

Hamilton Eye Clinic and Laser Eye Centre Education Series

3rd June 2026



Beyond Watch & Wait

Re-thinking Intermediate AMD Management

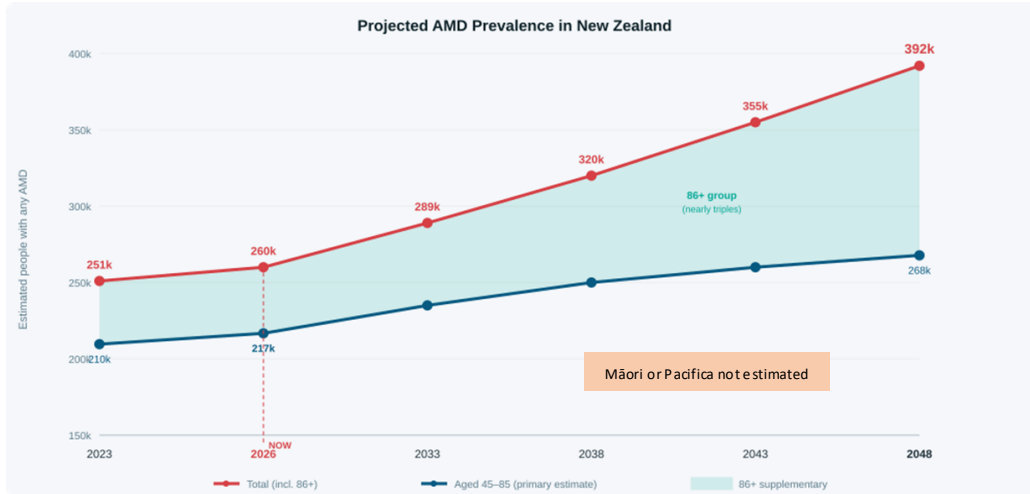
AMD Staging & Risk Assessment | 2RT Laser Referral | Introducing MacuMira

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The Intermediate AMD Gap



~35-40%

are intermediate stage

~100,000 today, ~160,000 in 20 years time

AREDS-2 supplements

"Watch and Wait"

At Hamilton Eye Clinic — two treatments for these patients:

2RT Subthreshold Laser to reduce risk of progression, and - 'coming soon' - **MacuMira** to improve vision

Optometry at the Forefront

Gatekeepers

- 1 First Contact
- 2 Control Access
- 3 Triage

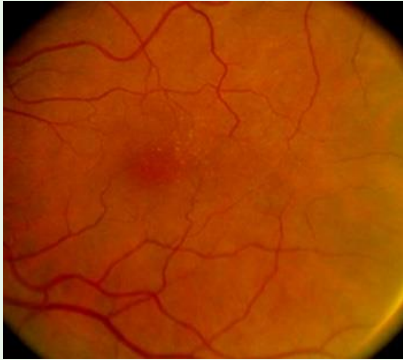
This Evening's Talk:

- 1 Stage the patient
- 2 Calculate risk of Late AMD
- 3 2RT – since 2013
- 4 Introduce MacuMira
- 5 Who to refer — and for which Rx

