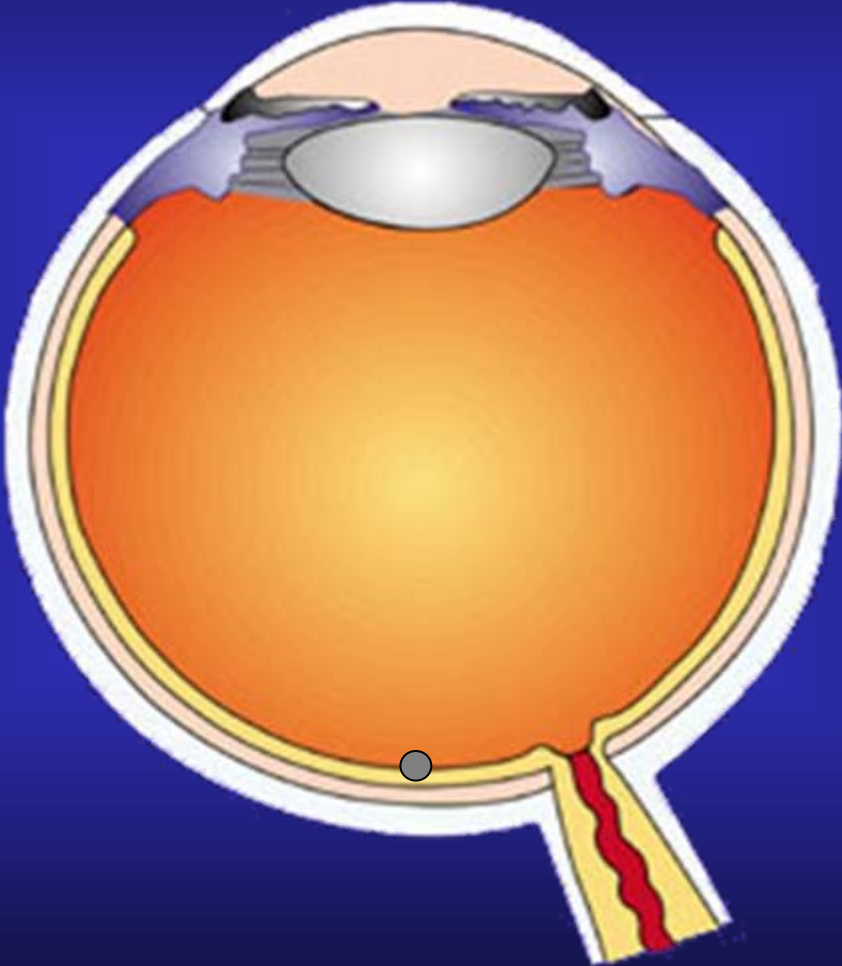


# GP Masterclass

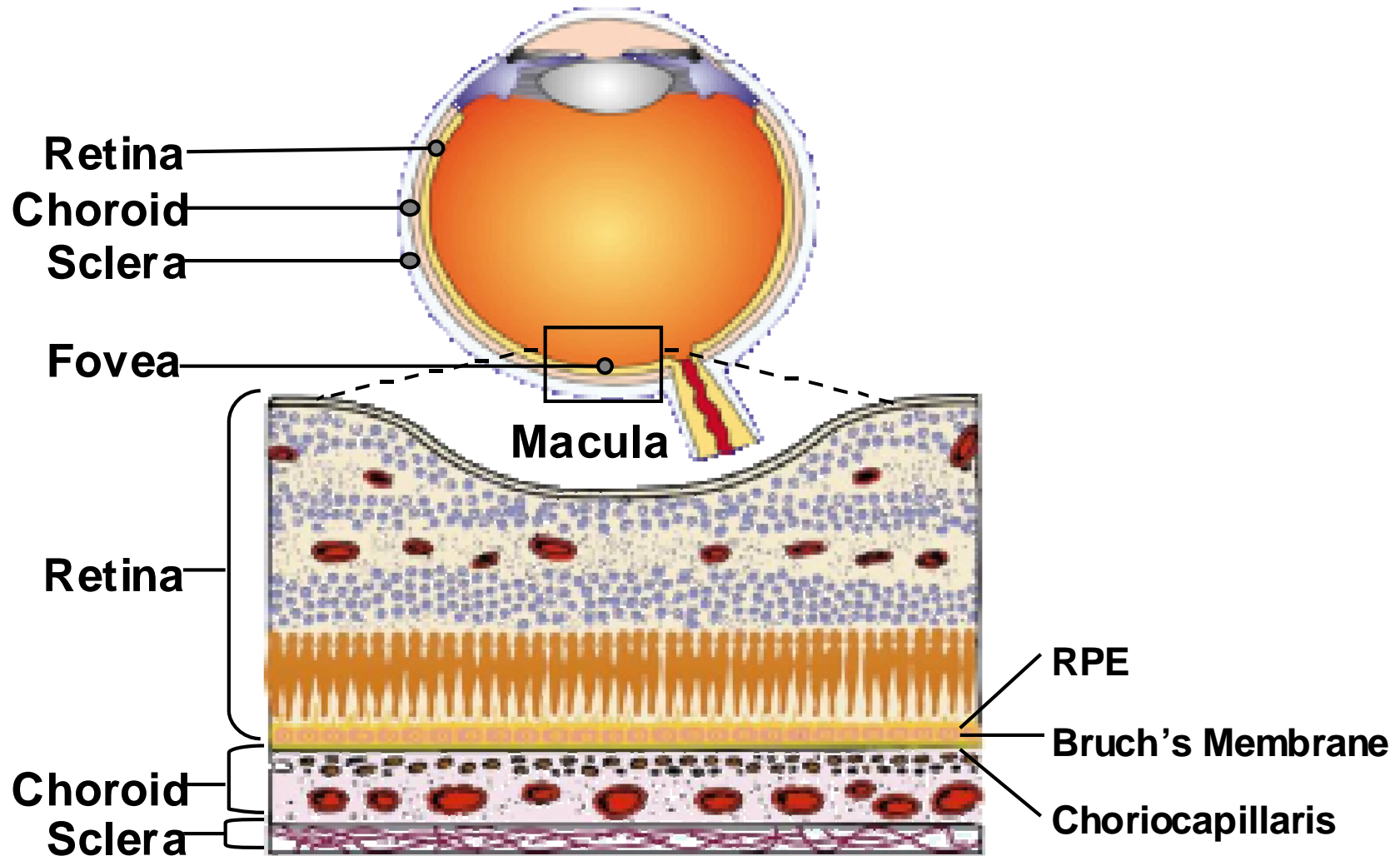
Macular Degeneration  
Flashes & Floaters & Retinal  
Detachment

