

# Age-Related Macular Degeneration

*Early Detection in Optometric Practice*



*Expert Insight:*

# Presenter Credentials & Experience

**David F. Anderson** FRCOphth FEBO FWCRS PhD MB BS

Consultant Ophthalmic Surgeon | Senior Lecturer

University Hospital Southampton NHS FT | University of Southampton  
| Nuffield Wessex Hospital

Founder and Director | Anderson Eye Care

FD: Carl Zeiss Meditec, Alcon Labs

**Clinical  
Clarity For  
Collaborative  
Care**

*Introductions*

# Learning Objectives

- Understand the pathophysiology of AMD
- Recognise early clinical signs
- Identify risk factors for disease progression
- Interpret fundus and OCT findings suggestive of AMD
- Distinguish dry vs wet AMD
- Recognise urgent referral indicators
- Counsel patients regarding risk reduction and monitoring



*Introductions*

# What is AMD?

- Age-Related Macular Degeneration is a progressive retinal disease affecting the macula, leading to deterioration of central vision.
- Typically affects patients over age 50
- Leading cause of central vision loss in developed countries
- Primarily affects the macula, responsible for:
  - *Reading*
  - *Driving*
  - *Recognising faces*
  - *Fine visual detail*



*Why AMD Matters in Optometry*

# The Role of Optometrists in AMD Detection

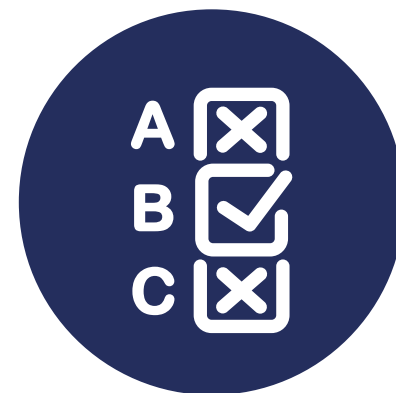
*Optometrists play a critical role in:*



Early identification of retinal changes



Detecting drusen and pigmentary changes



Identifying symptoms that suggest conversion to wet AMD



Monitoring patients at risk of progression



Initiating timely referral to ophthalmology

*Epidemiology:*

# AMD Prevalence and Public Health Impact

- Affects millions globally
- Risk increases significantly with age
- Increasing prevalence due to ageing populations

Approximate figures:

- ~10–15% prevalence in patients over 65
- Advanced AMD affects ~1–2% of people over 70



*Risk Factors*

# Risk Factors for AMD



## **Non-modifiable**

- Age
- Genetic predisposition
- Family history
- Caucasian ethnicity



## **Modifiable**

- Smoking
- Poor diet
- Cardiovascular disease
- Hypertension
- Obesity

*AMD Pathophysiology:*

# Understanding the Disease Process

AMD involves degeneration of structures within the macular region, including:

- *Retinal pigment epithelium (RPE)*
- *Bruch's membrane*
- *Photoreceptors*

Key mechanisms include:

- *Accumulation of drusen deposits*
- *RPE dysfunction*
- *Chronic oxidative stress*
- *Inflammation*
- *Abnormal blood vessel growth in late stages*



## Early Signs

# Clinical Signs of AMD

Optometrists should look for:

- *Small to medium drusen*
- *RPE pigmentary changes*
- *Mild macular irregularity*
- *Subtle visual symptoms*

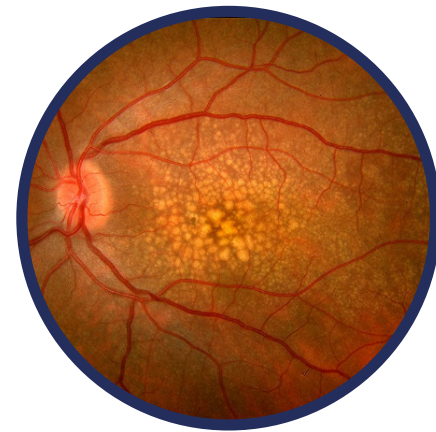
Patients may report:

- *Slight blur in central vision*
- *Reduced contrast sensitivity*
- *Difficulty reading in low light*



