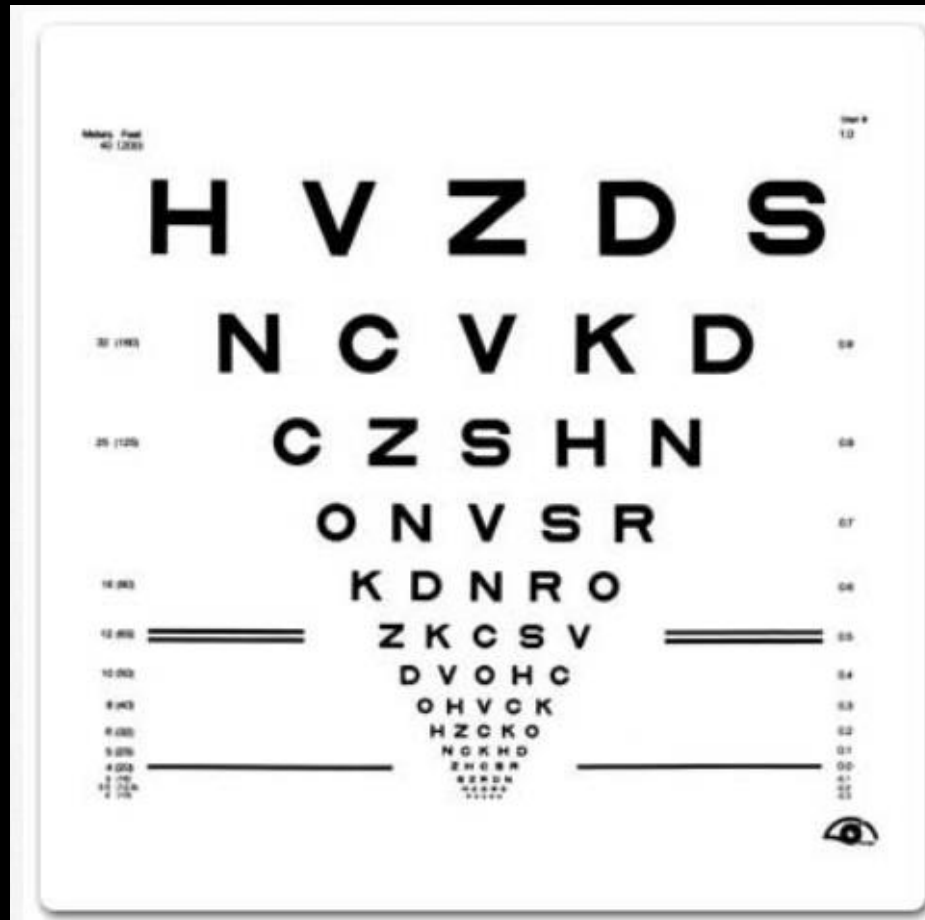
Expert care for all eye conditions

When straight lines become crooked

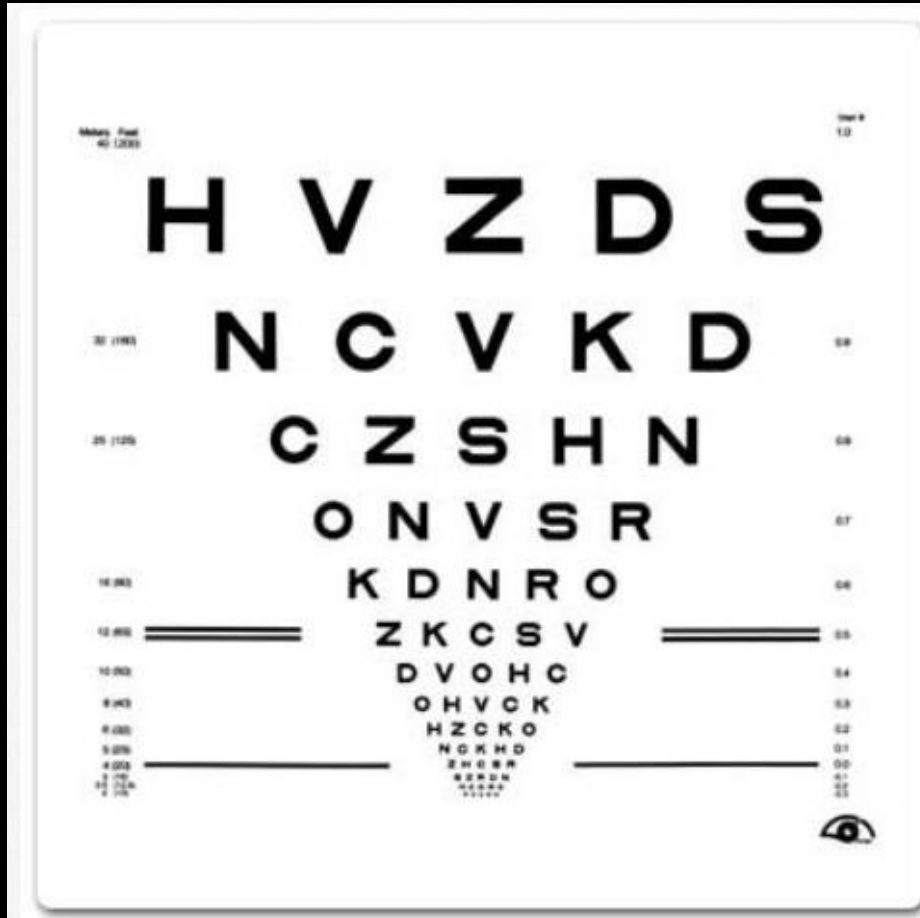
Dr Jim Borthwick FRANZCO
Southern Eye Specialists, Christchurch



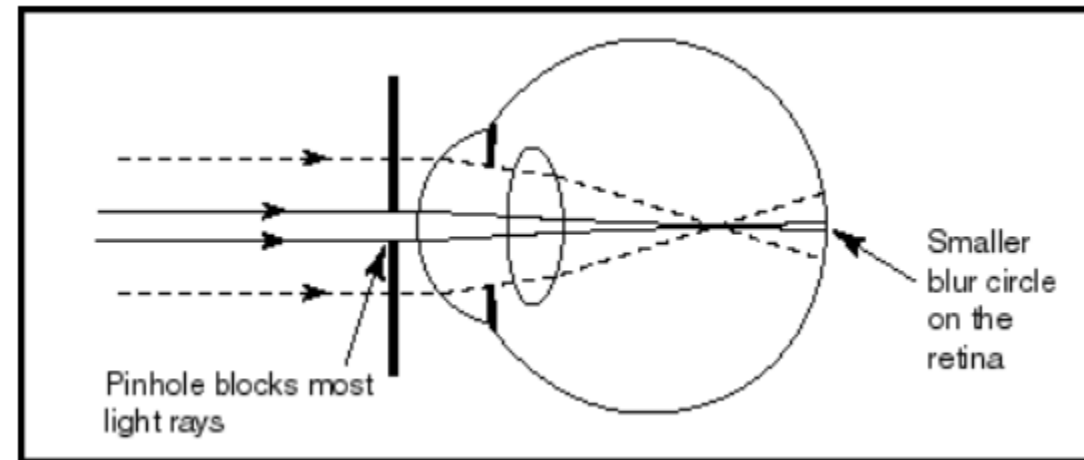
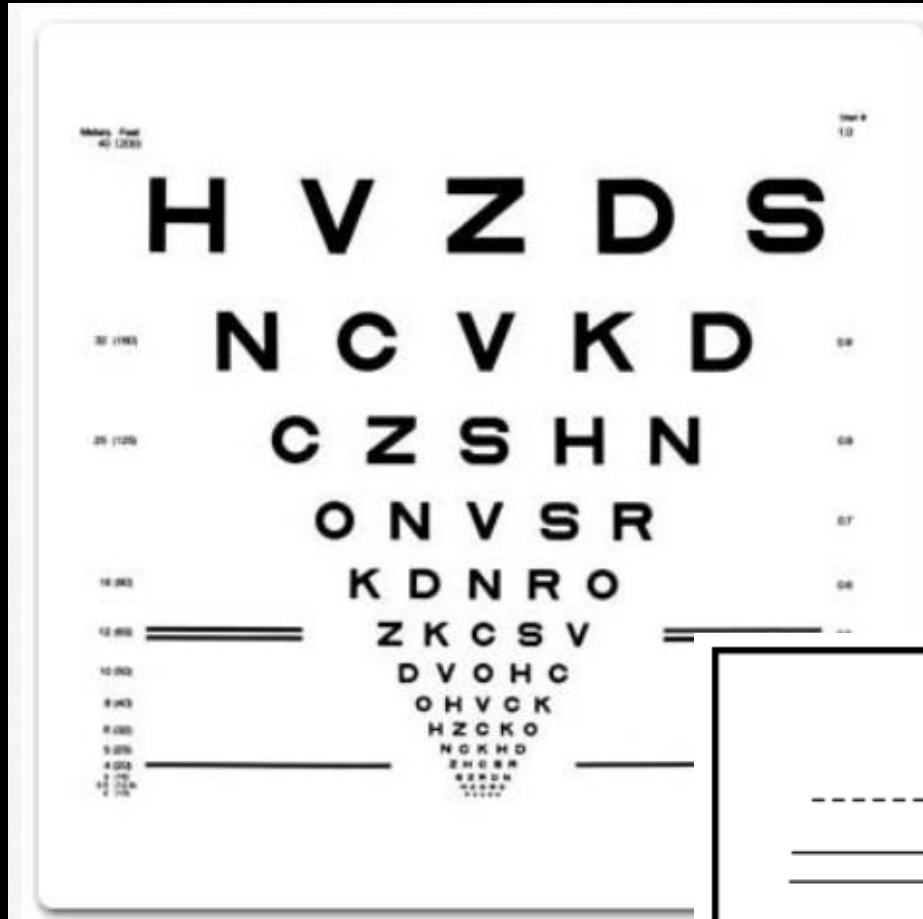
Reduced vision: Measure visual acuity with distance glasses



Reduced vision: Measure visual acuity with distance glasses



Reduced vision improved with pinhole



Distortion: straight lines are crooked



When Sampler CPU 1 boots up "Code Meter" automatically loads. This is a Wiboo application (free online from Wiboo.com). This is essential to recognize the DVZ-RT/Space/Library authorization USB key (dongle). This may be immediately visible because it's in the Windows Task Tray. This runtime program is actually installed on all the DVZ/RT computers (Control and Samplers).

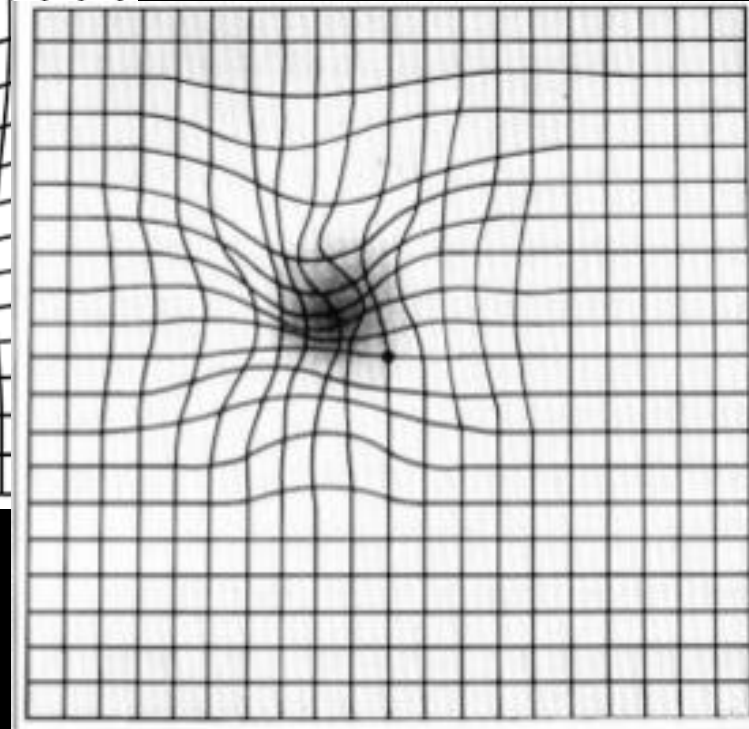
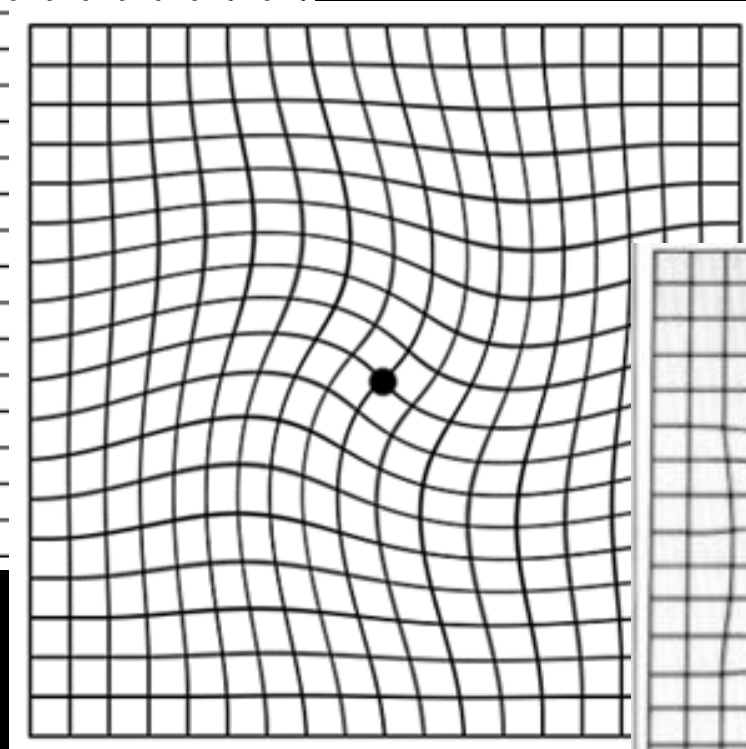
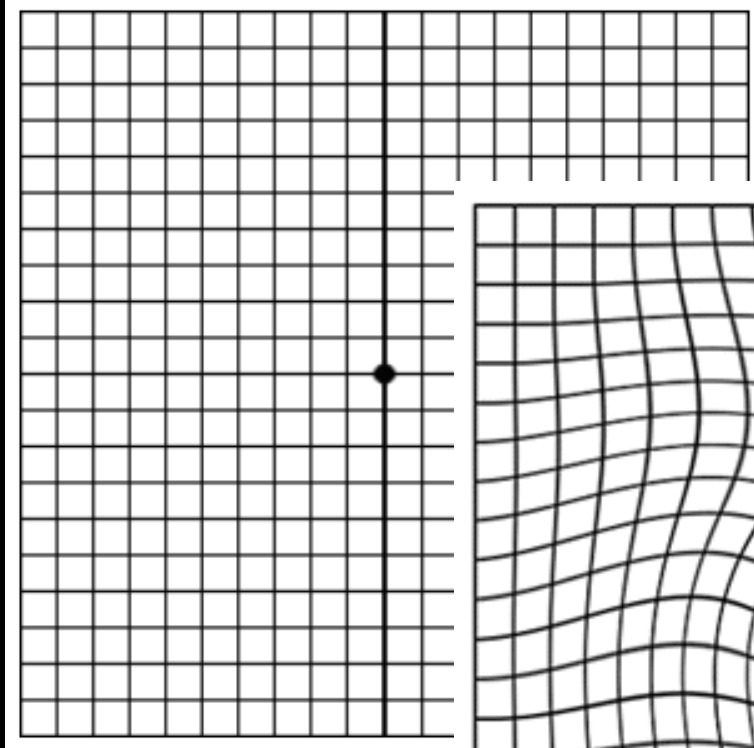
If the Code Meter task Tray icon is green, this means the authorization key is present on the computer being viewed. On those computers where the key is not installed, the icon will be gray, but it will work because the program accesses the valid key over the network.

Also, on all Samplers, you will see an AI Crypt VST Host (Helix) icon. That also loads automatically upon boot up. This AI Crypt info remains only to beta turn-key systems, and will change later.

If the icon is not present, launch it from the desktop icon, or look in the Start Menu - Programs/Audio Impressions/AI Springs and launch AI Crypt. If it isn't there, it failed to load or the Wiboo key is not connected so please make sure it's present on one of the computers, that they're all networked correctly together, etc.

If it's loaded, right-click on the icon and a context menu will come up. The first item will be Disconnect if all loaded correctly. Don't select this. If the first item is "Mount" then select this (this mounts the library). If you Mount, you have to choose the image, and that's located on the sample drive and named "aist" (Audio Impressions Symphonic Image). You select it and mount it to s (using the dropdown menu). No letter other than s will function correctly. Note: All this will occur automatically in the final release and even in beta you shouldn't have to do the mounting if the boot process works correctly.

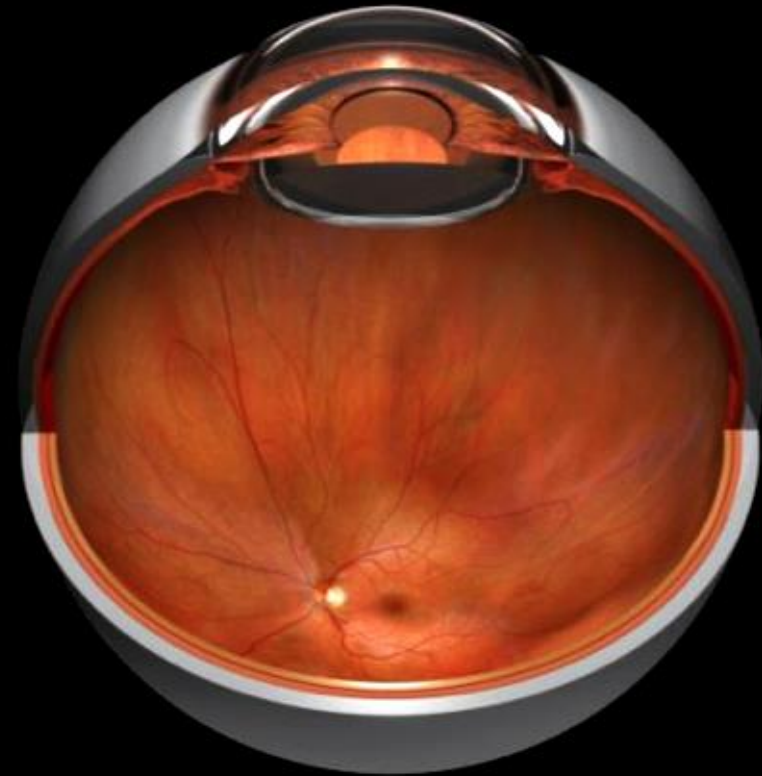
Amsler grid



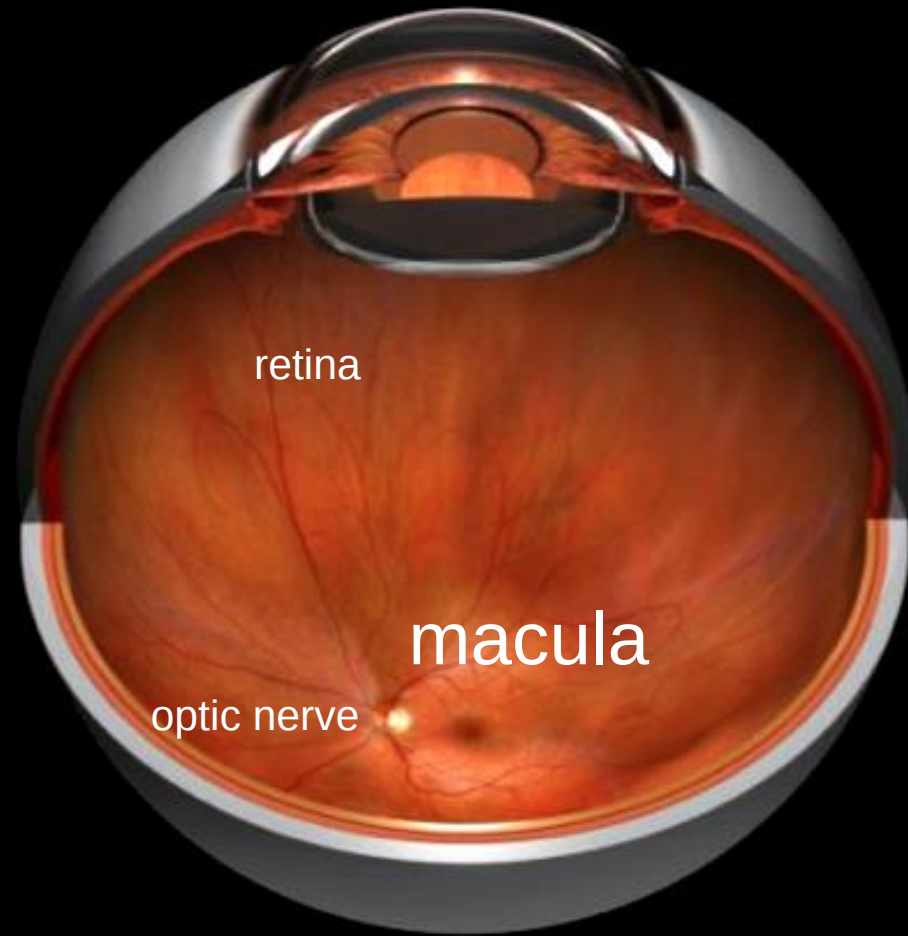
Straight lines crooked....

