Ophthalmic VEGF Inhibitors

Description

Beovu (brolucizumab-dbll), Eylea (aflibercept), Macugen (pegaptanib)

Background

Beovu (brolucizumab-dbll), Eylea (aflibercept), and Macugen (pegaptanib) are vascular endothelial growth factor (VEGF) inhibitors used to treat patients with wet (neovascular) age-related macular degeneration (AMD). Additionally, Eylea is used to treat macular edema following retinal vein occlusion (RVO), diabetic retinopathy (DR) and diabetic macular edema (DME). The VEGF inhibitors block the effects of VEGF-A and prevents the interaction of VEGF-A with its receptors (VEGFR1 and VEGFR2) on the surface of endothelial cells, reducing endothelial cell growth, vascular leakage, and new blood vessel formation (1-3).

Regulatory Status

FDA-approved indication:

Eylea is a VEGF inhibitors indicated for the treatment of patients with: (1)
   1. Neovascular (Wet) Age-Related Macular Degeneration (AMD)
   2. Macular Edema Following Retinal Vein Occlusion (RVO)
   3. Diabetic Macular Edema (DME)
   4. Diabetic Retinopathy (DR)

Beovu and Macugen are VEGF inhibitors indicated for the treatment of patients with Neovascular (Wet) Age-Related Macular Degeneration (AMD) (2-3).

VEGF inhibitors are contraindicated in ocular or periocular infections (1-3).
Beovu and Eylea have an additional contraindication to active intraocular inflammation (1, 3).

VEGF inhibitors must only be administered by a qualified physician. Adequate anesthesia and a topical broad–spectrum microbicide should be given prior to the injection. Increases in intraocular pressure have been seen within 30-60 minutes of an intravitreal injection (1-3).

Safety and effectiveness in pediatric patients have not been established (1-3).

Related policies
Avastin, Lucentis

Policy
This policy statement applies to clinical review performed for pre-service (Prior Approval, Precertification, Advanced Benefit Determination, etc.) and/or post-service claims.

Beovu and Macugen may be considered medically necessary in patients who are 18 years of age and older with neovascular (wet) age-related macular degeneration (AMD) and if the conditions indicated below are met.

Eylea may be considered medically necessary in patients who are 18 years of age and older with neovascular (wet) age-related macular degeneration (AMD), macular edema following retinal vein occlusion (RVO), diabetic macular edema (DME), or diabetic retinopathy (DR) and if the conditions indicated below are met.

Beovu, Eylea, and Macugen are considered investigational for patients less than 18 years of age and for all other indications.

Prior-Approval Requirements
Age 18 years of age or older

Diagnoses
Beovu and Macugen

Patient must have the following:

1. Neovascular (wet) age-related macular degeneration (AMD)
**Eylea**

Patient must have **ONE** of the following:

1. Neovascular (wet) age-related macular degeneration (AMD)
2. Macular edema following retinal vein occlusion (RVO)
3. Diabetic macular edema (DME)
4. Diabetic retinopathy (DR)

**AND** the following:

a. Documented baseline visual acuity test with letter count

**AND NONE** of the following:

a. Active intraocular inflammation (**Beovu and Eylea only**)  
b. Ocular or periocular infection  
c. Combination therapy with other vascular endothelial growth factor (VEGF) inhibitors (see Appendix 1)

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**Prior – Approval Renewal Requirements**

**Age**

18 years of age or older

**Diagnoses**

**Beovu and Macugen**

Patient must have the following:

1. Neovascular (wet) age-related macular degeneration (AMD)

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**Eylea**

Patient must have **ONE** of the following:

1. Neovascular (wet) age-related macular degeneration (AMD)
2. Macular edema following retinal vein occlusion (RVO)
3. Diabetic macular edema (DME)
4. Diabetic retinopathy (DR)
AND NONE of the following:
   a. Active intraocular inflammation (Beovu and Eylea only)
   b. Ocular or periocular infection
   c. Loss of greater than 15 letters of visual acuity
   d. Combination therapy with other vascular endothelial growth factor (VEGF) inhibitors (see Appendix 1)

Policy Guidelines

Pre - PA Allowance
None

Prior - Approval Limits

Duration 12 months

Prior – Approval Renewal Limits
Same as above

Rationale

Summary
VEGF inhibitors prevent the binding and activation of VEGF receptors leading to a decrease in the neovascularization and vascular permeability associated with neovascular AMD and macular edema following RVO, DR and DME. Patients taking VEGF inhibitors must be monitored and managed for intravitreal injection procedure associated effects, elevated intraocular pressure and appropriate perfusion of the optic nerve head. VEGF inhibitors must only be administered by a retina trained ophthalmologist. Safety and effectiveness in pediatric patients have not been established (1-3).

Prior approval is required to ensure the safe, clinically appropriate and cost effective use of Beovu, Eylea, and Macugen while maintaining optimal therapeutic outcomes.

References

### Policy History

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<tbody>
<tr>
<td>February 2017</td>
<td>Addition to PA</td>
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<tr>
<td>June 2017</td>
<td>Removal of Lucentis and the addition of Macugen</td>
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<td>Addition of the requirement: not be used in combination therapy with other vascular endothelial growth factor (VEGF) inhibitors</td>
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<td>September 2017</td>
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<td>May 2019</td>
<td>Change to Eylea indication: patients with diabetic retinopathy (DR) no longer required to have concurrent DME</td>
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<td>Addition of Beovu</td>
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### Keywords

This policy was approved by the FEP® Pharmacy and Medical Policy Committee on December 6, 2019 and is effective January 1, 2020.
Appendix 1 - List of VEGF Inhibitors

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<thead>
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<th>Generic Name</th>
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<tr>
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<tr>
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