NHS
South West London

South West London
Wet Age-related Macular Degeneration (wet AMD) Drug Pathway

Version 3.1

Contents:

Local Adaptation:
In adopting the NHS England Title of document, South West London Integrated Commissioning Board (SWL ICB) have agreed the following local adaptations:

1. **Wet AMD and Best Corrected Visual Acuity (BCVA) better than 6/12**
   For patients with wet AMD and BCVA better than 6/12, commission early treatment with ranibizumab biosimilar or aflibercept 2mg biosimilar.

2. **Wet AMD and BCVA worse than 6/96**
   For patients with wet AMD and BCVA worse than 6/96, as an interim position (for 6 months only), commission treatment with ranibizumab biosimilar or aflibercept 2mg biosimilar (instead of off-label bevacizumab currently). This arrangement can only be extended beyond 6 months on submission of evidence to demonstrate that there are clinical benefits from continued treatment in this patient cohort.

3. **Second choice treatment options**
   - Aflibercept 8mg is the preferred second choice option over faricimab.
   - For a small number of patients meeting specified patient or clinical factors, second choice options can be used first. There is no agreement between providers and SWL ICB for first line use of second choice options due to capacity constraints.

Version number	Main amendments	Approval date
0	Refer to previous version control	24 July 2013
1.0	Refer to previous version control	15 Dec 2021
2.0	Refer to previous version control	20 Mar 2024
2.1	Refer to previous version control	18 Dec 2024
3.0	Adoption of NHSE Commissioning Guidance: Medical Retinal Treatment Pathway in Wet Age-related Macular Degeneration, version 1.3 with SWL adaptations	28 Nov 2025
3.1	Updated to include 'Background' and 'Key recommendations' sections present in the final NHSE version 1.3, but missing from the editable version.	18 Feb 2026
Date of next review: 3 years (or earlier if indicated)		

Approved by: SWL Integrated Medicines Optimisation Committee
Date: 18 February 2026

Classification: Official-Sensitive

NHS England

Commissioning Guidance: Medical Retinal Treatment Pathway in Wet Age-related Macular Degeneration

Publication Date: 14/10/2025 Version 1.3

Table of Contents

1. Abbreviations

Abbreviation	Explanation
AMD	Age-related Macular Degeneration
BCVA	Best Corrected Visual Acuity
ICB	Integrated Care Board
LoE	Loss of Exclusivity. Date where generic competitors may enter the market.
MHRA	Medicines and Healthcare Regulatory Agency
NHS	National Health Service
NICE	National Institute of Healthcare and Excellence
NG	NICE Guidance. Recommendations on the appropriate treatment and care of people with specific diseases and conditions within the NHS in England and Wales. Commissioning of medicines recommended in NICE guidance is not mandatory.
NOD	National Ophthalmology Database
OCT	Optical Coherence Tomography
RCOphth	The Royal College of Ophthalmologists
SHRM	Subretinal Hyper-reflective Material
SPC	Summary of Product Characteristics
TA	Technology Appraisal. The NHS is legally obliged to fund and resource medicines and other treatments recommended by NICE's technology appraisals
VA	Visual Acuity
VEGF	Vascular Endothelial Growth Factor
wAMD	Wet Age-related Macular Degeneration

2. Background

Age-related macular degeneration is the leading cause of vision loss in the UK, impacting over 700,000 individuals. In recognition of the profound impact of sight preservation on patients' quality of life, NHS England is committed to providing patients with high-quality, cost-effective care for wet AMD, whilst ensuring all those who might benefit from treatment receive it.

Ophthalmology is the NHS's highest-volume outpatient specialty, with over 7.5 million appointments annually. Anti-VEGF[1] therapy remains the cornerstone of treatment, yet significant variation exists across the country in how first-line regimens are delivered and monitored. With an ageing population driving demand and extensive waiting lists straining capacity, the system is under increasing pressure. Inconsistent treatment monitoring across NHS Trusts further complicates the collection of real-world data, making it difficult to evaluate outcomes and treatment durations effectively.

In response to these challenges, NHS England launched a comprehensive programme in 2024 to evaluate current and future treatment pathways within medical retinal services, with a focus on wet age-related macular degeneration, diabetic macular oedema, and retinal vein occlusion. The programme highlighted the need for a unified national treatment pathway, providing clear guidance on starting, switching, and stopping criteria to ensure patients receive optimal treatment at the appropriate stage. Additionally, a review of treatment data was conducted to identify the most cost-effective options while addressing ongoing capacity limitations.

