NHS
North East London

Medical retina treatment pathway for macular oedema secondary to retinal vein occlusion

NHS North East London

Document Detail	
Document Type	Clinical pathway
Document Name	Medical retina treatment pathway for macular oedema secondary to retinal vein occlusion
Document location	https://primarycare.northeastlondon.icb.nhs.uk/home/meds/
Search terms	Macular degeneration, BRVO, CRVO, RVO, anti-VEGF, aflibercept, faricimab, ranibizumab, steroid implant, dexamethasone implant, grid laser photocoagulation
Version	1.0
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Approved by	North East London Formulary and Pathways Group
Approval date	03/02/2026
Ratified by	North East London System Prescribing and Medicines Optimisation Board
Ratification date	24/02/2026
Review Date	24/02/2029

Document Version History		
Date	**Version**	**Comment/Changes**
24/02/2026	1.0	New document

Contents

1. Scope

This document outlines the medical retina treatment pathway for adult patients in north east London (NEL) diagnosed with macular oedema secondary to branch retinal vein occlusion (BRVO) and central retinal vein occlusion (CRVO). This treatment pathway represents a best-value approach overall, and sets out clear criteria for switching when patients do not respond adequately to treatment or fail to achieve the expected dosing interval within the specified timeframe.

This pathway underpins NHS England (NHSE) guidance and has been developed collaboratively with ophthalmologists and specialist pharmacists across NEL acute provider trusts. It should be used alongside the relevant NICE technology appraisal (TA) guidance for each medical retina therapy. The pathway is intended for adoption by all acute provider trusts within NEL that deliver medical retina services.

2. NHSE guidance

At the time of publication, this treatment pathway considers the following NHSE commissioning guidance: Medical retinal treatment pathway in macular oedema secondary to retinal vein occlusion (version 1.0, October 2025, accessed via NHS Futures).

3. NICE technology appraisals

Table 1: NICE technology appraisals for the treatment of macular oedema secondary to branch and central retinal vein occlusion

NICE TA number	Date published/ updated	Title
TA229	27/07/2011	Dexamethasone intravitreal implant for the treatment of macular oedema secondary to retinal vein occlusion
TA283	Updated 20/05/2024	Ranibizumab for treating visual impairment caused by macular oedema secondary to retinal vein occlusion
TA305	26/02/2014	Aflibercept for treating visual impairment caused by macular oedema secondary to central retinal vein occlusion
TA409	28/09/2016	Aflibercept for treating visual impairment caused by macular oedema after branch retinal vein occlusion
TA1004	11/09/2024	Faricimab for treating visual impairment caused by macular oedema after retinal vein occlusion

N.B. The information provided is accurate at the time of pathway publication but may be subject to future updates or changes.

4. Principles

This document is based on current NICE TAs and NHSE commissioning guidance: Medical retinal treatment pathway in macular oedema secondary to retinal vein occlusion. The prescribing pathway has taken into consideration the Regional Medicines Optimisation Committee (RMOC) Advisory statement on the sequential use of biologic medicines (updated 07/05/2020) to formulate a position which meets the needs of patients in the region.

Recommendations from NHSE which are currently outside of NICE TA recommendations aim to address unmet clinical needs. The use of medicines within this pathway will be monitored on a regular basis through Blueteq or clinical audit where Blueteq is not used.

The pathway is subject to change as new evidence, NICE TAs, NHSE guidance or local agreements are released or updated that will impact on the information outlined in this document. This includes changes in drug costs that may impact on cost effectiveness and drug choice in the treatment pathway. It is expected that drugs presenting best value are selected where clinically appropriate.

For further prescribing information, including contraindications and cautions, please refer to the relevant drug monograph in the latest version of the British National Formulary (BNF) or the respective drug's Summary of Product Characteristics (SPC).

5. Choice of therapy

The choice of treatment should be made after discussion between the clinician and the patient about the advantages and disadvantages of the treatments available. This should take into consideration the patient's medical history, risk factors for adverse effects (e.g., raised intraocular pressure, cardiovascular risk, cataract formation), existing treatment in the other eye (if receiving treatment), and other patient factors. There is limited real-world data directly comparing all vascular endothelial growth factor inhibitor (anti-VEGF) treatments for BRVO and CRVO therefore current recommendations are primarily based on clinical trial evidence.