Because of swelling:

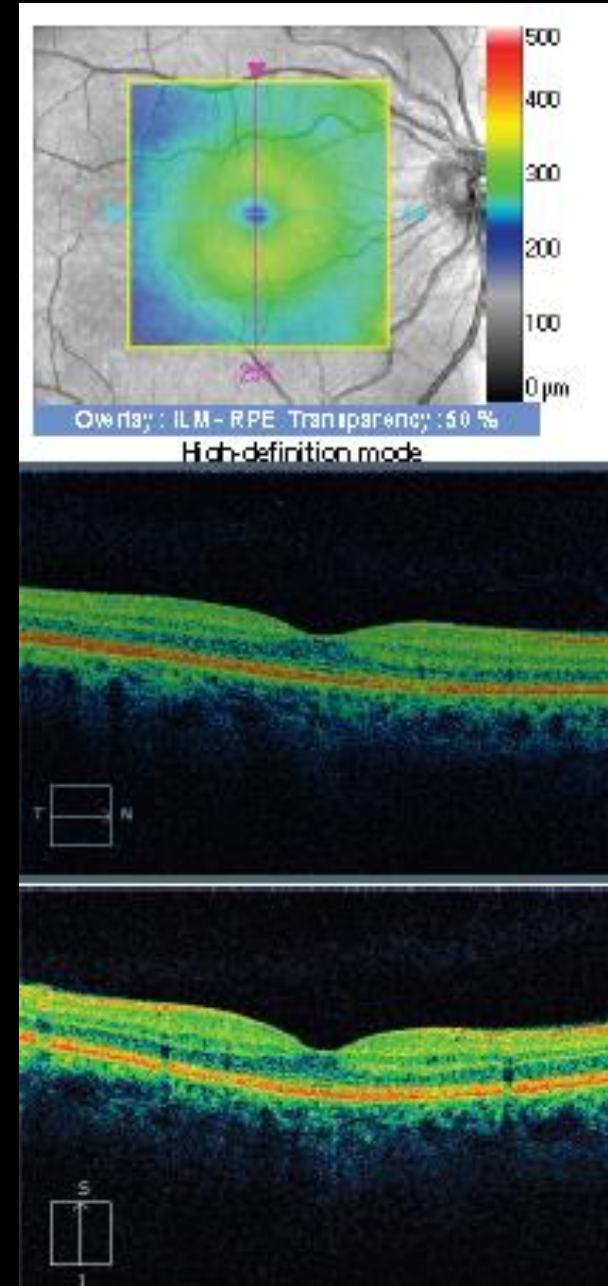
- Under the retina
- In the retina
- On the retina



The macula: centre of retina

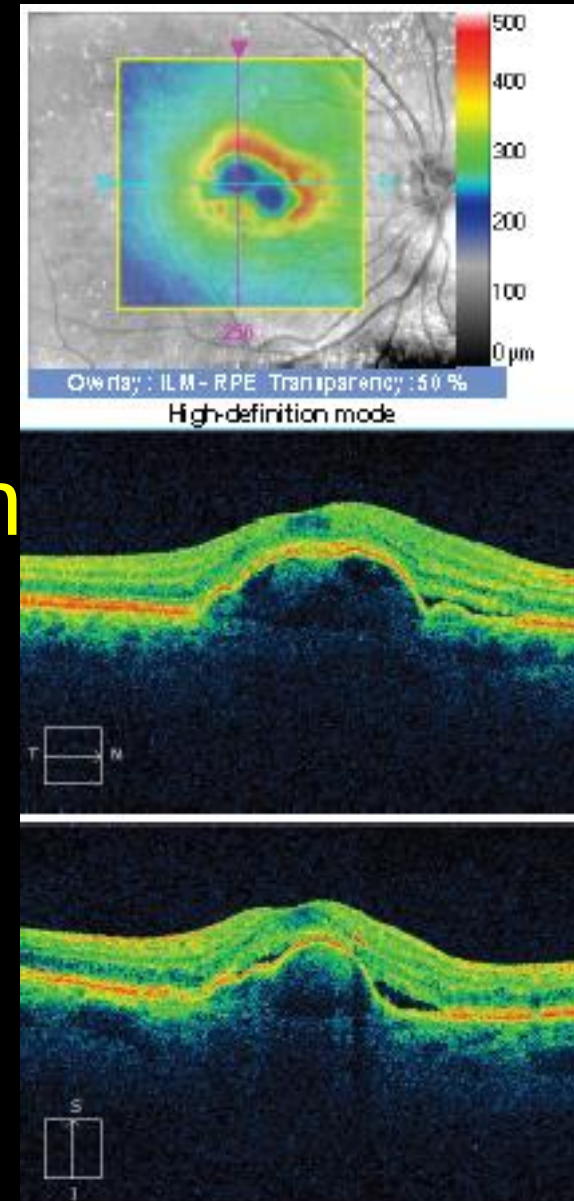


Normal macula



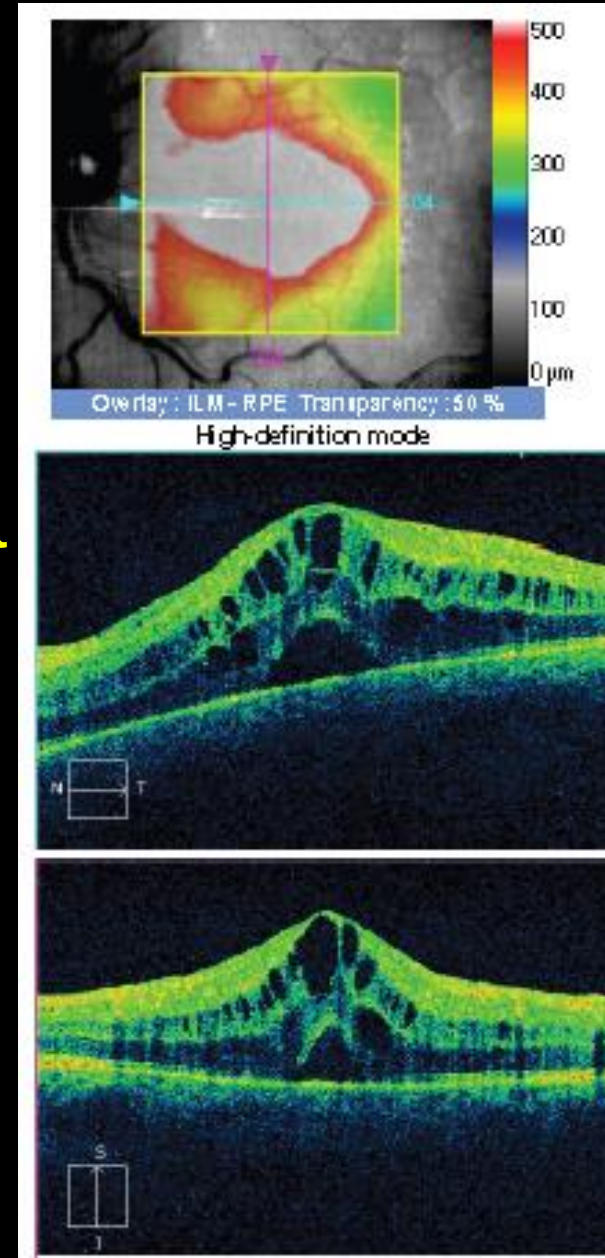
Swelling **UNDER** the Retina:

Wet Macular Degeneration



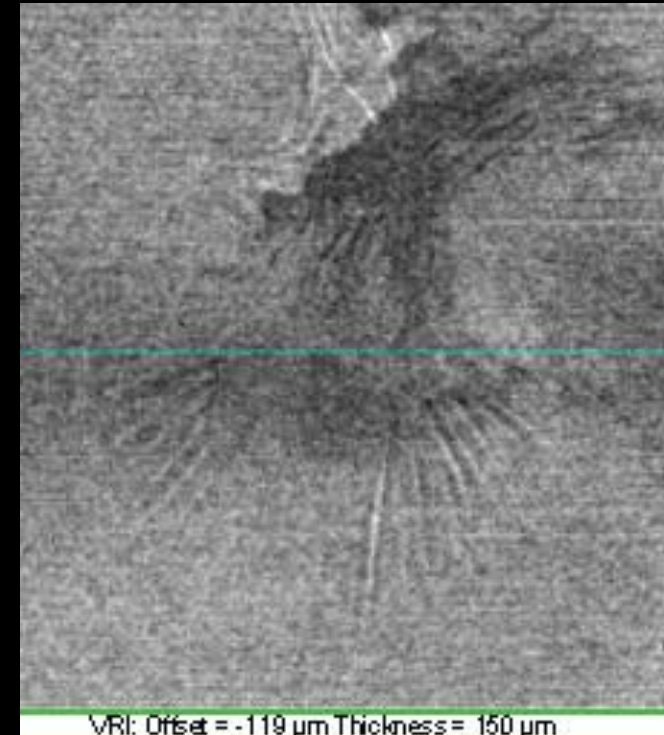
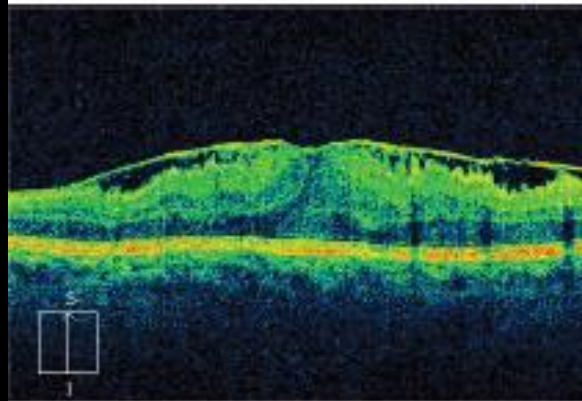
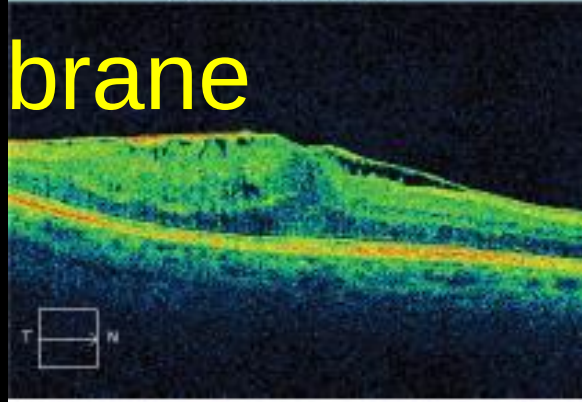
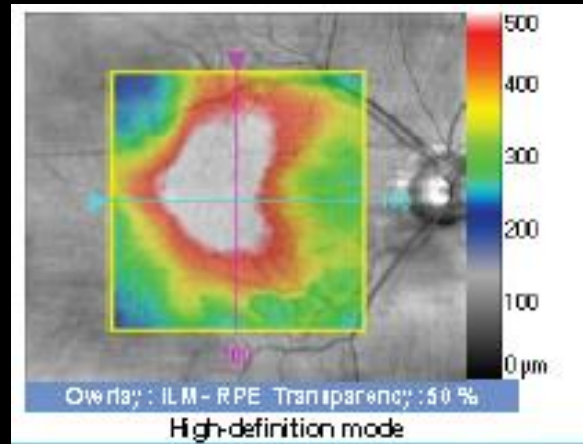
Swelling **IN** the Retina

Diabetic Macular Oedema DME



Scrunching **ON** the Retina

Epiretinal membrane
ERM





MACULAR
DEGENERATION
NEW ZEALAND

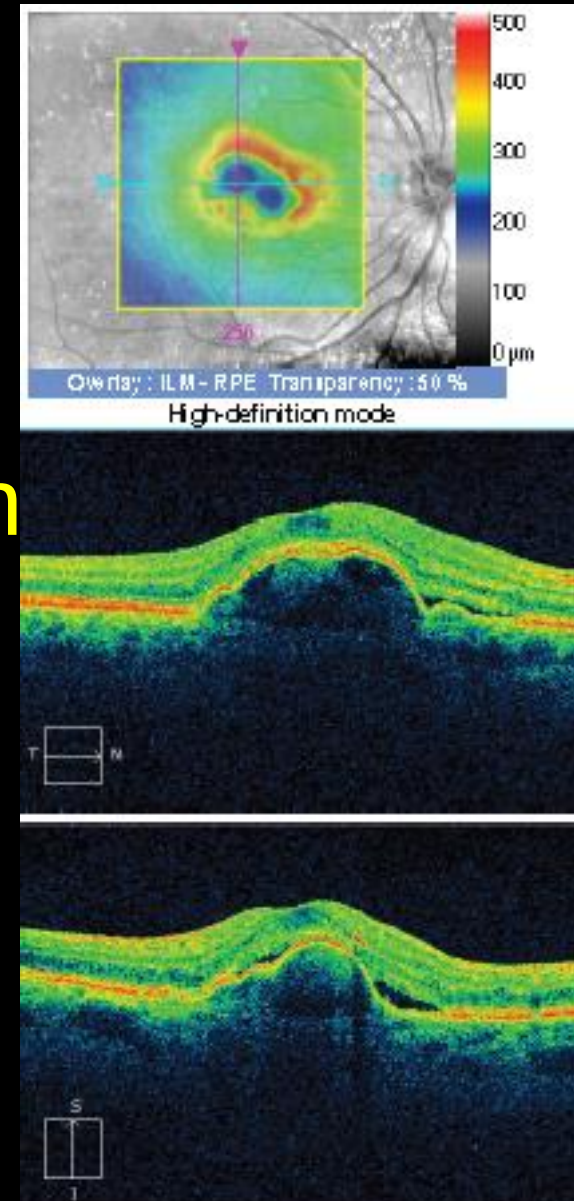
Macular Degeneration

0800 MACULA (622 852)

www.mdnz.org.nz

Swelling **UNDER** the Retina:

