

Policy Name	Clinical Policy – Corticosteroid Implants and Injections
Policy Number	1346.00
Department	Clinical Product & Development
Subcategory	Medical Management
Original Approval Date	01/05/2022
Current MPC/CCO Approval Date	07/10/2024
Current Effective Date	10/01/2024

Company Entities Supported (Select All that Apply): <input checked="" type="checkbox"/> Superior Vision Benefit Management <input checked="" type="checkbox"/> Superior Vision Services <input checked="" type="checkbox"/> Superior Vision of New Jersey, Inc. <input checked="" type="checkbox"/> Block Vision of Texas, Inc. d/b/a Superior Vision of Texas <input checked="" type="checkbox"/> Davis Vision (Collectively referred to as 'Versant Health' or 'the Company')
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ACRONYMS	
RVO	Retinal vein occlusion

PURPOSE

To provide the clinical criteria to support the indication(s) for corticosteroid implants and injectables. Applicable procedure codes are also defined.

POLICY

A. Background

Corticosteroids suppress intra-ocular inflammation. The policy addresses the corticosteroids which may be administered through an injection or an implant of the drug delivery system. Table 1 outlines the FDA approved conditions for these drugs. The efficacy of corticosteroids in the treatment of various conditions is evaluated through improvements in visual acuity, resolution of the macular edema, and the ability to reduce oral corticosteroids.

B. Medically Necessary

- 1. Iluvien** (fluocinolone acetonide intravitreal implant 0.19 mg) may be medically necessary¹ for the treatment of diabetic macular edema.

¹ Campochiaro, 2011

- a. Initial treatment with Iluvien may be medically necessary when:
 - i. There is a diagnosis of diabetic macular edema confirmed by either OCT or IVFA; and,
 - ii. The patient has had prior treatment trials with corticosteroids either as topical therapy, intravitreal injection or intravitreal implant, and,
 - iii. The medical plan includes intraocular pressure control with or without glaucoma treatment.²
 - b. Retreatment with Iluvien may be medically necessary when³:
 - i. Diabetic macular edema has persisted for at least twelve months; and,
 - ii. There is a loss of five letters in BCVA; or,
 - iii. There is evidence of worsening edema such as an increase in retinal thickness compared to prior best status; and,
 - iv. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - c. Iluvien is contraindicated when:
 - i. There is evidence of coincident viral or fungal infection; or,
 - ii. The posterior lens capsule is not intact; or,
 - iii. The pattern of uveitis is iritis or iridocyclitis; or,
 - iv. The patient has hypersensitivity to fluocinolone acetonide or any of the components of Iluvien.
- 2. Ozurdex** (dexamethasone intravitreal implant 0.7mg) may be medically necessary⁴ for the treatment of diabetic macular edema, macular edema due to retinal vein occlusion, cystoid macular edema following cataract surgery, and noninfectious posterior uveitis.
- a. Initial treatment for Ozurdex may be medically necessary when:
 - i. The comprehensive ophthalmic evaluation including either Ophthalmic Computed Tomography (OCT) or intravenous fluorescein angiography (IVFA) confirms the indicated diagnosis(es) above; and,
 - ii. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - b. Retreatment with Ozurdex may be considered medically necessary when⁵:
 - i. At least three months have passed since the last injection of Ozurdex; and,
 - ii. The initial diagnosis(es) are still present; and,
 - iii. The medical plan includes intraocular pressure control with or without glaucoma treatment; and,
 - iv. OCT documents persistent central retinal thickness; or,
 - v. OCT documents persistent retinal cysts; or,
 - vi. OCT documents persistent retinal thickness outside the central subfield.

² Seibold, 2022.