*Drusen: The Key Finding:*

# Understanding Drusen

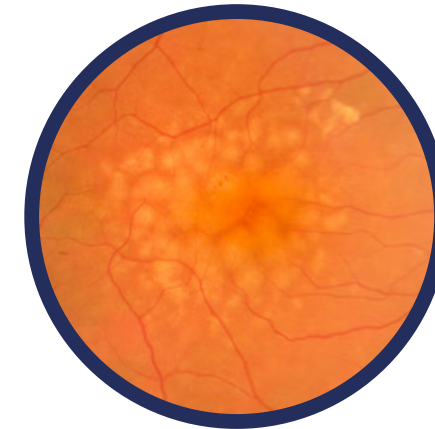


## **Hard Drusen**

Small

Well defined

Often age-related but  
not always pathological



## **Soft Drusen**

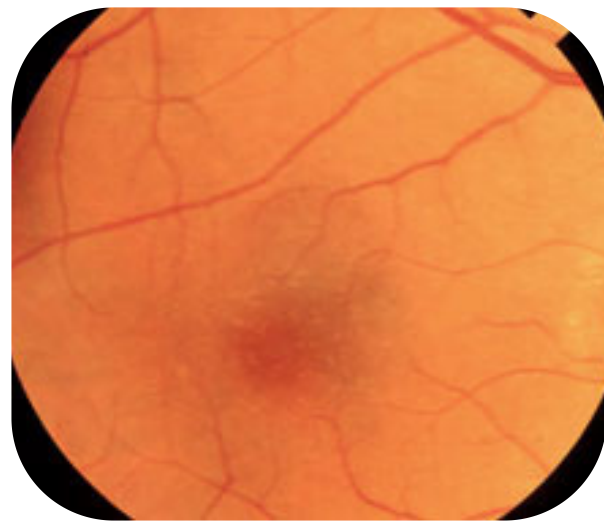
Larger

Poorly defined borders

Associated with  
higher AMD risk

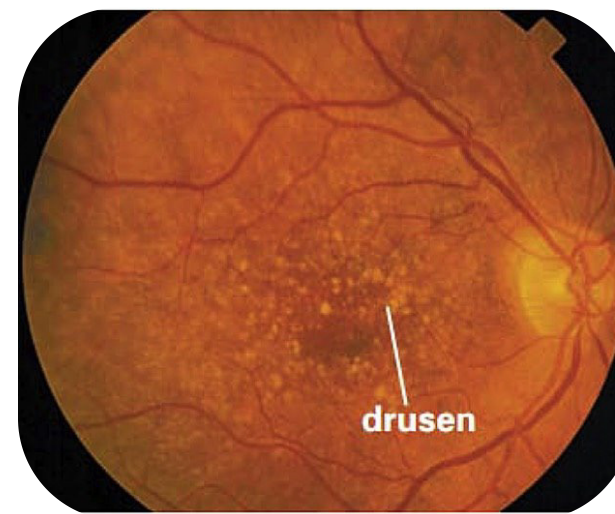
*Classification of AMD*

# Stages of AMD



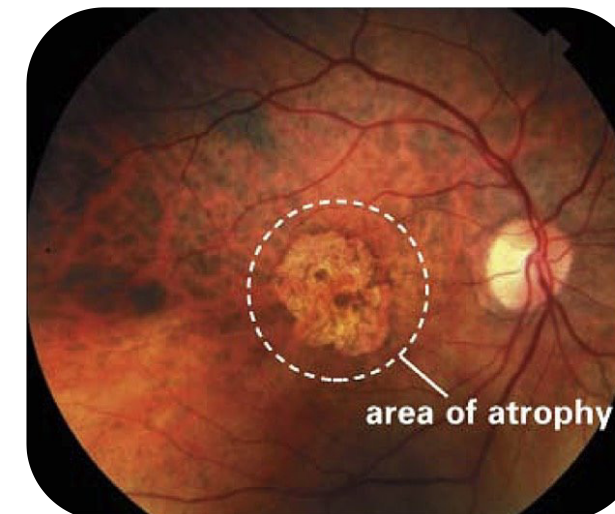
### **Early AMD**

Small drusen  
Minimal visual symptoms



### **Intermediate AMD**

Larger drusen  
RPE changes



### **Advanced AMD**

Geographic atrophy  
(dry AMD)  
Neovascular / Wet  
AMD

*Optometrists should identify features suggesting progression.*