Wet Macular Degeneration



Macular degeneration

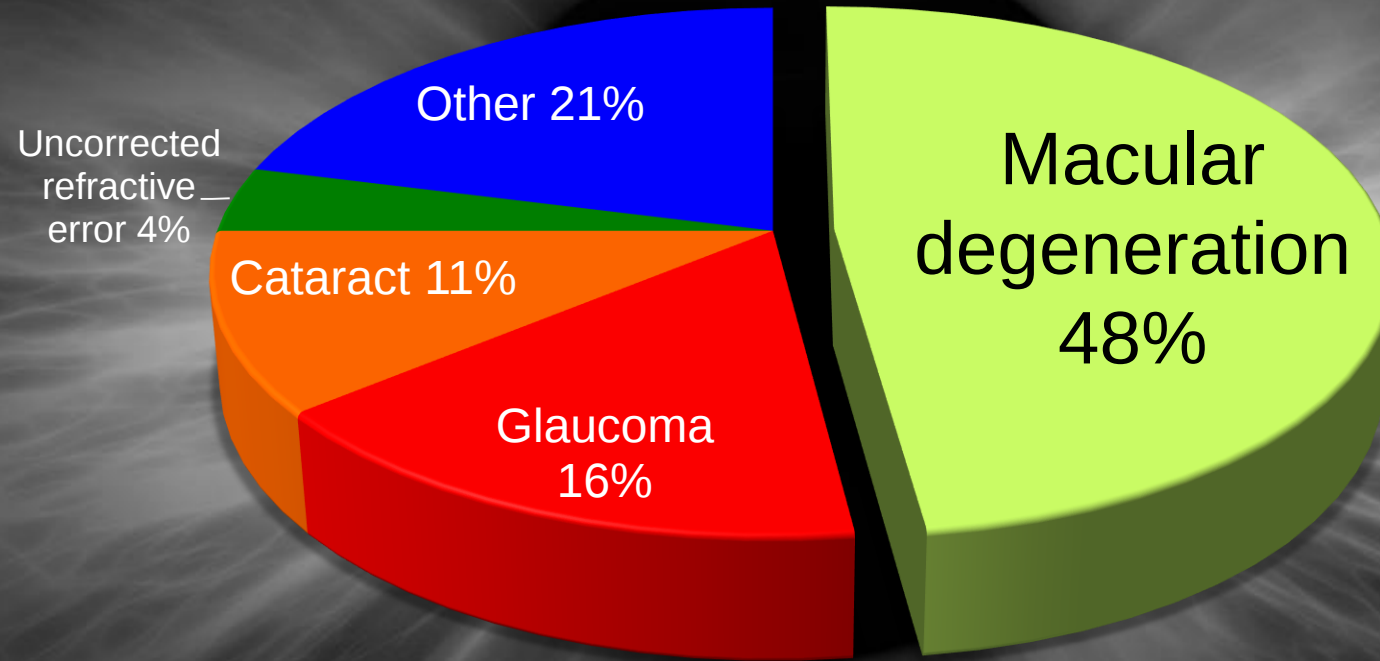
Progressive central
vision loss

Peripheral vision
remains

Not total blindness



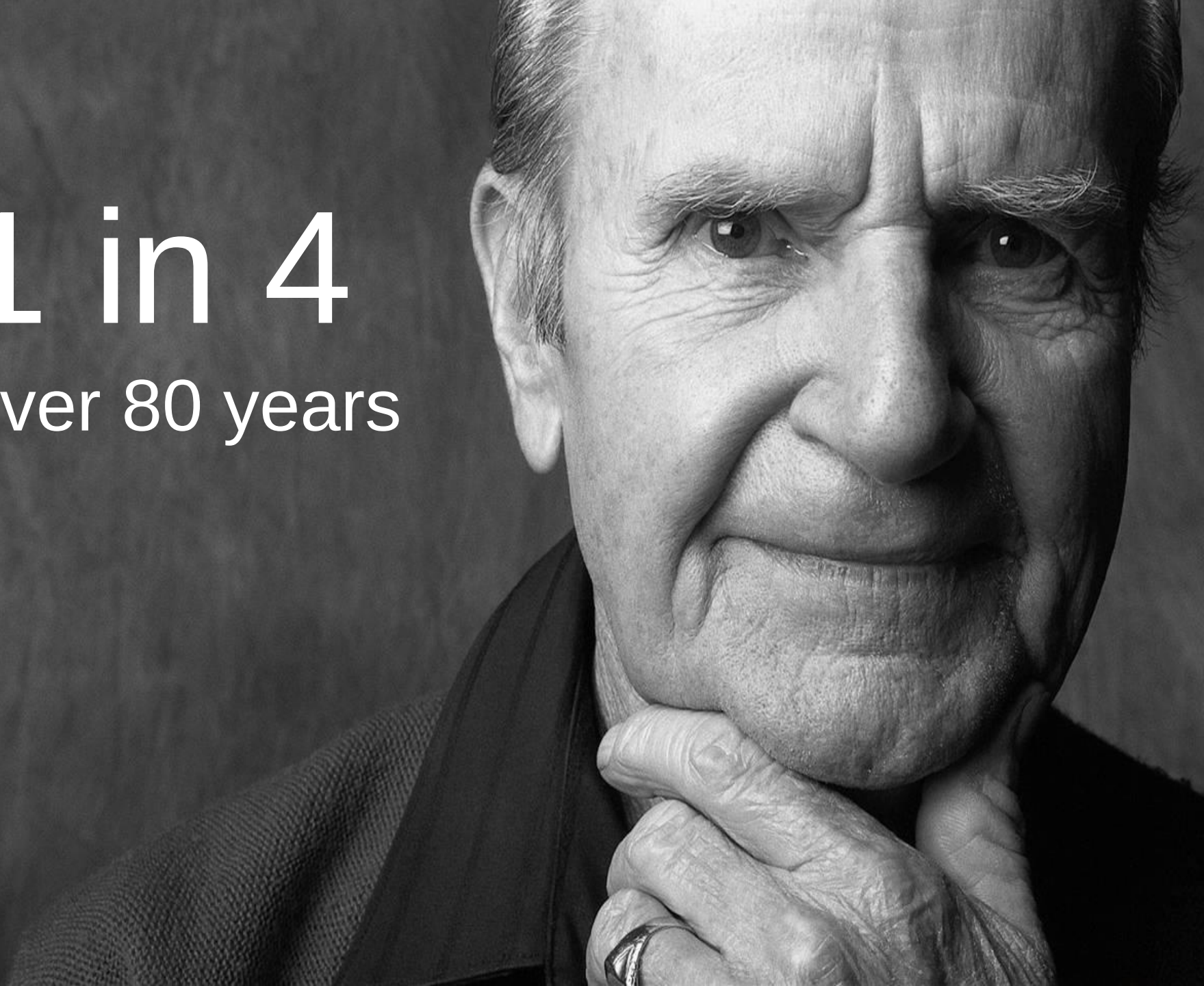
Leading cause of vision loss



1 in 7 over 50 years



1 in 4
over 80 years



4 x risk

10 years earlier



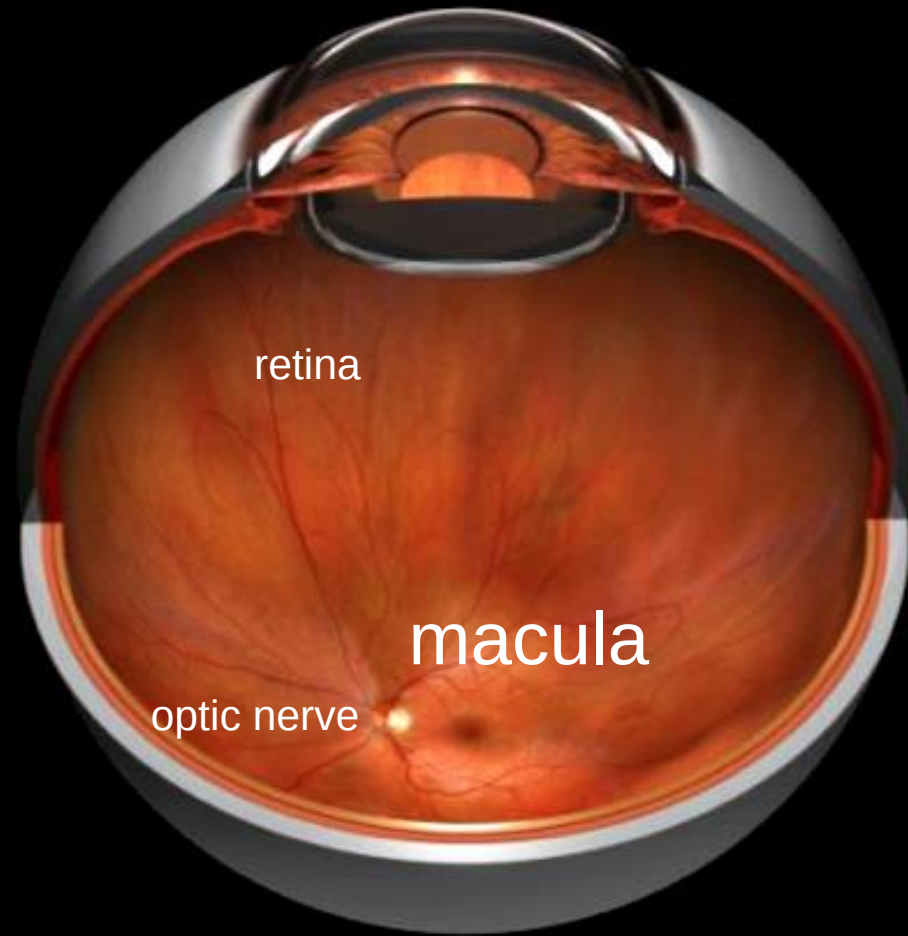
50%

chance if family history

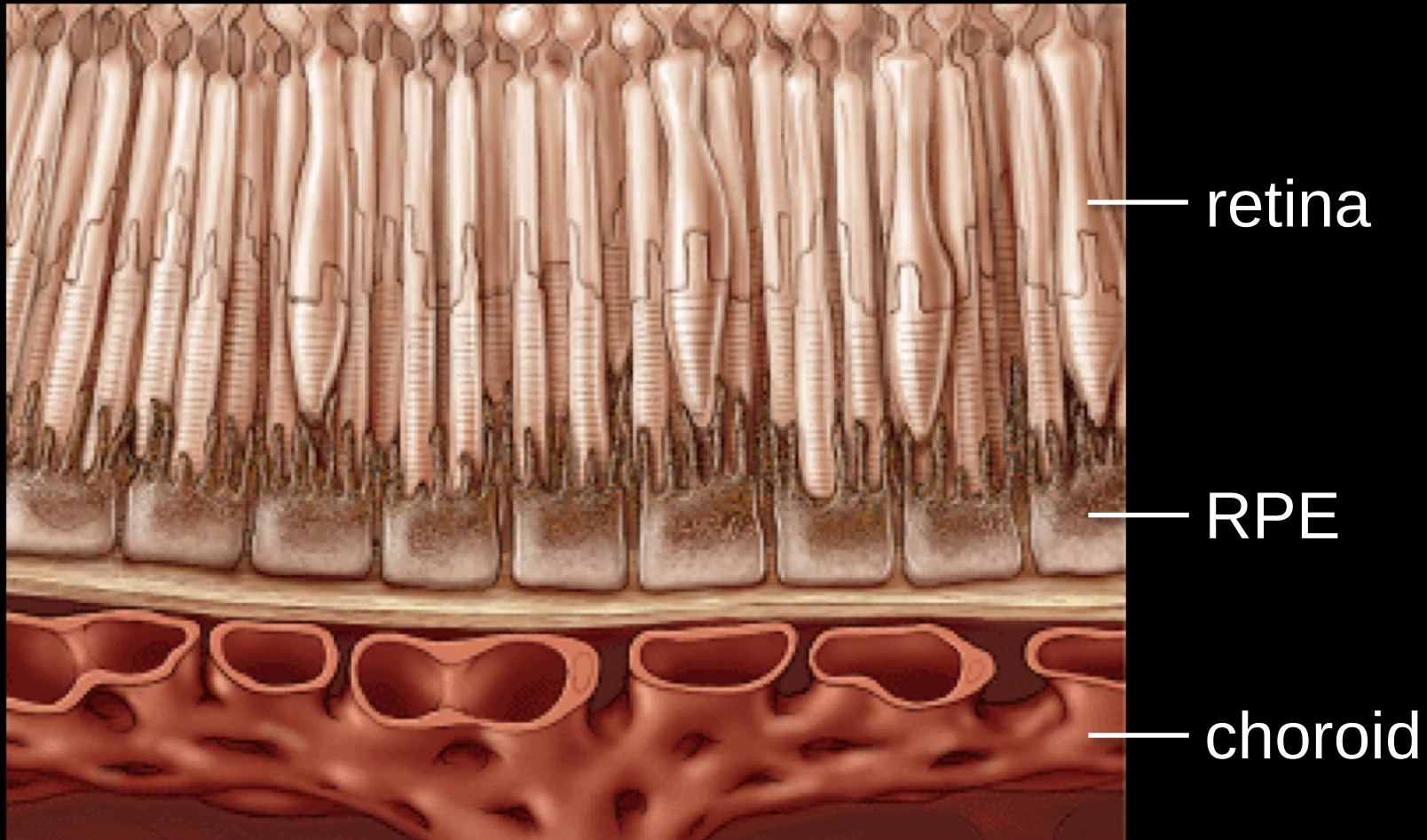
tell your family



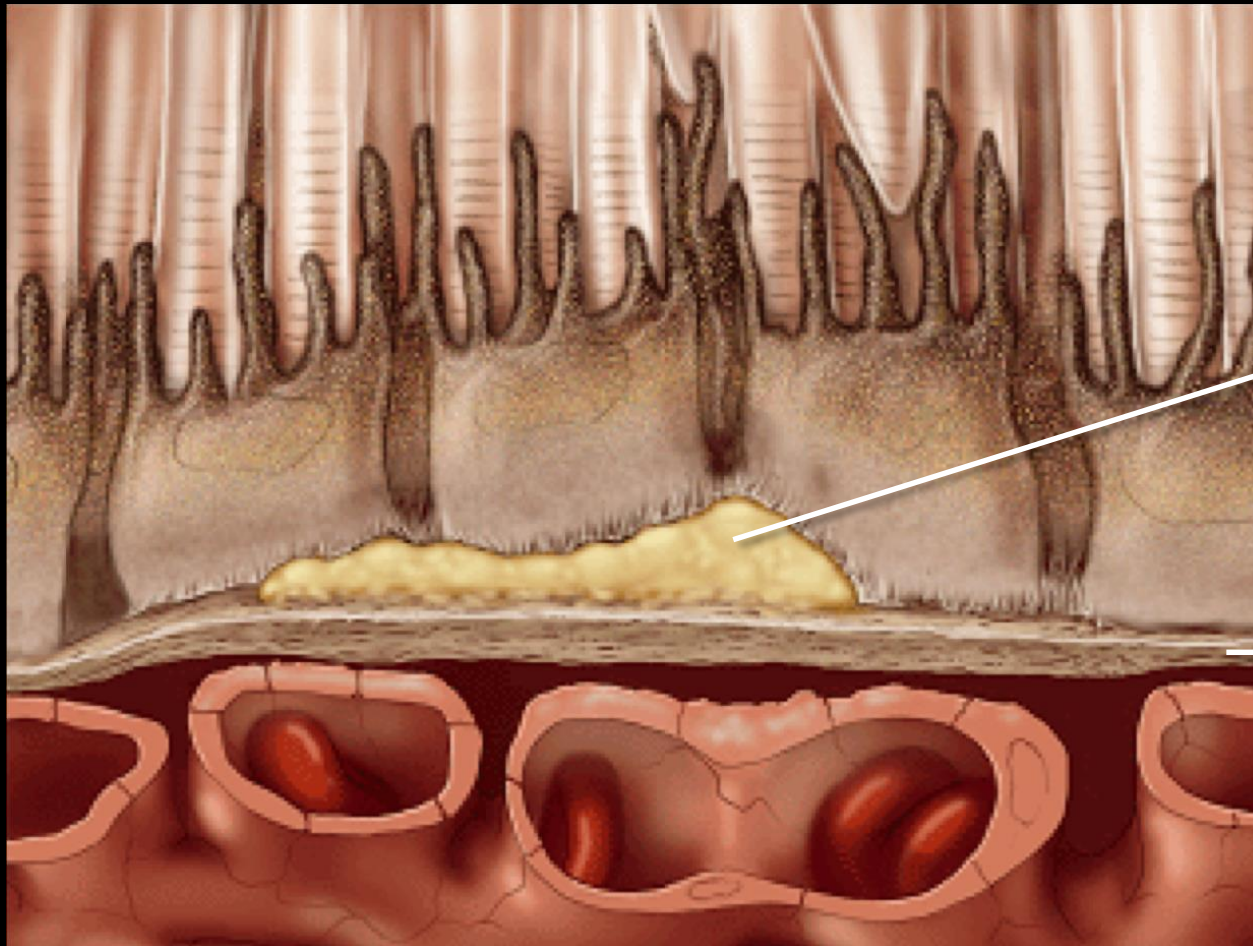
The macula



Healthy retina



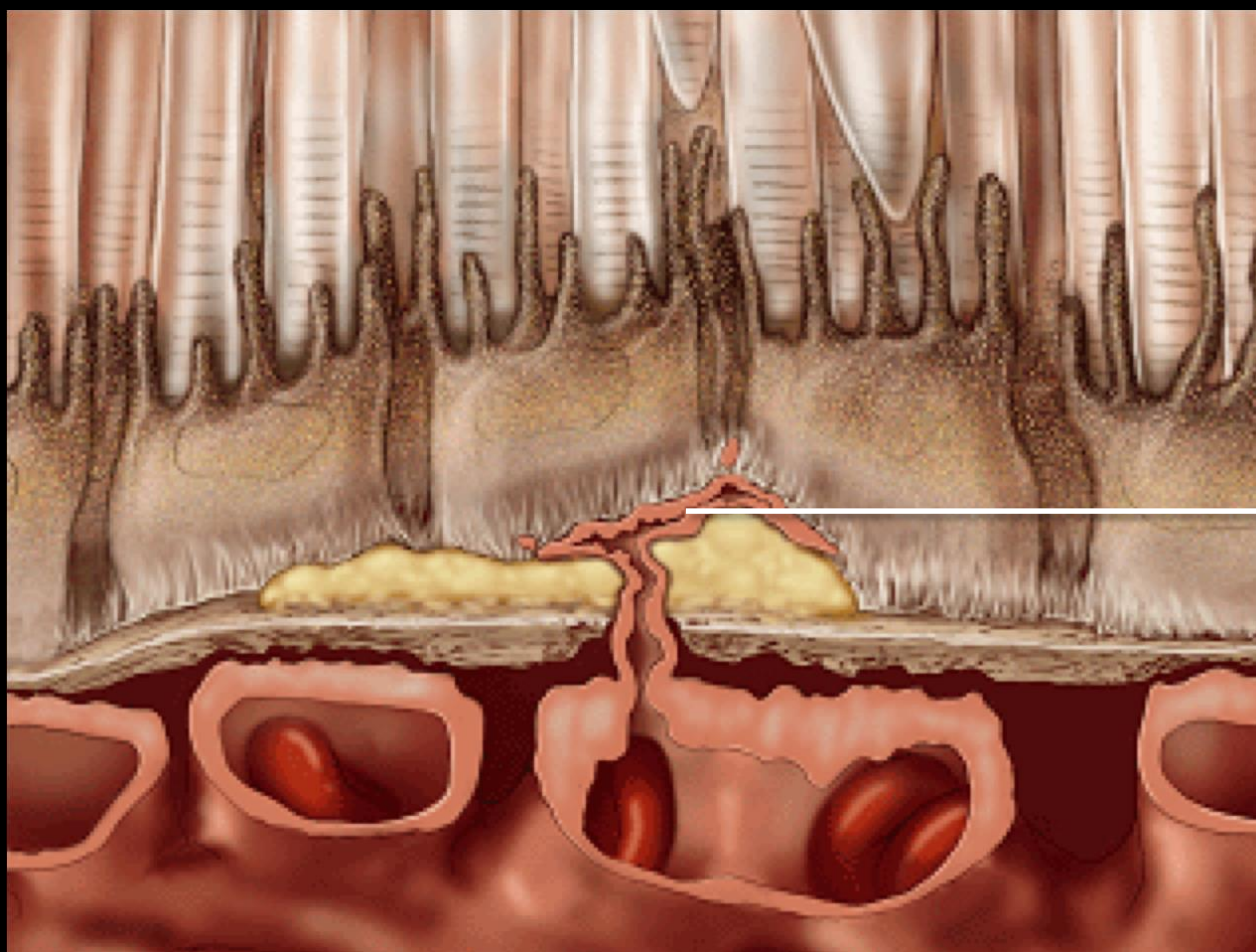
Early changes



drusen

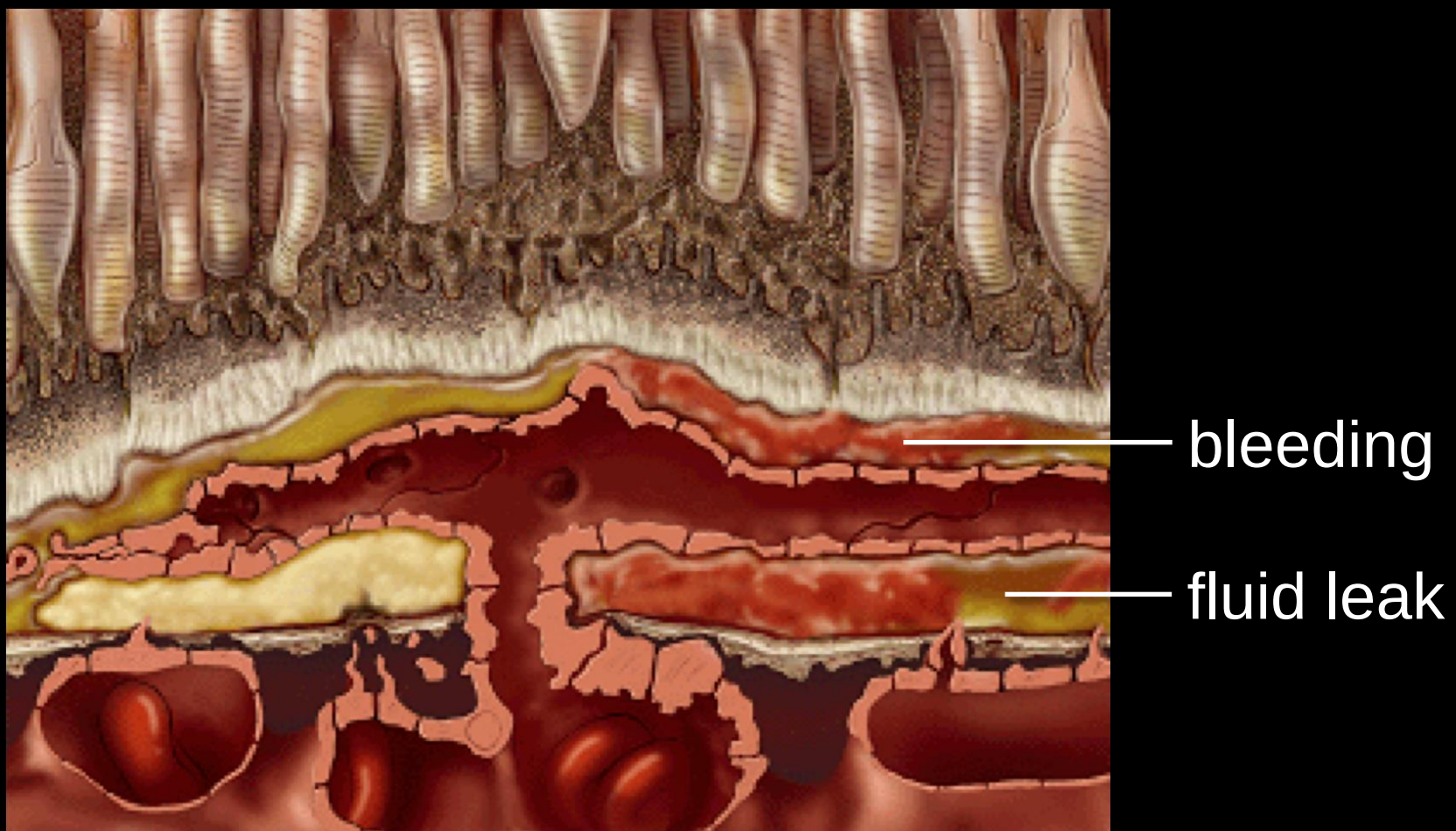
Bruch's
membrane
thickens

Wet MD



new
vessels

Wet MD



Dry

slow and gradual