Staging AMD

Early

Medium drusen (63–125 μm)
No pigment changes



Intermediate

Large drusen ($\geq 125 \mu\text{m}$)
and/or Pigment changes



Late

Geographic atrophy or
Neovascular AMD



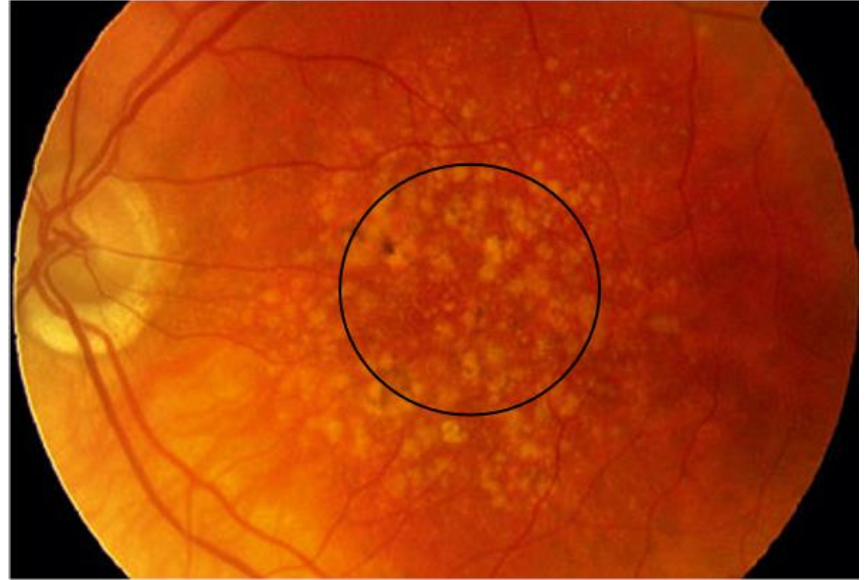
OCT Is Essential

Stageable in 97.7% vs 52.4% with photos alone.

Risk Stratification – The AREDS Simplified Severity Scale

How to Score (Each Eye)

Within 2 disc diameters of the fovea:

