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| Policy Name | Clinical Policy - Iris Prosthesis |
| Policy Number | 1340.00 |
| Department | Clinical Product & Development |
| Subcategory | Medical Management |
| Original Approval Date | 07/07/2021 |
| Current MPC/CCO Approval Date | 07/10/2024 |
| Current Effective date | 09/01/2024 |

Company Entities Supported (Select All that Apply):

☒ Superior Vision Benefit Management
☒ Superior Vision Services
☒ Superior Vision of New Jersey, Inc.
☒ Block Vision of Texas, Inc. d/b/a Superior Vision of Texas
☒ Davis Vision
 (Collectively referred to as 'Versant Health' or 'the Company')

ACRONYMS

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| AAO | American Academy of Ophthalmology® |
| FDA | U.S. Food and Drug Administration |

PURPOSE

To provide the evaluation methodology for iris prosthesis. Applicable procedure codes are also defined.

POLICY
A. SUMMARY

Versant Health considers the use of prosthetic iris devices to be investigational. There is insufficient evidence in the form of randomized clinical trials or high-quality meta-analysis to confirm safety, efficacy and improved health outcomes.

B. Methodology for evaluating medical necessity

Articles from peer reviewed literature were evaluated, plus information from AAO, FDA, and the manufacturer. The organizing methodology to evaluate the quality of medical evidence is referenced by the American Academy of Ophthalmology (2020) and is consistent with the work of Guyatt in the 2008 GRADE study. It states that randomized, controlled, double masked studies and/or systematic reviews with meta-analysis provide the best evidence regarding the efficacy of any intervention. Cohort studies, case-controlled studies, case series, and case reports provide lower levels of confidence in the efficacy of an intervention. The quality of the medical evidence will inform an evaluation of how this technology affects patient health outcomes, the magnitude of that effect and its applicability to clinical practice.

C. Conclusion on medical necessity

The literature reviewed contained individual case reports, small case samples of non-randomized retrospective and prospective cohort analyses. There were no reports of randomized controlled clinical trials which were suitably masked. Additionally, there were no reports in the peer review literature of meta-analyses or multicenter randomized trials. For these reasons, Versant Health considers prosthetic iris devices to be investigational and may not be medically necessary.

1. **C1839** Iris prosthesis CustomFlex artificial iris – There is insufficient evidence based upon randomized controlled clinical trials and/or high-quality meta-analysis to demonstrate improved health outcomes.
2. **0616T** Insertion of iris prosthesis, including suture fixation and repair or removal of iris, when performed; without removal of crystalline lens or intraocular lens, without insertion of intraocular lens - There is insufficient evidence based upon randomized controlled clinical trials and/or high-quality meta-analysis to demonstrate improved health outcomes.
3. **0617T** as above + with removal of crystalline lens and insertion of intraocular lens - There is insufficient evidence based upon randomized controlled clinical trials and/or high quality meta-analysis to demonstrate improved health outcomes.
4. **0618T** as above + with secondary intraocular lens placement or intraocular lens exchange - There is insufficient evidence based upon randomized controlled clinical trials and/or high quality meta-analysis to demonstrate improved health outcomes.

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| RELATED POLICIES AND PROCEDURES | |
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| 1346 | Experimental & Investigational Services |

| DOCUMENT HISTORY | | |
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| Approval Date | Revision | Effective Date |
| 07/07/2021 | Initial policy; designates device as investigational and not medically necessary | 01/01/2022 |
| 07/06/2022 | Annual review; no criteria changes. | 08/01/2022 |
| 07/12/2023 | Update procedures to investigational status; add new device C1839 Iris prosthesis | 10/01/2023 |
| 07/10/2024 | Annual review; no criteria changes. | 09/01/2024 |