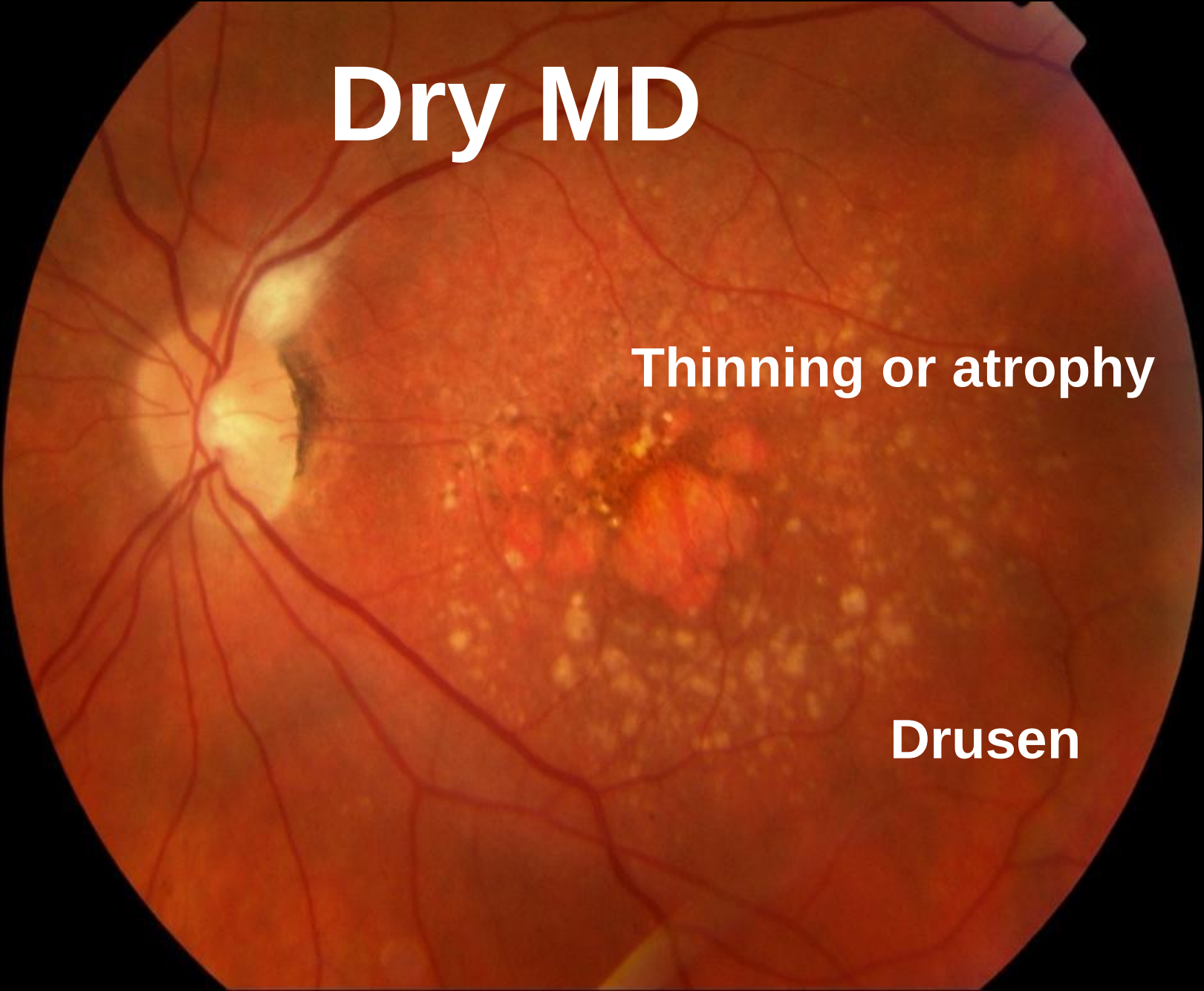


Wet

sudden and severe



Dry MD

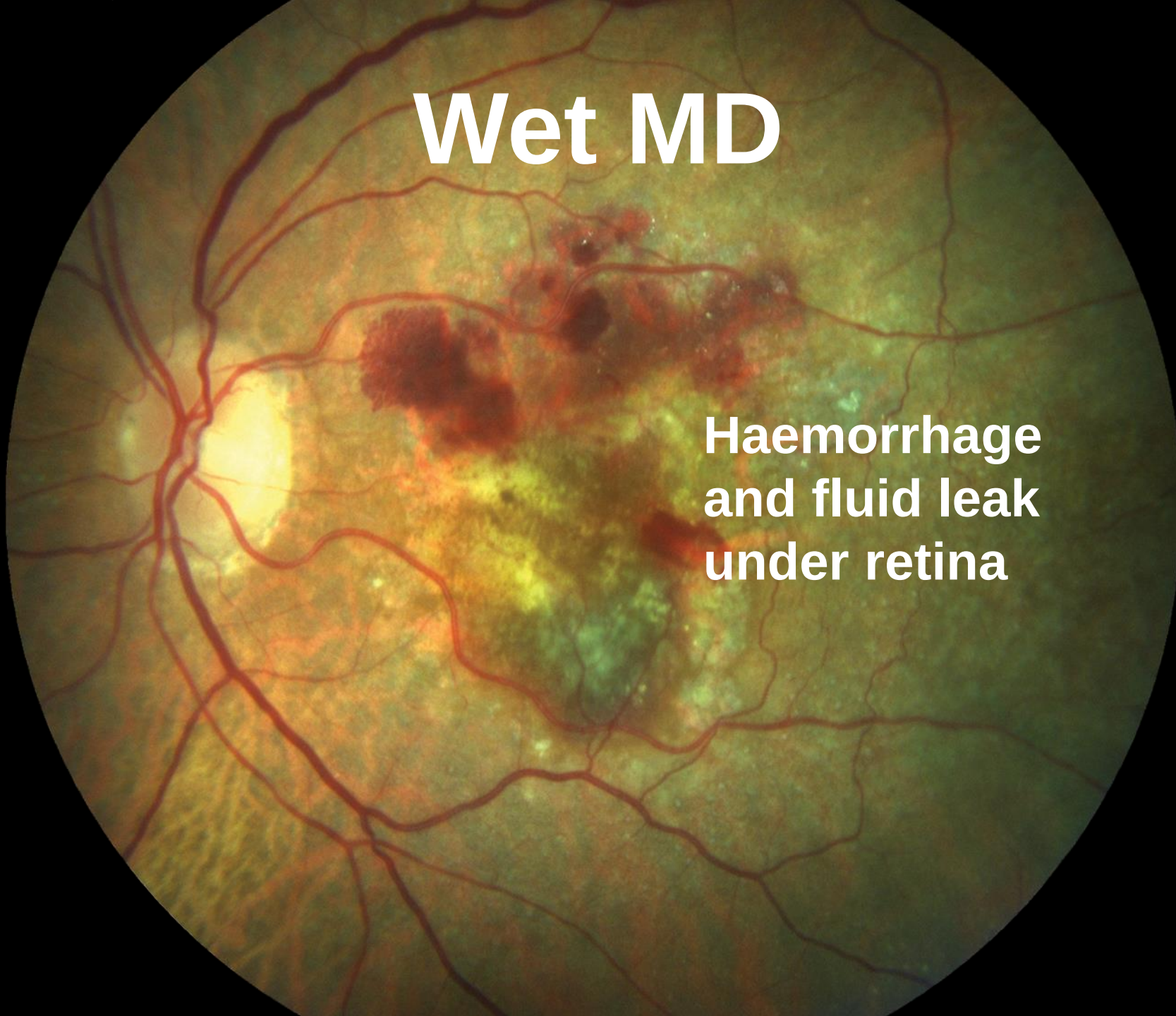


Thinning or atrophy

Drusen

Wet MD

Haemorrhage
and fluid leak
under retina



75% blind

with wet MD after 3
years no treatment

50%

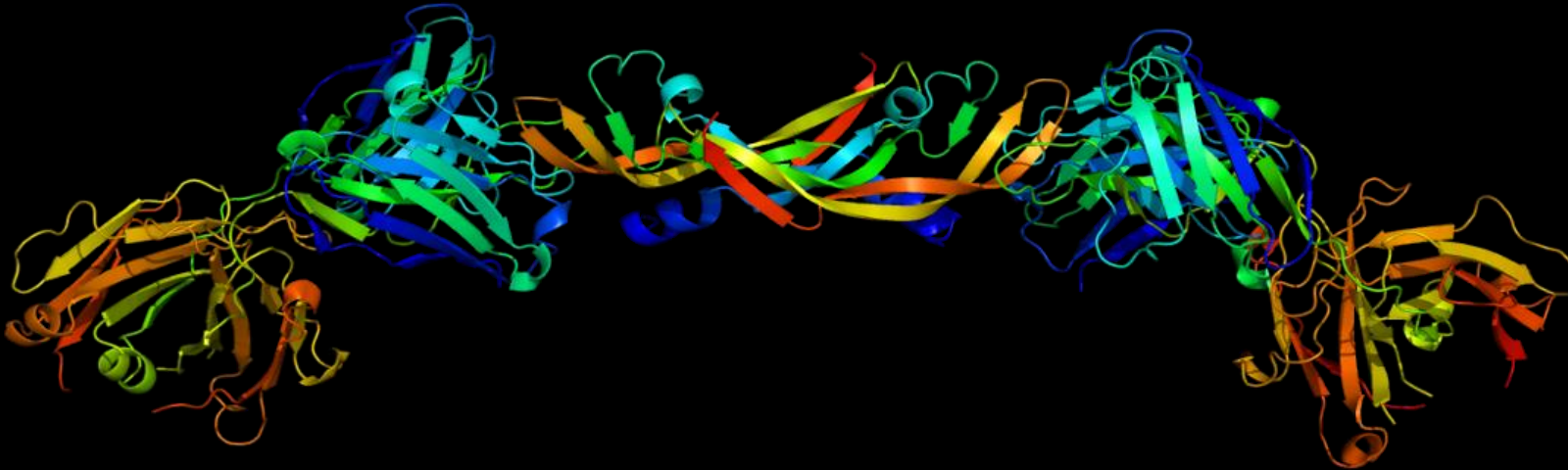
at 3 months



Vascular Endothelial Growth Factor

VEGF-A: ¹

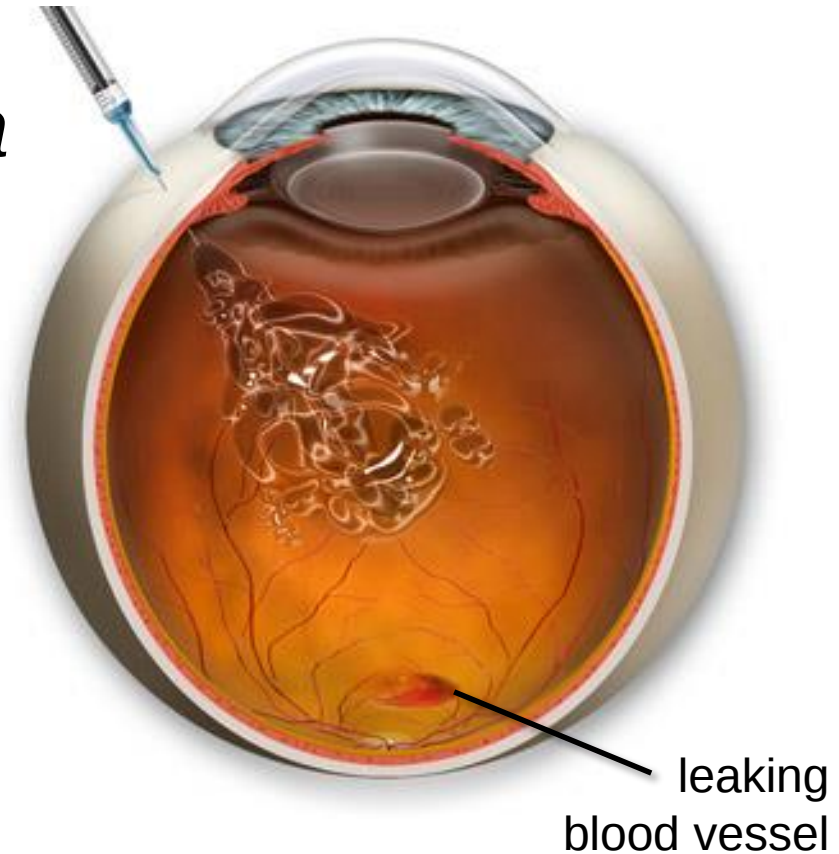
- Normal role:
 - growth of tissues and organs
- Pathological role
 - neovascularisation and oedema



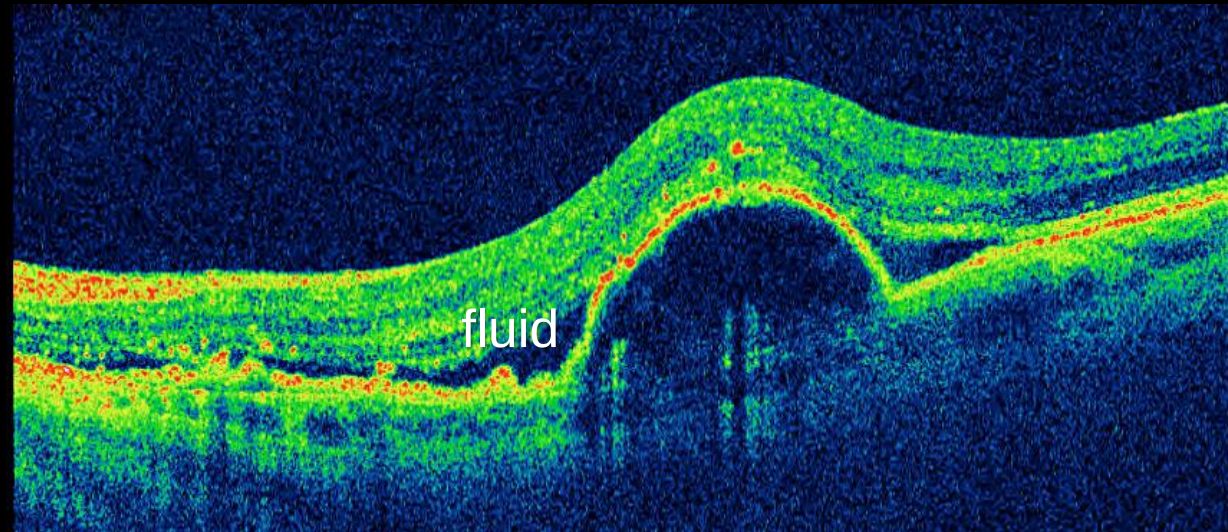
Treatment of Wet MD

Anti-VEGF agents:
Avastin/ Lucentis/ Eylea

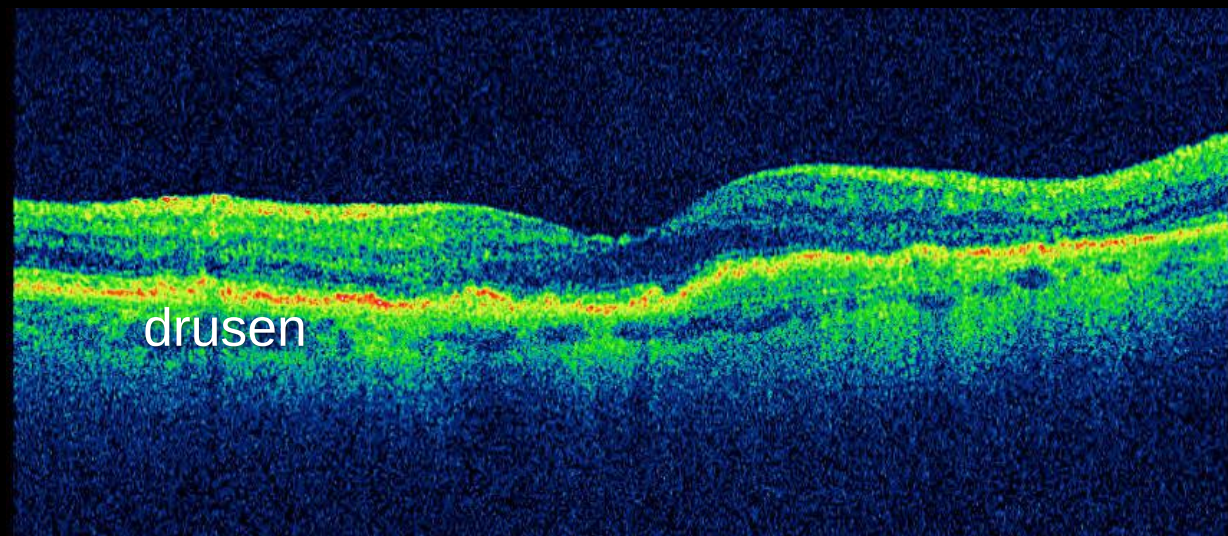
- Block VEGF-A
- Stabilise vision and prevent further loss