If more than one treatment option is clinically suitable, and service capacity allows for timely delivery, choose the best value option, taking into account administration costs, dosing frequency, and any commercial arrangements. See appendix 1 for treatment algorithm.

Table 2. Treatment choices for macular oedema secondary to branch and central retinal vein occlusion

Line of therapy	BRVO	CRVO
First line	Aflibercept 2mg biosimilars IVT **or** Ranibizumab biosimilars IVT **or** Grid laser photocoagulation **or** Dexamethasone intravitreal implant	Aflibercept 2mg biosimilars IVT **or** Ranibizumab biosimilars IVT **or** Dexamethasone intravitreal implant
Subsequent lines	Aflibercept 2mg biosimilars IVT **or** Ranibizumab biosimilars IVT **or** Faricimab IVT **or** Dexamethasone intravitreal implant	Aflibercept 2mg biosimilars IVT **or** Ranibizumab biosimilars IVT **or** Faricimab IVT **or** Dexamethasone intravitreal implant

Abbreviation: IVT – intravitreal injection

N.B. Ranibizumab can be used first line for BRVO without the need to trial grid laser photocoagulation. While NICE TAs recommend grid laser photocoagulation as first line for both ranibizumab and dexamethasone intravitreal implant, it is not often the first line treatment in current practice.

When the use of dexamethasone intravitreal implant may be preferred over anti-VEGFs

When choosing between anti-VEGF treatments and the dexamethasone implant, clinicians should consider factors such as intraocular pressure risk, cardiovascular risk, the potential for cataract formation, and the required injection frequency.

Use of dexamethasone implant is preferred over anti-VEGFs in the following scenarios

- Recent cardiovascular events within the last 6 months
- Pregnancy, provided the benefits of treatment outweigh the risk (due to concerns with potential teratogenicity and embryo-/foetotoxicity associated with anti-VEGFs)
- Unable to comply with anti-VEGF injection frequency (patient factors)
    - Learning difficulties, dementia
    - Requiring hospital transport
    - Requiring treatment in the operating theatre under sedation/deep sedation/general anaesthesia
    - Comorbidities requiring frequent inpatient hospital admissions or other regular attendance (e.g. chemotherapy)
    - People who may not want to continue with regular anti-VEGF injections for other reasons (e.g. anxiety about injections/needle phobia)

Treatment harmonisation for anti-VEGF treatment

Where one eye is already receiving treatment and the other becomes eligible for a different option, prioritise treatment harmonisation by selecting the most appropriate treatment for both eyes (i.e. using only one drug for both eyes). This strategy minimises drug administration error and allows easy identification of adverse drug reactions of a single drug compared to administering two different drugs.

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. Provider trusts 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.

6. Treatment regimens

Treat and extend for anti-VEGFs

A treat and extend regimen following the loading phase is recommended as this offers the best use of resources and provides similar visual outcomes compared to as required (PRN) and fixed monthly injections. If a PRN regimen is chosen, it is recommended that these patients are

monitored at 4 – 8 weekly intervals and treated appropriately for optimal visual outcomes. See appendix 2 for dosing details.

Dexamethasone intravitreal implant dosing

In line with NHSE's recommendations:

- The ICB will commission up to 3 implants per year (treatment every 4 months – off-label) until the patient meets discontinuation criteria.
- Those who receive benefit with dexamethasone can continue with treatment beyond 6 implants (off-label), until discontinuation criteria apply.

7. Lines of therapy

Only THREE lines of therapy will be commissioned per eye by the ICB under this pathway. 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.
- Switching from an anti-VEGF to dexamethasone implant due new contraindication(s) or pregnancy.
- Switching from dexamethasone implant back to an anti-VEGF following pregnancy or after contraindication has resolved.

An adverse drug reaction to a medicine will not count as a line of therapy. However, the patient must have shown a response to that medicine after the initial response assessment period for it not to count as a line of therapy.

- If the patient has the adverse event **before** this assessment period, it will not count as a line of therapy.
- If the adverse reaction occurs **after** the initial response assessment period and the patient has shown a response to that medicine, it will not count as a line of therapy.

8. Assessment of response

The main treatment goals are:

- Resolution of macular oedema
- Improvement in visual acuity
- Manageable treatment burden for the patient

It is recognised that not all patients can achieve improved visual acuity despite frequent and timely dosing due to the progressive nature of the disease. The management of the patient should be reviewed by a senior clinician post-initiation and annually to consider if continuation of treatment is in patient's best interest.