The updated Commissioning framework for best value biological medicines sets out NHS England's ambitions to establish a best value first approach, by accelerating and widening the adoption of best value biological medicines across the NHS – emphasising the importance of a collaborative approach.

The treatment pathway aims to support NHS commissioners and their system partners in England with commissioning of NICE approved treatments at the right point in the patient pathway. This will ensure patients have access to the best value treatments at the right point. The goal of developing national pathways is to reduce the considerable variation across England and to optimise use of the treatments available. These documents will support the 'should cost, 'should deliver' approach to commissioning as highlighted in the model ICB blueprint.

[1] anti-VEGF: anti–vascular endothelial growth factor treatments injected into the eye.

This pathway and associated calculator were developed, in conjunction with input from a national expert working group, led by Louisa Whickham, National Clinical Director for Eye Care and Luke Nicholson, Director Medical Retinal Services, Moorfields NHS Trust.

The group consisted of clinicians, commissioners, pharmacists, patients and service managers across England. Recommendations made in this pathway were based on NICE guidance and clinical consensus supported by published clinical trial and real-world NHS data.

3. Key recommendations

- Our analysis, combining both clinical trial data and real-world evidence, shows that adopting a treat-and-extend approach as standard—**with aflibercept 2mg biosimilar**—achieves the same patient outcomes at a lower cost. This makes it the best value option and should be used first line alongside **ranibizumab biosimilar.**

- This recommendation has looked at both medicines and activity costs. Whilst NICE deems all treatment options cost effective, this is based on the proviso that all patients respond to treatment a hundred percent and the NICE TAs were not able to consider the role of biosimilars or identify the true associated activity costs.

- This treatment pathway offers a best value approach as a whole and outlines criteria that enable switching if patients don't respond fully to treatment or if they don't reach the expected dosing interval within a specific time interval. Adopting biosimilars helps unlock system-wide benefits allowing us to treat patients earlier (subject to local commissioning decisions). The savings generated from this 'biosimilar first' pathway frees up resources for reinvestment, for example to support efforts to reduce waiting lists in ophthalmology services.

- Our modelling showed no significant difference in the number of injections between treatments, especially when treatment response is good. This is evidenced by real-world data from a sample of Trusts. In other words, by using the treat and extend regimen, with aflibercept biosimilar as first line, this best value pathway will deliver the same clinical outcomes, cost significantly less, and likely have a minimal effect on capacity.

- We will be working with the NHS England GIRFT team to support best practice recommendations in ophthalmology services and address any remaining concerns around capacity.

4. Implementation through NHS commissioning and contracting systems

This guidance sets out how best value can be locked in from the start when initiating new patients and ensures that the largest number of patients can benefit from therapeutic advances.

Collaborative working across the system – commissioners, providers and their clinical teams – is essential for the quick and consistent realisation of the potential savings and any other benefits from a switch to a best value biological medicine.

Following focused system engagement, we have identified key enablers in both planning for the availability of a biosimilar and implementation into clinical practice; overarching these is robust and timely communication between the national and regional leadership teams, professional networks and provider trusts.

(i) Good clinical leadership and accountable person(s) including clinical champions locally

(ii) Implementation support for clinicians and dedicated multi-disciplinary switch teams at provider level.

(iii) Utilising the specialist pharmacy service preparedness checklist once available

(iv) Standardised consent (and where necessary re-consent) process (see pathway)

(v) Patient communication materials to help support shared decision making as appropriate

Assessment of the Opportunity

Commissioners should assess the opportunity available to them from implementing the proposed pathway and work with their local trust and clinical teams to identify key savings opportunities using the calculator, whilst identifying any variation to the proposed approach with their local Trusts.

These documents are working documents and aim to support systems with planning for implementation of biosimilar aflibercept once available. The cost calculator aims to support systems with identifying savings associated with:

a) Patients currently already prescribed aflibercept originator product and the potential savings associated with switching existing patients to a biosimilar once available.

b) Identification of potential patients that could be switched away from 2nd or 3rd line options if clinically appropriate and not previously tried.

c) Savings associated with new patients starting on aflibercept biosimilar once available.

Please note that we are unable to publish any of the real-world data used within the calculator. However, further details of how the information was developed and assumptions made are provided within the Excel spreadsheets. This is due to information governance restrictions that limits data sharing. The pathway clearly identifies when a recommendation has been made on usual or best practice or clinical consensus.