Visual acuity
6/24



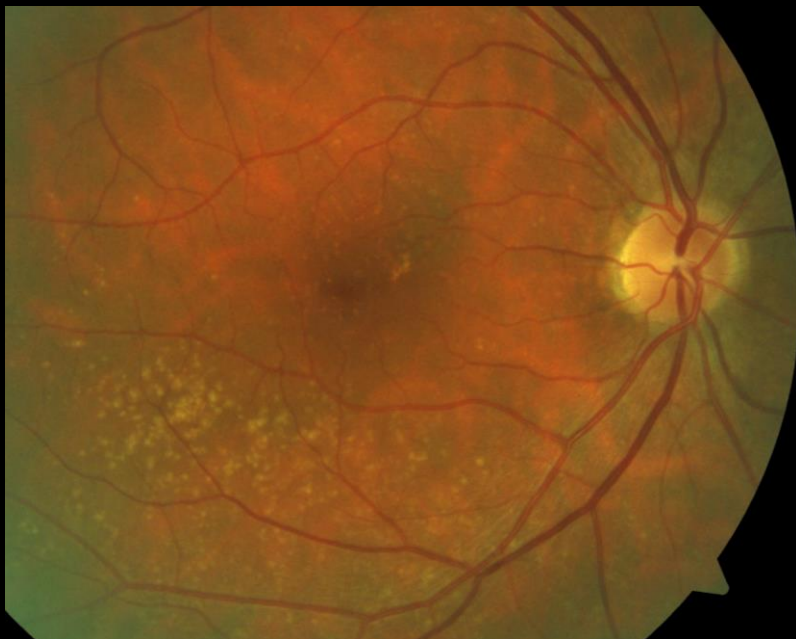
6/9
4 weeks after
Eylea



Moment of boredom!
MR L age 67yr
Positive family history for AMD



RE: 6/5

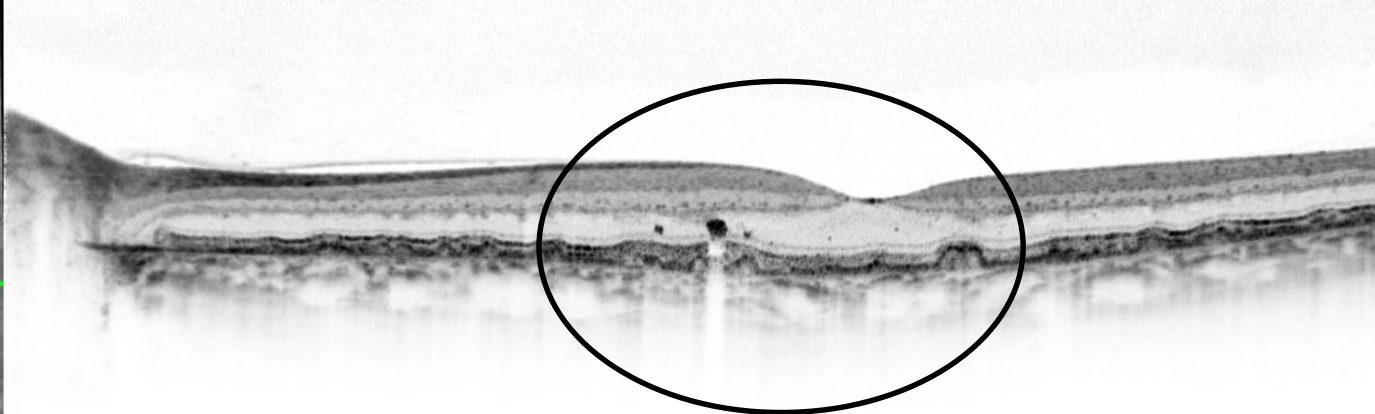
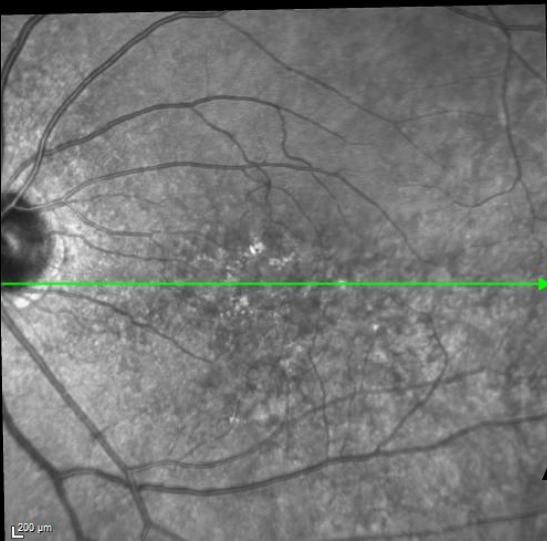
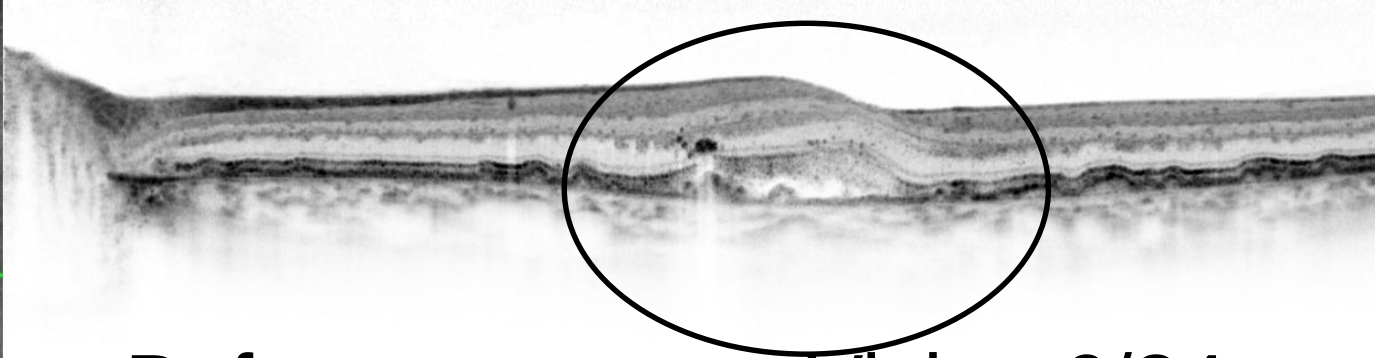
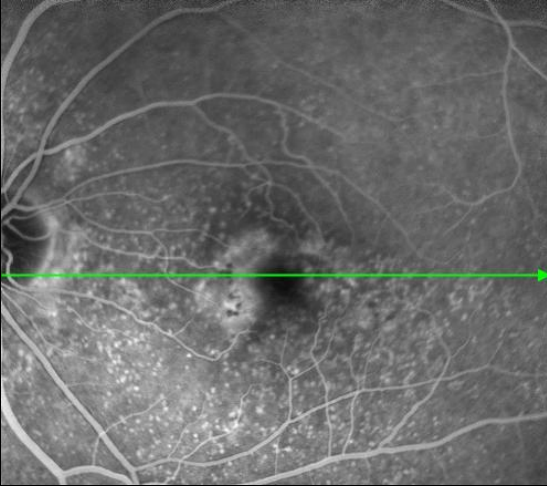


LE: 6/24



Fluorescein angiogram identifies abnormal blood vessels

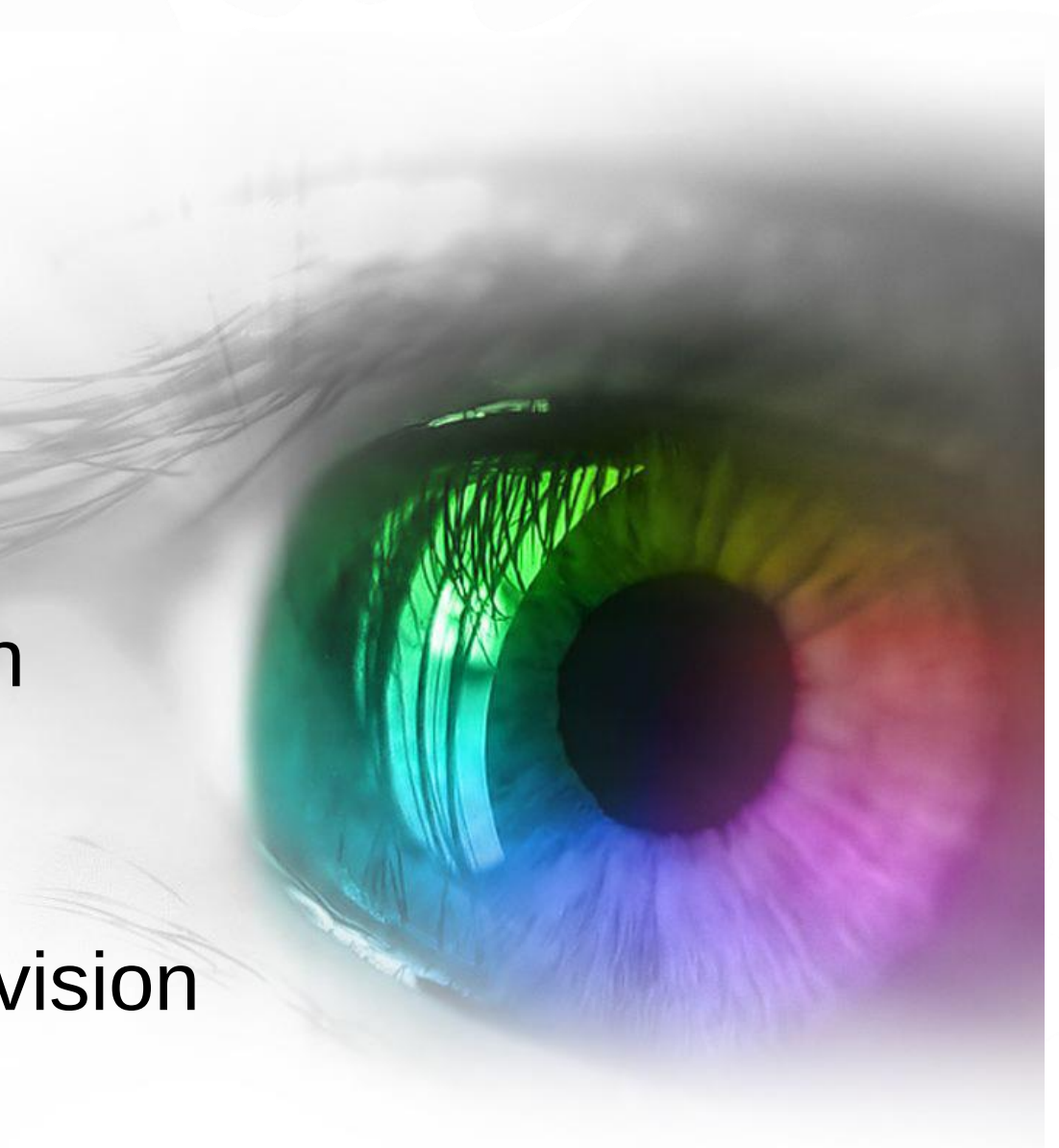




95% stable vision

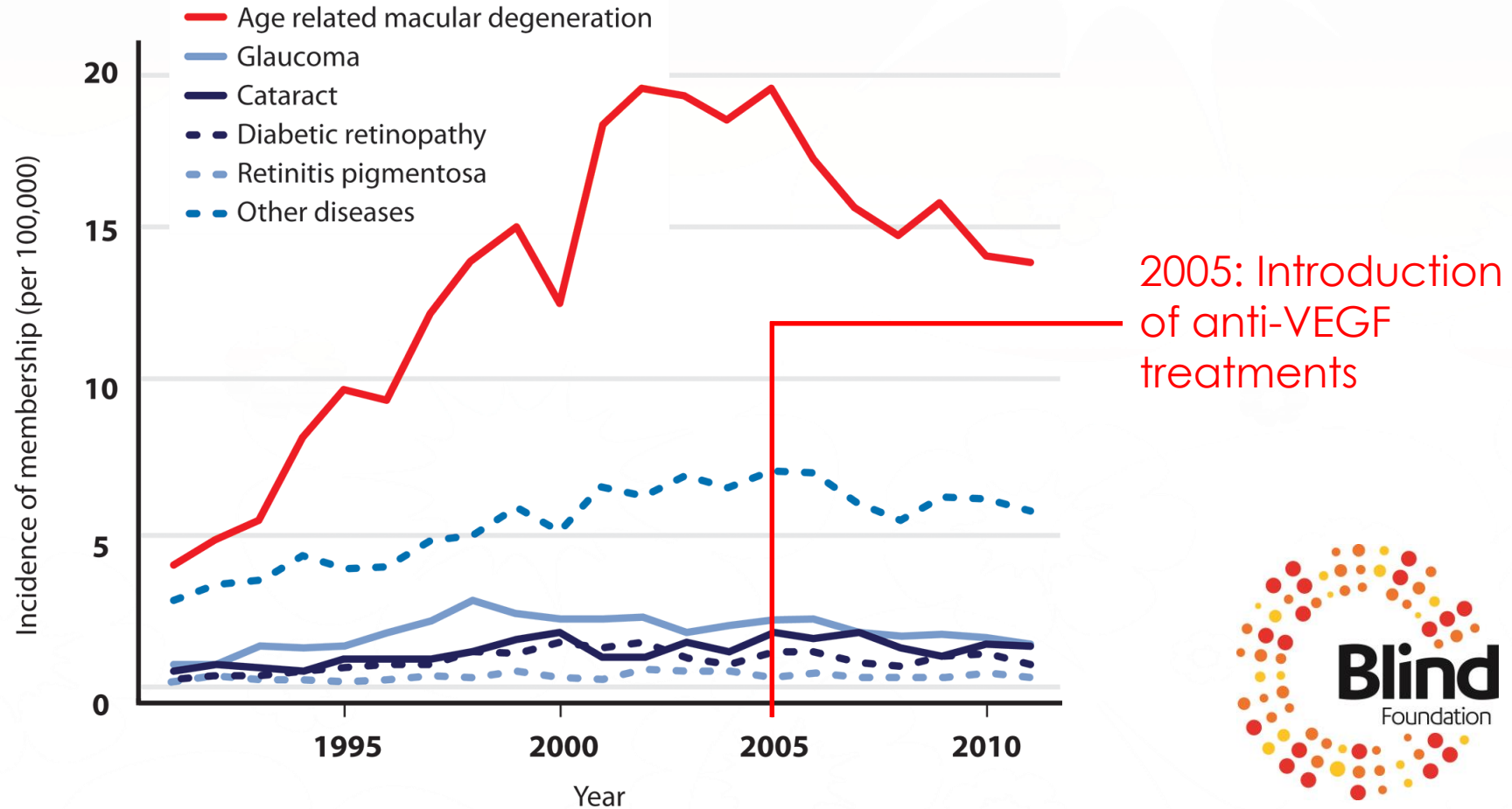
40% driving vision

30% gain 3 lines vision



1. Bloch SB, Larsen M, Munch IC. Incidence of legal blindness from age-related macular degeneration in Denmark: year 2000 to 2010. *Am J Ophthalmol* 2012;153:209-213.
2. Skaat A, Chetrit A, Belkin M *et al*. Time trends in the incidence and causes of blindness in Israel. *Am J Ophthalmol* 2012;153:214-221.
3. Cackett P *et al*. Intravitreal ranibizumab treatment of wet macular degeneration in SE Scotland – effect on blindness rates and 5 year follow up data. Presented at ARVO, 5 May 2013, Seattle WA, USA.

Less blindness in NZ





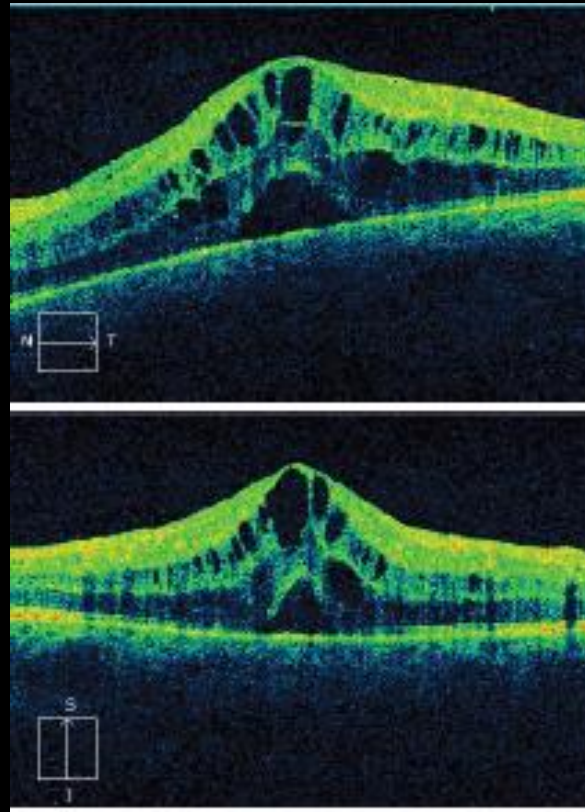
MACULAR
DEGENERATION
NEW ZEALAND

**Blindness is no longer the
inevitable consequence of
Macular Degeneration**

0800 MACULA (622 852)

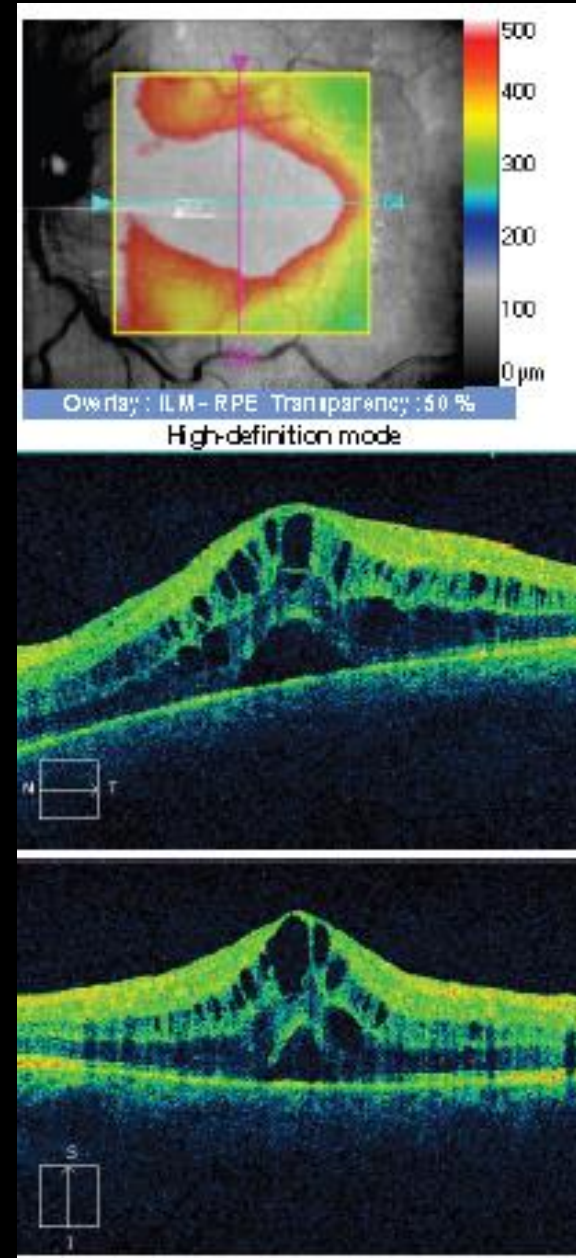
www.mdnz.org.nz

Diabetic Macular Oedema



Swelling **IN** the Retina

Diabetic Macular Oedema DME



Normal Vision

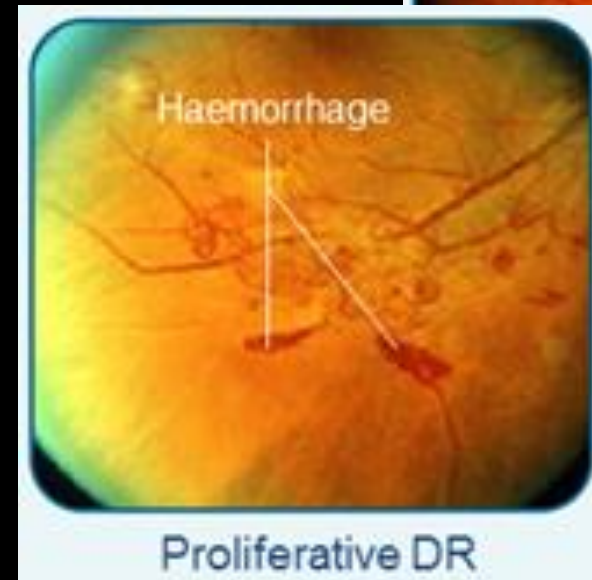


Vision with DME



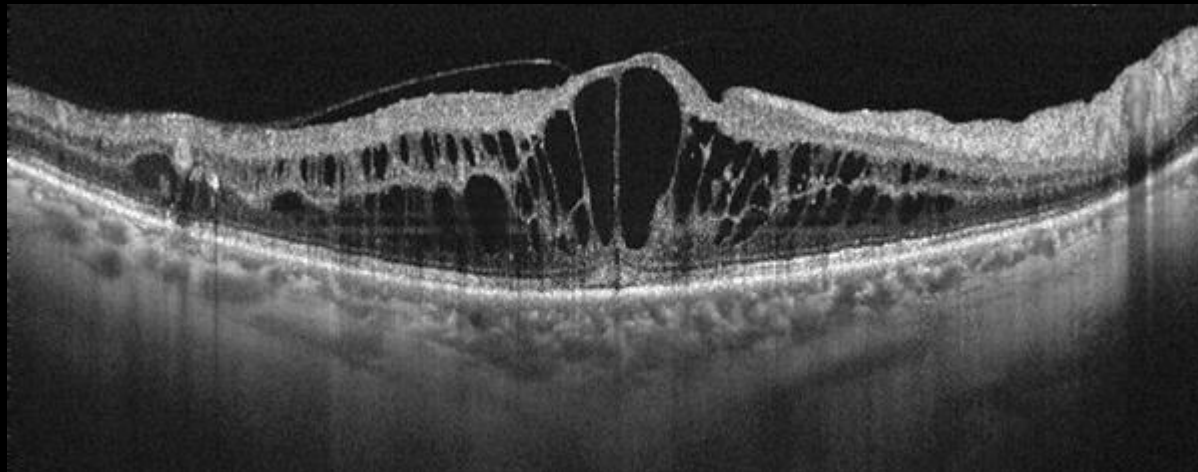
Diabetic Retinopathy Disease Severity Score