³ Campochiaro, 2011 and Kodjikian, 2021

⁴ Boyer, 2014, and Allergan, 2020

⁵ Boyer, 2014

- c. Ozurdex will be excluded from treatment when:
 - i. There is evidence of co-incident viral or fungal infection; or,
 - ii. The posterior lens capsule is not intact; or,
 - iii. The pattern of uveitis is iritis or iridocyclitis; or,
 - iv. The patient has hypersensitivity to dexamethasone or any of the components of Ozurdex.
- 3. Retisert** (fluocinolone acetonide intravitreal implant 0.59 mg) may be medically necessary for the treatment of chronic posterior non-infectious uveitis of at least one year duration.⁶ Retisert may also be medically necessary as an off label treatment for diabetic macular edema.
- a. Initial treatment of Retisert may be medically necessary when:
 - i. A comprehensive ophthalmic evaluation with OCT or IVFA supports the diagnosis(es) of chronic posterior non-infectious uveitis or diabetic macular edema; and,
 - ii. The documented medical history shows the posterior non-infectious uveitis as being at least one year duration; and,
 - iii. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - b. Retreatment with Retisert may be considered medically necessary when:
 - i. At least 30 months have elapsed from initial therapy; and,
 - ii. Documentation from the initial therapy demonstrates effectiveness in reducing the degree of chronic posterior inflammation or diabetic macular edema; and,
 - iii. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - c. Retisert will be excluded from treatment if:
 - i. There is coincident viral or fungal infection; or,
 - ii. The patient has a known or suspected hypersensitivity to Retisert, or any of its components, or to other corticosteroids.
- 4. Triesence** (triamcinolone acetonide injectable suspension 40 mg/mL is indicated for, uveitis, sympathetic ophthalmia, and diabetic macula edema. It is also indicated for other ocular inflammatory conditions (see Table 1) that have been unresponsive to topical corticosteroids.⁷
- a. The initial treatment of Triesence may be medically necessary when:
 - i. The initial treatment plan includes a comprehensive ophthalmic evaluation with OCT or IVFA to support the diagnosis(es) listed above; and,
 - ii. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - b. Retreatment with Triesence may be medically necessary after 3-4 months and when:

⁶ Campochiaro, 2020.

⁷ FDA. 2023.

- i. At least three months have passed since the last injection; and,
 - ii. The initial diagnosis is still present, and,
 - iii. The initial therapy demonstrated effectiveness; and,
 - iv. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - c. Trience is contraindicated for patients with:
 - i. Known or suspected ocular infection or systemic fungal infection; or,
 - ii. Known or suspected hypersensitivity to triamcinolone acetonide or any component of the product.
- 5. **Xipere** (triamcinolone acetonide injectable suspension 40 mg/ml may be medically necessary for macular edema with noninfectious uveitis.⁸
 - a. Initial treatment with Xipere may be medically necessary when:
 - i. The initial treatment plan includes a comprehensive ophthalmic evaluation with OCT or IVFA to support the diagnoses of macular edema with noninfectious uveitis; and,
 - ii. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - b. Retreatment with Xipere may be medically necessary after 3-4 months and when:
 - i. At least three months have passed since the last injection; and,
 - ii. The initial diagnosis is still present; and,
 - iii. The initial therapy demonstrated effectiveness; and,
 - iv. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - c. Xipere is contraindicated for patients with:
 - i. Ocular or periocular infections including bacterial, fungal, and viral infections; or,
 - ii. Known or suspected hypersensitivity to triamcinolone acetonide or any component of the product.
- 6. **Yutiq** (fluocinolone acetonide intravitreal implant 0.18mg) may be medically necessary for the treatment of chronic non-infectious posterior uveitis of at least one year duration.⁹
 - a. Initial treatment of Yutiq may be considered medically necessary when:
 - i. A comprehensive ophthalmic evaluation with OCT or IVFA supports the diagnosis(es) as above; and,
 - ii. For chronic non-infectious posterior uveitis, the medical history documents the condition to be at least one year duration; and,
 - iii. The medical plan includes intraocular pressure control with or without glaucoma treatment.
 - b. Retreatment with Yutiq may be medically necessary when:
 - i. At least 36 months have elapsed from initial therapy; and,

⁸ FDA, 2023.

⁹ Boyer, 2014.