Resource Implications

We have considered the drug and activity costs in our pathway. The drug acquisition costs of aflibercept 2mg biosimilars and ranibizumab biosimilars are the lowest compared to the newer agents. The cost calculator, provided separately, serves as a guide for commissioners to estimate costs involved for the drug options chosen whilst balancing capacity constraints.

The table below shows the injection frequency based on a combination of clinical trial and real-world data, supplemented by assumptions based on clinical consensus from the expert working group. Notably, there is no significant difference between treatments, except for 4-weekly ranibizumab.

The tool references list prices and 2023-25 NHSPS Annex A workbook prices, which can be amended with local pricing arrangements to reflect true local costs.

Table 1. Injection frequency comparison across treatments

Number of injections								
First choice drug	ranibizumab	aflibercept 2mg	faricimab	aflibercept 8mg	ranibizumab	aflibercept 2mg	faricimab	aflibercept 8mg
Response during maintenance phase	**Stable disease** *Regular dosing required to maintain disease activity*				**Inactive disease** *Dose intervals can be extended without affecting disease activity*			
Average treatment intervals post-loading	4 weeks	8 weeks	8 weeks	8 weeks	Treat and extend			
Year 1	13	8	7	8	7	6	6	6
Year 2	13	6	7	6	4	3	3	2
Year 3	13	7	6	7	5	3	3	3

5. Definitions

Term	Explanation
Fellow eye	The other eye of the one being treated
Line of therapy	The order in which different therapies are given to people as their disease progresses. The following scenarios should not count as an additional line of therapy: • Switch from branded to biosimilar and vice versa, biosimilar to biosimilar switches for the same agent • Switch back to a previous anti-VEGF (i.e. those who did not experience clinical benefit after failed extended interval attempts with newer agents) • Switch due to adverse drug events or allergy Worked examples One line of therapy: • Patient switched from branded drug A to biosimilar drug A • Patient switched from drug A to B due to adverse drug events Two lines of therapy: • Patient had suboptimal response to drug A, now on drug B • Patient had suboptimal response to drug A, switched to drug B and had a good clinical response. Unable to extend dose intervals beyond 7 weeks so switched to drug C. Still unable to extend dose intervals on drug C and no clinical benefit, so switchback to drug B because it is more cost-effective. Three lines of therapy: • Patient who had suboptimal responses to drugs A and B, now on drug C • Patient had suboptimal response to drug A, then switched to drug B. Unable to extend dose intervals beyond 7 weeks on drug B so switched to drug C. Remains on drug C because has added clinical benefit compared to drug B even though unable to extend dose intervals further.
Recommendations for best practice	Recommendations made by the expert working group following review of real-world evidence or based on consensus from expert working group. These are subject to local commissioning agreements.
Stopping treatment/ permanent discontinuation	A point in the patient's treatment journey where clinicians decide to stop treatment permanently. This is usually when further treatment is unlikely to benefit the patient.
Treatment harmonisation	The act of using only one drug for both eyes. Usually occurs when one eye is already on treatment, but the other eye qualifies for another treatment.
Treat and extend protocol	A standard treatment regimen for treating wAMD, where the interval for the next anti-VEGF injection is extended by 2 to 4 weeks up to a maximum of 20 weeks depending on the anti-VEGF used.
Treatment pause	A point in the patient's treatment journey where clinicians decide to temporarily withhold treatment. This is usually when the disease has become inactive whilst the patient is on a drug with maximum dose extension intervals.
Worse-seeing eye	Also known as the weaker eye. This occurs when one eye sees significantly worse than the other eye.

See local adaptations on cover sheet

6. Treatment algorithm for wAMD

If more than one treatment is suitable, use the least expensive treatment. Use best value brand available locally. This guideline is based on treat-and-extend protocol, which is the preferred regime for most patients and services. It is recognised that some patients may benefit from regular treatment intervals to aid adherence.

Check patient fits in all NICE TA criteria

- the best-corrected visual acuity (BCVA) is between 6/12 and 6/96
- there is no permanent structural damage to the central fovea
- the lesion size is less than or equal to 12-disc areas in greatest linear dimension
- there is evidence of recent presumed disease progression

check if patient meets NICE TA criteria

NICE NG 82 criteria (commissioning not mandated)

Evidence of late AMD (wet active) disease activity
BCVA better than 6/12
(see Note 3)

Treatment options

Aflibercept 2mg biosimilar or Ranibizumab biosimilar

Suboptimal response

First line options- see Note 4 (includes treatment switch- Note 5)