Table 3. Disease outcomes

Disease outcome	Definition
Poor	• Visual acuity: no change or worsening AND • Disease activity: no change or worsening centre-involving oedema/ central macular thickness (CMT)
Unfavourable	• Reduction in disease activity on optical coherence tomography (OCT) but with signs of active disease (e.g. persistent centre-involving oedema)

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

9. Funding

To support data-driven care, the ICB will be extracting outcomes data from Blueteq. In accordance with the pathway, Blueteq must be used for the management of all funding requests for dexamethasone and anti-VEGF therapies. This includes recording treatment switches and cessation as a result of clinical review and/or remission, drug and formulation switching.

Provider trusts are expected to obtain funding via Blueteq both prior to initiation and for continuation of anti-VEGF and dexamethasone implant treatments for BRVO and CRVO patients as described on the Blueteq forms. Where Blueteq is not available, provider trusts are expected to have a governance process in place to ensure compliance to this pathway. The ICB may request evidence to demonstrate compliance if necessary.

Patients transferred from out of area or from overseas

For patients who have already commenced on their treatment for BRVO or CRVO:

- If the current treatment is covered by a NICE TA, or this pathway, then the patient can continue their treatment as per the TA.
- If the treatment is not covered by a NICE TA, or this pathway, then an individual funding request (IFR) must be submitted to continue the funding for therapy.

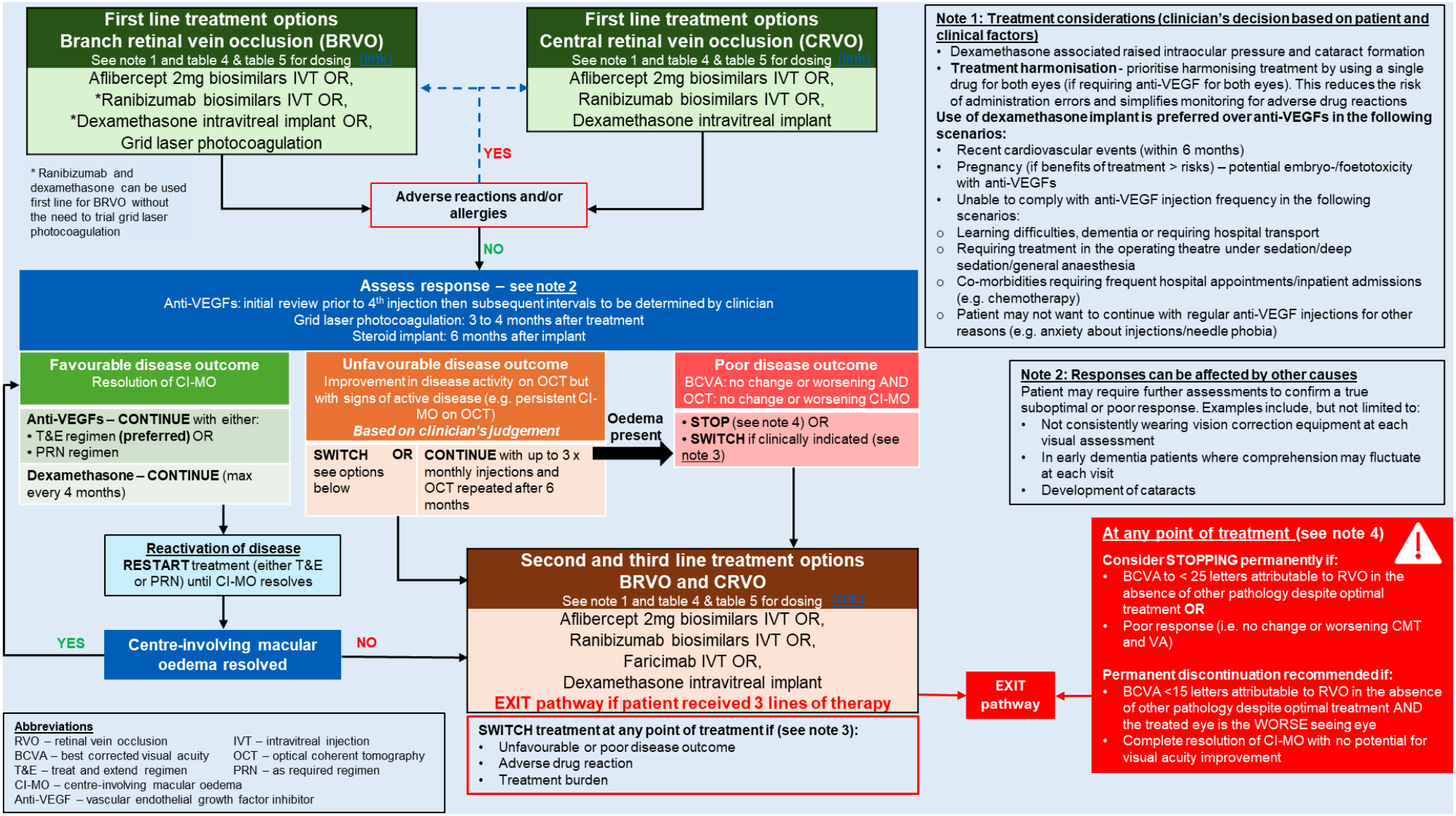
Communication between healthcare providers

