

OP-33-03L - Vision Quest: Modernizing the Approach to Retinal Diseases With New and Emerging Therapies Toolkit

Overview of VEGF-related retinal diseases (AMD, DR/DME, ROP, and RVO)

Resource	Address
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Christoffersen NL, Larsen M. Pathophysiology and hemodynamics of branch retinal vein occlusion. <i>Ophthalmology</i> . 1999;106:2054-2062.	https://www.aaojournal.org/article/S0161-6420(99)90483-9/abstract
Curcio CA, Johnson M, Rudolf M, Huang JD. The oil spill in ageing Bruch membrane. <i>Br J Ophthalmol</i> . 2011;95:1638-1645.	https://bjo.bmj.com/content/95/12/1638
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Fegan CD. Central retinal vein occlusion and thrombophilia. <i>Eye (Lond)</i> . 2002;16:98-106.	https://www.nature.com/articles/6700040
Fierson WM, American Academy of Pediatrics Section on Ophthalmology; American Academy of Ophthalmology; American Association for Pediatric Ophthalmology and Strabismus; American Association of Certified Orthoptists. Screening examination of premature infants for retinopathy of prematurity. <i>Pediatrics</i> . 2018;142:e20183061.	https://publications.aap.org/pediatrics/article/142/6/e20183061/37478/Screening-Examination-of-Premature-Infants-for
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Heidar K. Retinopathy of Prematurity. <i>EyeWiki</i> . American Academy of Ophthalmology. Published January 6, 2024.	https://eyewiki.aao.org/Retinopathy_of_Prematurit_y
Hellström A, Smith LE, Dammann O. Retinopathy of prematurity. <i>Lancet</i> . 2013;382:1445-1457.	https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60178-6/fulltext
Kusuhara S, Fukushima Y, Ogura S, Inoue N, Uemura A. Pathophysiology of diabetic retinopathy: The old and the new. <i>Diabetes Metab J</i> . 2018;42:364-376.	http://www.e-dmj.org/journal/view.php?doi=10.4093/dmj.2018.0182
Lazarus DR. How do anti-VEGF injections work? Optometrists Network. Published July 22, 2020.	https://www.optometrists.org/eye-conditions/management-of-ocular-diseases/diabetic-retinopathy/how-do-anti-vegf-injections-work/
Noma H, Minamoto A, Funatsu H, et al. Intravitreal levels of vascular endothelial growth factor and interleukin-6 are correlated with macular edema in branch retinal vein occlusion. <i>Graefe's Arch Clin Exp Ophthalmol</i> . 2006;244:309-315.	http://link.springer.com/10.1007/s00417-004-1087-4
R&D Systems. Soluble VEGF R2: Controlling lymphangiogenesis.	https://www.rndsystems.com/resources/articles/soluble-vegf-r2-controlling-lymphangiogenesis

Schaab T, Padidam S, Gill MK. Navigating retinal imaging. <i>Ophthalmol Manag</i> . Published July 1, 2018.	https://www.ophtalmologymanagement.com/issues/2018/july/navigating-retinal-imaging
Stewart MW. The expanding role of vascular endothelial growth factor inhibitors in ophthalmology. <i>Mayo Clinic Proc</i> . 2012;87:77-88.	https://www.mayoclinicproceedings.org/article/S0025-6196(11)00007-3/fulltext
The Angiogenesis Foundation. An informational guide to central retinal vein occlusion. 2013.	http://www.angio.org/downloads/Informational_Guide-Science_of_CRVO.pdf
Turbet D. Anti-VEGF treatments. American Academy of Ophthalmology. <i>EyeSmart</i> . Published July 26, 2023.	https://www.aao.org/eye-health/drugs/anti-vegf-treatments