- ii. Documentation from the initial therapy demonstrates effectiveness in reducing the initial diagnosis(es).
 - iii. The medical plan includes intraocular pressure control with or without glaucoma treatment.
- c. Yutiq is excluded from treatment if:
- i. There is coincident viral or fungal infection present; or,
 - ii. The patient has known or suspected hypersensitivity to Yutiq or any of its components.

TABLE 1

Diagnosis	Iluvien fluocinolone acetonide injection	Ozurdex dexamethason e implant	Retisert fluocinolone acetonid e implant	Triesence triamcinolo ne acetonide injection	Xipere triamcinolon e acetonide injection	Yutiq fluocinolone acetonide implant
Chronic noninfectious uveitis (duration of 1 year or more)		X	X	X		X
CME following cataract surgery		X		X		
Diabetic macula edema	X	X	X	X		
Macula edema and noninfectious uveitis		X			X	
Non- infectious uveitis		X		X		
RVO with edema		X		X		
Sympathetic ophthalmia		X		X		

C. Documentation

Medical necessity must be supported by adequate and complete documentation in the patient's medical record that describes the procedure and the medical rationale for it as in requirements above. All items must be available upon request to initiate or sustain previous

payments. For any retrospective review, a full operative report and/or the clinical care plan is required.

Every page of the record must be legible and include appropriate patient identification information (e.g., complete name, date(s) of service). Services provided/ordered must be authenticated by the physician, in a handwritten or electronic signature. Stamped signatures are not acceptable.

The following documentation supports the medical necessity of corticosteroid implants and injections:

- a. An examination of the anterior segment and posterior segment with documented pertinent findings; and,
- b. The interpretation and report from diagnostic studies performed such as OCT and fluorescein angiogram that include:
- c. Findings; and,
- d. Clinical diagnosis; and,
- e. Comparative data (e.g., condition is deteriorating, improving or unchanged); and,
- f. Clinical Management; and,
- g. Impression/plan must state the specific corticosteroid to be injected intravitreally; and dates and frequency of administration including past uses; and,
- h. If the posterior segment cannot be visualized, this should be noted in the examination and a B scan completed with the findings, diagnosis, comparative data, and clinical management.

D. Procedural Detail

CPT / HCPCS Codes	
67028	Intravitreal injection of a pharmacological agent (separate procedure)
67516	Suprachoroidal space injection of pharmacologic agent (separate procedure)
J3299	Injection, triamcinolone acetonide (Xipere), 1 mg
J3300	Injection, triamcinolone acetonide, preservative free, 40 mg (Triesence)
J3301	Injection, triamcinolone acetonide, not otherwise specified (Kenalog)
J3490	Unclassified drugs
J3590	Unclassified biologics
J7311	Fluocinolone acetonide, intravitreal implant 0.01 mg (Retisert)
J7312	Injection, dexamethasone, intravitreal implant, 0.1 mg (Ozurdex)
J7313	Injection, fluocinolone acetonide, intravitreal implant, 0.01 mg (Iluvien). Use 19 units of 0.01 dose to bill for the fixed dose of 0.19 mg. Iluvien implant.
J7314	Injection, fluocinolone acetonide, intravitreal implant, 0.18 mg (Yutiq)
J7999	Compounded drug, not otherwise classified
Required Modifiers	
RT	Right side

LT	Left side
50	Bilateral
JW or JZ	Drug waste or no drug waste
Invalid Modifiers	
24	Unrelated Evaluation and Management Service by the Same Physician or Other Qualified Health Care Professional During a Postoperative Period
25	Significant, Separately Identifiable Evaluation and Management Service by the Same Physician or Other Qualified Health Care Professional on the Same Day of the Procedure or Other Service
26	Professional Component
57	Decision for Surgery
TC	Technical Component
95	Telemedicine

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RELATED POLICIES AND PROCEDURES	
1317	Intravitreal Injections
1347	Jetrea ocriplasmin
1348	Dextenza