First choice: **Aflibercept 2mg (switch to biosimilar when available) (TA294), Ranibizumab biosimilar (TA155)**
Second choice: Aflibercept 8mg, Faricimab (TA800)
Third choice: Bevacizumab gamma (TA1022), Brolucizumab (TA672)

Consider **SWITCH** (Note 5) or **STOP** (Note 9)

Assess response post-loading (monthly injections) **before 4th injection** (see Table 2)
Check injections were administered as per schedule

Optimal response
- BCVA: improvement or stabilisation AND
- OCT: no disease activity

CONTINUE and **EXTEND** intervals (see Table 2)

Suboptimal response Improvement in disease activity on OCT but with signs of active disease. E.g.
- OCT: anatomical features of active disease (e.g. fluid in retina, new haemorrhage or SRHM)

CONTINUE with **REGULAR** intervals (see Table 2)

SWITCH if active disease 4-8 weeks after last injection

Poor response
- BCVA: < 25 letters (absolute) attributable to wet AMD on 2 consecutive visits

STOP treatment. **SWITCH** if clinically indicated (see Note 9)

MAINTENANCE PHASE

Subsequent injections with visual acuity and OCT assessments
(minimum visual acuity and OCT checks per visit)

CONTINUE scheduled prescribing and **MONITOR**

Treatment burden (e.g. unable to safely extend treatment intervals > 7 weeks)

Drug related adverse reaction

Consistent responses after 2 to 3 monitoring visits (see Note 6)
Check injections were administered as per schedule and responses not attributable to other causes

Inactive disease or stable disease
- BCVA: improvement or stabilisation AND
- OCT: anatomical improvement or stabilisation (e.g. lesion size, fluid in retina, haemorrhage) **OR** no disease reactivation or disease activity

EXTEND intervals (normally extend by 2-4 weeks, maximum up to 3-5 months) if extension not recently attempted based on disease activity (refer to Table 2 for individual drug posology)

Consider **PAUSE** in inactive disease after maximum extension or in stable disease (see Notes 7 and 8)

MAINTAIN current interval if disease is known not to improve with shorter intervals and worsens with longer intervals. If the patient failed at least **TWO** extended interval attempts and there is no clinical benefit, **SWITCH BACK** to previous anti-VEGF if it is more cost-effective and clinically appropriate (see Note 5)

Suboptimal response or unstable disease
No improvement in BCVA **OR** improvement in anatomical features but signs of persistent activity. E.g.
- BCVA worsens/ no improvement (≤5-letter improvement) **OR**
- OCT: anatomical features of persistent active disease (e.g. non resolving fluid in retina, new haemorrhage or SRHM)

REDUCE intervals (see Table 2)

SWITCH after 3 consecutive monthly injections (see Note 5)

At any point of treatment, consider STOP (see Note 9) if:
Reduction of BCVA to < 25 letters (absolute) attributable to wet AMD on 2 consecutive visits

Is response at 12 months since start of treatment with each line of treatment (see Note 10) adequate?
Check whether ongoing treatment is still clinically appropriate, based on OCT results, visual function tests and perceived patient benefit (see Notes 5 and 6). Changes In OCT precedes visual function tests. Indicators of inadequate response include:
- BCVA < 25 letters on 2 consecutive visits attributable to wet AMD in the absence of other pathology
- Persistent disease activity despite optimal treatment

YES

NO

STOP or **SWITCH** treatment (see Note 9).
Recommend a **maximum of THREE lines of therapy** to be commissioned per eye, with the expectation that the **first anti-VEGF used should normally be first choice options**

Table 2. Drug dosing details according to SPC recommendations

Drug	Posology post-loading		Treat-and-extend dose increment intervals	Maximum treatment intervals	Minimum dose intervals
	No disease activity	Disease activity			
First choice					
Ranibizumab biosimilar	Treat-and-extend	Continue monthly	2 weeks	12 weeks	4 weeks
Aflibercept 2mg Biosimilar once available		Continue 2-monthly	2-4 weeks	16 weeks	4 weeks
Second choice					
Aflibercept 8mg	Treat-and-extend	Clinical decision	Not specified	16 weeks, can be further extended to 24 weeks	8 weeks*
Faricimab		Continue 8-12 weekly	4 weeks	16 weeks	4 weeks**
Third choice					
Bevacizumab	Treat-and-extend	Continue monthly	Not specified	12 weeks	4 weeks
Brolucizumab	Every 3 months	Every 2 months	Not specified	12 weeks	8 weeks

Off-license dosing details

*Aflibercept 8mg off-license dosing: max 4 weekly for 3 consecutive doses were used in studies.