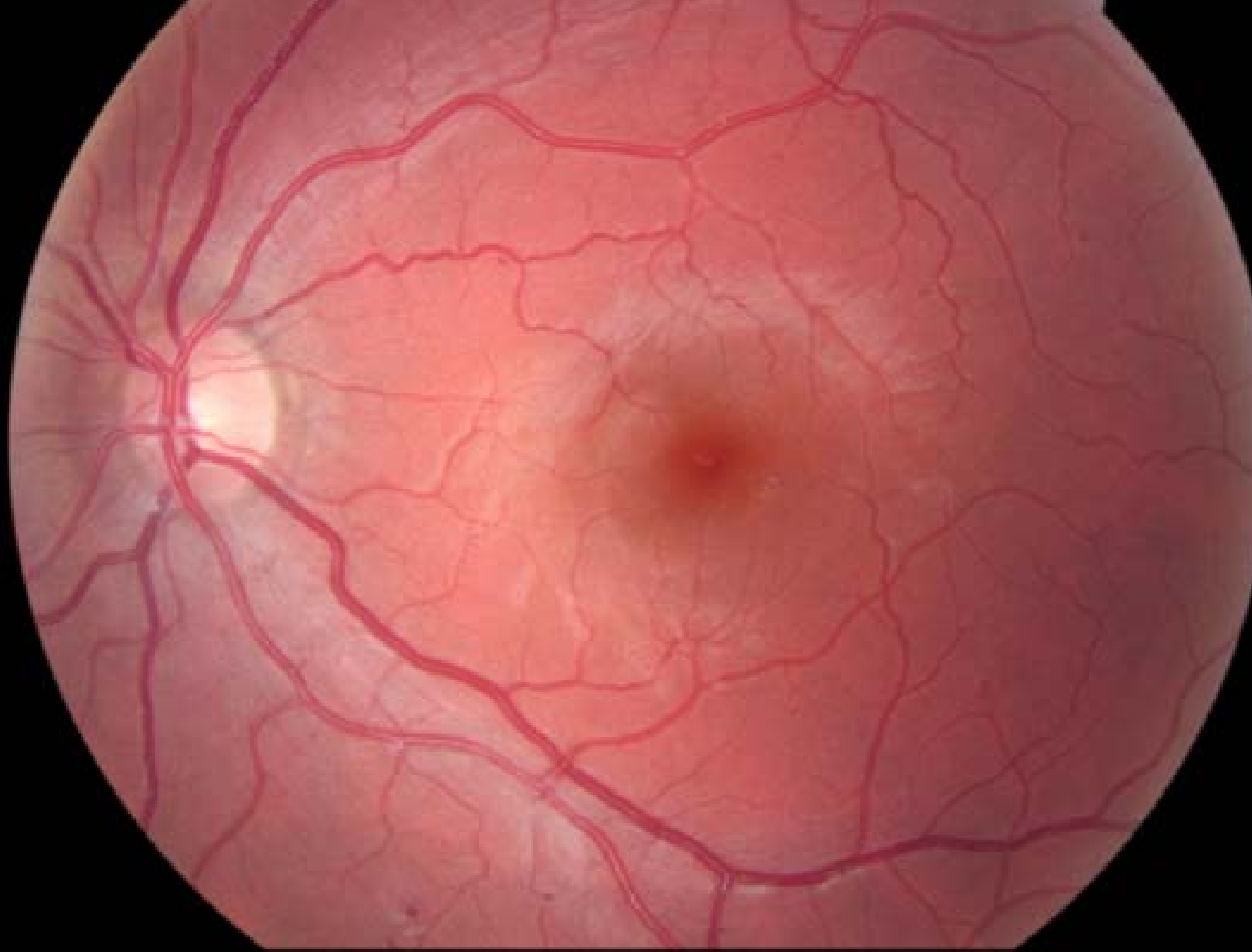
# 1. Normal Anatomy

Cross-section through the eye

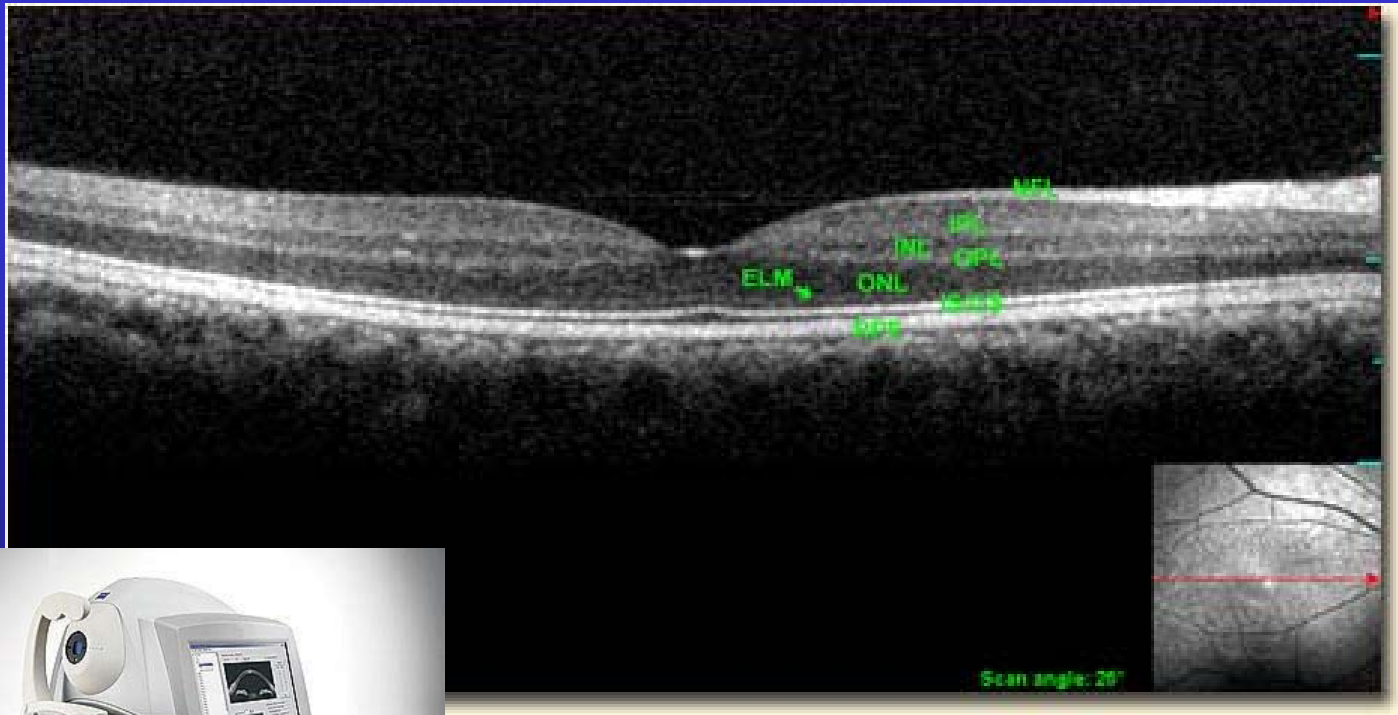


# The Macula





# OCT - normal



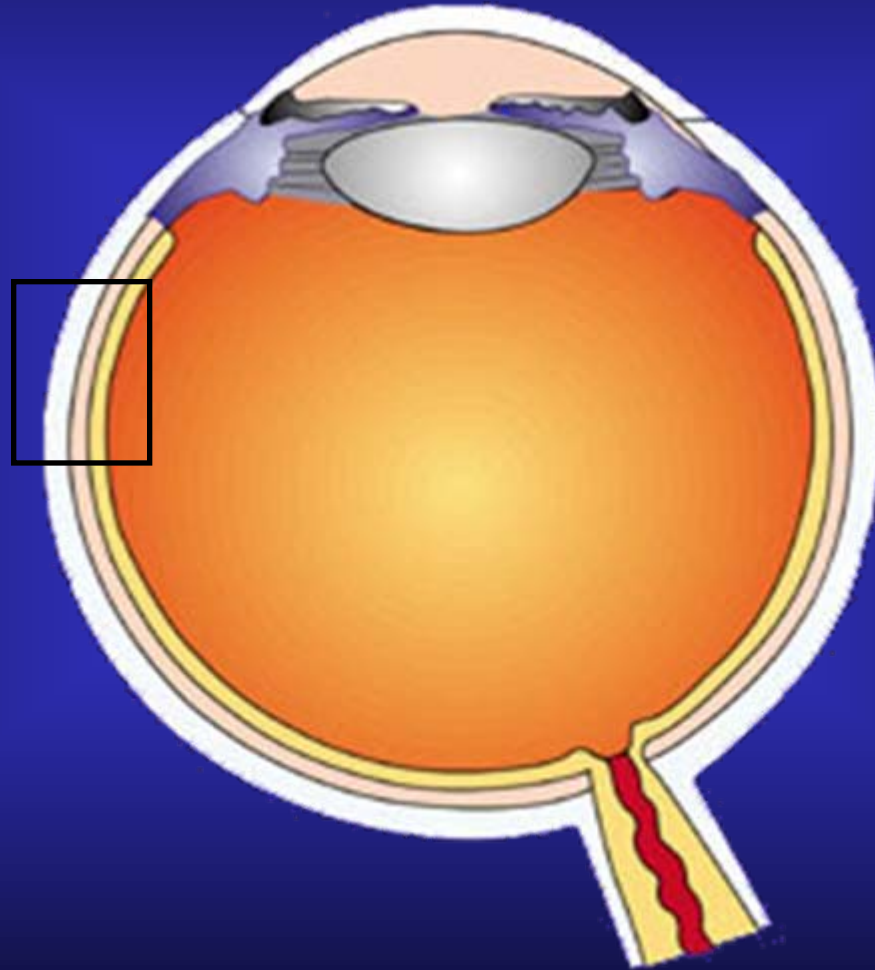
# 2. Flashes & Floaters

# Flashes & Floaters

- Cause
- Risk factors (to look for)
- Clinical features (symptoms/signs)
- Management in the surgery
- Treatment in hospital

**Tears/holes:** in front of the equator

**Examination:** behind the equator





Weiss Ring Vitreous Floater

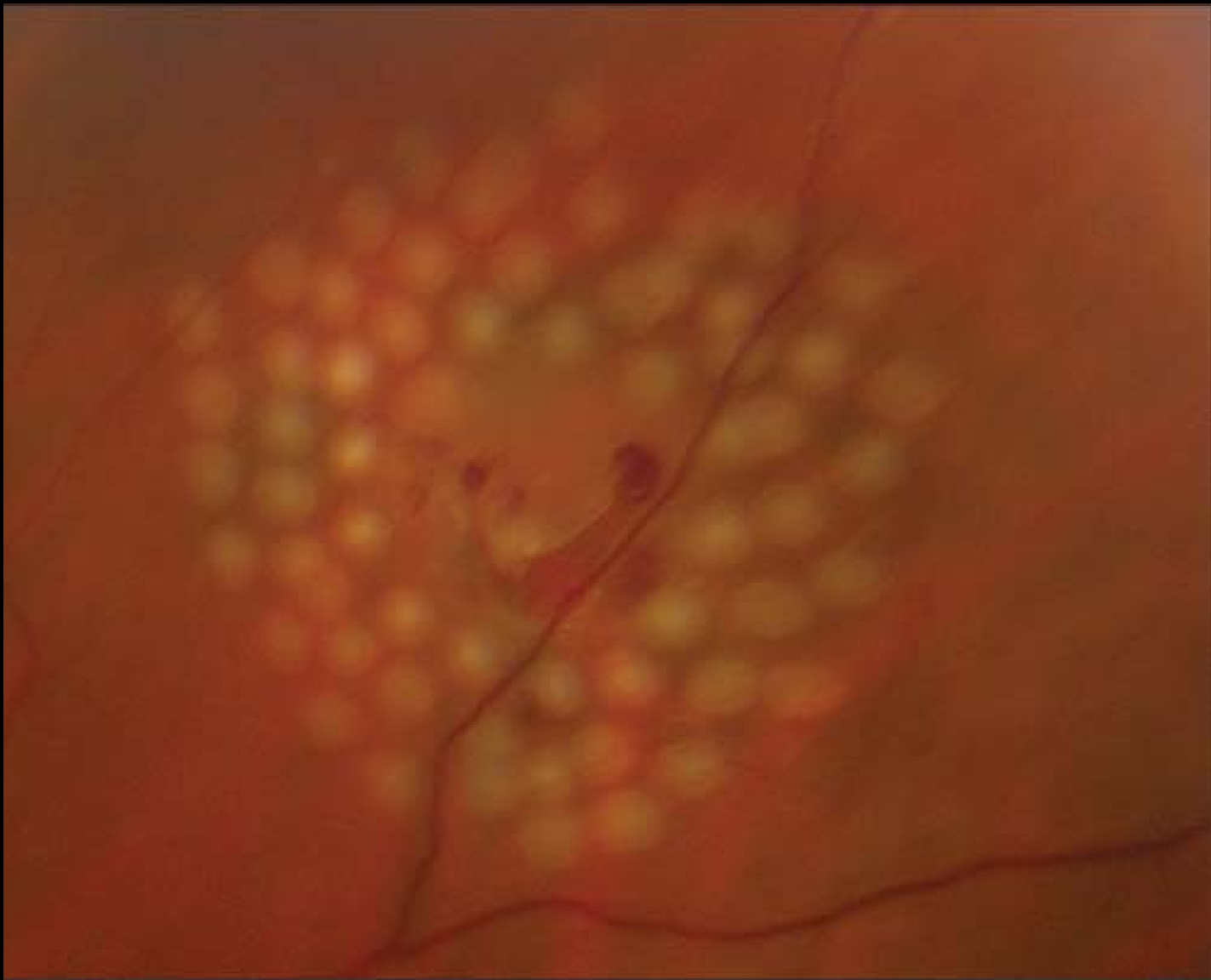
# Flashes & Floaters

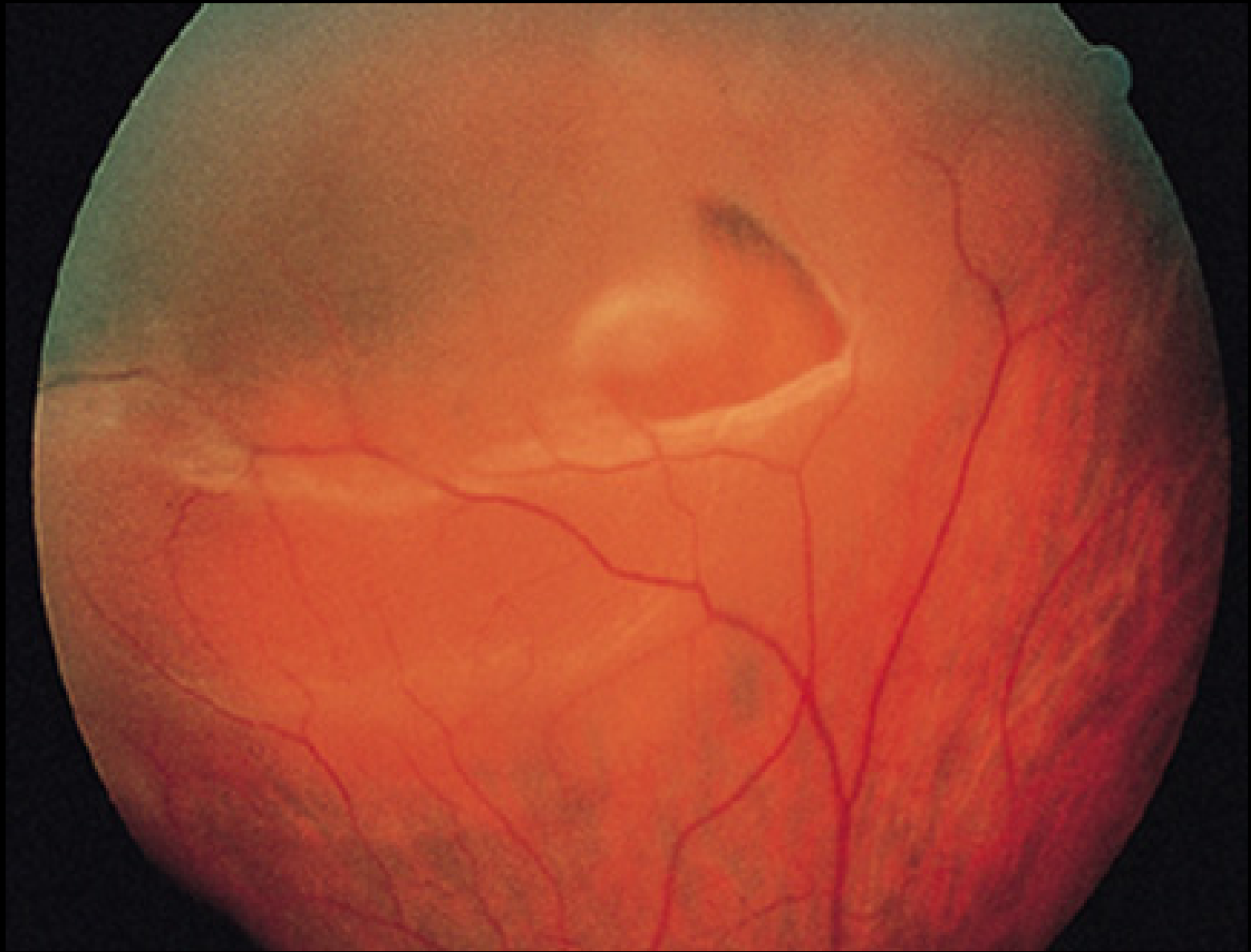
- Cause
  - PVD + adhesion/peripheral degeneration  
(Posterior vitreous face detachment)
- Risk factors (to look for)
  - Myopia, Trauma, FH
- Clinical features (symptoms/signs)
- Management in the surgery
  - Refer for fundal examination
- Treatment in hospital
  - Exclude retinal tear/ hole that could lead to a retinal detachment; laser; surgery