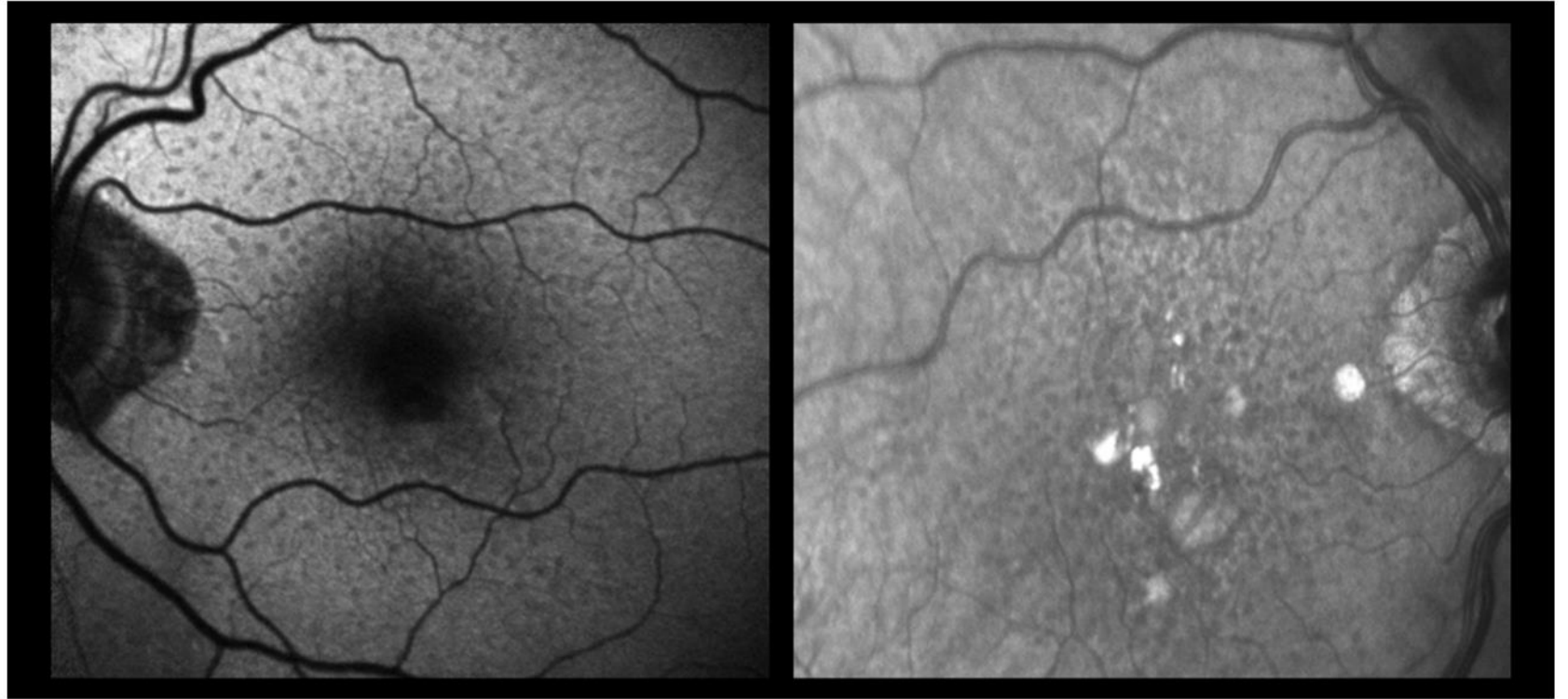


The disease is a continuum



RPD adds risk – Small but Risky

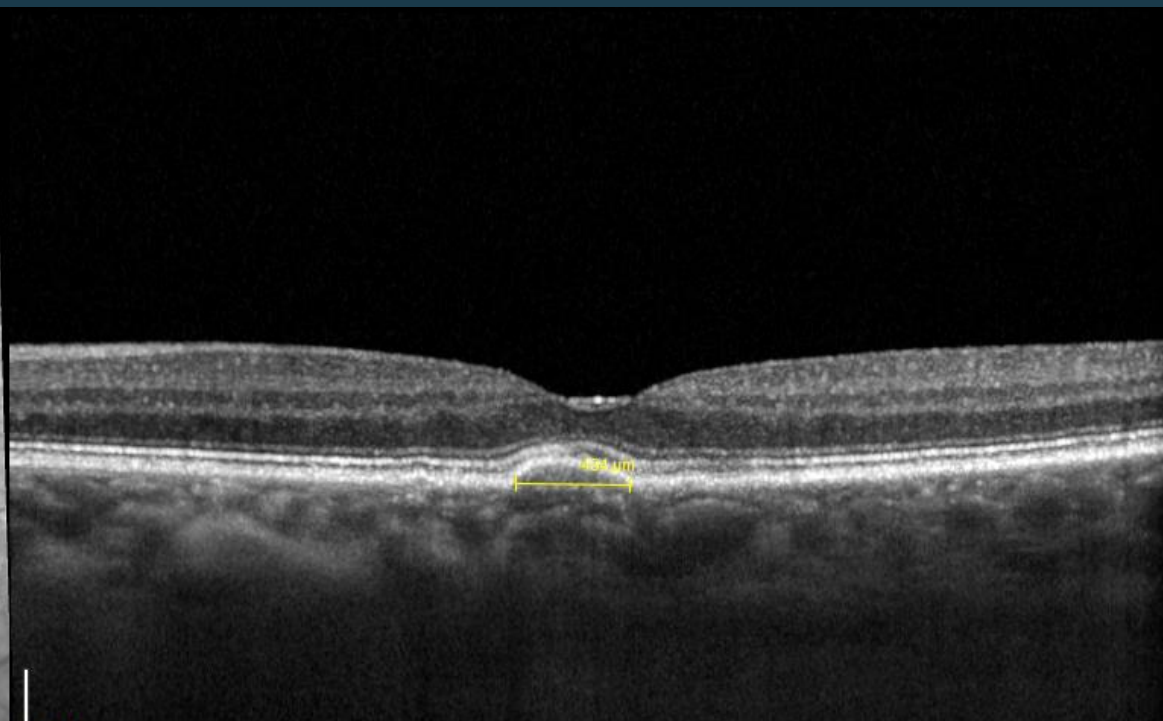
AREDS Report 42 (2024) — the severity scale updated by RPD status



Drusen load is additional risk – Big is Risky

The AREDS scale treats all drusen $\geq 125 \mu\text{m}$ the same — but risk increases continuously with size