**Faricimab off-license dosing: 3 weekly was used in studies to allow flexibility of dose scheduling.[24,25]

The safety and efficacy of off-license dosing has not been evaluated. Therefore, NHS England do not recommend routine commissioning of off-license dosing.

Figure 1. Indicative combined costs (drug and activity) based on average number of doses from NHSE modelling and real-world NHS data at the time of writing

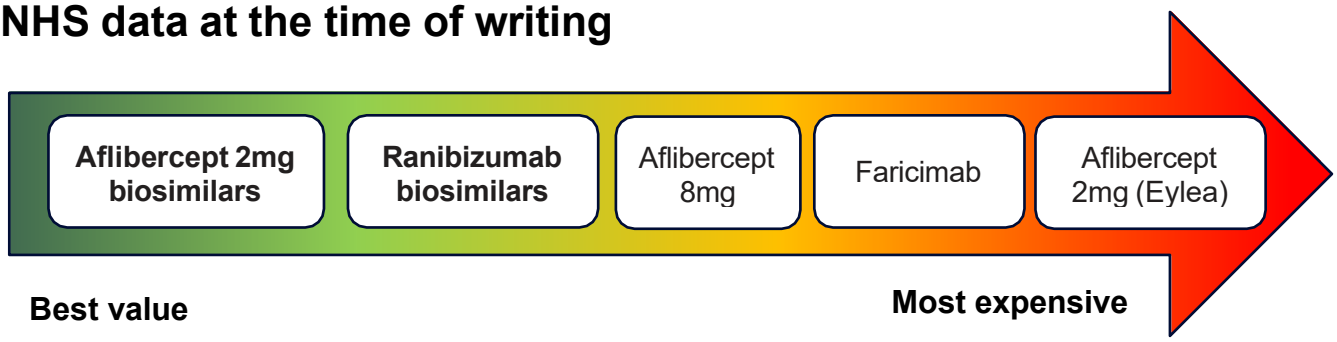

Table 3. Estimated Loss of Exclusivity (LoE)[23]

Drug	Estimated LoE
Ranibizumab	July 2022
Aflibercept 2mg	End of November 2025
Aflibercept 8mg	2039
Faricimab	2037
Bevacizumab gamma	2034
Brolucizumab	2034

Note: Patents can be liable to legal challenge and dates may change. Some medicines may be subject to additional patents on, for example, therapeutic use or device.

7. Notes

Note 1: Treatment goals

For most patients, the main treatment goals are:

- Preservation of visual function (e.g. BCVA improvement or stabilisation)
- Anatomical improvement from OCT (e.g. lesion size, fluid in retina, haemorrhage) with no signs of disease activity

However, it is recognised that not all patients can achieve complete disease remission despite frequent and timely dosing due to the progressive nature of the disease.

Recommendations for best practice:

Recommendation 1. At the beginning of the treatment, communicate with patients at treatment initiation of all treatment possibilities at the outset. This would include:

- Expected treatment outcomes and treatment burden with patients. Use real-world data to support communication, especially those with "poor" vision.[3,4]
- Potential treatment changes throughout their journey, including the use of best value medicines when available.
- Potential for stopping treatment if there is no further clinical benefit with continued treatment.

Rationale

NOD AMD 2024 audit identified that at 12 months:[3]

- 77.7% of eyes who received treatment with "good" vision" at the start of treatment retained this level of vision. This corresponds to driving vision according to DVLA standards, provided there are no compounding factors.[5]
- Patients with "poor" vision (i.e. ≤35 letters) at the start of treatment rarely (6.3%) achieved "good" vision.

Communicating with patients at the beginning of treatment about all treatment possibilities is crucial for setting realistic expectations. This transparency helps patients understand the potential outcomes, benefits, and risks associated with each option, enabling them to make informed decisions about their care.

Clear communication can help mitigate anxiety and prevent misunderstandings or disappointments later on, ensuring that patients have a clear and accurate understanding of their treatment journey from the outset.

A decision support tool for wet AMD has been developed to support shared decision-making discussions with patients and is available here: https://www.england.nhs.uk/publication/decision-support-tool-making-a-decision-about-wet-age-related-macular-degeneration/

Note 2: Service delivery by other healthcare professionals

Some SPCs (e.g. Ongavia®) mandate administration by "a qualified ophthalmologist experienced in intravitreal injections". However, in practice this may be administered by a suitably trained healthcare professional (HCP). RCOphth guidance acknowledges this and recommends that '*it is essential that the HCP always has immediate access to advice from an ophthalmologist whilst giving injections and an appropriately trained clinician is available on site to deal with any very urgent complications'*.[1]

In such circumstances, intravitreal injections performed by the HCP will be 'off-label'. Local governance processes should be in place to manage any ophthalmological or medical complications.