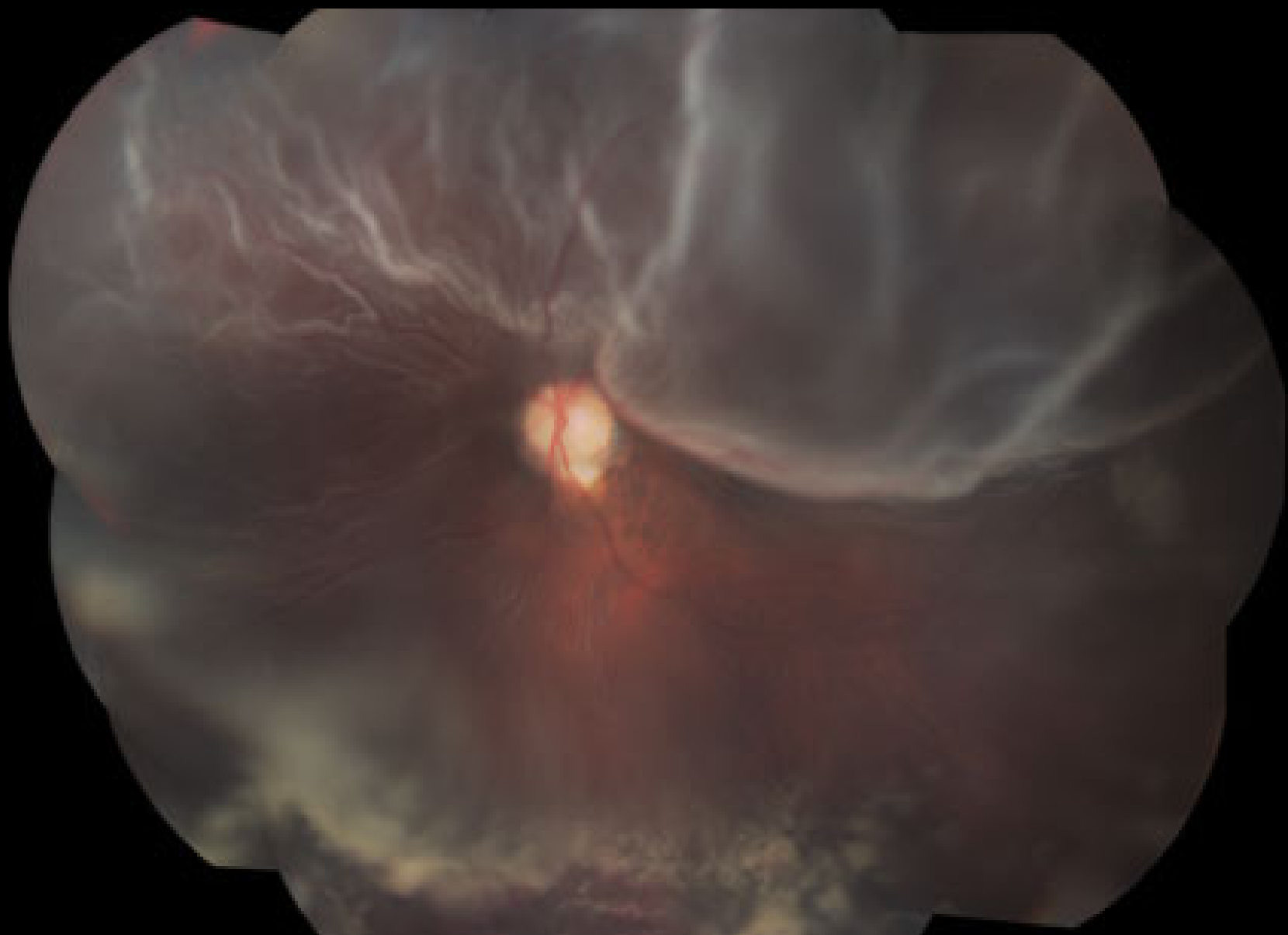
# **3. Retinal Detachment**

# Retinal Detachment

- **Cause**
  - Single/multiple retinal tears/peripheral degeneration from PVD
- **Risk factors (to look for)**
  - Myopia, Trauma, FH, known peripheral retina degn
- **Clinical features (symptoms/signs)**
- **Management in the surgery**
  - Refer for operative treatment
- **Treatment in hospital**
  - (Laser if a flat retinal tear;) Surgery
  - Surgical outcome depends if macula on or off