The Consultant Ophthalmologist is responsible for notifying the patient's GP that the patient is receiving treatment with an anti-VEGF agent or dexamethasone implant. The GP is then responsible for updating the patient's medical record to reflect this medication.

10. References

1. NHS England. Commissioning guidance: Medical retinal treatment pathway in macular oedema secondary to retinal vein occlusion (October 2025). Last accessed 28/11/2025 via NHS Futures
2. The Royal College of Ophthalmologists. Clinical guidelines: retinal vein occlusion (RVO). January 2022. Accessed 28/11/2025 via https://www.rcophth.ac.uk/resources-listing/retinal-vein-occlusion-rvo-guidelines/
3. National Institute for Health and Care Excellence. NICE TA229: Dexamethasone intravitreal implant for the treatment of macular oedema secondary to retinal vein occlusion. Published July 2011
4. National Institute for Health and Care Excellence. NICE TA283: Ranibizumab for treating visual impairment caused by macular oedema secondary to retinal vein occlusion. Published May 2013, last updated May 2024
5. National Institute for Health and Care Excellence. NICE TA305: Aflibercept for treating visual impairment caused by macular oedema secondary to central retinal vein occlusion. Published February 2014
6. National Institute for Health and Care Excellence. NICE TA409: Aflibercept for treating visual impairment caused by macular oedema after branch retinal vein occlusion. Published September 2016
7. National Institute for Health and Care Excellence. NICE TA1004: Faricimab for treating visual impairment caused by macular oedema after retinal vein occlusion. Published September 2024
8. Electronic Medicines Compendium. Individual drug summary of product characteristics. Available at https://www.medicines.org.uk/emc

Appendix 1. Treatment algorithm for adult patients with macular oedema secondary to branch or central retinal vein occlusion (BRVO or CRVO)



Note 3 – Considerations for treatment switch

There is a good rationale to switch from dexamethasone implant to an anti-VEGF agent and vice versa as the different mode of actions of these agents may aid in resolution of macular oedema

Switching scenarios	Considerations for switching
Switching to an alternative treatment class	• Unfavourable or poor disease outcome • Adverse drug reaction (anti-VEGFs associated with cardiovascular events, dexamethasone associated with raised intraocular pressure and cataract formation)
Anti-VEGF to dexamethasone implant	• Frequent injections required to maintain disease stability and treatment burden is not acceptable to patient (see section 5) • Pregnancy, provided the benefits of treatment outweigh the risk
Anti-VEGF to another anti-VEGF	• Unfavourable or poor disease outcome
Patient failed at least TWO extended interval attempts for subsequent anti-VEGF and there is no clinical benefit	• Switch back to previous anti-VEGF if it was previously effective, better value and clinically appropriate • Consider switching to an alternative anti-VEGF or dexamethasone implant if this is the patient's second anti-VEGF
Switchback from dexamethasone implant to anti-VEGF	• If initial reason for switch was due to cardiovascular events which has been resolved • Patient had a better response (disease activity/ treatment interval/ functional outcome) whilst on anti-VEGF compared to dexamethasone implant • Significant rise in intraocular pressure following treatment with dexamethasone implant, normally peaks at 60 days post dexamethasone implant

Note 4 – Stopping treatment (permanent discontinuation)