Note 3: Use of anti-vascular endothelial growth factor (VEGF) outside the NICE visual acuity criteria

NICE NG82 (not mandatory) recognise the use of anti-VEGFs outside visual acuity criteria set in NICE TAs, depending on the drug and regimen used.[2]

Recommendations for best practice- subject to local commissioning agreement:

Recommendation 2. Consider treating patients with "good" vision (i.e. VA ≥6/12 or ≥70 letters). Use aflibercept 2mg biosimilars or ranibizumab biosimilars as treatment options for this cohort of patients.

Rationale:

NOD AMD 2024 audit identified that at 12 months:[3]

- 77.7% of eyes who received treatment with "good" vision" at the start of treatment retained this level of vision. This corresponds to driving vision according to DVLA standards, provided there are no compounding factors.[5]
- For patients with baseline vision of 35-55 letters and 56-69 letters, 19.7% and 47.1% achieve "good" vision at 12 months respectively.

It would be better value to treat "good" vision patients with biosimilars because they retain this level of vision based on the NOD AMD audit. This cohort of patients tend to respond better therefore reduce the need to switch to other more expensive therapies.

Patients who do not respond to both aflibercept 2mg biosimilars and ranibizumab biosimilars would not have the option to switch to other treatments, unless BCVA deteriorates and meets NICE TA criteria.

Note 4: Choice of therapy

If more than one treatment option is suitable and service capacity allows for timely treatment, choose the least expensive (taking into account administration costs, frequency and commercial arrangements) unless an order of preference is stated in the TAs or by the local commissioner.

Clinicians are advised to consider the patient's medical history, existing treatment in the other eye (if receiving treatment) and patient factors. Medicines and Healthcare Regulatory Agency (MHRA) recommends brand name prescribing.[6] If more than one biosimilar brand is available, choose best value brand available locally.

Recommendations for best practice:

Recommendation 3. Where clinically appropriate, use aflibercept 2mg (switch to biosimilar once available) and ranibizumab biosimilar as first choice options.

Rationale:

- These are the cheapest options (taking into account administration costs, frequency and drug cost per annum) according to NHSE modelling based on real world data and projected biosimilar savings. At the time of writing, branded aflibercept 2mg is one of the more expensive options but there are opportunity savings to be made once aflibercept 2mg biosimilars become available (loss of exclusivity expected end of November 2025).

- Examples of specific clinical considerations where aflibercept or ranibizumab may not be appropriate:
    - Non-responder to ranibizumab/ aflibercept in fellow eye previously
    - Ranibizumab-specific contraindications: subretinal bleed >50% of lesion, idiopathic polypoidal choroidal vasculopathy [PCV][7]

Recommendation 4. Use aflibercept 8mg and faricimab as second choice options. This is usually when high injection frequency is not acceptable with first choice options.

Rationale:

- More expensive than aflibercept 2mg biosimilar and ranibizumab biosimilar (taking into account administration frequency and drug cost per annum) according to NHSE modelling based on real world data. Our modelling showed no significant difference in

number of injections between treatments, provided there is good response to treatment. This is evidenced by real-world data from a random sample of Trusts.

- Examples where use may be appropriate:
    - Capacity constraints
        - Capacity constraints are normally represented by inability within a service to deliver treatment in a timely way to patients as part of business as usual (BAU). This could be represented by frequent insourcing and outsourcing in order to meet intravitreal treatment demand. Definition of capacity constraints needs to be agreed locally between providers with commissioners.
        - Providers are robustly encouraged to transform their services to create the capacity which their service demands, using some of the savings generated by first-choice agents. There are examples available where Trusts have managed their waiting lists and used transformation approaches whilst still using cost-effective treatment options.
    - Patient factors
        - The following patient groups may be better managed with the least number of injections which will outweigh the cost:
            - learning difficulties
            - dementia
            - hospital transport
            - requiring treatment in the operating theatre under sedation/deep sedation/general anaesthesia
            - frequent inpatient hospital admissions or other regular attendance (e.g. chemotherapy)
    - Clinical factors
        - Non-responder to first-line choices in fellow eye previously
        - Treatment harmonisation (see recommendation 6 below)

Recommendation 5. Use brolucizumab and bevacizumab gamma (licensed) as third choice options.