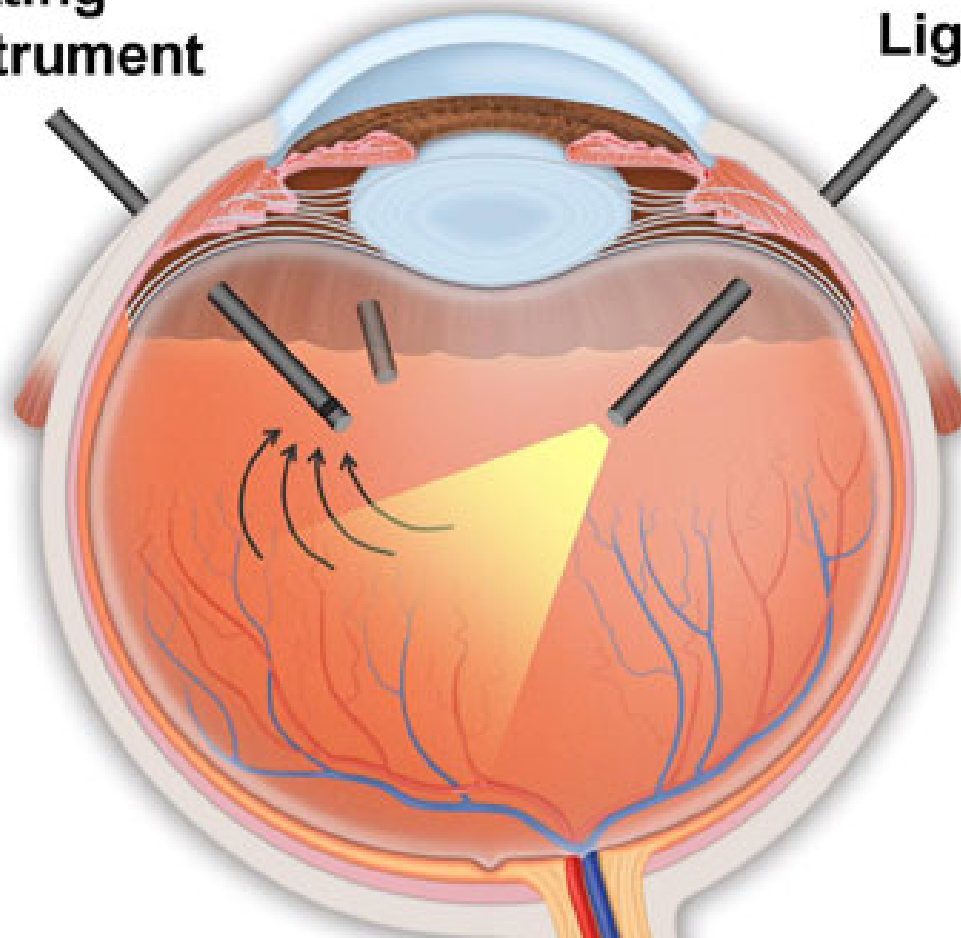






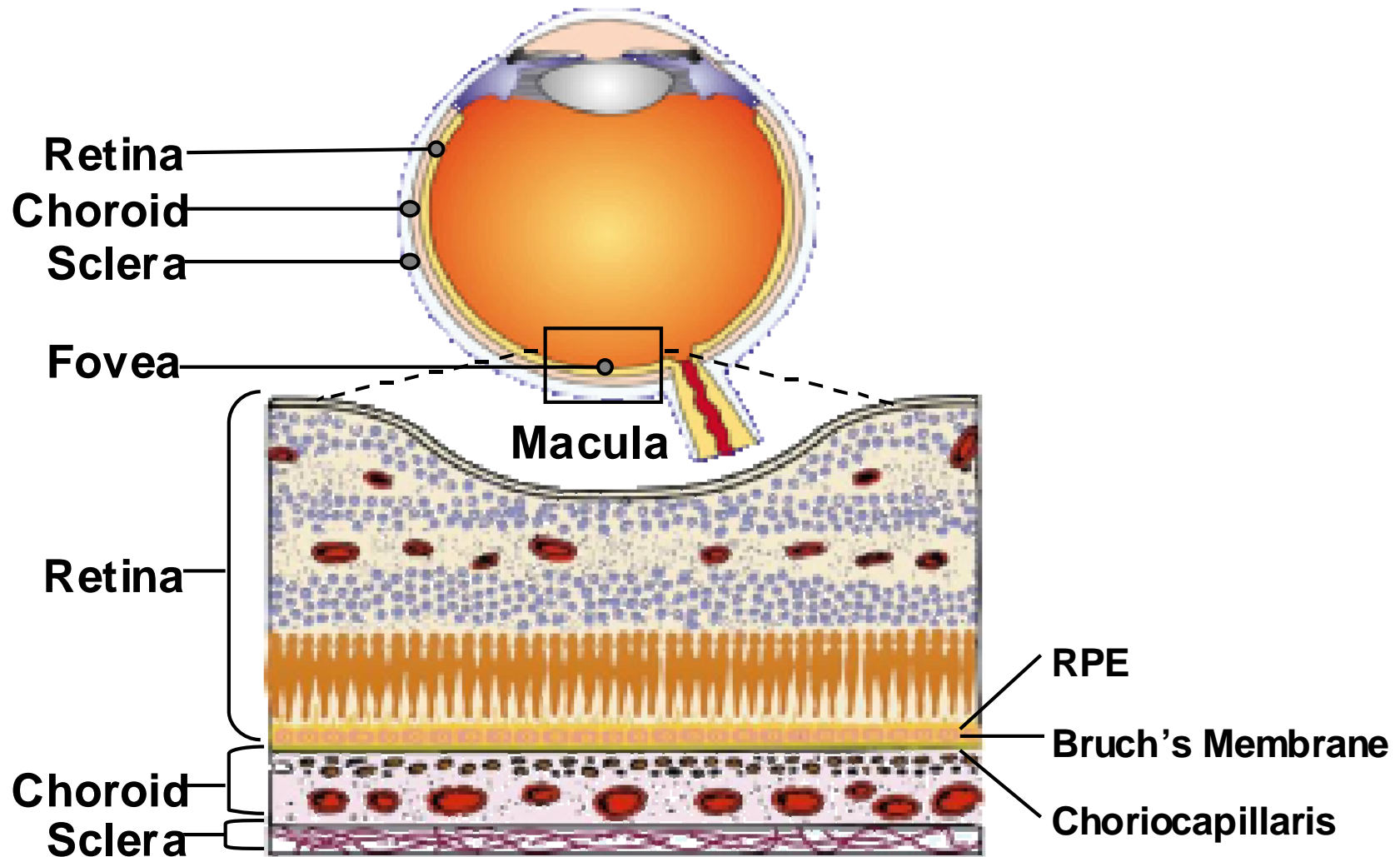
**Cutting  
instrument**

**Light**

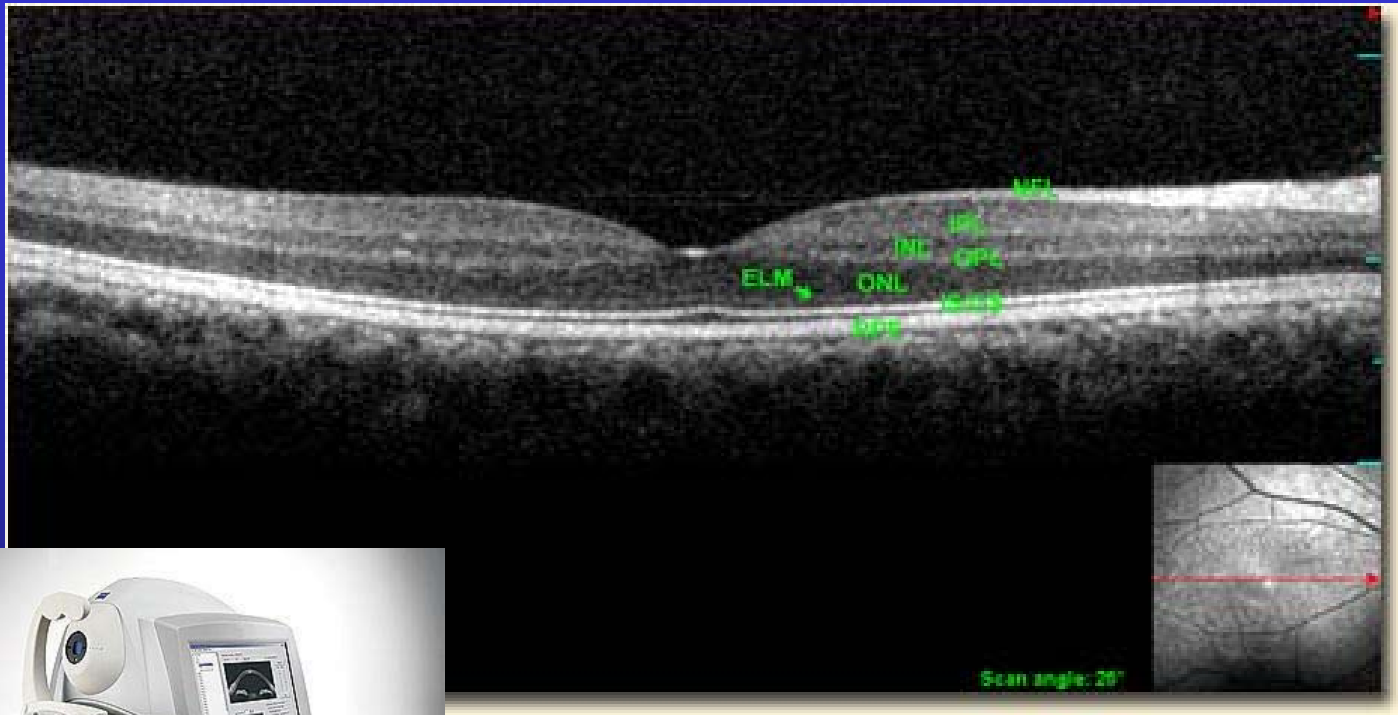


# **4. Age-related Macular Degeneration**

# The Macula

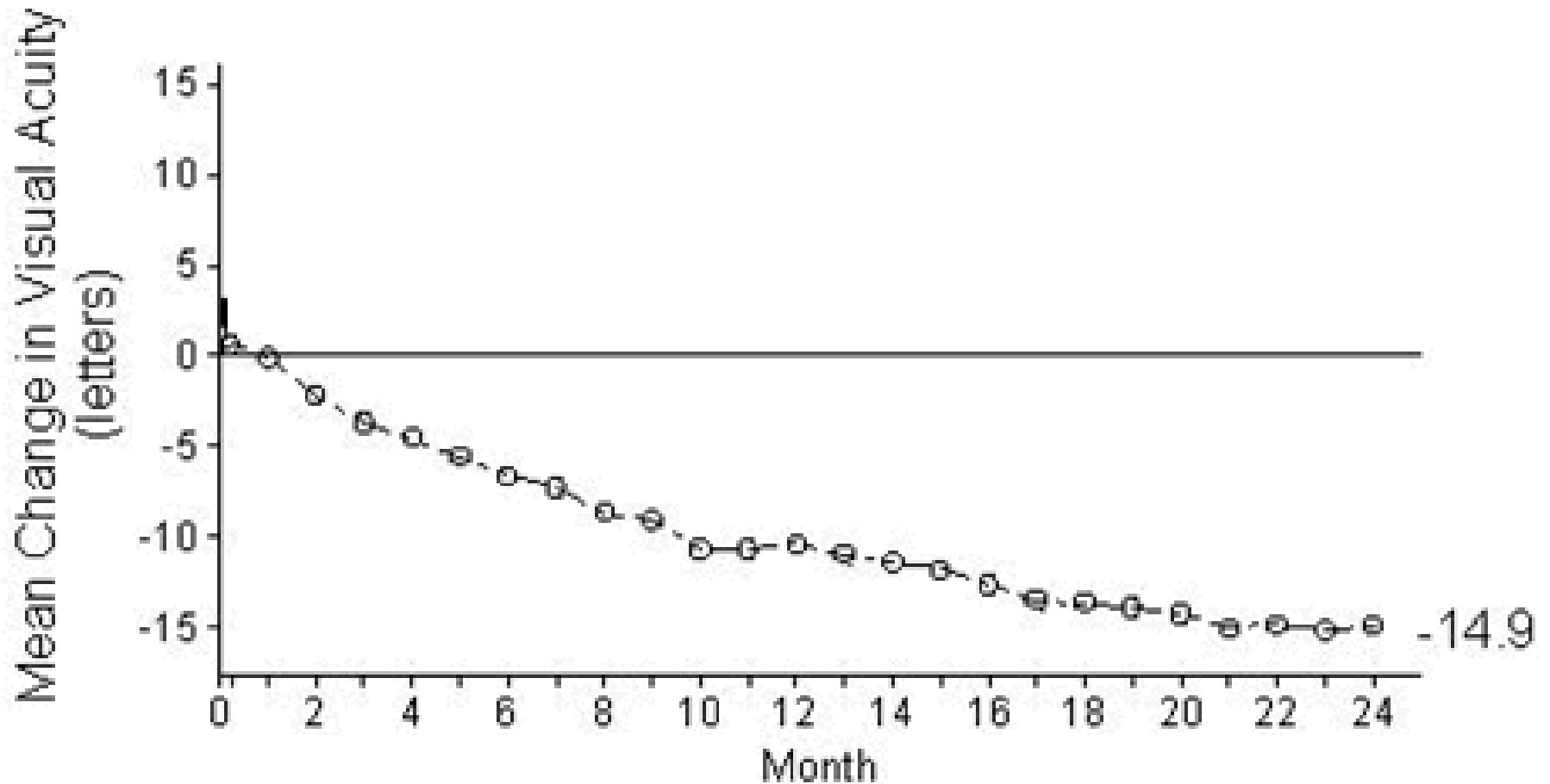


# OCT - normal

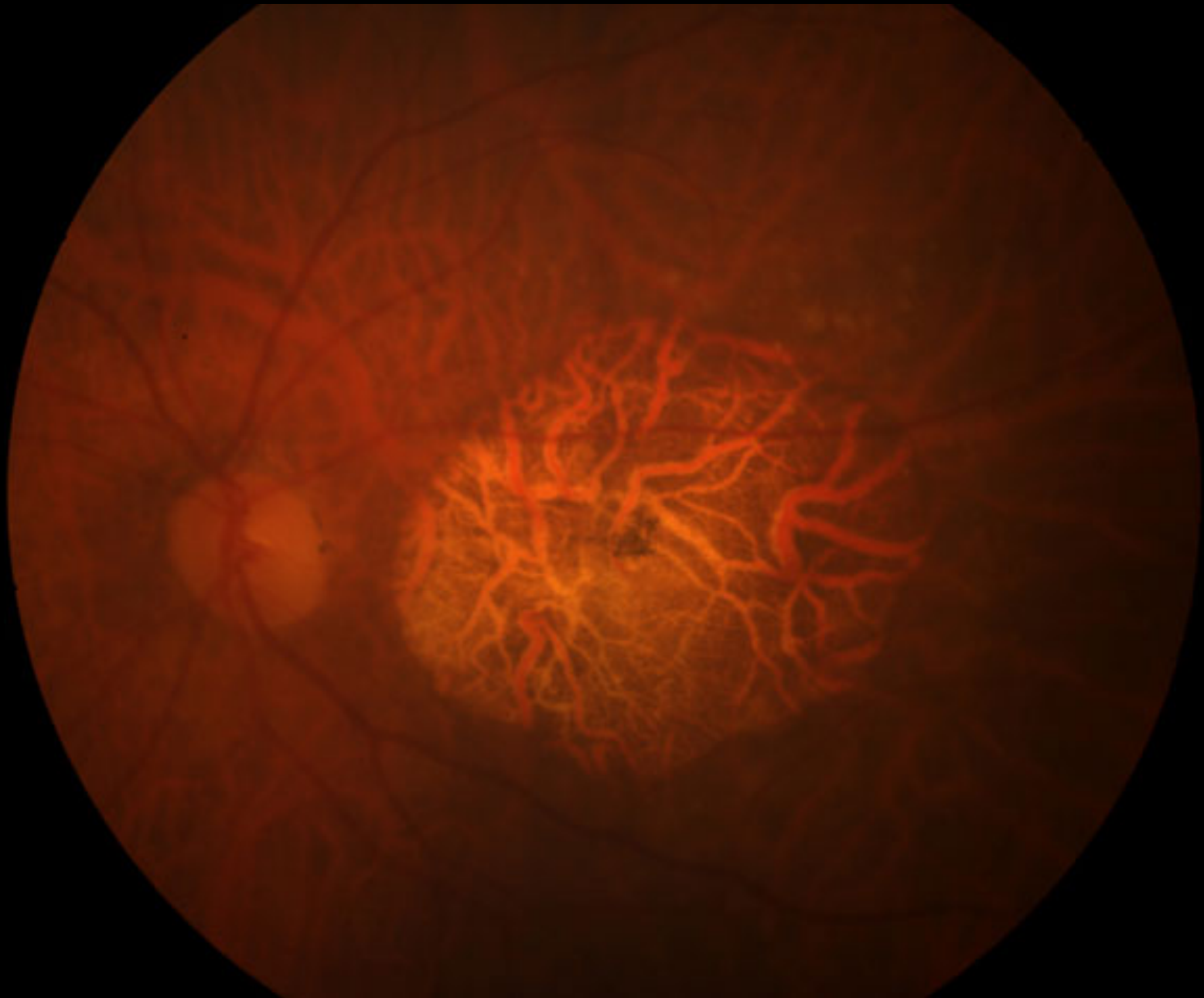