*Classification of AMD*

# Dry (Atrophic) AMD

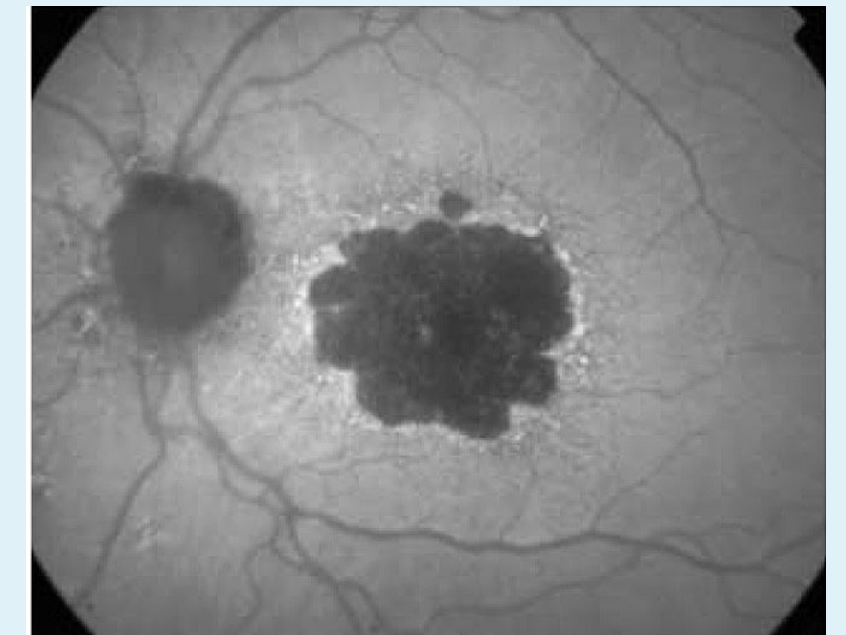
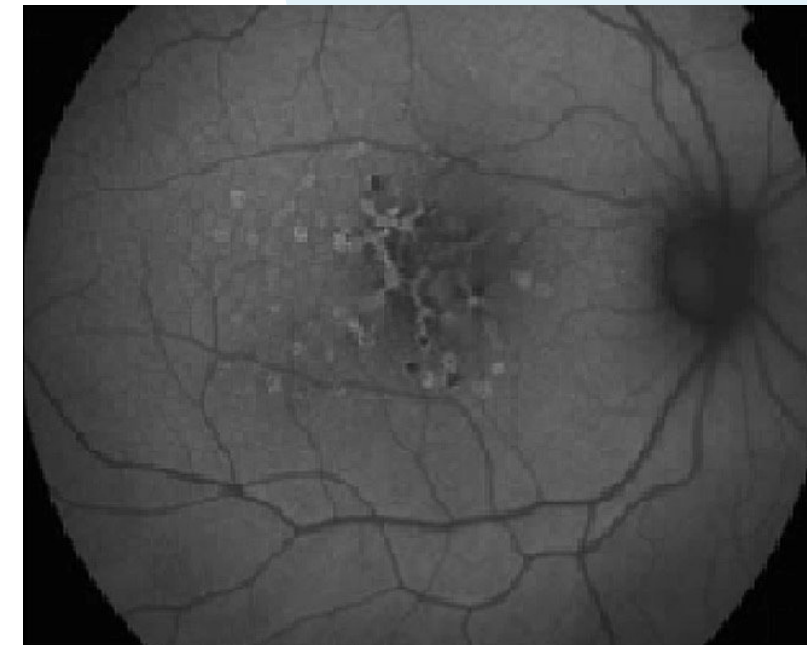
Most common form (85–90% of cases)

**Characteristics:**

- *Gradual degeneration of RPE and photoreceptors*
- *Drusen accumulation*
- *Slow progression*
- *Advanced dry AMD may lead to Geographic Atrophy.*

**Visual symptoms:**

- *Gradual central vision decline*
- *Difficulty reading*



*An autofluorescence image of the retina with dry macular degeneration (left) and more advanced form of dry macular degeneration(right).*

*Classification of AMD*

# Neovascular (Wet) AMD

Less common but more vision-threatening.