Rationale:

- Bevacizumab licensed is the most expensive choice (taking into account administration frequency and drug cost per annum) according to NHSE modelling.
- Risk of intraocular inflammation with brolucizumab.

Recommendation 6. Where one eye is already on treatment, but the other eye qualifies for another treatment, prioritise treatment harmonisation by choosing the best treatment options for both eyes (i.e using only one drug for both eyes).

Rationale:

- To minimise drug administration error

- Allows easy identification of adverse drug reactions of a single drug compared to administering two different drugs.

Note 5: Consider treatment switch if:

- suboptimal response after loading phase or (post-loading) at any other point due to resistance to current agent after 3 consecutive monthly intravitreal injections[4] AND there is still potential for improvement in vision, or improved stabilisation at 6/96 or better, with further treatment
- symptoms of allergy or presumed tachyphylaxis[4]
- adverse events related to drug[1]
- frequent injections (e.g. < 8-week intervals) required to maintain disease stability and treatment burden not acceptable to either patient or service delivery[4]
- when patient injection burden is highlighted
- where treatment harmonisation is required (see Note 4 recommendation 2 for details)

Recommendation 7. If the patient failed at least **TWO** extended interval attempts and there is no clinical benefit, switch back to previous anti-VEGF if it is more cost-effective and clinically appropriate**.**
Consider switching to an alternative anti-VEGF if this is the patient's second anti-VEGF.

Rationale:

This is based on feedback from commissioners to ensure best value medicines are used appropriately in the patient's treatment journey.

When switching to a different anti-VEGF, it would be a clinical decision to determine whether reloading is required. RCOphth guidance recommends the following: [4]

Loading with new agent recommended (within product license):

- those in whom the treatment interval cannot be extended beyond 7 weeks with the current agent.

Loading with new agent may not be required (off label use depending on drug):

- those managed on longer intervals (8 or more weeks) to reduce treatment burden. These patients may be switched to new agent on a matched treatment interval followed by a treat-and-extend interval post-initial dose

This approach may be easier for patients, but it is not known whether loading these patients may increase the chances of further extension so reload may also be considered.

Recommendation 8. It is recommended that a maximum of **THREE** lines of therapy should be commissioned per eye, with the expectation that the first anti-VEGF used should

normally be first choice options [i.e. aflibercept 2mg (biosimilar when available) or ranibizumab biosimilar].
Subsequent lines of therapy can be second or third choice options depending on individual circumstances and local commissioning agreements.

The following scenarios should not count as a line of therapy:

- Switch from branded to biosimilar and vice versa, biosimilar to biosimilar switches for the same agent
- Switch back to a previous anti-VEGF (i.e. those who did not experience clinical benefit after failed extended interval attempts with newer agents)
- Switch due to adverse drug events or allergy

Rationale:

There are no randomised controlled trials or head-to-head trials which compare the treatment outcomes for switching between different anti-VEGFs. Real-world cohort studies have shown that patients do benefit from switching to an alternative anti-VEGF. It is established clinical practice to switch to a different anti-VEGF for sub-optimal responders.[8-16]

The maximum number of treatments recommended is based on expert opinion consensus from the working group. There are no studies which evaluates clinical efficacy when patients are switched between multiple anti-VEGFs. The upper limit aims to encourage biosimilar use, recognising the need to provide alternatives with the limited treatment options available whilst ensuring affordability for commissioners.

Biosimilars are available for ranibizumab and anticipated for aflibercept 2mg by end of November 2025. The working group recognise that some patients may need to remain on originator brand for safety reasons, therefore ranibizumab biosimilars and aflibercept 2mg were specified in our recommendations for sequential anti-VEGF use.

Note 6: Confounding factors in response assessments

Be aware that responses can be affected by other causes and may require further assessments to confirm a true suboptimal or poor response. Examples include, but not limited to:

- not consistently wearing vision correction equipment at each visual assessment
- in early dementia patients where comprehension may fluctuate at each visit
- development of cataracts (see also Note 11)

Note 7: Disease activity in the long term

Some patients will have stable disease activity or persistent subretinal fluid despite frequent and timely dosing. This is due to the progressive nature of wet AMD. Consider early review (i.e. at 2 weeks to confirm a lack of further response)

Note 8: Treatment pause

Clinicians may consider temporarily withholding treatment if:

- no disease activity [i.e. disease has become inactive on maximum extension (usually 3 to 5 months intervals depending on the drug- see Table 2 for details) after 2-3 doses]

RCOphth guidance (section 10.4) recommends monitoring with visual acuity and OCT for disease reactivation. Although there is no data on length of monitoring period required, there is consensus that patients should be monitored for at least 2 years after disease stability is achieved.[4] If there is recurrence of disease activity, treatment is reinstated until disease stabilisation is achieved, as indicated by best corrected visual acuity and/or lesion morphology.