# Natural History

**100% lose vision over 3 years**





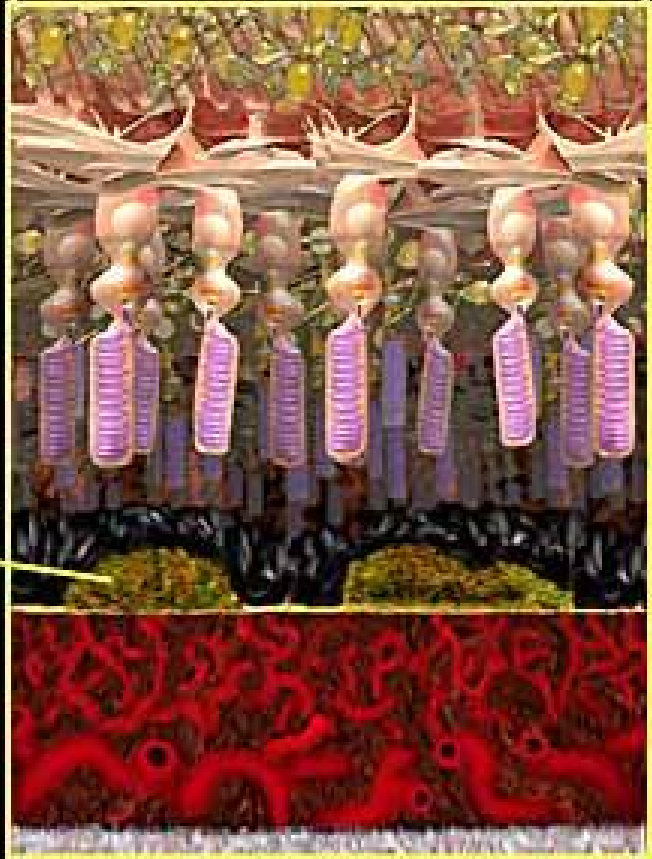


# Age-related Macular Degeneration

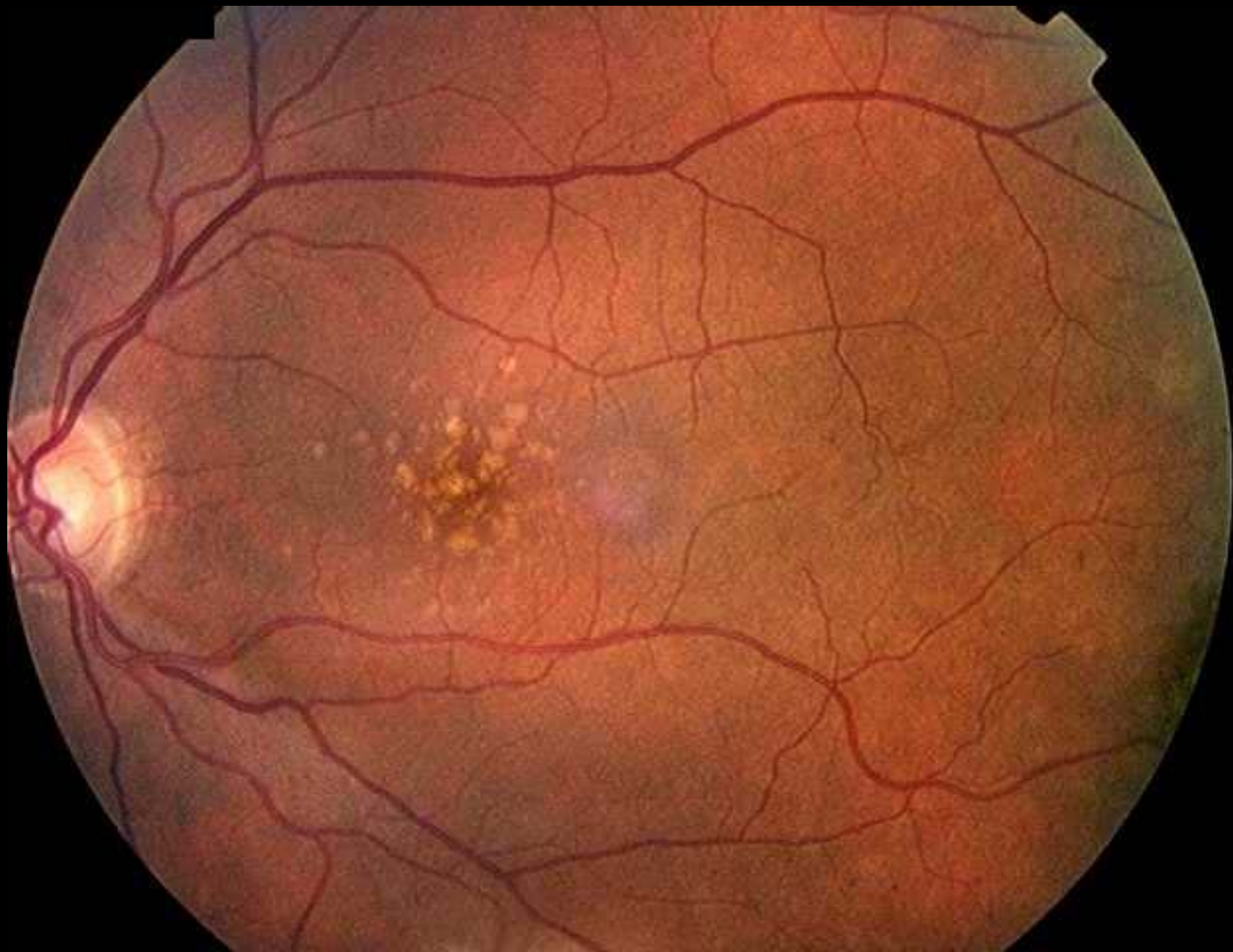
- Drusen
- Dry AMD
- Wet AMD

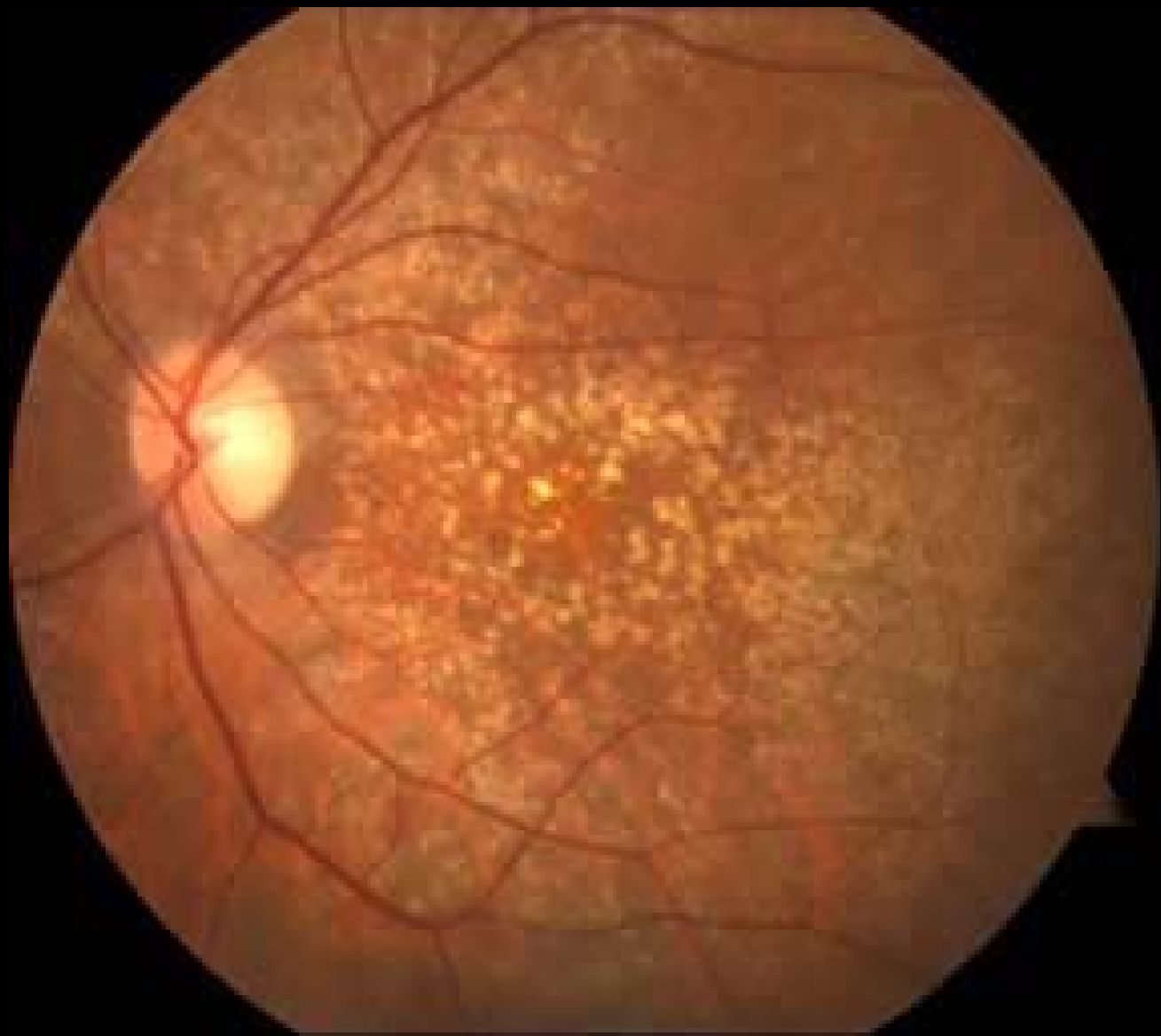
# Drusen

- Cause
- Risk factors (to look for)
- Clinical features (symptoms/signs)
- Management in the surgery
- Treatment in hospital