- No apparent DR
- Mild NPDR
- Moderate NPDR
- Severe NPDR
- Proliferative DR (PDR)

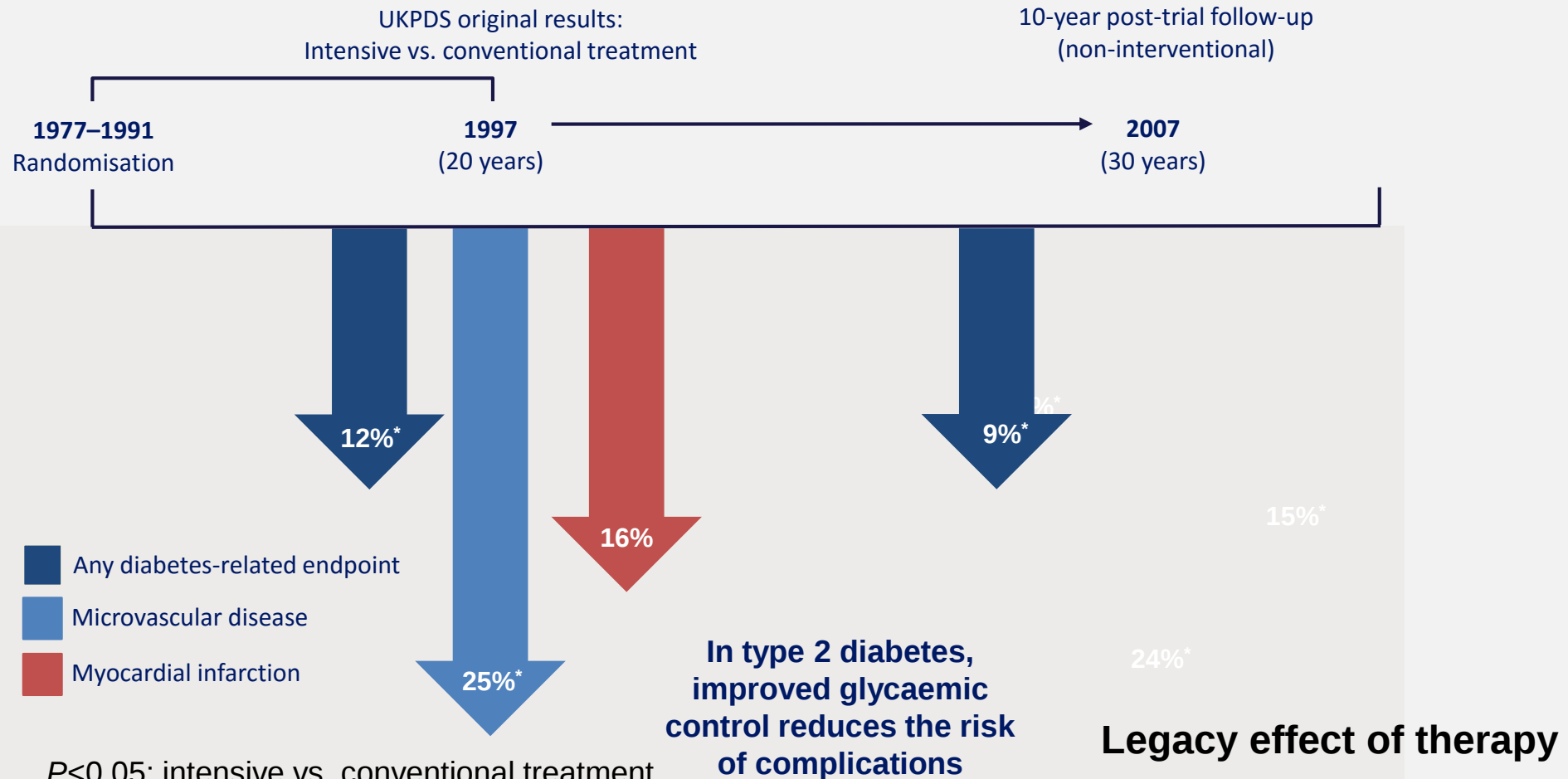


Macular Oedema can develop at any stage of DR (or may not occur)

Diabetic Macular Oedema

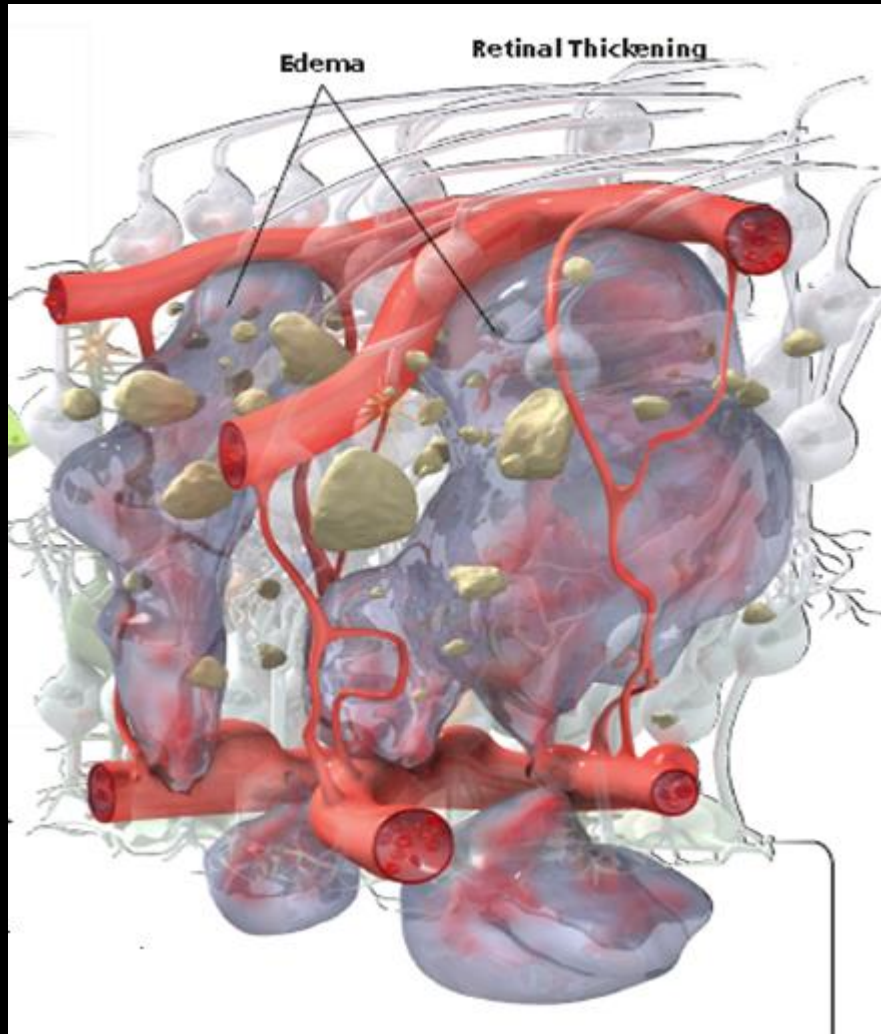


Early & sustained glycaemic control is important 20- and 30-year follow-up results

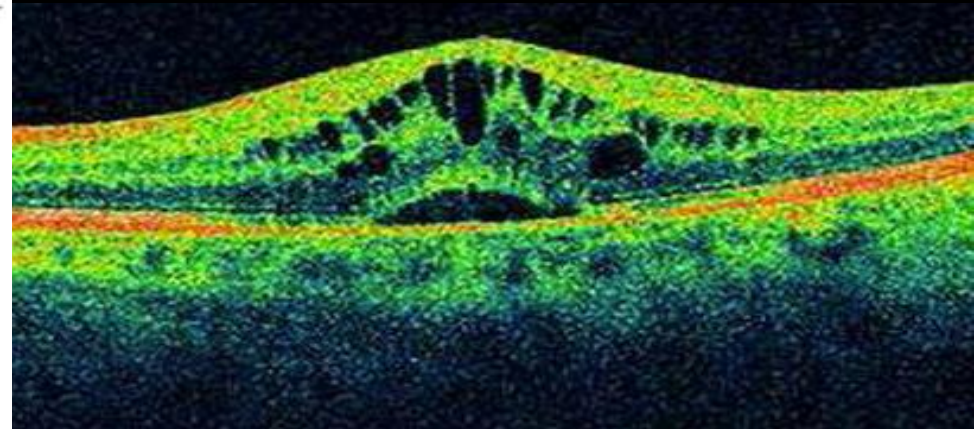


- $P < 0.05$; intensive vs. conventional treatment.
- UKPDS, United Kingdom Prospective Diabetes Study.
- Holman RR *et al.* *N Engl J Med* 2008; 359: 1577–1589. UKPDS 33 Study Group. *Lancet* 1998; 352: 837–853.

Clinically Significant DME

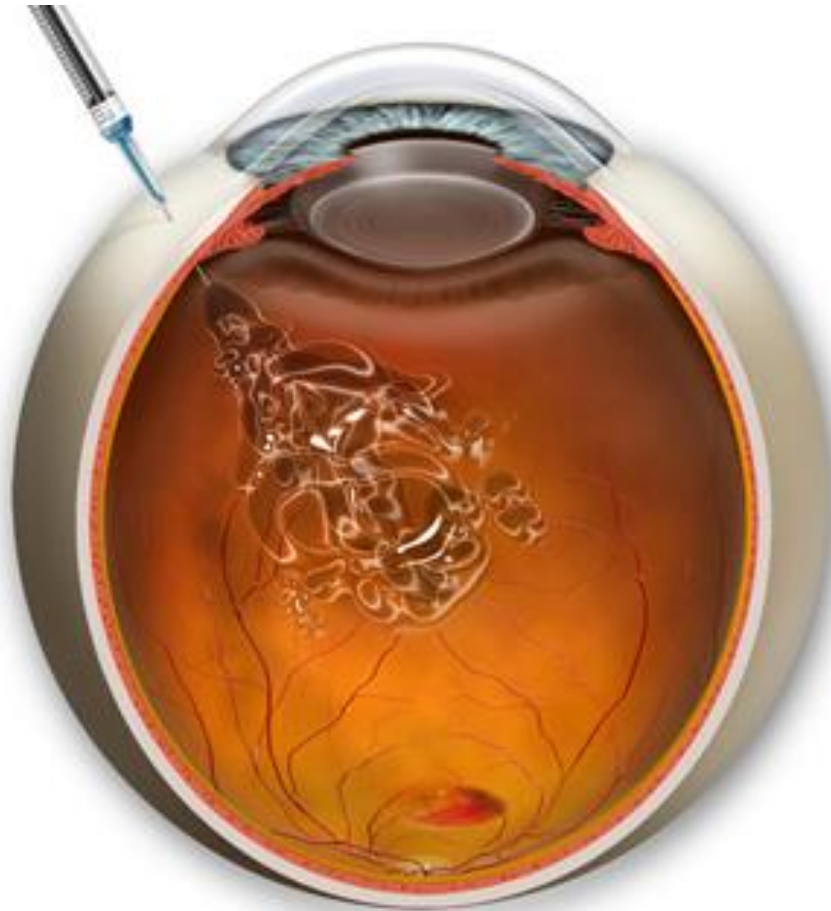


High levels of VEGF increases vascular permeability



Treatment of Diabetic Macular Oedema

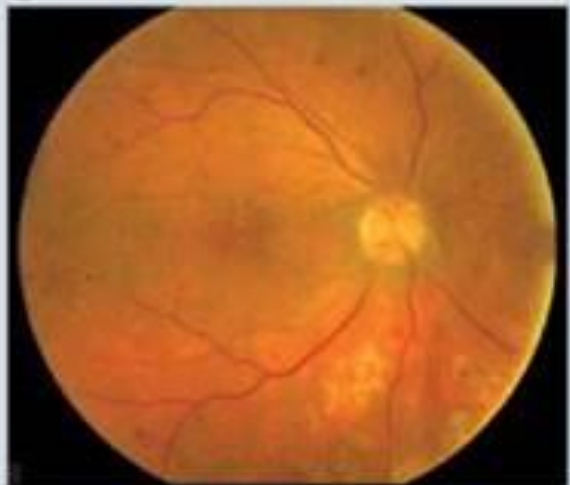
Anti-VEGF agents:



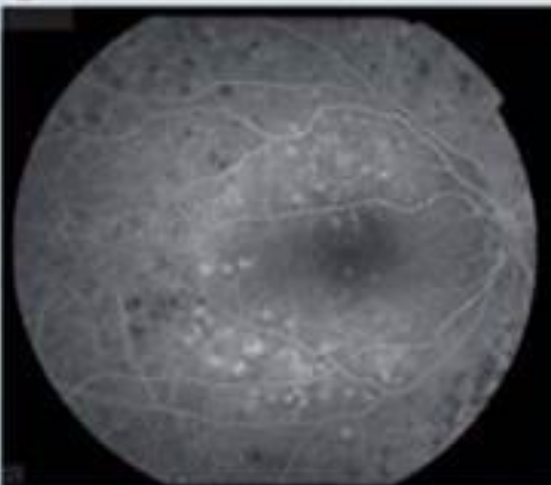
Intra-vitreal steroid injection



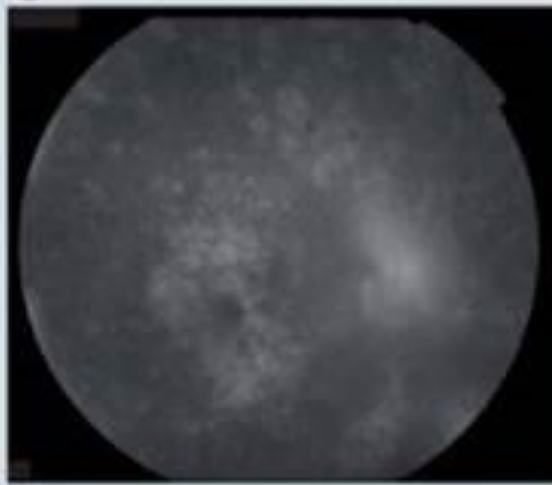
(A)



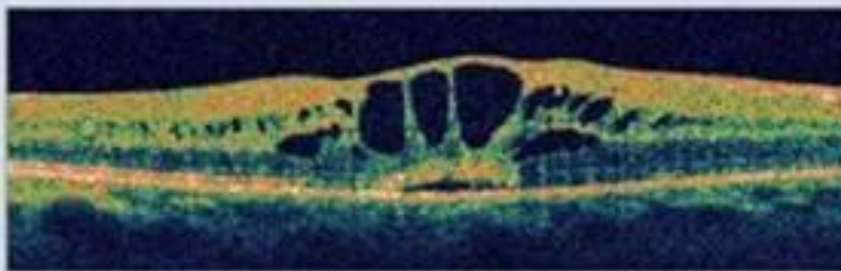
(B)



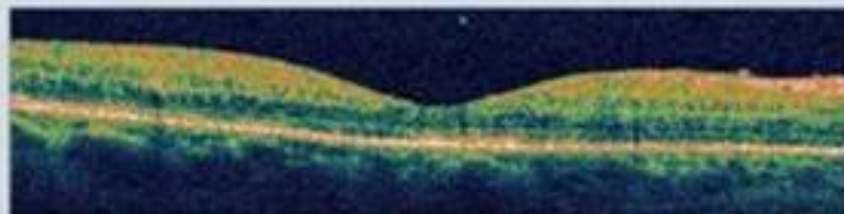
(C)



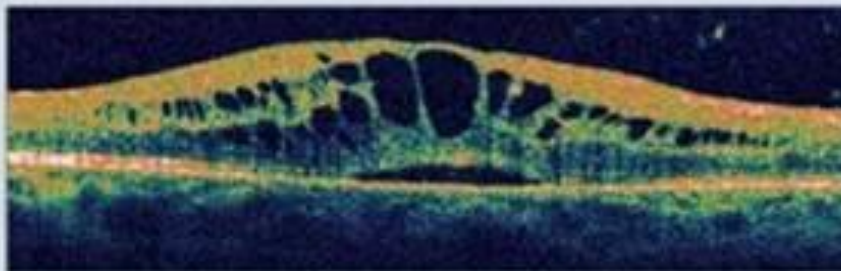
(D)



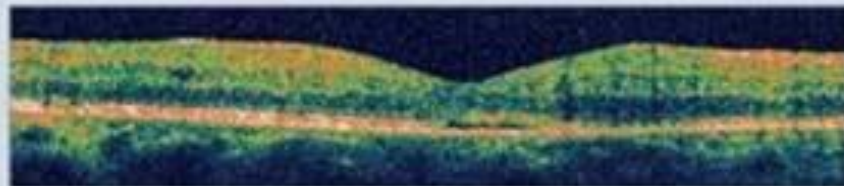
(E)



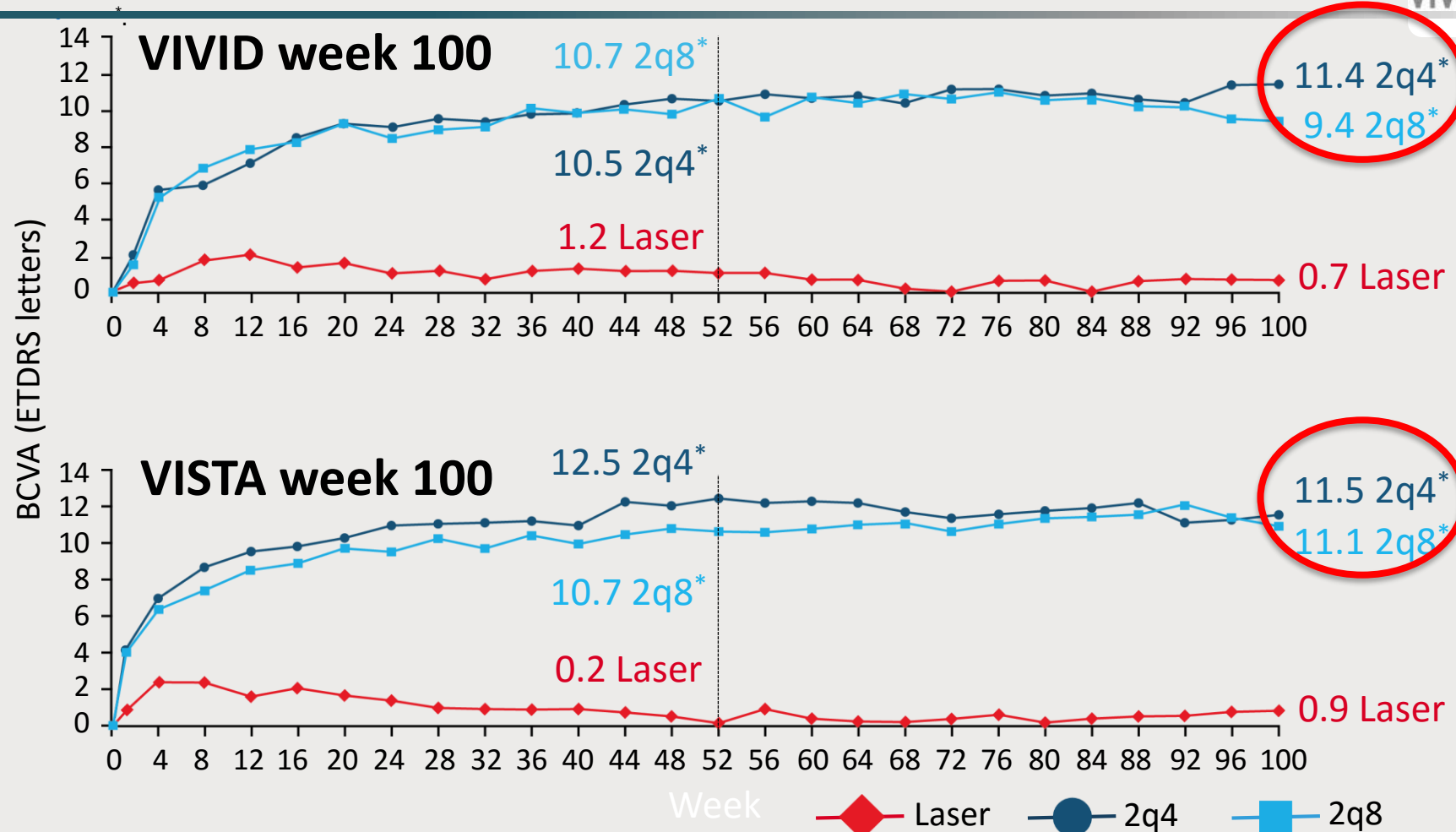
(F)