Note 9: Stopping treatment (e.g. permanent discontinuation)

Recommendation 9. REVIEW with consideration to stop treatment if:

- visual acuity < 25 letters (absolute) on 2 consecutive visits despite optimum treatment (see also Note 6 and 11) AND
- attributable to wet AMD in the absence of other pathology AND
- structural results (e.g. OCT) suggest no prospect of visual improvement with continued treatment.

Questions to be considered when deciding whether further treatment is beneficial (discontinue treatment if yes to all the below):

- Has the patient completed loading phase?
- Is the patient's treatment optimised (i.e. they have been receiving adequate injections at optimal intervals on time)?
  On average, a patient initiated on treatment would require 6 injections in the first year and 5 injections in the second year. From the third year, an average of 5 injections are required to prevent decrease in vision due to inadequate treatment.[4]
- Has the patient exhausted a reasonable number of treatment options (maximum of THREE lines of anti-VEGFs are recommended)?
- Is the treated eye the WORSE seeing eye?
- Does the patient agree that they DO NOT receive continuing benefits from treatment?

Recommendation 10. Treatment STOP recommended if:

- visual acuity < 15 letters (absolute) on 2 consecutive visits despite optimum treatment (see also Note 6 and 11) AND
- attributable to wet AMD in the absence of other pathology

Rationale:
The above cut off points for visual acuity were based on collective expert opinion from the expert working group.

Where a decision is made to discontinue treatment permanently where risks of giving injections outweigh its potential benefits, no further monitoring is required for that eye. These patients may be discharged from the hospital eye service (refer to RCOphth guidance section 10.5 for further information).[4]

A decision support tool for wet AMD has been developed to support shared decision-making discussions with patients and is available here: https://www.england.nhs.uk/publication/decision-support-tool-making-a-decision-about-wet-age-related-macular-degeneration/

Note 10: Initial 12-month and annual response assessments

After 12 months of intravitreal injections, most patients are expected to have:

- Stabilisation of visual function (improvement or preservation)
- Anatomical improvement from OCT (e.g. lesion size, fluid in retina, haemorrhage)

Changes in OCT precedes visual function tests.[4]

Recommendation 11. Consider treatment switch (see Note 5) or permanent discontinuation (see Note 9) if:

- BCVA < 25 letters on 2 consecutive visits attributable to wet AMD in the absence of other pathology (see also Note 6 and 11) OR
- Persistent disease activity despite optimal treatment

Recommendation 12. The management of the patient should be reviewed by a senior specialist annually to consider if continuation of treatment is in patient's best interest.

Note 11: Cataracts

Recommendation 13. If a patient is scheduled for a cataract operation within the next 3 months and if it is anticipated that vision will improve due to the procedure, discontinuation criteria may no longer apply, and patient may continue treatment.

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Greater Manchester ICB, Greater Manchester High-Cost Drugs Commissioning Pathway for Wet Age-related Macular Degeneration in Adults v1.1, January 2024.

South West London ICB, South West London Wet Age-related Macular Degeneration (wet AMD) Drug Pathway Version 2.0, March 2024.

London Procurement Partnership, Pan London High Cost Drugs Pathway for wet AMD Version 1, March 2025.

Revision history

Revision date	Summary of changes	Version
6th June 2025	Commissioning guidance published	V1.0
1st July 2025	Corrections in Table 2- aflibercept 8mg minimum dose intervals Table 3- typo in table title Page 11- reference to “box 1” changed to “table 2”	V1.1
21st Aug 2025	Correction in Table 2- faricimab minimum dose intervals following clarification with Roche	V1.2
13th Oct 2025	Definitions table- updated definitions for “fellow eye”, “worse seeing eye” and “line of therapy”	V1.3

	Flowchart: remove “preferred” for aflibercept 8mg Updated faricimab and aflibercept 8mg minimum dose intervals to be more concise Updated aflibercept 8mg maximum dose intervals Removed cost information in Table 2 and added Figure 1 Recommendation 7 rationale- updated to include “off-label use depending on drug” Recommendation 8 rationale- updated to include why aflibercept 2mg was recommended.	