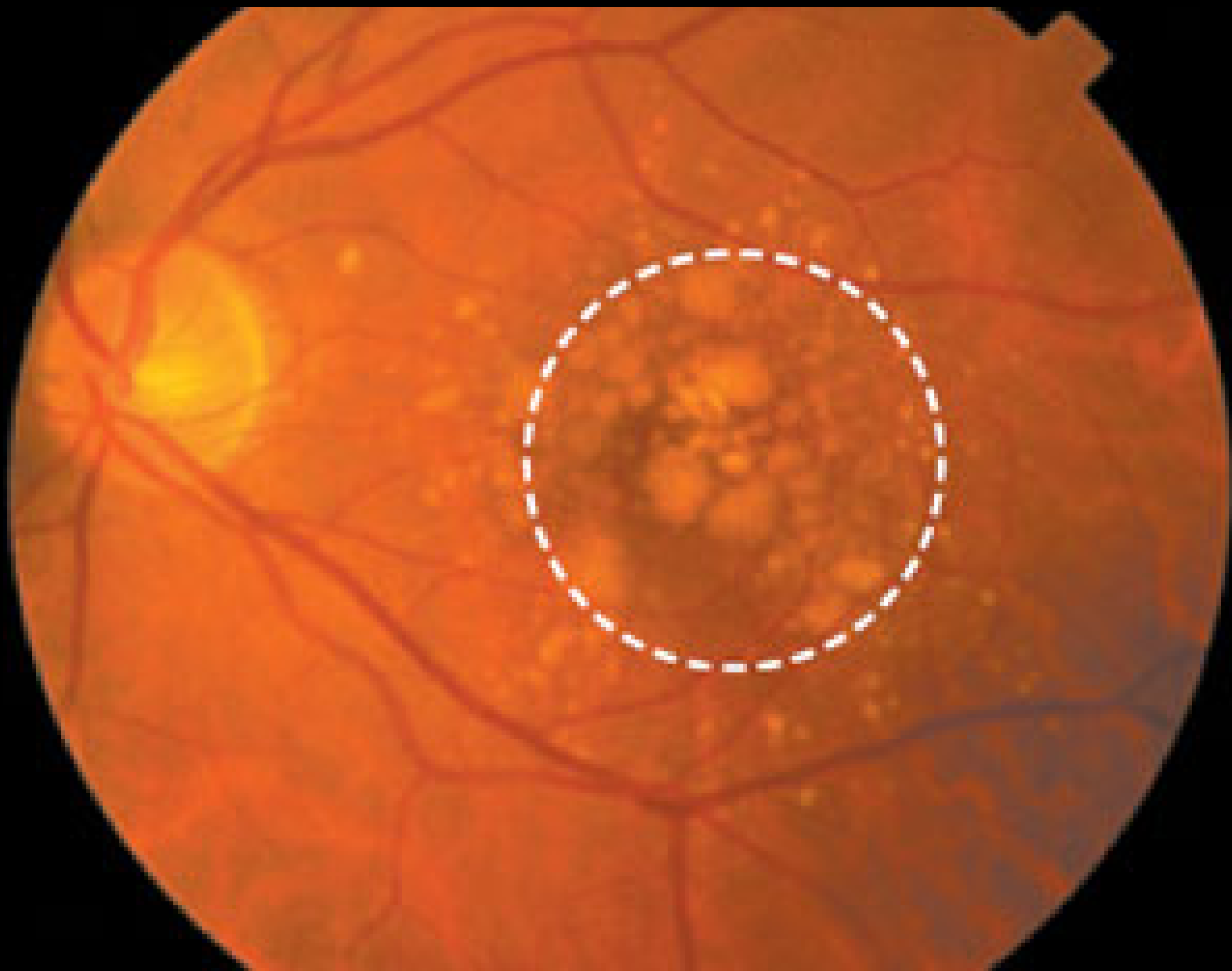


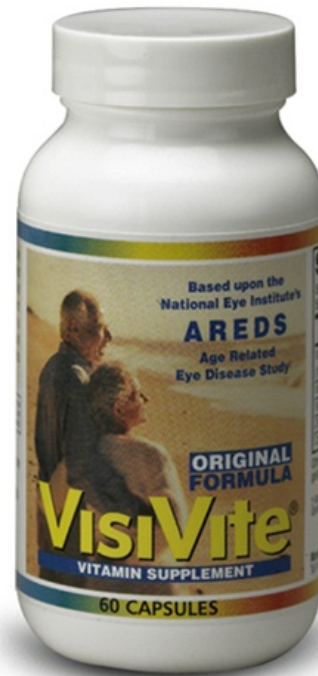
drusen



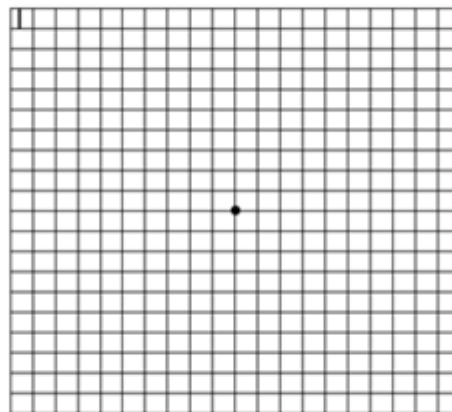








## THE AMSLER GRID

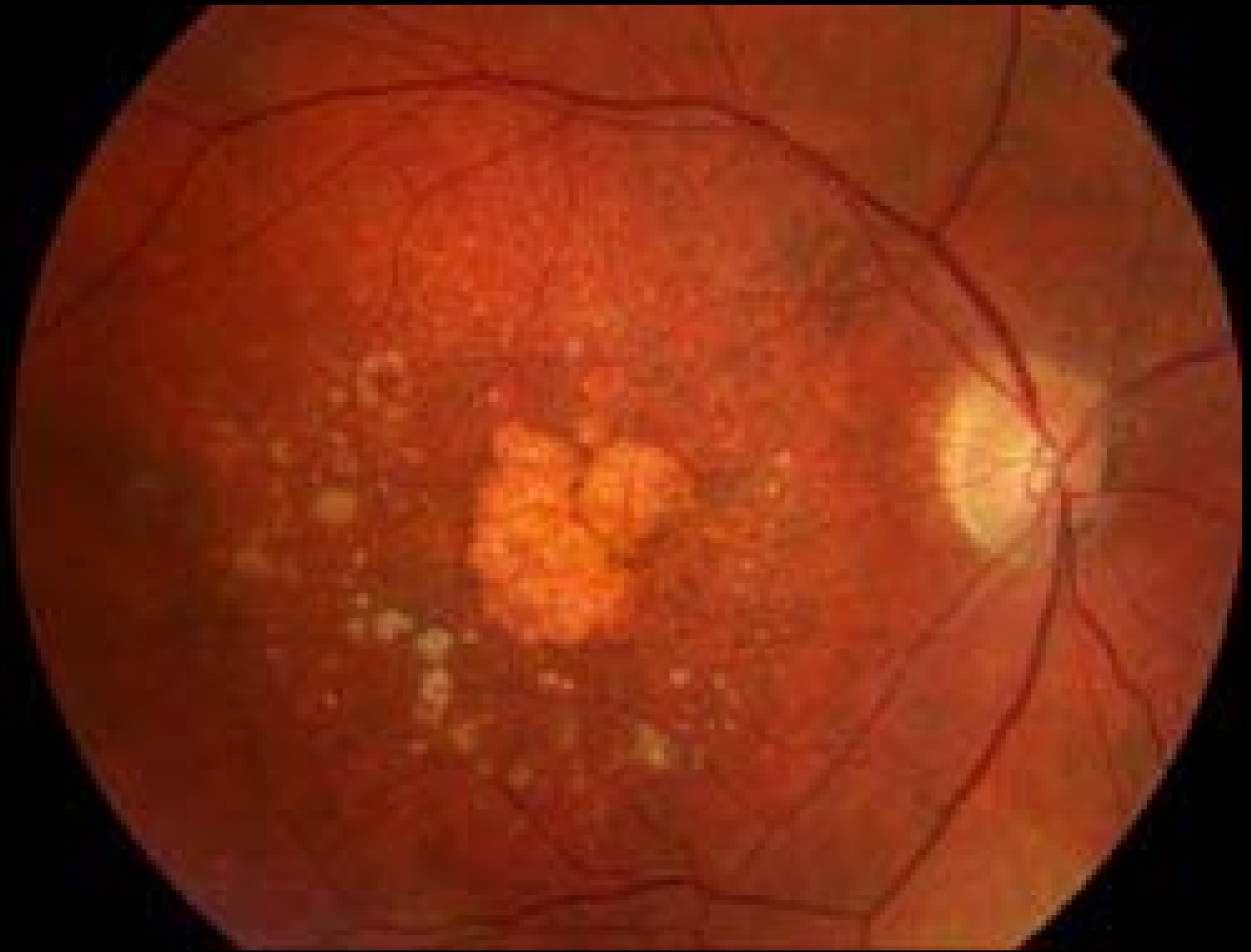


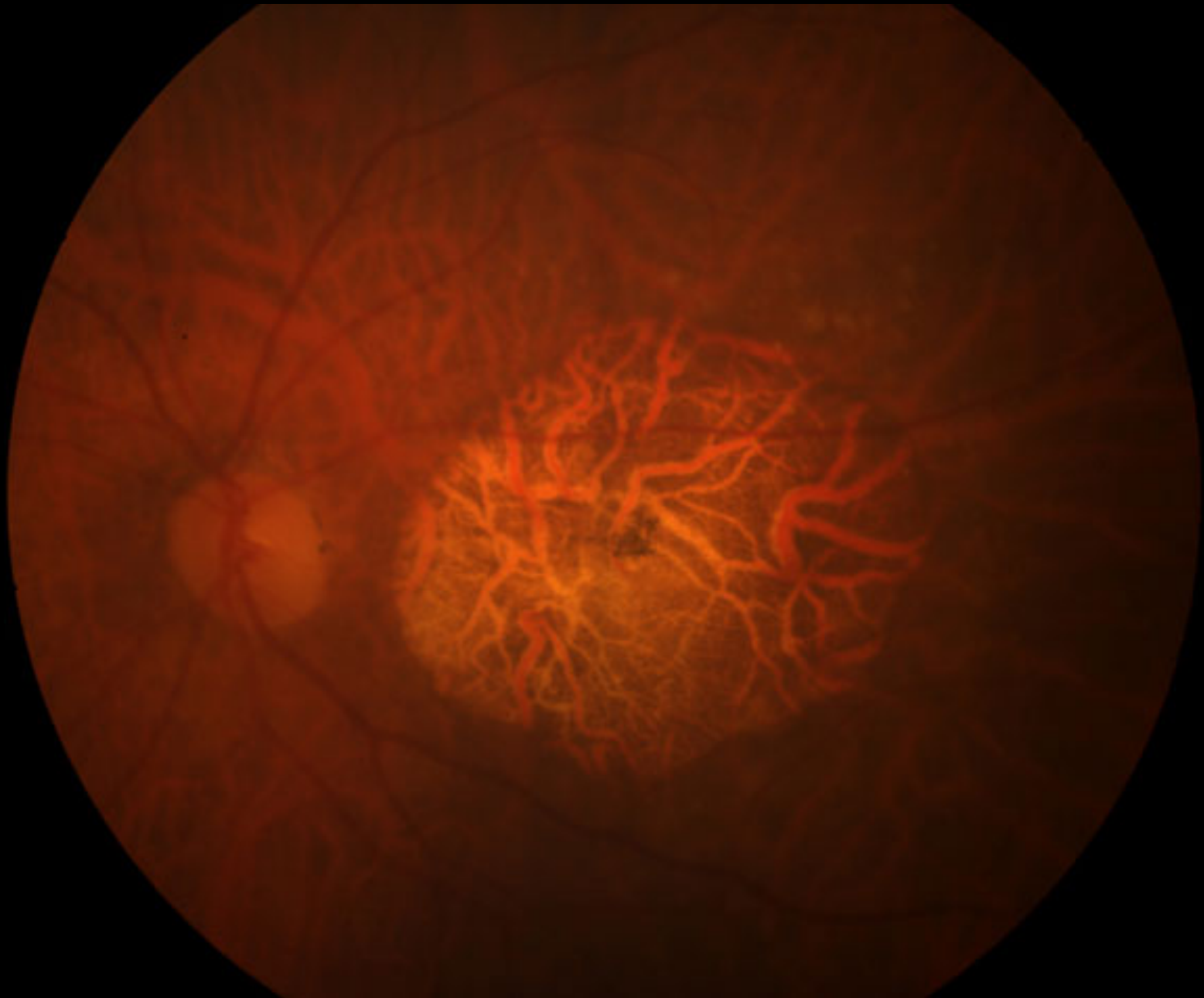
# Drusen

- **Cause**
  - Genetic, complement, ageing changes in eye structures/photoreceptor recycling
- **Risk factors (to look for)**
  - FH, Multiple, large, confluent,
- **Clinical features (symptoms/signs)**
  - None, (slight) reduction in vision
- **Management in the surgery**
  - Asymptomatic: Refer for an opinion, patient info
  - Symptomatic: URGENT referral (fast track)
- **Treatment in hospital**

# Dry AMD

- Cause -
- Risk factors (to look for)
- Clinical features (symptoms/signs)
- Management in the surgery
- Treatment in hospital





# Dry AMD

- Cause
  - Multiple genetic
- Risk factors (to look for)
  - FH, fellow eye
- Clinical features (symptoms/signs)
  - Reduced vision, distortion
- Management in the surgery
  - Refer
- Treatment in hospital
  - Diagnose, exclude wet AMD, low vision aids, blind registration