DOCUMENT HISTORY		
Approval Date	Revisions	Effective Date
01/05/2022	Initial policy: content and criteria extracted from policy 1317 as a separate therapeutic category. Added the new drug Dextenza and a new indication. For Ozurdex, removed requirement to have both OCT and FA diagnostic tests.	07/01/2022
07/06/2022	Remove Dextenza (see 1348); no criteria change for other drugs and treatments.	01/01/2023
04/12/2023	Add new drug Xipere plus criteria; add criteria for Triesence; remove all instances of required micron measurements; added retreatment criteria for all drugs.	10/01/2023
09/20/2023	Administrative review for CMS 2024 final rule Medicare Part C equity: no changes.	n/a
01/03/2024	Remove indication of DME for Yutiq administration; add CPT code 67516 for use with Xipere.	05/01/2024
07/10/2024	Remove CPT code 68841, as out of scope. No criteria changes.	10/01/2024

REFERENCES AND SOURCES

1. Adán A, Cabrera F, Figueroa MS, et.al. Clinical-Decision Criteria to Identify Recurrent Diabetic Macular Edema Patients Suitable for Fluocinolone Acetonide Implant Therapy (ILUVIEN®) and Follow-Up Considerations/Recommendations. Clin Ophthalmol. 2020 Jul 24; 14:2091-2107. doi: 10.2147/OPHTH.S252359. PMID: 32801618; PMCID: PMC7398681.
2. Al-Khersan H, Hariprasad SM, Singh SR, et.al. Dex Implant Study Group. Long-term outcomes after intravitreal dexamethasone treatment in steroid responders. Acta Diabetol.

- 2019 Jun;56(6):675-680. doi: 10.1007/s00592-019-01299-5. Epub 2019 Feb 24. PMID: 30799524.
3. Alzaabi M, Taguri AH, Elbarky A. Anterior migration of intravitreal fluocinolone acetonide (Iluvien®) implant in a pseudophakic eye with intact posterior capsule. *Am J Ophthalmol Case Rep.* 2020 Sep 11; 20:100922. doi: 10.1016/j.ajoc.2020.100922. PMID: 32995665; PMCID: PMC7501052.
 4. Bansal T, Pegu J. Combined Dexamethasone Intravitreal Implant and Glaucoma Drainage Device Placement for Uveitic Glaucoma. *J Glaucoma.* 2020 Oct;29(10): e120. doi: 10.1097/IJG.0000000000001613. PMID: 32740503.
 5. Battiston K, Parrag I, Statham M, et.al. Polymer-free corticosteroid dimer implants for controlled and sustained drug delivery. *Nat Commun.* 2021 May 17;12(1):2875. doi: 10.1038/s41467-021-23232-7. PMID: 34001908; PMCID: PMC8129133.
 6. Bodaghi B, Nguyen QD, Jaffe G, et.al. Preventing relapse in non-infectious uveitis affecting the posterior segment of the eye - evaluating the 0.2 µg/day fluocinolone acetonide intravitreal implant (ILUVIEN®). *J Ophthalmic Inflammatory Infect.* 2020 Nov 30;10(1):32. doi: 10.1186/s12348-020-00225-z. PMID: 33251553; PMCID: PMC7701203.
 7. Boyer DS, Yoon YH, Belfort R Jr, et.al. Three-year, randomized, sham-controlled trial of dexamethasone intravitreal implant in patients with diabetic macular edema. *Ophthalmology.* 2014 Oct;121(10):1904-14. doi: 10.1016/j.ophtha.2014.04.024. Epub 2014 Jun 4. PubMed PMID: 24907062.
 8. Campochiaro PA, Brown DM, Pearson A, et.al. Long-term benefit of sustained delivery fluocinolone acetonide vitreous inserts for diabetic macular edema. *Ophthalmology.* 2011 Apr;118(4):626-635.e2. doi: 10.1016/j.ophtha.2010.12.028. PubMed PMID: 21459216.
 9. Choi MY, Kwon JW. Risk factors for ocular hypertension after intravitreal dexamethasone implantation in diabetic macular edema. *Sci Rep.* 2020 Aug 13;10(1):13736. doi: 1038/s41598-020-70833-1. PMID: 32792579; PMCID: PMC7426405.
 10. Ding YH, Yao BT, Zhao XG, et.al. Refractory adult Coats disease treated with dexamethasone intravitreal implant: A case report. *Medicine (Baltimore).* 2020 May;99(20): e20249. doi: 10.1097/MD.00000000000020249. PMID: 32443362; PMCID: PMC7254772.
 11. Farber NC, Ulrich JN. Retinal Defects Three Months After Intravitreal Dexamethasone Implant. *Ophthalmic Surg Lasers Imaging Retina.* 2019 Aug 1;50(8): e211-e214. doi: 10.3928/23258160-20190806-14. PMID: 31415706.
 12. Fallico M, Maugeri A, Lotery A, et.al. Fluocinolone acetonide vitreous insert for chronic diabetic macular oedema: a systematic review with meta-analysis of real-world experience. *Sci Rep.* 2021 Feb 26;11(1):4800. doi: 10.1038/s41598-021-84362-y. PMID: 33637841; PMCID: PMC7910468.
 13. Fusi-Rubiano W, Blow RR, Lane M, et.al. Correction to: Iluvien™ (Fluocinolone Acetonide 0.19 mg Intravitreal Implant) in the Treatment of Diabetic Macular Edema: A Review. *Ophthalmol Ther.* 2020 Mar;9(1):205. doi: 10.1007/s40123-020-00231-3. Erratum for: *Ophthalmol Ther.* 2018 Dec;7(2):293-305. PMID: 32034688; PMCID: PMC7054517.
 14. Gaballa SA, Kompella UB, Elgarhy O, et.al. Corticosteroids in ophthalmology: drug delivery innovations, pharmacology, clinical applications, and future perspectives. *Drug Deliv Transl Res.* 2021 Jun;11(3):866-893. doi: 10.1007/s13346-020-00843-z. PMID: 32901367.
 15. Garay-Aramburu G, Gómez-Moreno Á. A 5-Year Follow-Up Study of the Treatment of Macular Edema Due to Retinal Vein Occlusion Using Dexamethasone Intravitreal Implants. *J Ocul Pharmacol Ther.* 2018 Jul/Aug;34(6):436-441. doi: 10.1089/jop.2017.0148. Epub 2018 Apr 30. PMID: 29708803.