19 / 37

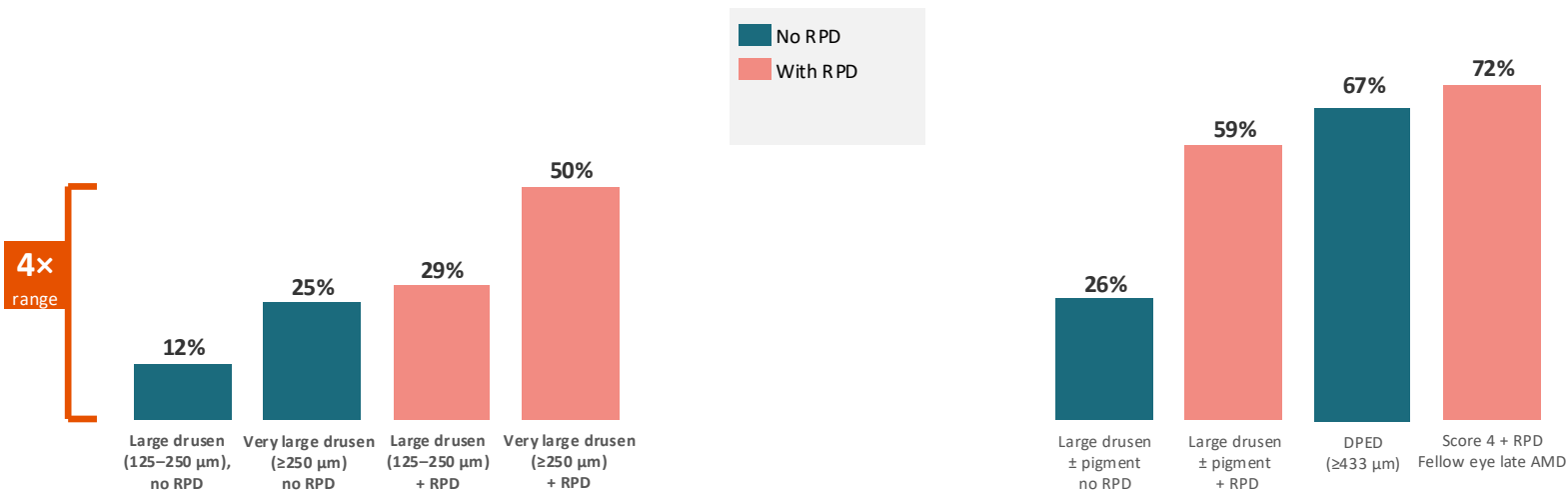


How Risk Builds — AREDS Score + RPD + Drusen Load

Each layer of features adds risk. The same AREDS score can mean very different things.

AREDS Score 2

AREDS Score 3–4



A score-2 patient with very large drusen + RPD has nearly twice the risk of some score-3 patients

Communicating Risk to the Patient

Use natural frequencies, not percentages — frame the stage, give them agency

Principles

Natural frequencies: "3 in 10" not "29%"

Name it, frame it, give agency

— what stage, what it means, what we do

Don't catastrophise, don't minimise

— honest but normalising

Always lead to action

— supplements, monitoring, referral

The Approach

"Your macular degeneration is at an intermediate stage. Your vision is still good, but I can see changes that put you at higher risk of it getting worse.

***Roughly 3 in every 10 people** with eyes like yours will develop the more serious form within 5 years. That means 7 out of 10 won't — but I want to make sure we do everything we can to keep you in this group.*

The important thing is: we have a plan. Take this macular supplement, and I recommend you see a retinal specialist who can assess you for treatments that can reduce that risk/improve your vision."

Two Treatments for Intermediate AMD



2RT – addressing structurally high-risk iAMD since 2013

Introducing MacuMira

Subsensory microcurrent stimulation for AMD

MacuMira

- Subsensory microcurrent (below perception threshold)
- Targets RPE mitochondria → reverses progressive RPE decay.
- Similar rationale to PBM but different energy delivery
- Non-invasive headset — worn over closed eyelids
- 32-minute sessions

 **MacuMira**



MacuMira — Clinical Evidence

Trial Design

62 patients (43 treatment, 19 sham)

Protocol:

4 treatments in first 2 weeks
+ 2 further at weeks 14 and 26
(6 treatments total over 30 weeks)

Follow-up:

30 weeks

Outcome	MacuMira (n=43)	Sham (n=19)
ETDRS at 30 weeks	+10.4 letters (95% CI 7.8–13.1, p<0.001)	-2.1 letters from baseline
≥10 letter gainers	48% achieved ≥10 letter gain	0%
Contrast Sensitivity	Similar benefit to VA	No improvement
Adverse Events	0% — no side effects	0%

Interpretation

Effect grew over time

Limitations: Pilot study; small study, short follow-up.

Larger confirmatory trials are underway.

MacuMira — Treatment Protocol

1 Induction

4 sessions over 4–10 days (32 min each)

2 Maintenance

1 session every 3 months (ongoing)

3 Monitoring

OCT + VA + CS at each visit.

 **MacuMira**



Treatment is off-label. Costs TBC.