(G)



Initial rapid gains in visual acuity are maintained over 100 weeks

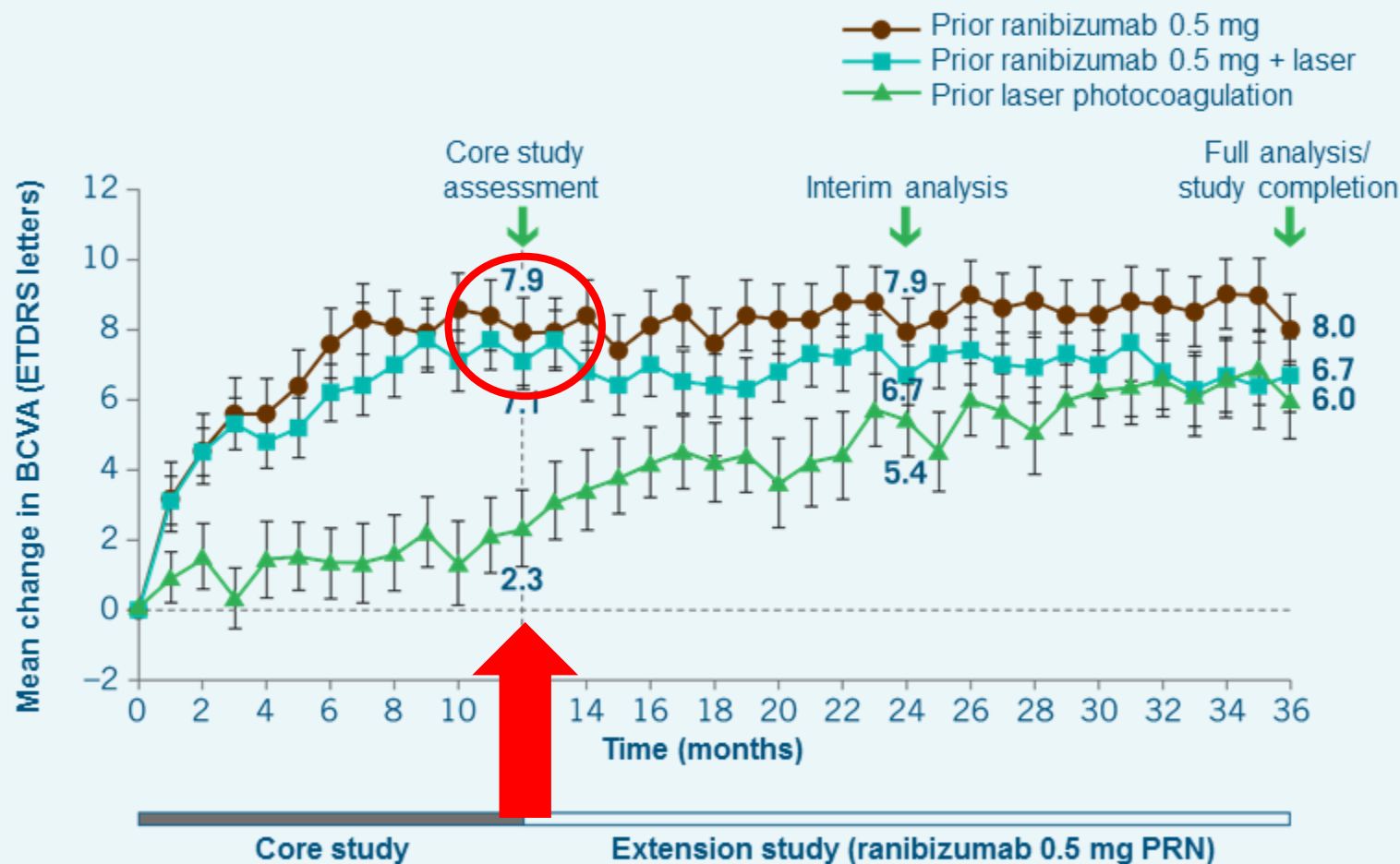


* $P < 0.0001$ vs. laser. VIVID: Laser: n=132; 2q4: n=136; 2q8: n=135; VISTA: Laser: n=154; 2q4: n=154; 2q8: n=151 Full analysis set. 2q4, 2 mg every 4 weeks; 2q8, 2 mg every 8 weeks; BCVA, best corrected visual acuity; ETDRS, Early Treatment Diabetic Retinopathy Study

Anti VEGF Treatment DME

- AntiVEGF superior to focal laser
- How important is treatment delay?

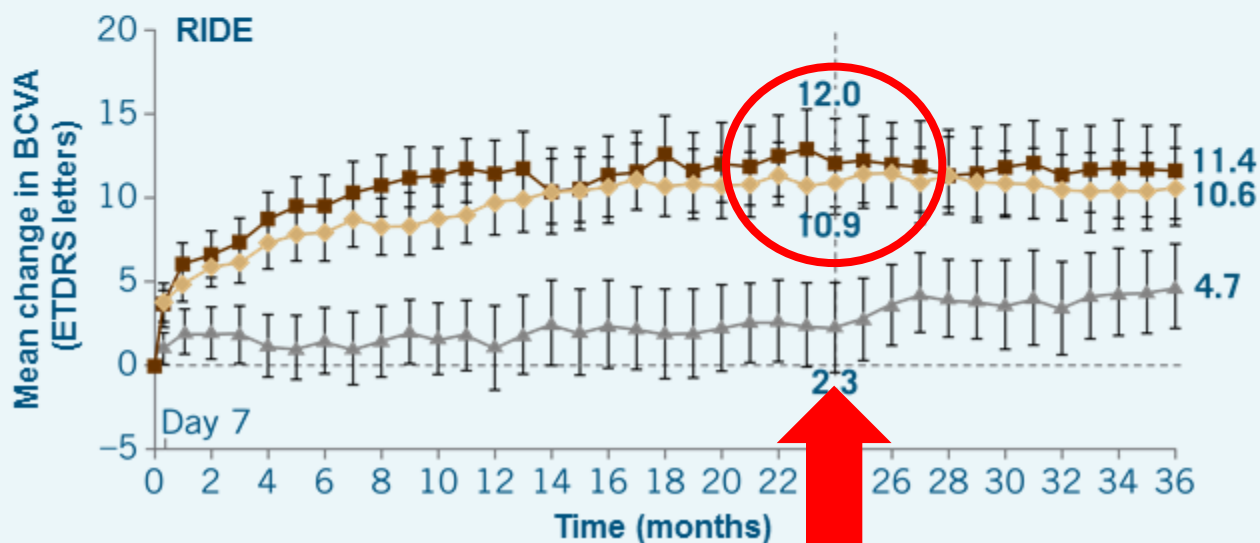
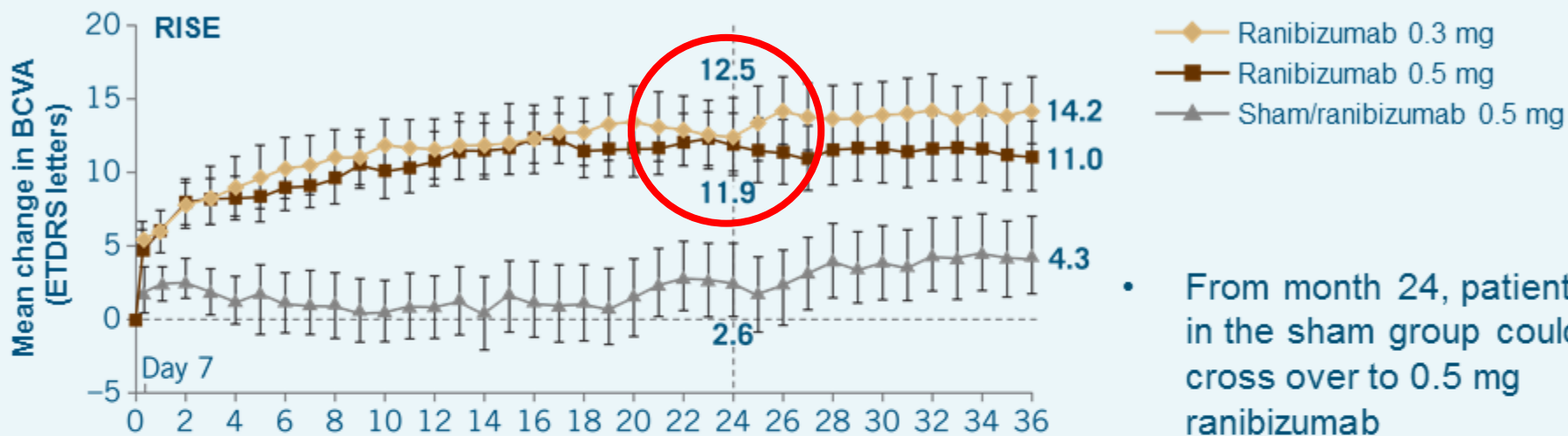
RESTORE extension study: 36-month long-term efficacy and safety of ranibizumab PRN



Mean number of injections required to maintain BCVA gain at 12 months:
3.7 and 2.7 injections until months 24 and 36, respectively

Data based on safety analysis set.

RISE and RIDE: Mean change in BCVA over 36 months



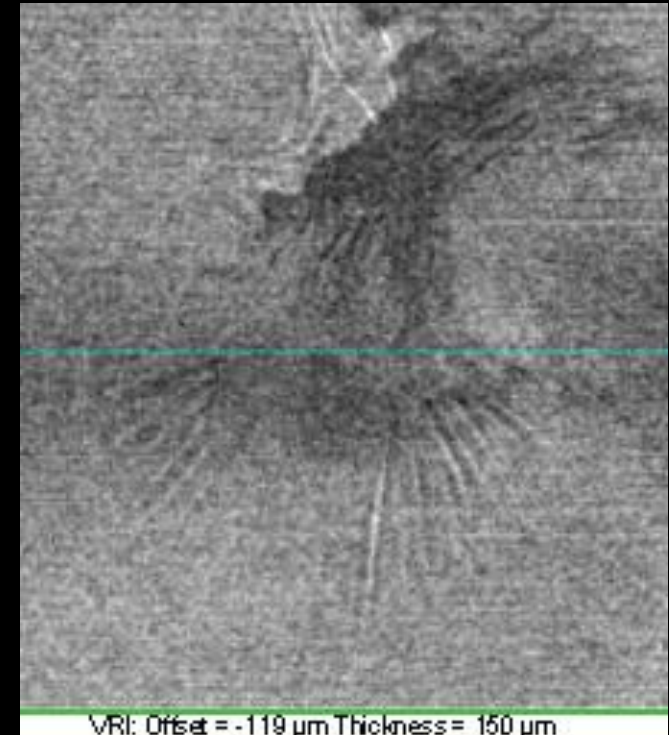
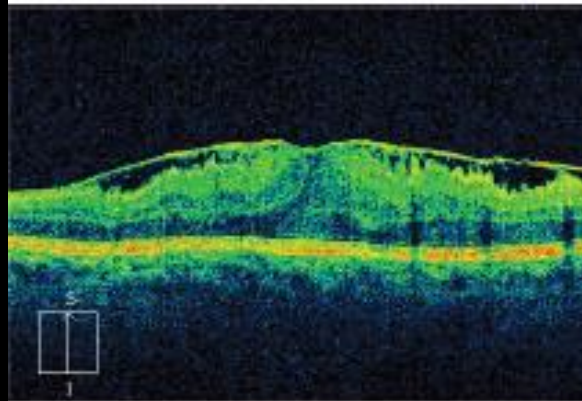
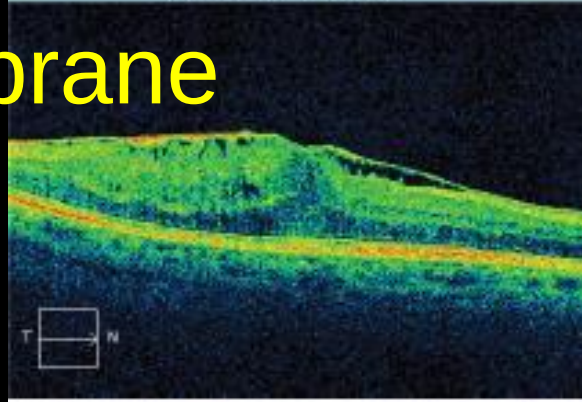
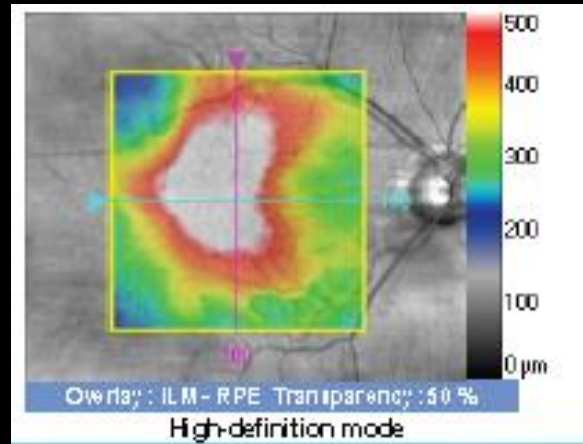


**Diabetic Macular Oedema is major cause
of vision loss in Diabetes**

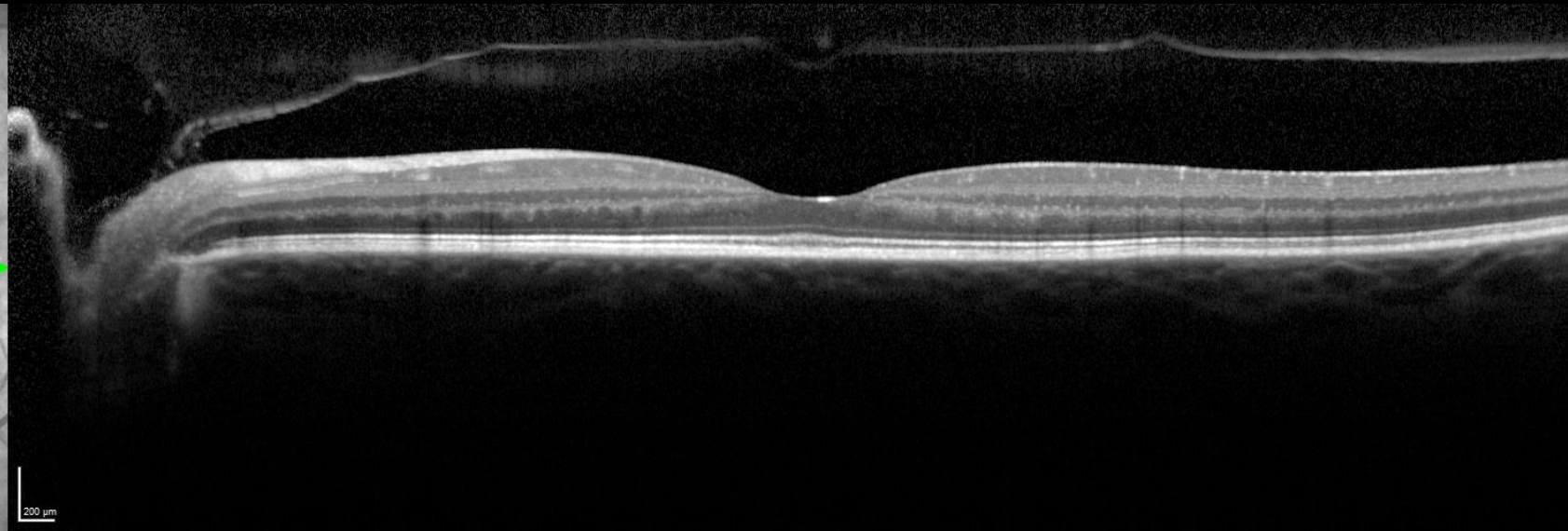
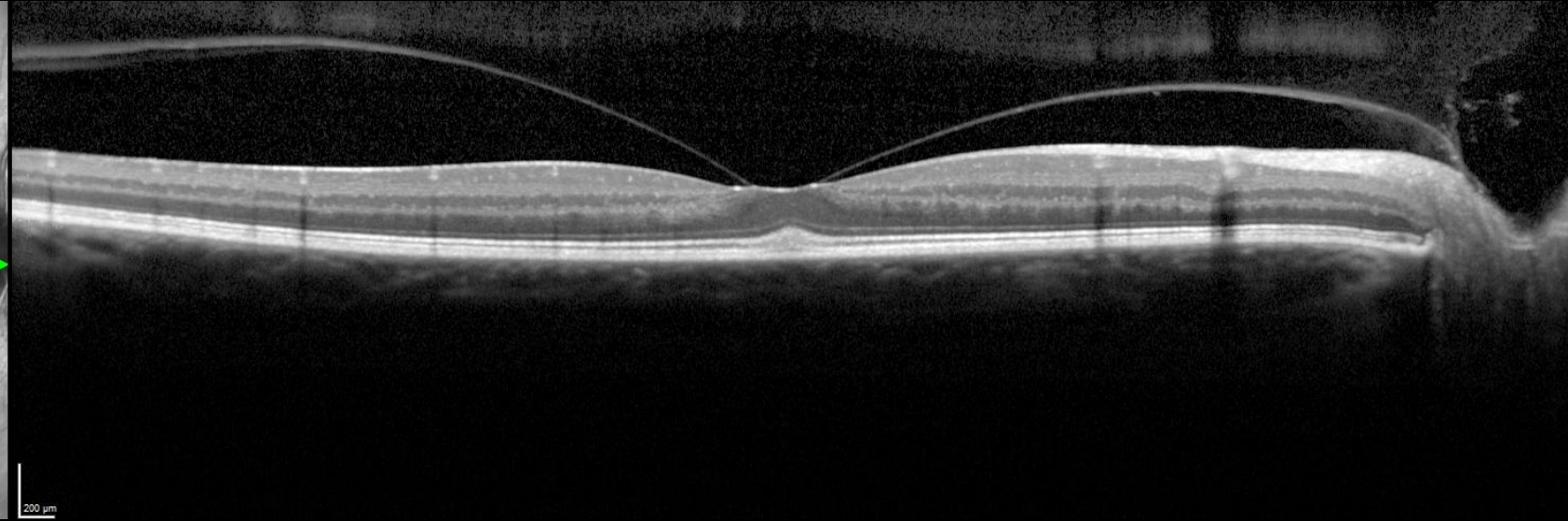
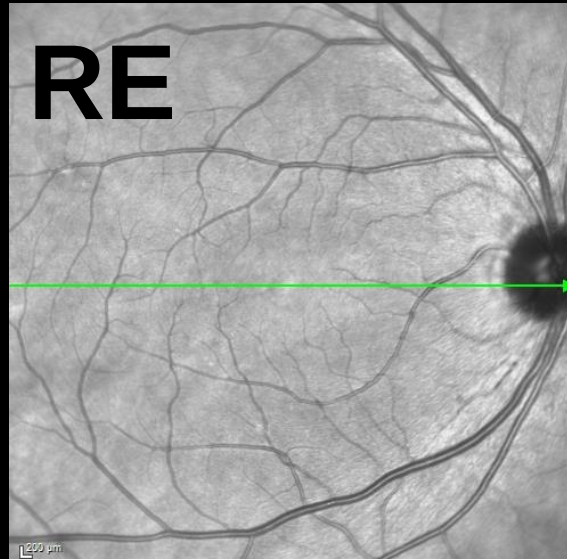
**Delaying treatment for months may delay
response**