16. Garweg JG, Zandi S. Retinal vein occlusion and the use of a dexamethasone intravitreal implant (Ozurdex®) in its treatment. *Graefes Arch Clin Exp Ophthalmol*. 2016 Jul;254(7):1257-65. doi: 10.1007/s00417-016-3350-x. Epub 2016 May 13. PMID: 27178087; PMCID: PMC4917582.
17. Jain MA, Khanna A, Narendran V. Retinal injury following intravitreal injection of a dexamethasone implant in a non-vitreotomized eye. *Indian J Ophthalmol*. 2020 Jun;68(6):1178. doi: 10.4103/ijo.IJO 1618 19. PMID: 32461468; PMCID: PMC7508110.
18. Kabanarou SA, Xirou T, Boutouri E, et.al. Pre-operative intravitreal dexamethasone implant in patients with refractory diabetic macular edema undergoing cataract surgery. *Sci Rep*. 2020 Mar 26;10(1):5534. doi: 10.1038/s41598-020-62561-3. PMID: 32218471; PMCID: PMC7099086.
19. Kapoor KG, Wagner MG, Wagner AL. The Sustained-Release Dexamethasone Implant: Expanding Indications in Vitreoretinal Disease. *Semin Ophthalmol*. 2015;30(5-6):475-81. doi: 10.3109/08820538.2014.889179. Epub 2014 Mar 21. PMID: 24654698.
20. Kapoor KG, Colchao JB. Safety of Consecutive Same-Day Bilateral Intravitreal Dexamethasone Implant (Ozurdex). *Retin Cases Brief Rep*. 2020 Spring;14(2):200-202. doi: 10.1097/ICB.0000000000000653. PMID: 29155696.
21. Kayıkcıoğlu Ö, Doğruya S, Sarıgül C, et.al. Anterior Chamber Migration of Ozurdex Implants. *Turk J Ophthalmol*. 2020 Apr 29;50(2):115-122. doi: 10.4274/tjo.galenos.2019.43778. PMID: 32367704; PMCID: PMC7204895.
22. Kodjikian L, Bellocq D, Mathis T. Pharmacological Management of Diabetic Macular Edema in Real-Life Observational Studies. *Biomed Res Int*. 2018 Aug 28; 2018:8289253. doi: 10.1155/2018/8289253. PMID: 30246026; PMCID: PMC6136521.
23. Kodjikian L, Baillif S, Creuzot-Garcher C, et.al., Real-World Efficacy and Safety of Fluocinolone Acetonide Implant for Diabetic Macular Edema: A Systematic Review, *Pharmaceutics*, 2021 Jan;13(1):72
24. Lee DH, Chan CK. Modified insertion technique for a sustained-release dexamethasone intravitreal implant (Ozurdex®). *Am J Ophthalmol Case Rep*. 2020 Apr 30; 19:100725. doi: 10.1016/j.ajoc.2020.100725. PMID: 32478198; PMCID: PMC7248650.
25. Massa H, Georgoudis P, Panos GD. Dexamethasone intravitreal implant (OZURDEX®) for macular edema secondary to noninfectious uveitis: a review of the literature. *Ther Deliv*. 2019 Jun 1;10(6):343-351. doi: 10.4155/tde-2019-0024. Epub 2019 Jun 11. PMID: 31184554.
26. Mathis T, Cerquaglia A, Weber M, et.al. Uveitis treated with dexamethasone implant. *Retina*. 2021 Mar 1;41(3):620-629. doi: 10.1097/IAE.0000000000002901. PMID: 32618834.
27. Mathis T, Lereuil T, Abukashabah A, et.al. Long-term follow-up of diabetic macular edema treated with dexamethasone implant: a real-life study. *Acta Diabetol*. 2020 Dec;57(12):1413-1421. doi: 10.1007/s00592-020-01561-1. Epub 2020 Jul 12. PMID: 32656710.
28. Mandell KJ, Clark D, Chu DS, et.al. Randomized Phase 2 Trial of Reproxalap, a Novel Reactive Aldehyde Species Inhibitor, in Patients with Noninfectious Anterior Uveitis: Model for Corticosteroid Replacement. *J Ocul Pharmacol Ther*. 2020 Dec;36(10):732-739. doi: 10.1089/jop.2020.0056. Epub 2020 Sep 22. PMID: 32955967; PMCID: PMC7757619.
29. Mayer WJ, Kurz S, Wolf A, et.al. Dexamethasone implant as an effective treatment option for macular edema due to Irvine-Gass syndrome. *J Cataract Refract Surg*. 2015 Sep;41(9):1954-61. doi: 10.1016/j.jcrs.2015.10.025. PMID: 26603404.