**Characteristics:**

- *Subretinal fluid*
- *Haemorrhage*
- *Exudates*
- *Distortion of the macula*

**Visual symptoms:**

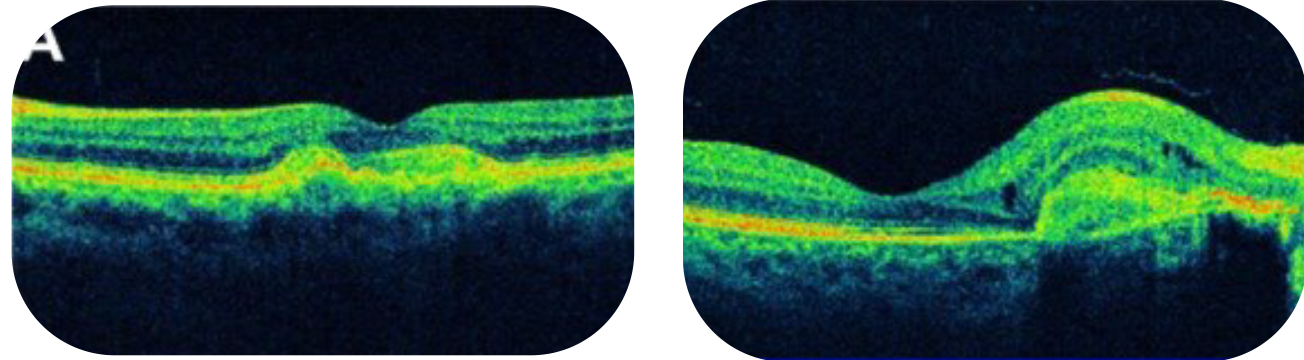
- *Metamorphopsia*
- *Rapid central vision loss*

This is an urgent referral condition.



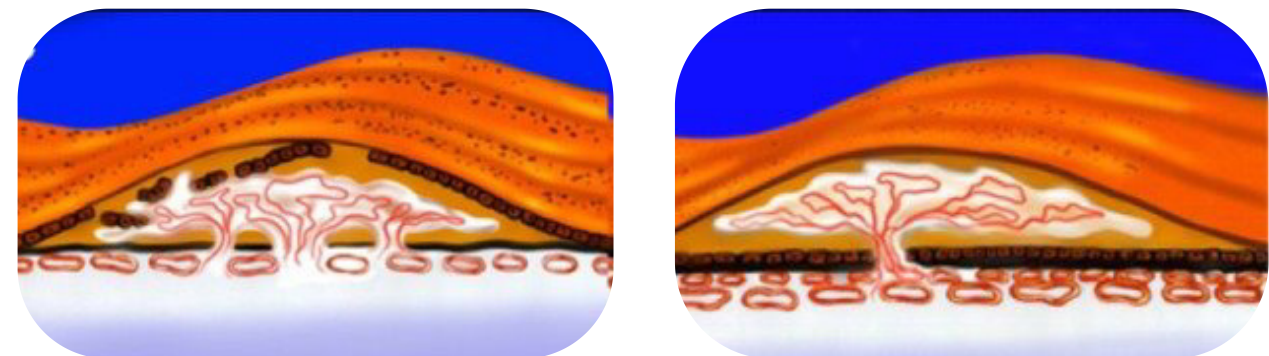
*Classification of AMD*

# OCT Findings in AMD



## **Dry AMD**

- Drusen elevations
- RPE irregularity
- Retinal thinning



## **Wet AMD**

- Subretinal fluid
- Intraretinal cysts
- Pigment epithelial detachment (PED)

*OCT is now central to early detection and monitoring.*

## Symptoms

# Patient Symptoms

### Patients may report:

- *Distorted lines (metamorphopsia)*
- *Difficulty reading*
- *Central blur*
- *Dark or missing patch in vision*
- *Reduced colour contrast*