# Wet AMD

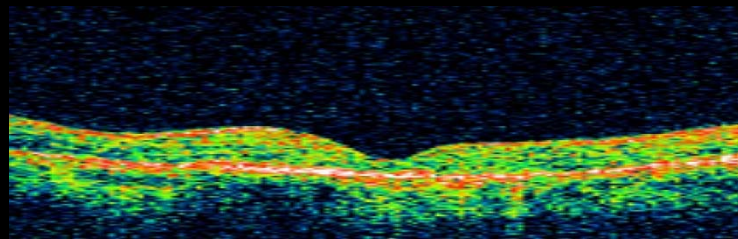
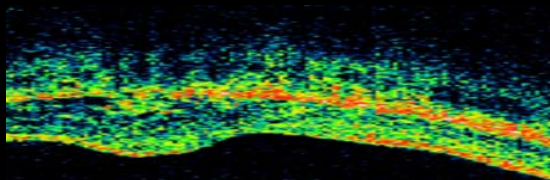
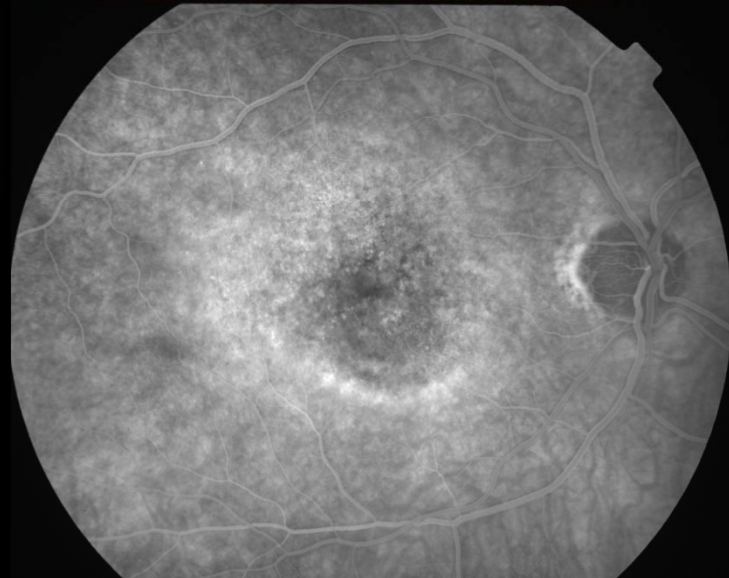
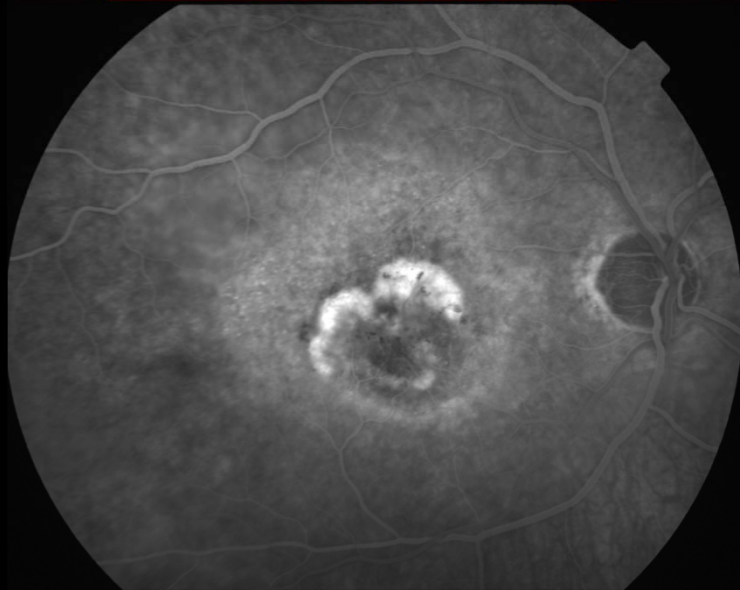
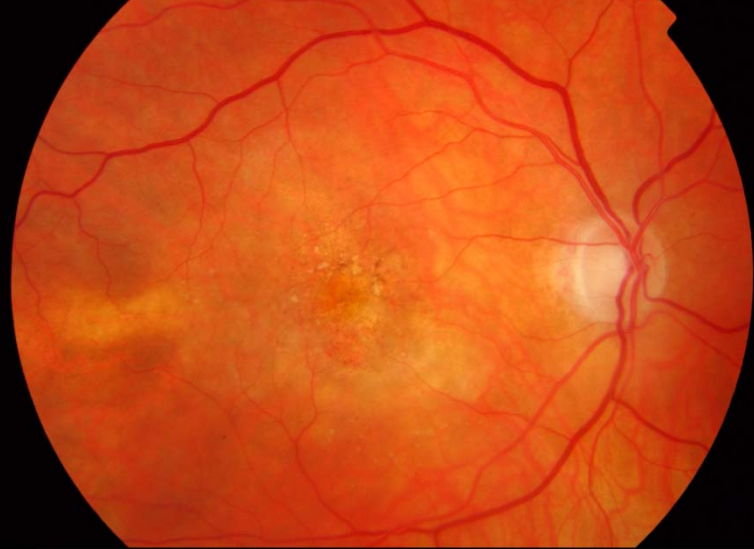
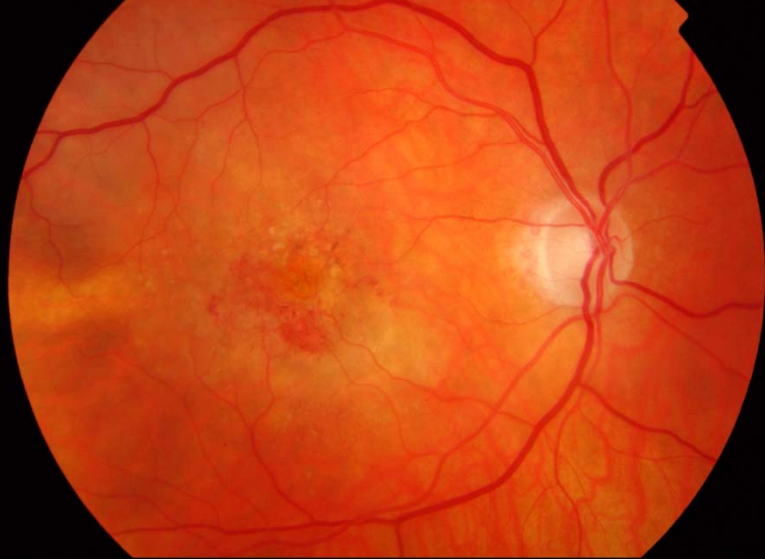
- Cause
- Risk factors (to look for)
- Clinical features (symptoms/signs)
- Management in the surgery
- Treatment in hospital

# Wet AMD

- Cause
- Risk factors (to look for)
- Clinical features (symptoms/signs)
- Management in the surgery
- Treatment in hospital

# Wet AMD

- Cause
- Risk factors (to look for)
- Clinical features (symptoms/signs)
- Management in the surgery
- Treatment in hospital

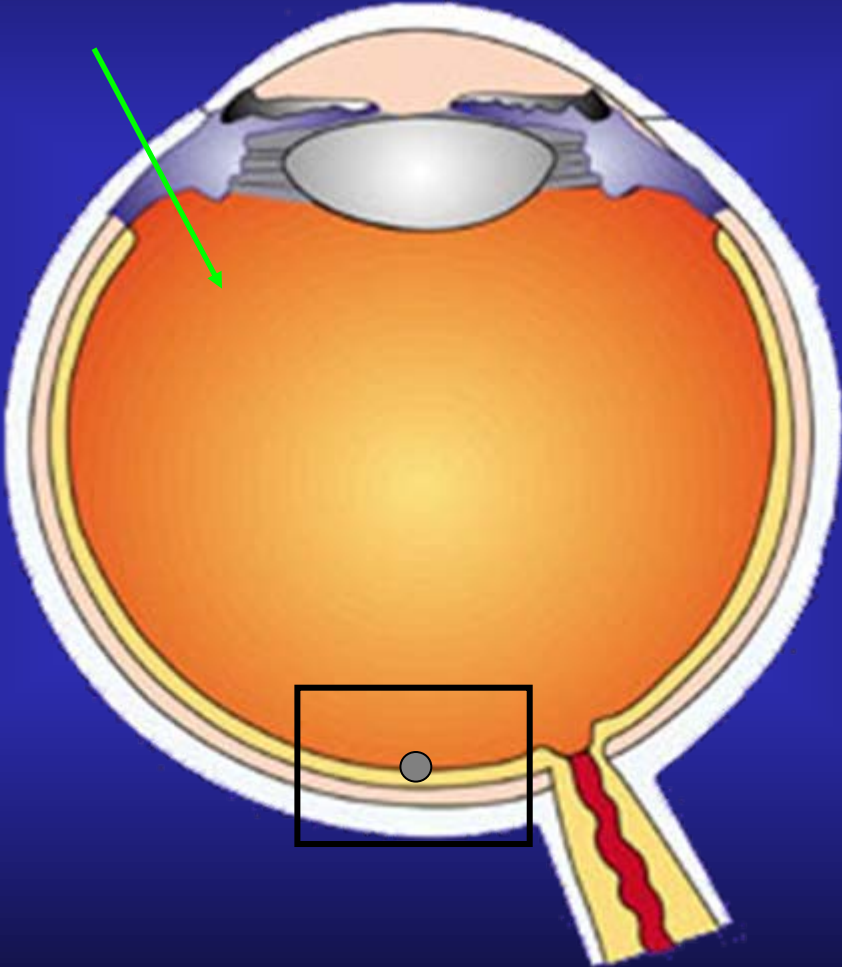


**Phakic**

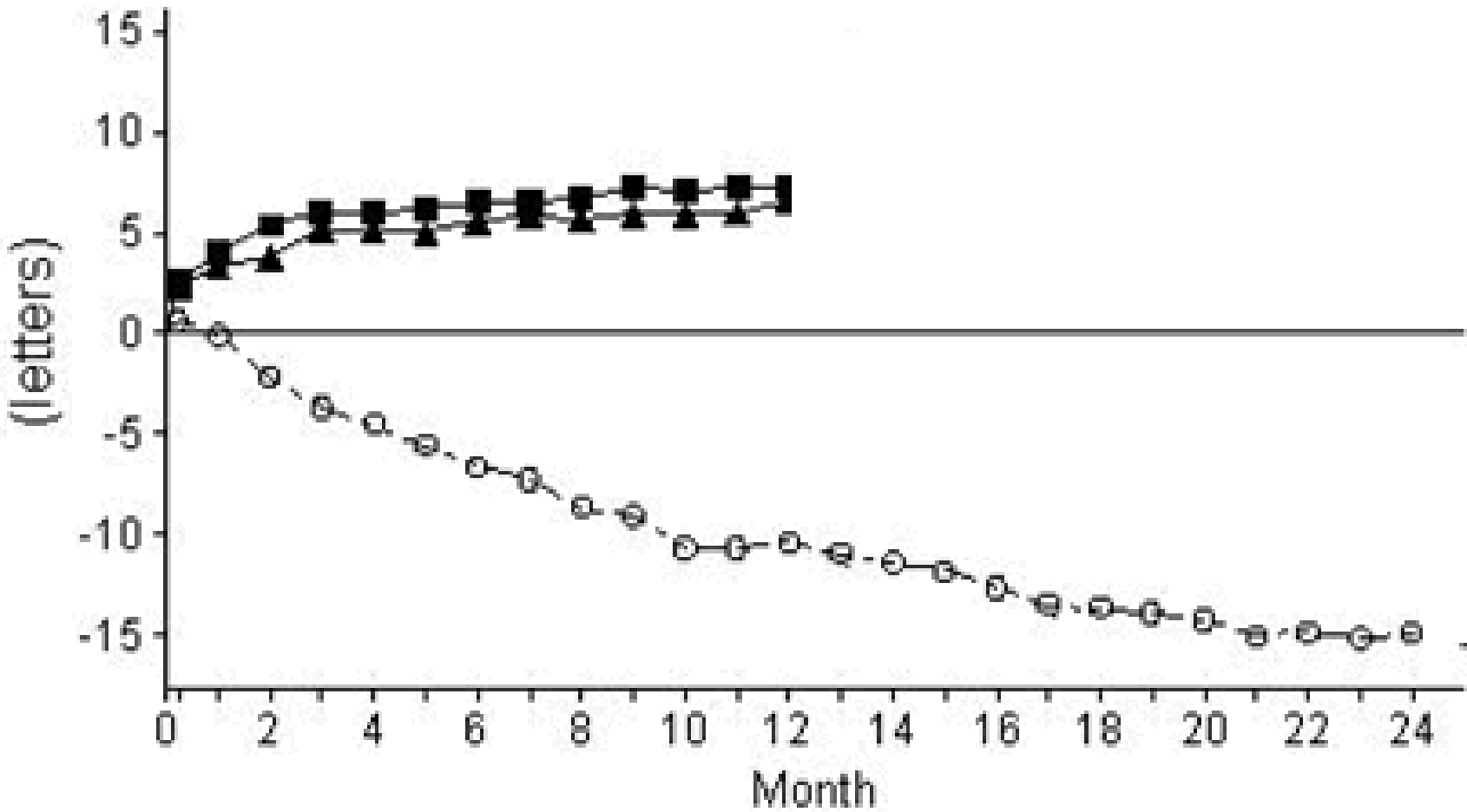
**4mm behind limbus**

**Pseudophakic**

**3.5mm behind limbus**

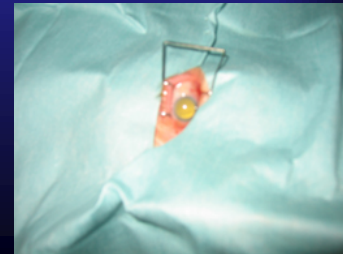
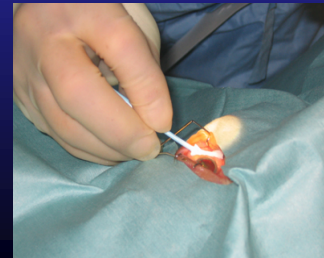


Mean Change in Visual Acuity  
(letters)



# Treatment indications

- Wet AMD: **ALL SUBTYPES** including PED
- Diabetic retinopathy:
  - macular edema
  - NVD
- Vascular occlusions/other macular edema



# Wet AMD

- **Cause**
  - New vessels growing through Bruchs membrane into the retina
- **Risk factors (to look for)**
  - FH, Multiple/large/confluent drusen
- **Clinical features (symptoms/signs)**
  - Reduction in central vision, distortion
- **Management in the surgery**
  - URGENT referral (fast track)
- **Treatment in hospital**
  - Intravitreal injection of Anti-VEGF agents

# Avastin /Lucentis comparison: Response Rate

	<u>Improvement</u> (<15 letters loss)	<u>Stabilisation</u> (>15 letters loss)	<u>Worse</u>
--	--	--	--------------