30. Monsellato R, Trovato E, Turchetti P, et.al. Ocular hypertension management in long-term treatments with intravitreal dexamethasone implants: a 3-year of experience. *Clin Ter.* 2020 Jan-Feb;170(1): e11-e14. doi: 10.7417/CT.2020.2182. PMID: 31850478.
31. Mukhtar S, Potter SM, Khurshid SG. Dexamethasone Intravitreal Implant for X-linked (Juvenile) Rretinoschisis. *Retin Cases Brief Rep.* 2019 Winter;13(1):18-20. doi: 10.1097/ICB.0000000000000521. PMID: 30562235.
32. Nayak K, Misra M. PEGylated microemulsion for dexamethasone delivery to posterior segment of eye. *J Biomater Sci Polym Ed.* 2020 Jun;31(8):1071-1090. doi: 10.1080/09205063.2020.1740964. Epub 2020 Mar 20. PMID: 32149562.
33. Nguyen T, Liu Y. Response to: Combined Dexamethasone Intravitreal Implant and Glaucoma Drainage Device Placement for Uveitic Glaucoma. *J Glaucoma.* 2020 Oct;29(10): e120. doi: 10.1097/IJG.0000000000001614. PMID: 32740506.
34. Ong J, Davidoss NH, Bhosale A, et.al. Spontaneous extrusion of a dexamethasone intravitreal implant (Ozurdex). *BMJ Case Rep.* 2020 Nov 3;13(11): e235102. doi: 10.1136/bcr-2020-235102. PMID: 33148568; PMCID: PMC7640474.
35. Rajesh B, Zarranz-Ventura J, Fung AT, et.al. for International Ozurdex Study Group. Safety of 6000 intravitreal dexamethasone implants. *Br J Ophthalmol.* 2020 Jan;104(1):39-46. doi: 10.1136/bjophthalmol-2019-313991. Epub 2019 Apr 30. PMID: 31040132.
36. Rommel F, Ranjbar M, Grisanti S. Intraocular Suture of a Migrated ILUVIEN Implant into the Vitreous Cavity. *Ophthalmol Retina.* 2020 Aug;4(8):792. doi: 10.1016/j.oret.2020.04.005. PMID: 32768031.
37. Rosenblatt A, Udaondo P, Cunha-Vaz J, et.al. ARTES Study Group. A Collaborative Retrospective Study on the Efficacy and Safety of Intravitreal Dexamethasone Implant (Ozurdex) in Patients with Diabetic Macular Edema: The European DME (Diabetic Macular Edema) Registry Study. *Ophthalmology.* 2020 Mar;127(3):377-393. doi: 10.1016/j.ophtha.2019.10.005. Epub 2019 Oct 10. PMID: 31932090.
38. Salceanu SO, Hamada D, Ursu RG, et.al. *Staphylococcus lugdunensis* endophthalmitis following dexamethasone intravitreal implant. *Indian J Ophthalmol.* 2019 Mar;67(3):424-426. doi: 10.4103/ijo.IJO_720_18. PMID: 30777977; PMCID: PMC6407396.
39. Shah J, Vaze A, Tang Lee Say T, et.al. Emerging corticosteroid delivery platforms for treatment of diabetic macular edema. *Expert Opin Emerg Drugs.* 2020 Dec;25(4):383-394. doi: 10.1080/14728214.2020.1810664. Epub 2020 Aug 31. PMID: 32815413
40. Sharma A, Bandello F, Loewenstein A, et.al. Current role of intravitreal injections in Irvine Gass syndrome-CRIIG study. *Int Ophthalmol.* 2020 Nov;40(11):3067-3075. doi: 10.1007/s10792-020-01491-5. Epub 2020 Jul 1. PMID: 32613461.
41. Tomkins-Netzer O, Talat L, Seguin-Greenstein S, et.al. Outcome of Treating Pediatric Uveitis with Dexamethasone Implants. *Am J Ophthalmol.* 2016 Jan; 161:110-5. e1-2. doi: 10.1016/j.ajo.2015.09.036. Epub 2015 Oct 22. PMID: 26478217.
42. Thorne JE, Sugar EA, Holbrook JT, et.al. Multicenter Uveitis Steroid Treatment Trial Research Group. Periocular Triamcinolone vs. Intravitreal Triamcinolone vs. Intravitreal Dexamethasone Implant for the Treatment of Uveitic Macular Edema: The Periocular vs. Intravitreal corticosteroids for uveitic macular edema (POINT) Trial. *Ophthalmology.* 2019 Feb;126(2):283-295. doi: 10.1016/j.ophtha.2018.08.021. Epub 2018 Sep 27. PMID: 30269924; PMCID: PMC6348060.
43. Veritti D, Sarao V, Diplotti L, et.al. Fluocinolone acetonide for the treatment of diabetic macular edema. *Expert Opin Pharmacother.* 2017 Oct;18(14):1507-1516. doi: 10.1080/14656566.2017.1363182. Epub 2017 Aug 9. PMID: 28764565.