### Clinical tool:

- *Amsler grid testing*



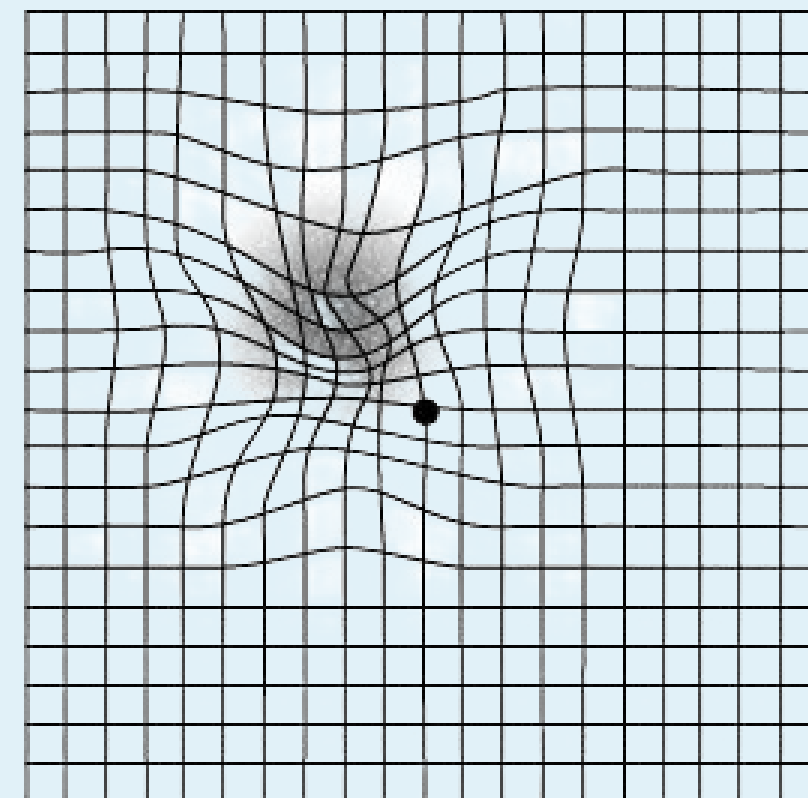
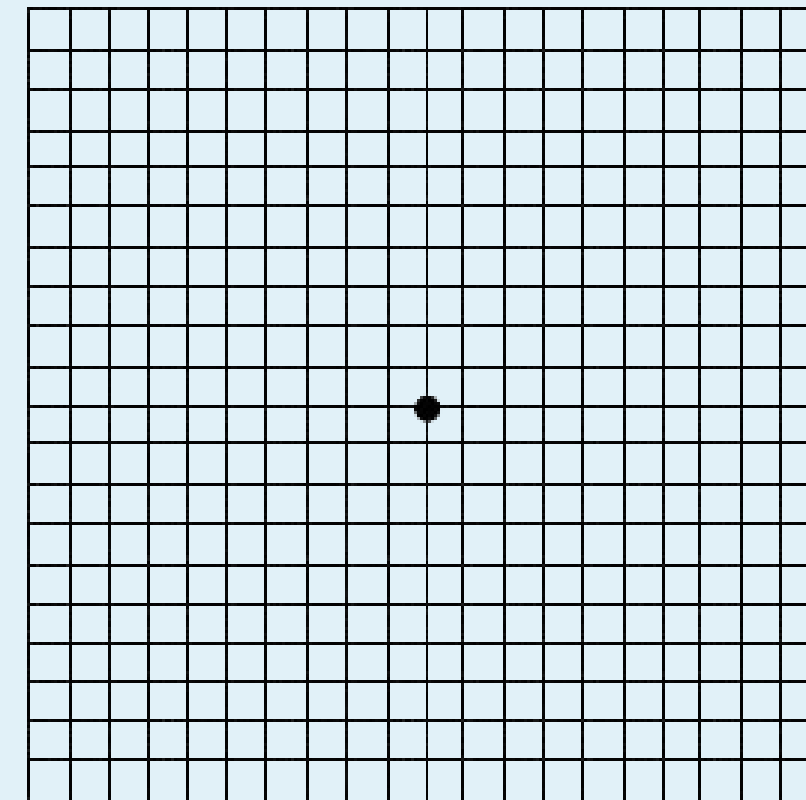
*Optometric Examination Techniques*

# Clinical Examination

**Recommended evaluation:**

- *Dilated fundus examination*
- *Macular slit lamp assessment*
- *OCT imaging*
- *Fundus photography*
- *Amsler grid testing - Example Distortion on Amsler test*

**Careful documentation and comparison over time is important.**



*Referral Guidelines*

# When to Refer

**Urgent referral:**

- *Suspected wet AMD*
- *New metamorphopsia*
- *Macular haemorrhage*
- *Rapid vision decline*
- *Subretinal fluid on OCT*

**Routine referral:**

- *Intermediate AMD*
- *Progressive drusen*
- *Suspicious macular changes*



*Patient Advice*

# Counselling Patients with AMD Risk

**Advice may include:**

- *Encouraged to quit smoking*
- *Healthy diet rich in:*
  - *Leafy greens*
  - *Omega-3 fatty acids*
- *UV protection*
- *Regular eye exams*
- *Monitoring with Amsler grid*

Some patients may benefit from AREDS-based supplements (when clinically appropriate)





*Key Takeaways:*

## **Key Clinical Messages**

- AMD is a common cause of central vision loss
- Optometrists are key in early detection
- Recognising drusen and RPE changes is essential
- Wet AMD requires urgent referral
- OCT greatly improves diagnostic accuracy

*Right Patient. Right Lens. Right Conversation.*

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*Continue the Conversation:*  
**Advancing Together**



Strengthen  
professional  
collaboration



Share cases  
and real-world  
outcomes



Engage with  
new education  
sessions

*Join us in shaping  
more predictable, patient-centred refractive outcomes.*

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