## AVASTIN

At 3 months:	79%	18%	3%
At 12 months	66%	30%	4%

## LUCENTIS

At 3 months:	85%	10%	5%
At 12 months	75%	20%	5%

# Summary

## Anti-VEGF Px Intravitreal injections:

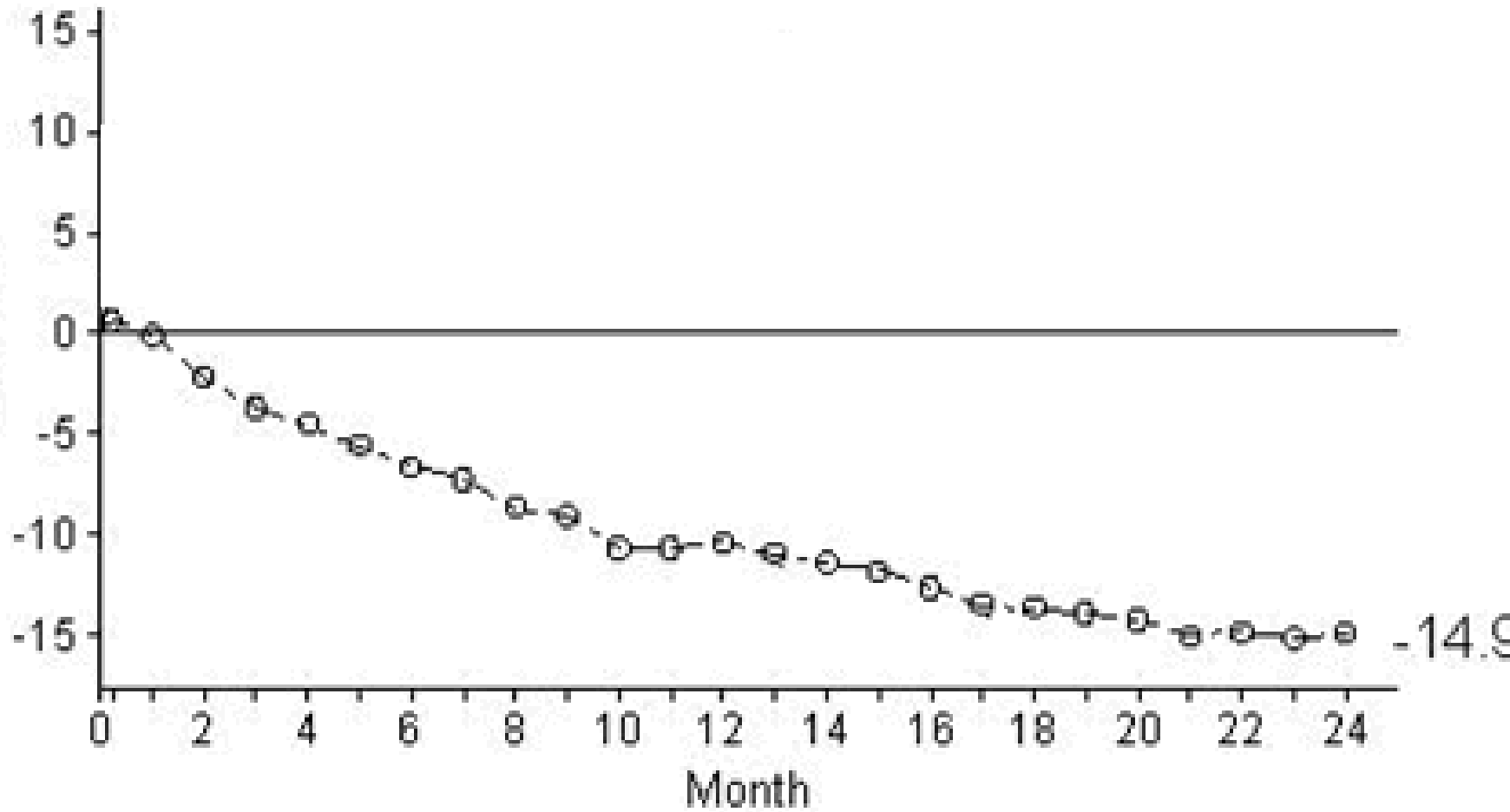
### **Intravitreal anti-VEGF treatment**

- Current treatment of choice for wet AMD
- think about every step of the procedure
- take care to minimise complications

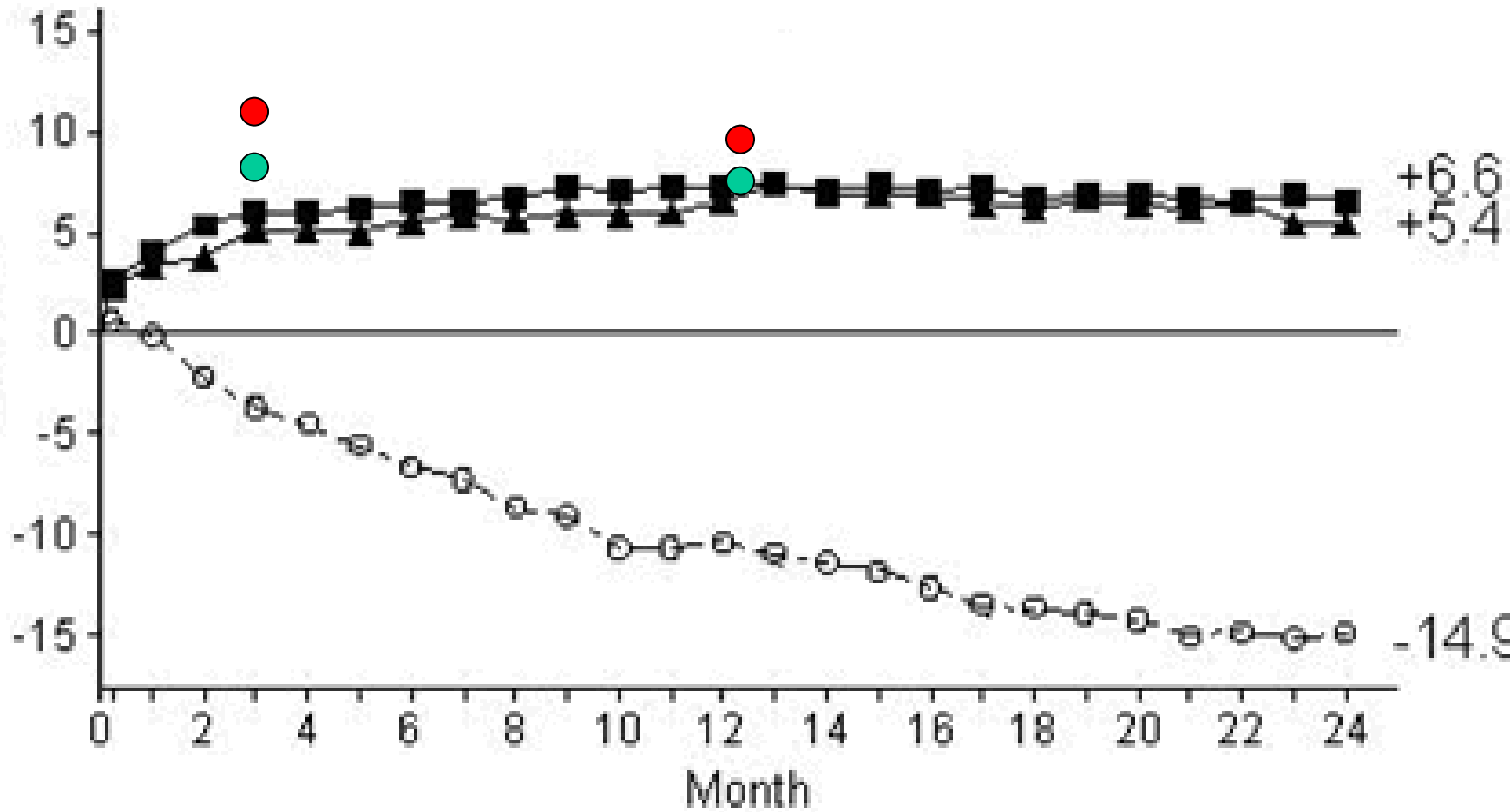
### **1 year followup of anti-VEGF treatment at Hillingdon**

- safe, effective; passes the family test
- results comparable to the international trials  
are achieved
- both Avastin and Lucentis produce broadly  
similar results

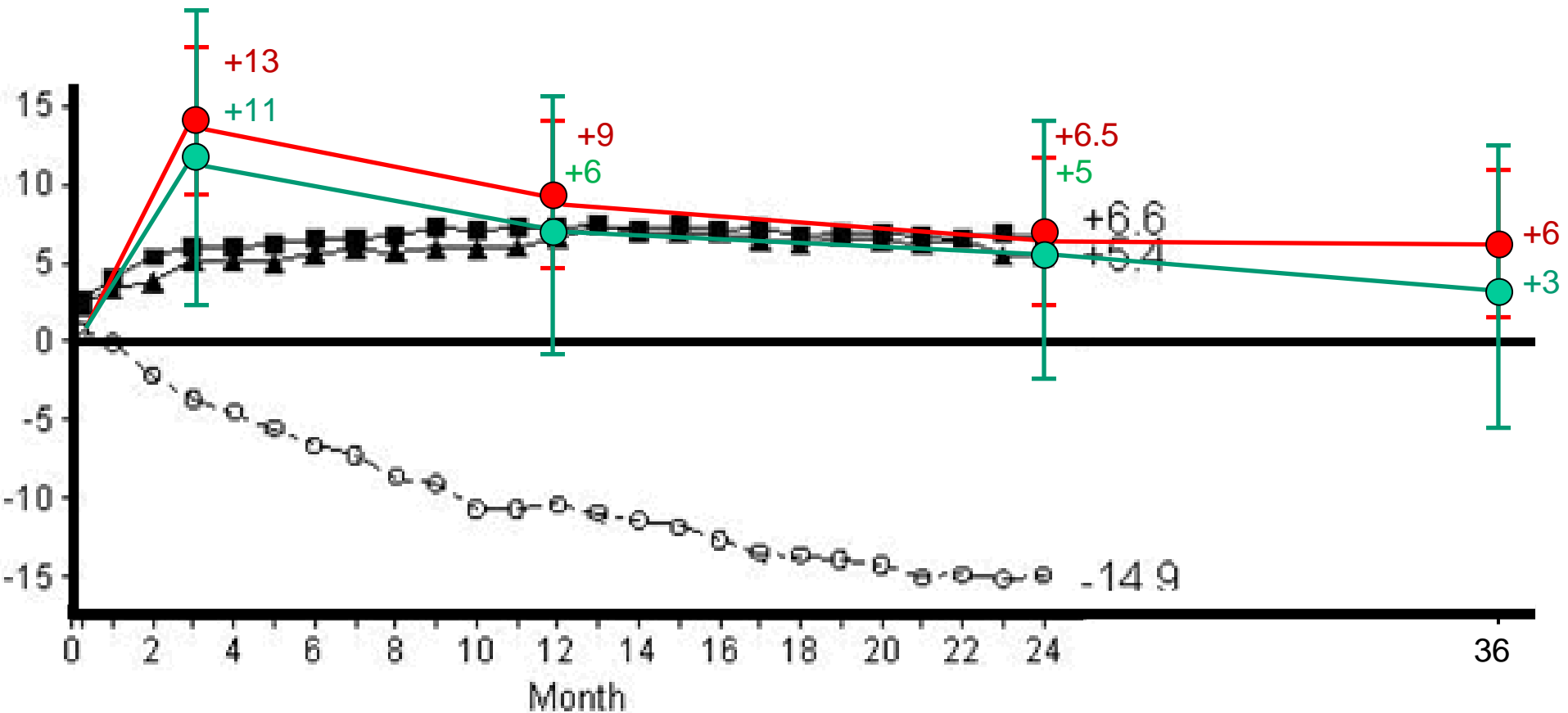
Mean Change in Visual Acuity  
(letters)



Mean Change in Visual Acuity (letters)



# Avastin / Lucentis 3 strikes results: Excluding non-treatment naive



# Wet AMD

- **Cause**
  - Blood vessels growing into the neuroretina; leaking fluid, bleeding, scarring
- **Risk factors (to look for)**
  - FH, drusen, fellow eye,
- **Clinical features (symptoms/signs)**
  - Reduced vision, distortion
- **Management in the surgery**
  - Refer URGENTLY
- **Treatment in hospital**
  - Diagnose, investigate, Intravitreal anti-VEGF injection course, low vision aids,

# Take-home Message

- **EVEN IF YOU SEE A CATARACT**  
**AMD may coexist**
- **ALWAYS** look at the back of the eye
- Distortion makes a macular problem likely  
but is non-specific for pathology

**There is now effective treatment available  
for wet AMD at Hillingdon Hospital**