Review with consideration to stop treatment if:

Visual acuity < 25 letters attributable to RVO in the absence of other pathology despite optimal treatment OR
Poor response to treatment (i.e. no change or worsening central macular thickness and visual acuity)

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

- For anti-VEGFs – has the patient completed the initiation phase (at least three-monthly injections)?
- Is the patient's treatment optimised and adequate (i.e. they have been receiving adequate injections at optimal intervals and on time)? *Just over a third of patients will require only 3 anti-VEGF injections to reach maximum visual acuity while another third will require 6 consecutive anti-VEGF injections.*
- Is there another treatment which would be better for the patient?
- Is the treated eye the WORSE seeing eye?
- Does the patient agree that they DO NOT receive continuing benefits from treatment?

Permanent discontinuation recommended if:

Despite optimum treat, visual acuity is < 15 letters attributable to RVO in the absence of other pathology AND the treated eye is the WORSE seeing eye
If complete resolution of centre-involving macular oedema with no potential for visual acuity improvement

Appendix 2. Drug information and dosing details based on SPC

Table 4. Anti-VEGF dosing details (adapted from NHSE guidance)

Treatment line	Drug (cost)*	Mechanism of action – receptor(s) inhibited	NICE TA for other ophthalmology indications	Initiation (loading) phase	Maintenance phase	Treat and extend dose increment intervals	Minimum dosing intervals during maintenance
First line	Ranibizumab 0.5mg biosimilars IVT (£)	VEGF-A	Wet AMD (TA155) DMO (TA274) mCNV (TA298)	1 injection per month until max visual acuity achieved and/or no signs of disease activity ≥ 3 consecutive monthly injections may be needed to achieve target response **(normally 3 to 6 injections in practice)**	**Treat and extend or PRN regimen if no change in disease activity** <u>Treat and extend regimen</u> • Based on the physician's judgement of visual and/or anatomical outcomes • If visual and/or anatomical outcomes deteriorate (CMT worsens compared to baseline), the treatment interval should be shortened accordingly <u>RCOphth guidance for CRVO</u> Once an interval to recurrence is identified, it is reasonable to maintain treatment intervals and only extend again after a 6-month period	Not specified	4 weeks
	Aflibercept 2mg biosimilars IVT (££) Aflibercept 2mg originator IVT (£££)	VEGF-A VEGF-B PLGF	*Note: biosimilars not available at time of TA publication* Wet AMD (TA294) DMO (TA346) mCNV (TA486)			Not specified	4 weeks
Second line	Faricimab 6mg IVT (£££)	VEGF-A Ang-2	DMO (TA799) Wet AMD (TA800)			Dose increments up to 4 weeks Max 16 weeks treatment intervals	4 weeks (3-weekly interval is off-label and **not** recommended)

Abbreviations: IVT – intravitreal injection, DMO – diabetic macular oedema, CRVO – central retinal vein occlusion, mCNV – choroidal neovascularisation secondary to pathological myopia, wet AMD – wet age-related macular oedema, CMT – central macular thickness, RCOphth - The Royal College of Ophthalmologists.

***** NHSE modelling of cost tier per annum (drug and activity) based on number of doses expected per annum. Note that this is only accurate at the time of writing and may subject to change.

Table 5. Steroid intravitreal implant dosing details (adapted from NHSE guidance)

Drug	Number of implants per year (cost)*	NICE TA for other ophthalmology indications	Treatment considerations
Dexamethasone 700 micrograms intravitreal implant	2 per year (££) 3 per year (£££) – off-label	DMO (TA824)	Administration to both eyes concurrently – NOT recommended **Do not retreat in patients:** • Who experience and retain improved vision • Who experience deterioration in vision, which is not slowed by dexamethasone – consider permanent discontinuation **Repeated dosing** • Consider retreatment when a patient initially responds to therapy but subsequently experiences a decline in visual acuity, and the clinician judges that further treatment may provide benefit without posing significant risk • **Max 3 implants per year** (i.e. treatment every 4 months) will be commissioned until patient meets discontinuation criteria – NHSE recommendation • Repeated and frequent treatments will increase the risk of adverse events which should be discussed with the patient

Abbreviations: DMO – diabetic macular oedema

* NHSE modelling of cost tier per annum (drug and activity) based on number of doses expected per annum. Note that this is only accurate at the time of writing and may subject to change.