Scrunching **ON** the Retina

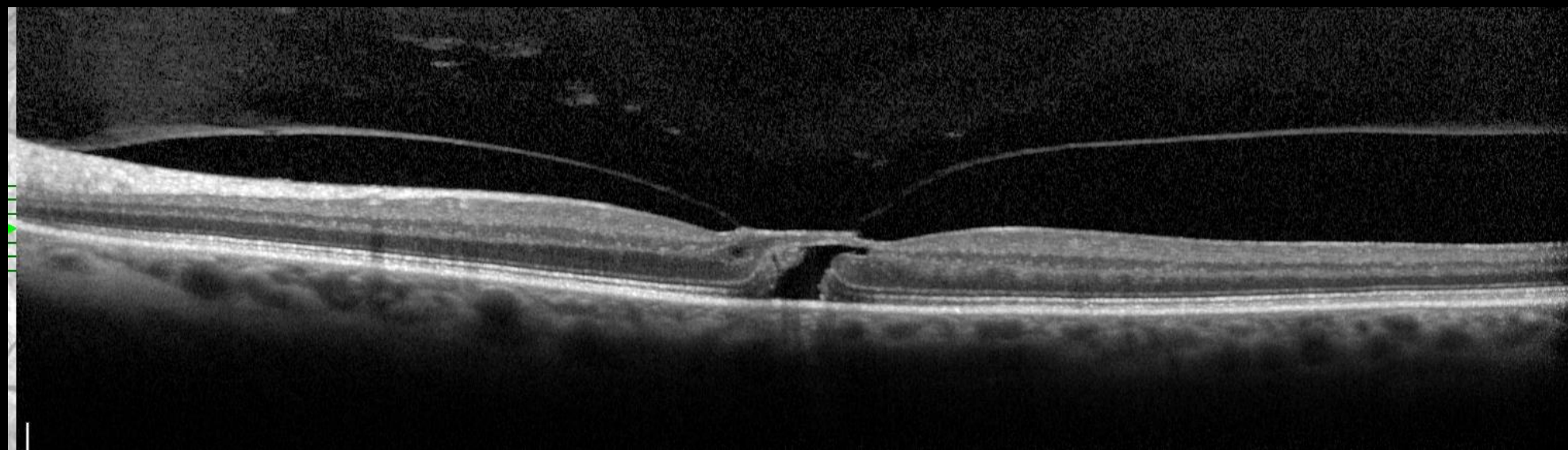
Epiretinal membrane
ERM



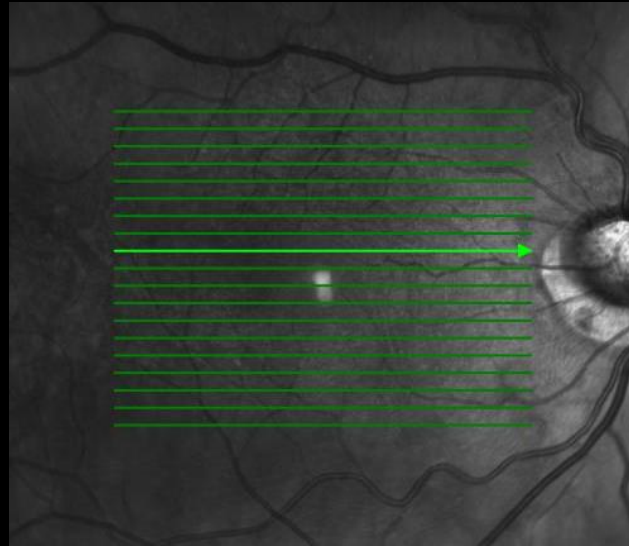
Mild Vitreomacular Traction



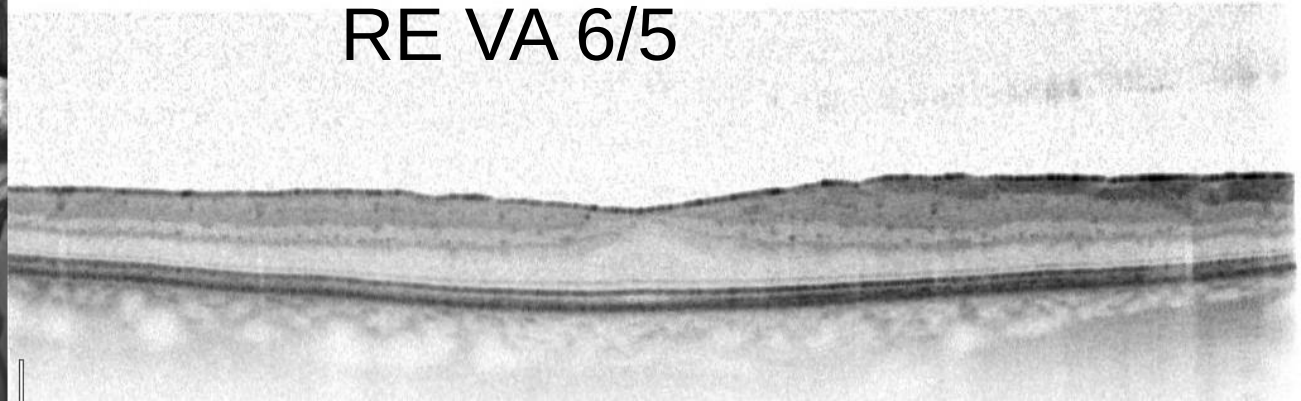
Severe vitreomacular traction threatening vision



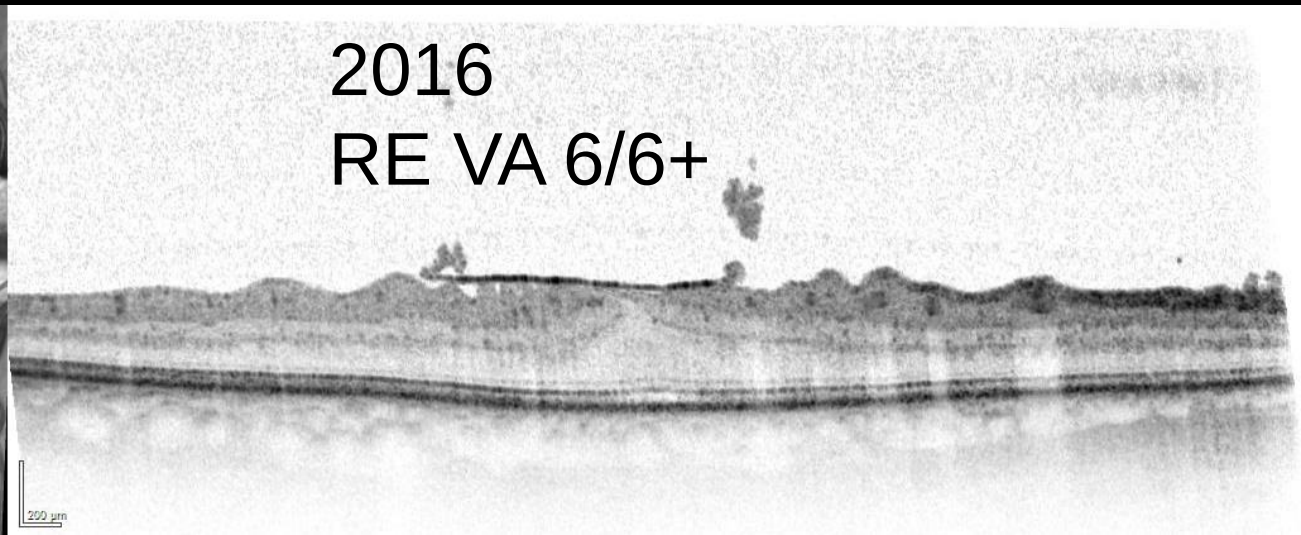
Mild Epiretinal Membrane (Mr K)



2013
RE VA 6/5



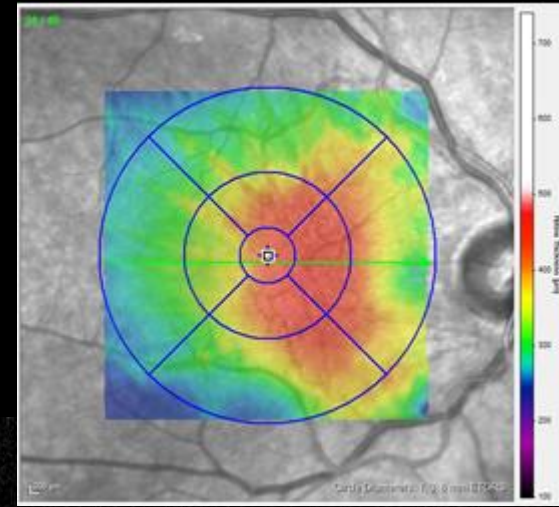
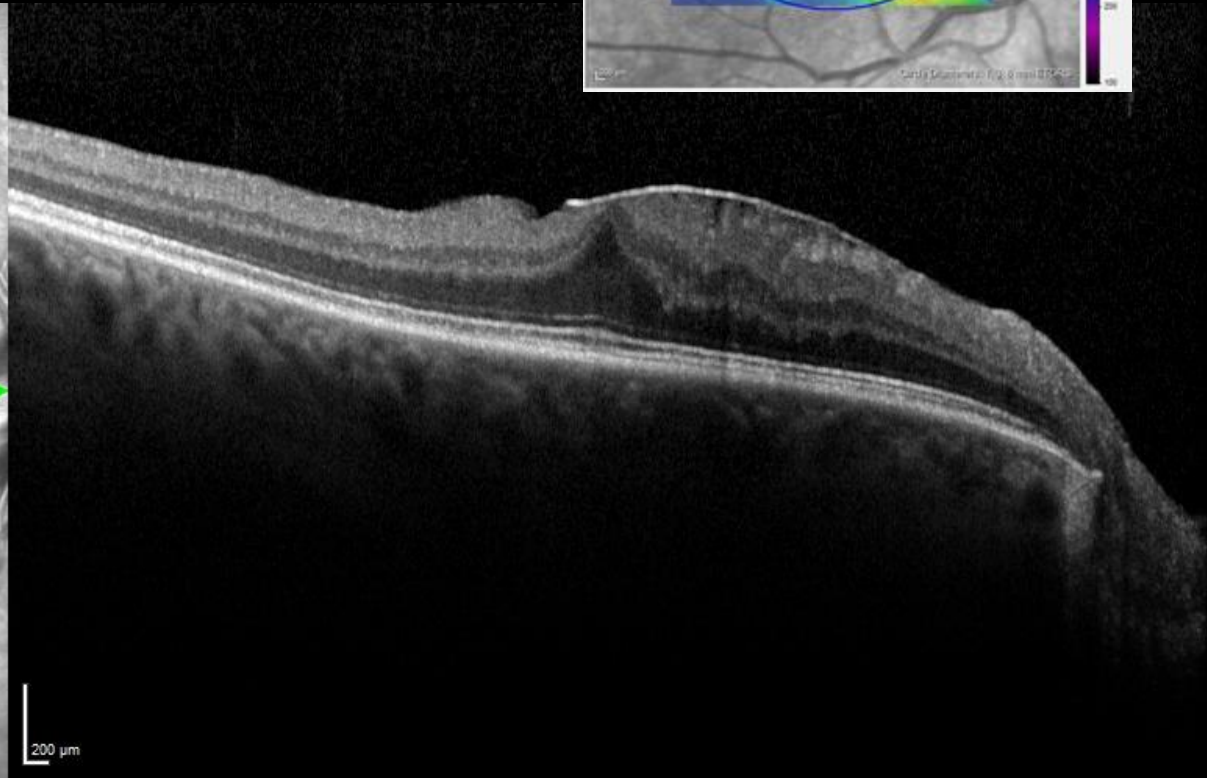
2016
RE VA 6/6+



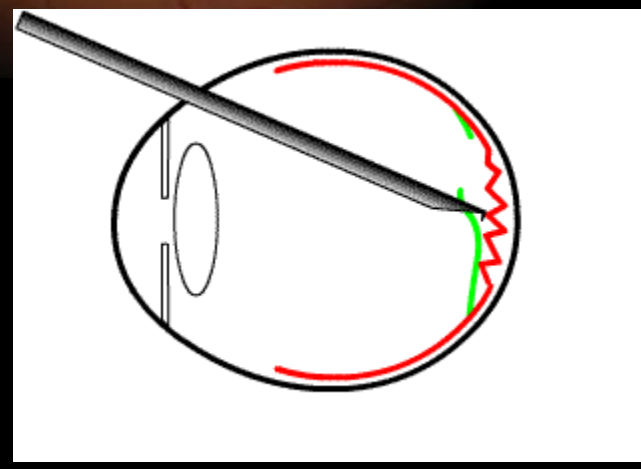
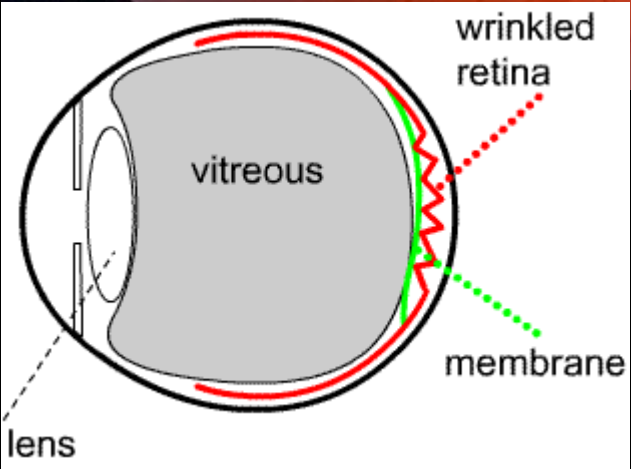
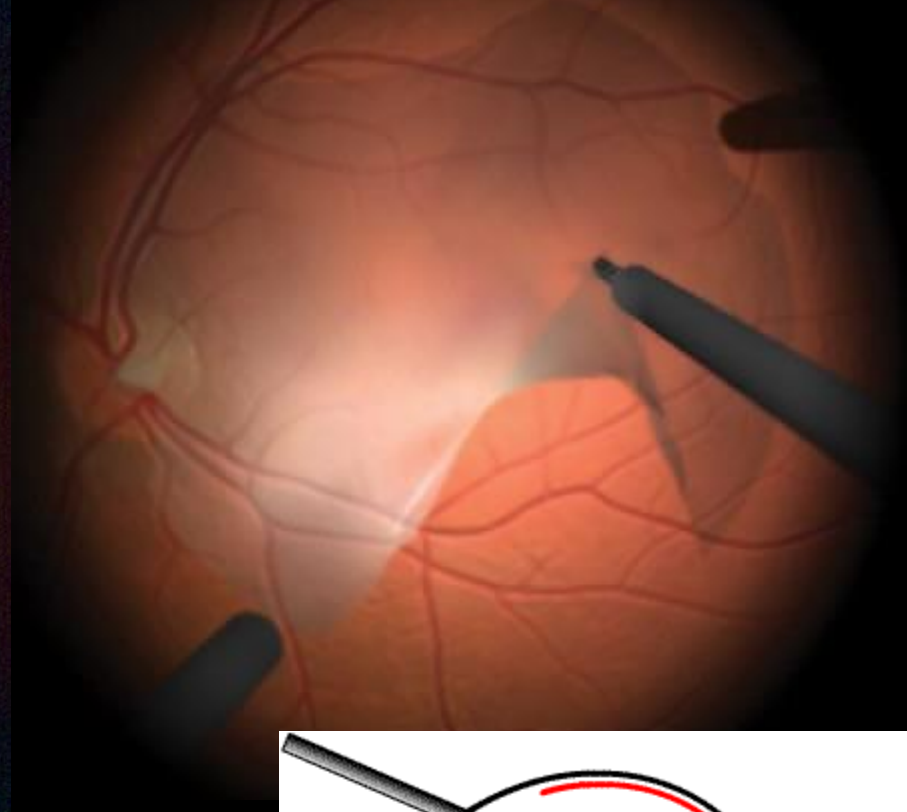
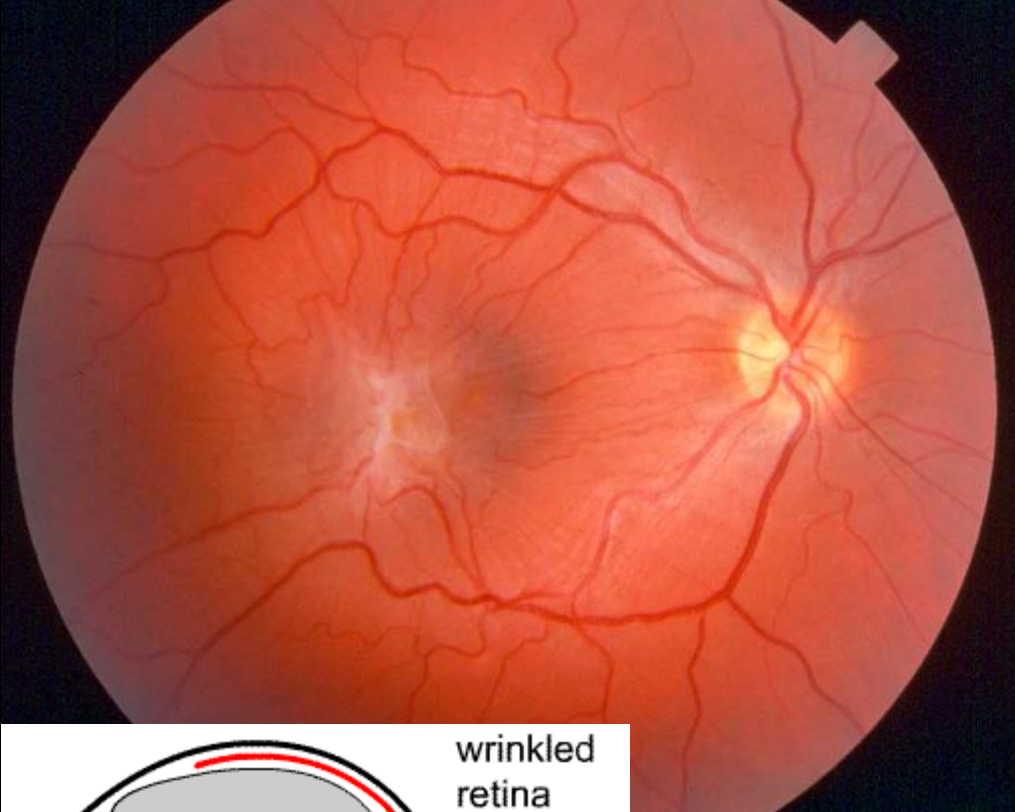
Severe Epiretinal Membrane



Severe Epiretinal Membrane

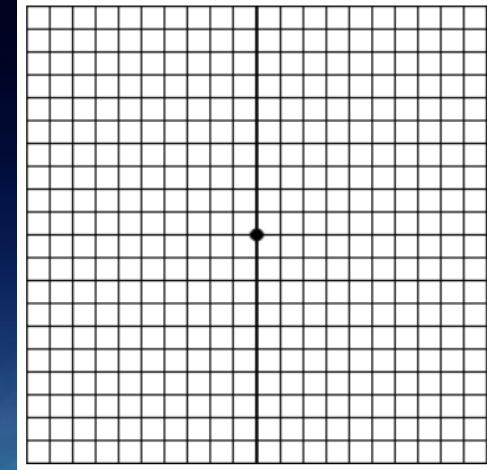


Severe ERM: Surgery





MACULAR
DEGENERATION
NEW ZEALAND



Distortion may require
urgent treatment



Southern Eye Specialists
Expert care for all eye conditions