Two Treatment Categories — Structure vs Function

Different clinical questions lead to different therapies

CATEGORY 1: Structural Risk → 2RT Laser

Clinical question:

"Is this eye at high-risk of progressing to late AMD?"

Selection criteria:

- High central soft drusen load
- Pigmentary changes
- Fellow eye has late AMD
- No VA threshold

RPD phenotype NOT usually offered 2RT

Goal: Prevent progression

CATEGORY 2: Functional Decline → MacuMira

Clinical question:

"Is visual function declining?"

Qualifying criteria (one or more):

- VA \leq 6/12 (BCVA +/- pinhole)
- +/- Reduced contrast sensitivity (formal testing)
- +/- Consistent functional symptoms (low-light difficulty, face recognition etc.) supported by clinical findings

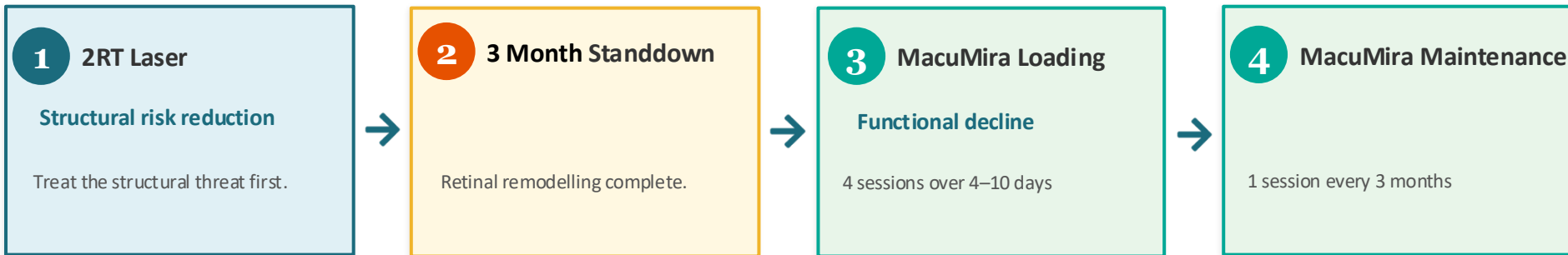
Includes RPD phenotype

Goal: Improve visual function

A patient can meet criteria for one category, or both. Structural risk and functional decline are independent clinical questions.

Combined Therapy — Sequencing 2RT + MacuMira

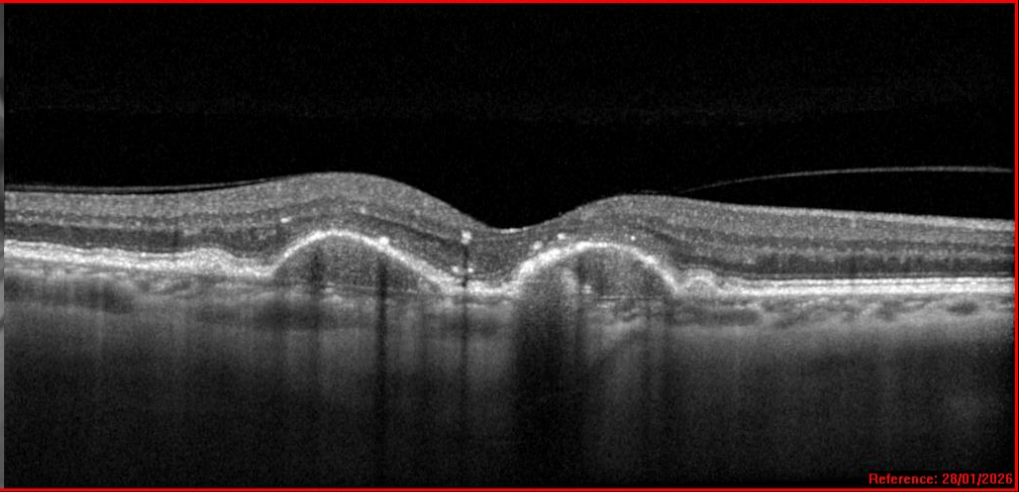
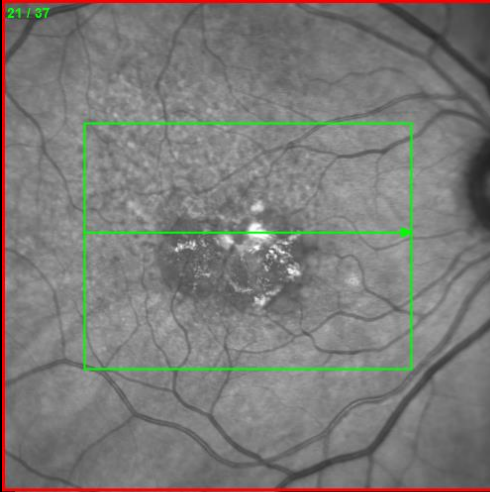
For patients with high-risk structural features AND functional decline