Screening and Diagnostic Strategies for AMD, DR, ROP, and RVO

Resource	Address
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Cervantes-Castañeda RA, Banin E, Hemo I, Shpigel M, Averbukh E, Chowers I. Lack of benefit of early awareness to age-related macular degeneration. <i>Eye (Lond)</i> . 2008;22:777-781.	https://www.nature.com/articles/6702691
Color fundus photography. Department of Ophthalmology and Visual Sciences. University of Iowa, Carter College of Medicine.	https://medicine.uiowa.edu/eye/patient-care/imaging-services/color-fundus-photography
Ferris FL, Davis MD, Clemons TE, et al. A simplified severity scale for age-related macular degeneration: AREDS Report No. 18. <i>Arch Ophthalmol</i> . 2005;123:1570-1574.	https://jamanetwork.com/journals/jamaophthalmology/fullarticle/417355
Fine AM, Elman MJ, Ebert JE, Prestia PA, Starr JS, Fine SL. Earliest symptoms caused by neovascular membranes in the macula. <i>Arch Ophthalmol</i> . 1986;104:513-514.	https://jamanetwork.com/journals/jamaophthalmology/article-abstract/635985
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Song P, Xu y, Xu Y, Zha M, Zhang Y, Rudan I. Global epidemiology of retinal vein occlusion: a systematic review and meta-analysis of prevalence, incidence, and risk factors. <i>J Glob Health</i> . 2019;9:010427.	https://jogh.org/documents/issue201901/jogh-09-010427.pdf
What does myopic macular degeneration look like? In Sight: Full Life. Published June 26, 2018.	https://www.insightfullife.com/what-does-myopic-macular-degeneration-look-like/
Wong TY, Sun J, Kawasaki R, et al. Guidelines on Diabetic Eye Care: The International Council Of Ophthalmology recommendations for screening, follow-up, referral, and treatment based on resource settings. <i>Ophthalmology</i> . 2018;125:1608-1622.	https://www.aaojournal.org/article/S0161-6420(17)33523-6/fulltext
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Use of Anti-VEGF Agents in the Treatment of nAMD, DR, RVO, and ROP

Resource	Address
Baker CW, Glassman AR, Beaulieu WT, et al. Effect of initial management with aflibercept vs laser photocoagulation vs observation on vision loss among patients with diabetic macular edema involving the center of the macula and good visual acuity: A randomized clinical trial. <i>JAMA</i> . 2019;321:1880-1894.	https://jamanetwork.com/journals/jama/fullarticle/2732608
Bakri SJ, Berrocal A, Capone A Jr, et al. Intravitreal injections. The American Society of Retina Specialists. Published online 2017.	https://www.asrs.org/content/documents/fact-sheet-30-intravitreal-injections.pdf
Berg K, Hadzalic E, Gjertsen I, et al. Ranibizumab or bevacizumab for neovascular age-related macular degeneration according to the Lucentis compared to Avastin study treat-and-extend protocol. <i>Ophthalmology</i> . 2016;123:51-59.	https://www.aaojournal.org/article/S0161-6420(15)01040-4/fulltext
Betadine and eye pain - living well with low vision. Published June 25, 2013.	https://lowvision.preventblindness.org/betadine-and-eye-pain/
Bressler SB, Melia M, Glassman AR, et al. Ranibizumab plus prompt or deferred laser for diabetic macular edema in eyes with vitrectomy before anti-vascular endothelial growth factor therapy. <i>Retina</i> . 2015;35:2516-2528.	https://journals.lww.com/retinajournal/abstract/2015/12000/ranibizumab_plus_prompt_or_deferred_laser_for.10.aspx
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<p>CATT Research Group, Martin DF, Maguire MG, et al. Ranibizumab and bevacizumab for neovascular age-related macular degeneration. <i>N Engl J Med</i>. 2011;364:1897-1908.</p>	<p>https://www.nejm.org/doi/full/10.1056/NEJMoa1102673</p>
<p>Chiang MF, Quinn GE, Fielder AR, et al. International classification of retinopathy of prematurity, third edition. <i>Ophthalmology</i>. 2021;128:e51-e68.</p>	<p>https://www.aaojournal.org/article/S0161-6420(21)00416-4/fulltext</p>
<p>Clinical Trials. Opthea.</p>	<p>https://opthea.com/clinical-trials/</p>
<p>Cryotherapy for Retinopathy of Prematurity Cooperative Group. Multicenter trial of cryotherapy for retinopathy of prematurity: Ophthalmological outcomes at 10 years. <i>Arch Ophthalmol</i>. 2001;119:1110-1118.</p>	<p>https://jamanetwork.com/journals/jamaophthalmology/fullarticle/267439</p>
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<p>Dugel PU, Singh RP, Koh A, et al. HAWK and HARRIER: Ninety-six-week outcomes from the phase 3 trials of brolocizumab for neovascular age-related macular degeneration. <i>Ophthalmology</i>. 2021;128:89-99.</p>	<p>https://www.aaojournal.org/article/S0161-6420(20)30570-4/fulltext</p>
<p>Fierson WM, American Academy of Pediatrics Section on Ophthalmology; American Academy of Ophthalmology; American Association for Pediatric Ophthalmology and Strabismus; American Association of Certified Orthoptists. Screening examination of premature infants for retinopathy of prematurity. <i>Pediatrics</i>. 2018;142:e20183061.</p>	<p>https://publications.aap.org/pediatrics/article/142/6/e20183061/37478/Screening-Examination-of-Premature-Infants-for</p>
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Wykoff CC, Abreu F, Adamis AP, et al. Efficacy, durability, and safety of intravitreal faricimab with extended dosing up to every 16 weeks in patients with diabetic macular oedema (YOSEMITE and RHINE): Two randomised, double-masked, phase 3 trials. <i>Lancet</i> . 2022;399:741-755.	https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00018-6/abstract
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Addressing Treatment Burden: Dosing Strategies and Next-Generation Therapy