REFERENCES AND SOURCES

1. Alio JL, Sirerol B, Walewska-Szafran A. Corneal tattooing (keratopigmentation) with new mineral micronized pigments to restore cosmetic appearance in severely impaired eyes. *Br J Ophthalmol*. 2010; 94:245-249.
2. Anderson JE, Grippo TM, Sbeity Z, et al. Serious complications of cosmetic NewColorIris implantation. *Acta Ophthalmol* 2010; 88:700–704.
3. Ang M, Tan D. Anterior segment reconstruction with artificial iris and Descemet membrane endothelial keratoplasty: a staged surgical approach. *Br J Ophthalmol*. 2022 Jul;106(7):908-913. doi: 10.1136/bjophthalmol-2020-317906. Epub 2021 Feb 26. PMID: 33637621.
4. Ayres BD, Fant BS, Landis ZC, et al. Results of the United States Food and Drug Administration Clinical Trial of the CustomFlex Artificial Iris. *Ophthalmology*. 2022 Feb 5: S0161-6420(22)00089-6. doi: 10.1016/j.ophtha.2022.01.029. Epub ahead of print. PMID: 35131359.
5. Bahadur GG, Miller KM. Artificial iris exchange. *J Cataract Refract Surg*. 2020 Dec;46(12):1630-1636. doi: 10.1097/j.jcrs.0000000000000321. PMID: 32842080.
6. Blankshain KD, Snyder ME, Miller DM, et al. Clinical imaging of the fundus and optic nerve in eyes with an indwelling custom iris prosthesis. *J Cataract Refract Surg*. 2022 Apr 1;48(4):502-503. doi: 10.1097/j.jcrs.0000000000000807. PMID: 35318294.
7. Bonnet C, Miller KM. Safety and efficacy of custom foldable silicone artificial iris implantation: prospective compassionate-use case series. *J Cataract Refract Surg*. 2020 Jun;46(6):893-901. doi: 10.1097/j.jcrs.0000000000000172. PMID: 32176161.
8. Burk SE, Da Mata AP, Snyder ME et al. Prosthetic iris implantation for congenital, traumatic, or functional iris deficiencies. *J Cataract Refract Surg* 2001; 27:1732–1740
9. Burris TE, Holmes-Higgins DK, Silvestrini TA. Lamellar intrastromal corneal tattoo for treating iris defects (artificial iris). *Cornea* 1998; 17: 169–173.
10. Dalby M, Kristianslund O, Drolsum L. Long-Term Outcomes after Surgery for Late In-The-Bag Intraocular Lens Dislocation: A Randomized Clinical Trial. *Am J Ophthalmol*. 2019 Nov; 207:184-194. doi: 10.1016/j.ajo.2019.05.030. Epub 2019 Jun 10. PMID: 31194950.
11. Eagle RC. Congenital, developmental and degenerative disorders of the iris and ciliary body. In Albert DM, Jakobiec FA, eds, *Principles and Practice of Ophthalmology* 2nd ed, Philadelphia, PA, Saunders, 2000; 1151-1153.
12. Felfeli T, Mandelcorn ED. Management of a dislocated 3-piece intraocular lens with an iris prosthesis in situ. *Can J Ophthalmol*. 2022 Apr;57(2): e37. doi: 10.1016/j.jcjo.2021.03.008. Epub 2021 Apr 15. PMID: 33844991.
13. Firl KC, Montezuma SR, Chronic post-operative Iris Prosthesis Endophthalmitis in a patient with traumatic aniridia: A Case Report. *BMC Ophthalmol*, 16 (1), 197. Nov 2016.
14. Fontanarosa J, Treadwell JR, Samson DJ, et al. Retinal prostheses in the Medicare Population. Rockville (MD): Agency for Healthcare Research and Quality (US); 2016 Sep 30. (Technology Assessments, No. 103.
15. Frisina R, De Biasi CS, Tozzi L, et al. Reper intraocular lens with artificial iris: implantation techniques and outcomes. *Eur J Ophthalmol*. 2021 May;31(3):1469-1474. doi: 10.1177/11206721211005693. Epub 2021 Mar 28. PMID: 33779347.
16. George MK, Tsai JC, Loewen NA. Bilateral irreversible severe vision loss from cosmetic iris implants. *Am J Ophthalmol* 2011; 151:872–875.