Why 3 months? Gunawan et al. (CEO 2022) showed structural recovery and functional improvement at stabilized by 3 months post-2RT ($p < 0.001$).
Clinical prudence when combining novel therapies without published combination data.

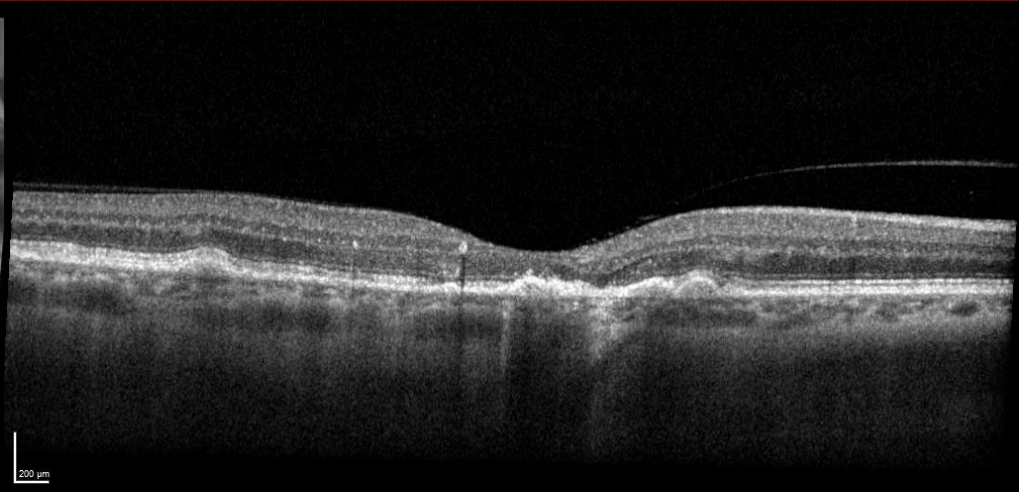
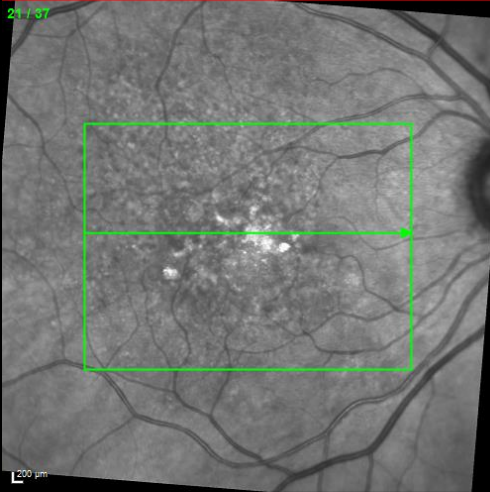
2RT retreatment: Review at 6–12 months.
Retreatment decision based on structural risk.

21-7-87



Reference: 28/01/2026

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Putting it into practice

From score to strategy — what to do at each risk level

Lower Risk

Score 0–1, no RPD, no large drusen

- Routine annual review
- Counsel on modifiable risk factors
- No supplements indicated

Elevated Risk

Score 2+, or any score with RPD

- AREDS2 supplements
Amsler grid home monitoring
- Calculate risk & discuss prognosis
- Educate on symptoms
- Consider referral for 2RT and/or MacuMira

High Risk

Score 3–4, very large drusen, DPED, RPD

- AREDS2 supplements
Amsler grid home monitoring
- Calculate risk & discuss prognosis
- Educate on symptoms
- Refer for 2RT and/or MacuMira

Questions?

David Worsley

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