44. Vieira R, Sousa-Pinto B, Figueira L. Efficacy and Safety of Corticosteroid Implants in Non-infectious Uveitis: A Systematic Review with Network Meta-analysis. *Ocul Immunol Inflamm.* 2022 Jan 2;30(1):215-222. doi: 10.1080/09273948.2020.1787463. Epub 2020 Aug 18. PMID: 32809890.
45. Vujosevic S, Toma C, Villani E, et.al. Diabetic macular edema with neuro retinal detachment: OCT and OCT-angiography biomarkers of treatment response to anti-VEGF and steroids. *Acta Diabetol.* 2020 Mar;57(3):287-296. doi: 10.1007/s00592-019-01424-4. Epub 2019 Sep 21. PMID: 31541333.
46. Williams GA, Haller JA, Kuppermann BD, et.al. Dexamethasone DDS Phase II Study Group. Dexamethasone posterior-segment drug delivery system in the treatment of macular edema resulting from uveitis or Irvine-Gass syndrome. *Am J Ophthalmol.* 2009 Jun;147(6):1048-54, 1054.1-2. doi: 10.1016/j.ajo.2008.12.033. Epub 2009 Mar 9. PMID: 19268890.
47. Yeh S, Khurana RN, Shah M, et.al. PEACHTREE Study Investigators. Efficacy and Safety of Suprachoroidal CLS-TA for Macular Edema Secondary to Noninfectious Uveitis: Phase 3 Randomized Trial. *Ophthalmology.* 2020 Jul;127(7):948-955. doi: 10.1016/j.ophtha.2020.01.006. Epub 2020 Jan 10. PMID: 32173113.
48. Zarranz-Ventura J, Romero-Núñez B, Bernal-Morales C, et.al Hospital Clínic Hospital Vall de Hebron Intravitreal Dexamethasone Implant study group. Differential response to intravitreal dexamethasone implant in naïve and previously treated diabetic macular edema eyes. *BMC Ophthalmol.* 2020 Nov 11;20(1):443. doi: 10.1186/s12886-020-01716-2. PMID: 33176749; PMCID: PMC7659223.