Resource	Address
A phase III, multicenter, randomized study of the efficacy, safety, and pharmacokinetics of the port delivery system with ranibizumab in patients with diabetic retinopathy. ClinicalTrials.gov identifier: NCT04503551. Last updated September 13, 2023.	https://clinicaltrials.gov/study/NCT04503551
A phase III, multicenter, randomized, visual assessor-masked, active-comparator study of the efficacy, safety, and pharmacokinetics of the port delivery system with ranibizumab in patients with diabetic macular edema (Pagoda). ClinicalTrials.gov identifier: NCT04108156. 2024. Last update April 12, 2024.	https://clinicaltrials.gov/study/NCT04108156
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Aderman CM, Garg SJ. Intravitreal anti-VEGF injection treatment algorithms for DME. <i>Retina Today</i> . Published August 2017.	https://retinatoday.com/articles/2017-july-aug/intravitreal-anti-vegf-injection-treatment-algorithms-for-dme
ASRS 2016 preferences and trends survey results. American Academy of Ophthalmology. Published September 21, 2016.	https://www.aao.org/education/interview/asrs-2016-practices-trends-survey-results
Awh CC, Barteselli G, Fung AE, et al. Updated safety and efficacy results from the archway phase 3 trial of the port delivery system with ranibizumab (PDS) for neovascular AMD. Presented at: 39th Annual Meeting of the American Society of Retina Specialists; October 12, 2021.	https://medically.gene.com/global/en/unrestricted/ophthalmology/ASRS-2021/asrs-2021-presentation-awh-updated-safety-and-efficacy.html
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Heier JS, Khanani AM, Quezada Ruiz C, et al. Efficacy, durability, and safety of intravitreal faricimab up to every 16 weeks for neovascular age-related macular degeneration (TENAYA and LUCERNE): Two randomised, double-masked, phase 3, non-inferiority trials. <i>Lancet</i> . 2022;399:729-740.	https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00010-1/abstract
Hendrick AM, Ip MS. Managing diabetic eye disease with intravitreal anti-VEGF injections. <i>Retina Today</i> . Published March 2016.	https://retinatoday.com/articles/2016-mar/managing-diabetic-eye-disease-with-intravitreal-anti-vegf-injections
Holekamp NM, Campochiaro PA, Chang MA, et al. Archway randomized phase 3 trial of the port delivery system with ranibizumab for neovascular age-related macular degeneration. <i>Ophthalmology</i> . 2022;129:295-307.	https://www.aaojournal.org/article/S0161-6420(21)00734-X/fulltext
Khurana RN, Wells JA, Baumal CR, et al. Efficacy, durability, and safety of faricimab in diabetic macular edema: 2-year results from the phase 3 YOSEMITE and RHINE trials. Presented at: The 55th Annual Scientific Meeting of the Retina Society; November 2, 2022; Pasadena, CA.	https://medically.gene.com/global/en/unrestricted/ophthalmology/RETINA-SOCIETY-2022/retina-society-2022-presentation-khurana-efficacy-durab.html
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Ranade SV, et al. Long-acting ocular drug delivery: Port delivery system for ranibizumab. Presented at American Association of Pharmaceutical Scientists AAPS 2021 PharmSci 360; October 17-20, 2021; Philadelphia, PA.	https://medically.gene.com/content/dam/pdmahub/restricted/ophthalmology/aaps-2021/AAPS-2021-presentation-ranade-the-port-delivery-system-with-ranibizumab-PDS-a-new-paradigm-for-long-acting-retinal-drug-delivery.pdf
Ranade SV, Wieland MR, Tam T, et al. The Port Delivery System with ranibizumab: a new paradigm for long-acting retinal drug delivery. <i>Drug Deliv</i> . 2022;29:1326-1334.	https://www.tandfonline.com/doi/full/10.1080/10717544.2022.2069301

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Wong TY, Haskova Z, Asik K, et al. Faricimab treat-and-extend for diabetic macular edema: Two-year results from the randomized phase 3 YOSEMITE and RHINE Trials. <i>Ophthalmology.</i> 2023;131:708-723.	https://www.aaojournal.org/article/S0161-6420(23)00933-8/fulltext

Who Would Benefit From Anti-VEGF?

Resource	Address
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Individualizing Treatment in Retinal Disease

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