17. Goldsmith JA, Agarwal P, Smith SD, et al. Novel mechanism of decreased iris vasculature density after cosmetic iris implants. *BMJ Case Rep.* 2021 Feb 4;14(2): e239308. doi: 10.1136/bcr-2020-239308. PMID: 33541940; PMCID: PMC7868196.
18. Hull S, Jayaram H, Mearza AA. Complications and management of cosmetic anterior chamber iris implants. *Cont Lens Anterior Eye* 2010; 33:235–238.
19. Karatza EC, Burk SE, Snyder ME, et. al. Outcomes of prosthetic iris implantation in patients with albinism, *J cataract Refract Surg* 2007;33:1783-1789.
20. Koch KR, Heindl LM, Cursiefen C, et. al., Artificial iris devices: Benefits, limitations, and management of complications, *J Cataract Refract Surg* 2014;40: 376-382
21. Krishnan VM, Todorova MG, Wiechens B, et.al. The artificial iris - Analysis of various implantation techniques after ocular trauma. *Indian J Ophthalmol.* 2021 Dec;69(12):3526-3531. doi: 10.4103/ijo.IJO_62_21. PMID: 34826989; PMCID: PMC8837300.
22. Magnus J, Trau R, Mathysen DGP, et. al. Safety of an artificial iris in a phakic eye. *J Cataract Refract Surg* 2012; 38:1097–1100 .
23. Mavrikakis I, Casey JMH, Phacoemulsification and Endocapsular Implantation of an Artificial Iris Intraocular Lens in Traumatic Cataract and Aniridia, *J Cataract Refract Surg*, Vol 28, July 2002, 1088-1091.
24. Mavrikakis I, Mavrikakis E, Syam PP, et. al. Surgical management of iris defects with prosthetic iris devices. *Eye* 2005; 19:205–209.
25. Mayer C, Baur ID, Storr J, et.al. Complete anterior segment reconstruction: Corneal transplantation and implantation of an iris prosthesis and IOL in a single surgery. *Eur J Ophthalmol.* 2021 Nov;31(6):3300-3308. doi: 10.1177/1120672121991052. Epub 2021 Jan 28. PMID: 33508973; PMCID: PMC8606946.
26. Mayer CS, Baur ID, Storr J, et al. Bilateral Artificial Iris implantation in patients with bilateral iris defects. *Am J Ophthalmol Case Rep.* 2021 Apr 30; 22:101108. doi: 10.1016/j.ajoc.2021.101108. PMID: 34027229; PMCID: PMC8121880.
27. Miller, KM. AAO Annual Meeting. 2019 Kelman Lecture: The Case for artificial iris. Oct 14, 2019. <https://www.aao.org/eyenet/academy-live/detail/2019-kelman-lecture-case-artificial-iris>.
28. Romano D, Bremond-Gignac D, Barbany M, et.al. Artificial iris implantation in congenital aniridia: A systematic review. *Surv Ophthalmol.* 2023 Jul-Aug;68(4):794-808. doi: 10.1016/j.survophthal.2022.11.001. Epub 2022 Nov 12. PMID: 36379301.
29. Selvan H, Bhakthaganesh K, Angmo D, et.al. Is this iris or an implant? *Clin Exp Optom.* 2020 Nov;103(6):920. doi: 10.1111/cxo.13014. Epub 2019 Nov 19. PMID: 31746002.
30. Snyder ME, Miller KM, Price F Jr, et.al. Preventing confusion between iris color-changing implants and therapeutic iris prostheses. *J Cataract Refract Surg.* 2020 May;46(5):804-805. doi: 10.1097/j.jcrs.000000000000170. PMID: 32358291.
31. Spitzer MS, Nessmann A, Wagner J, et.al. Customized human optics silicone iris prosthesis in eyes with posttraumatic iris loss: outcomes and complications. *Acta Ophthalmol.* 2016 May;94(3):301-6. Doi: 10.1111/aos.12946. Epub 2016 Jan 25. PubMed PMID: 26805757.
32. Srinivasan S, Yuen C, Watts M, et. al. Endocapsular iris reconstruction implants for acquired iris defects: a clinical study, *Eye*, 21, 1109-1113 (2007).
33. Thiagalingam S, Tarongoy P, Hamrah P et. al. Complications of cosmetic iris implants. *J Cataract Refract Surg* 2008; 34:1222–1224.
34. Weissbart SB, Ayres BD. Management of Aniridia and Iris Defects: An update on iris prosthesis options. *Curr Opin Ophthalmol*, 27 (3), 244-9. May 2016.

35. Wolf A, Shajari M. Slip-and-slide technique for combined small-incision artificial iris and IOL implantation. J Cataract Refract Surg. 2020 Oct;46(10):1433-1435. doi: 10.1097/j.jcrs.0000000000000254. PMID: 32483078.
36. Wong VW, Lam PT, Lai TY et. al. Black diaphragm aniridia intraocular lens for aniridia and albinism. Graefes Arch Clin Exp Ophthalmol 2005; 243:501–4.

SOURCES

1. CustomFlex Artificial Iris; Human Optics.
<https://www.humanoptics.com/en/physicians/artificialiris/> Accessed 4/j2024.
2. US FDA Approval Letter, CustomFlex Artificial Iris, premarket. May 30, 2018;
<https://www.fda.gov/news-events/press-announcements/fda-approves-first-artificial-iris>.
Accessed 4/2024.
3. CMS technology assessment, 2019. “Retinal Prostheses in the Medicare Population.”
<https://www.cms.gov/medicare-coverage-database/view/technology-assessments.aspx?TAId=103&bc=AAAQAAAAAAAAAAAA%3D%3D>. Accessed 6/2024.
4. Favorable findings for the artificial iris. Journal Highlights, Ophthalmology, June 2022.
<https://www.aao.org/eyenet/article/favorable-findings-for-the-artificial-iris> Accessed 4/2024.