SOURCES

1. Bausch + Lomb Receives CPT Category 1 Code for XIPERE® (Triamcinolone Acetonide Injectable Suspension) From the American Medical Association. Press Release. Released November 3, 2023. <https://www.bausch.com/news/?id=189>. Accessed 4/2024.
2. CMS Article A54750. Billing and Coding: FDA approves Iluvien for Diabetic Macular Edema. [https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleId=54750#:~:text=Submit%20HCPCS%20code%20J7313%20\(fluocinolone%20acetonide%20intravitreal%20implant%20C0.19%20mg%20\).](https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleId=54750#:~:text=Submit%20HCPCS%20code%20J7313%20(fluocinolone%20acetonide%20intravitreal%20implant%20C0.19%20mg%20).) Accessed 4/2024.
3. Iluvien prescribing information. https://www.accessdata.fda.gov/drugsatfda_docs/label/2014/201923s000lbl.pdf . Accessed 4/2024
4. Ozurdex prescribing information. https://www.accessdata.fda.gov/drugsatfda_docs/label/2014/022315s009lbl.pdf . Accessed 4/2024.
5. Retisert Prescribing Information. <https://www.bausch.com/globalassets/pdf/packageinserts/pharma/retisert-prescribing-information.pdf> . Accessed 4/2024. Triesence™ Prescribing Information. https://www.accessdata.fda.gov/drugsatfda_docs/label/2007/022223.022048lbl.pdf Accessed 4/2024.
6. Seibold, LK, Steroid Induced Glaucoma, AAO, EyeWiki. March 2022. https://eyewiki.aao.org/Steroid-Induced_Glaucoma. Accessed 6/2024.
7. XIPERE™ Prescribing information. https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/211950s000lbl.pdf . Accessed 4/2024.

8. YUTIQ® Prescribing information; <https://yutiq.com/downloads/US-YUT-2100035%20YUTIQ%20Prescribing%20Information-2021.pdf>. Accessed 4/2024