Medical Policy

PARAMOUNT

HMO AND PPO
ELITE (MEDICARE ADVANTAGE)
MARKETPLACE

Genetic Testing Age-Related Macular Degeneration

Policy Number: PG0412
Last Reviewed Date: 05/10/2025
Last Revised: 5/1/2025

GUIDELINES:

- **This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder terms, conditions, exclusions, and limitations contract. It does not constitute a contract or guarantee regarding coverage or reimbursement/payment. Self-Insured group specific policy will supersede this general policy when group supplementary plan document or individual plan decision directs otherwise.**
- **Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards.**
- **This medical policy is solely for guiding medical necessity and explaining correct procedure reporting used to assist in making coverage decisions and administering benefits.**

SCOPE:
X Professional
X Facility

DESCRIPTION:
Macular degeneration, the leading cause of severe vision loss in people older than age 60 years, occurs when the central portion of the retina (the macula), deteriorates. Because the disease develops as a person ages, it is often referred to as age-related macular degeneration (AMD). AMD has an estimated prevalence of 1 in 2,000 people in the United States and affects individuals of European descent more frequently than African Americans in the United States.

AMD is a multifactorial or complex disease involving both genetic and nongenetic (e.g., age, smoking) influences. Testing for variants at certain genetic loci has been proposed to predict the risk of developing advanced AMD. AMD is divided into the dry form, associated with slowly progressive vision loss, and the wet form, which may be associated with rapidly progressive and severe vision loss.

Commercially available genetic testing for AMD is aimed at identifying those individuals who are at risk of developing advanced AMD. Commercially available tests include but are not limited to the following:

- Macula Risk® PGx (Arctic Medical Laboratories)
- Arctic Medical Laboratories offers Macula Risk® PGx which uses 15 associated biomarkers in an algorithm to determine an individual's risk of progression to advanced AMD and aid in the selection of eye vitamin formulations for AMD based on his or her individual genetic risk profile. The Vita Risk® pharmacogenetic result can be provided as part of the Macula Risk® PGx laboratory report.

The evidence for genetic testing in individuals who are asymptomatic with a risk of developing AMD includes genetic association studies and risk prediction models. Relevant outcomes are test validity, change in disease status, and functional outcomes. The analytic validity of genetic testing for AMD is high, and the clinical validity of genetic testing appears to provide a small, incremental benefit to risk stratification based on nongenetic risk factors. The clinical utility of genetic testing for AMD is limited, in that there are currently no preventive measures that can be undertaken outside of modifying non-genetic risk factors such as not smoking and lowering cholesterol. No studies have shown improvement in health outcomes in patients who have been identified as being at high risk based on genetic testing. The evidence is insufficient to determine the effects of the technology

on health outcomes.

POLICY:

Paramount Commercial Insurance Plans and Elite (Medicare Advantage) Plans

- **Genetic testing for macular degeneration is non-covered, 81401, 81405, 81408 and 0205U. For all product lines.**

COVERAGE CRITERIA:

Paramount Commercial Insurance Plans and Elite (Medicare Advantage) Plans

Genetic testing for age-related macular degeneration (e.g., Macula Risk PGx) is considered experimental/investigational for the management/treatment of AMD because the effectiveness for this indication has not been established.

CODING/BILLING INFORMATION:

The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

CPT CODES	
81401	Molecular pathology procedure, Level 2 (e.g., 2-10 SNPs, 1 methylated variant, or 1 somatic variant [typically using nonsequencing target variant analysis], or detection of a dynamic mutation disorder/triplet repeat) *CFH/ARMS2 (complement factor H/age-related maculopathy susceptibility 2)* (e.g., macular degeneration), common variants (e.g., Y402H [CFH], A69S [ARMS2])
81405	Molecular pathology procedure, Level 6 (e.g., analysis of 6-10 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of 11-25 exons), regionally targeted cytogenomic array analysis *HTRA1 (HtrA serine peptidase 1)* (e.g., macular degeneration), full gene sequence
81408	Molecular pathology procedure, Level 9 (eg, analysis of >50 exons in a single gene by DNA sequence analysis) *ABCA4 (ATP-binding cassette, sub-family A [ABC1], member 4)* (e.g., Stargardt disease, age-related macular degeneration), full gene sequence
81479	Unlisted molecular pathology procedure
81599	Unlisted multianalyte assay with algorithmic analysis
0205U	Ophthalmology (age-related macular degeneration), analysis of 3 gene variants (2 CFH gene, 1 ARMS2 gene), using PCR and MALDI-TOF, buccal swab, reported as positive or negative for neovascular age related macular-degeneration risk associated with zinc supplements

REVISION HISTORY EXPLANATION: ORIGINAL EFFECTIVE DATE: 09/22/2017

Date	Explanation & Changes
09/22/2017	Policy created to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG)
07/26/2018	Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG)
07/09/2019	• Policy reviewed and updated to reflect most current clinical evidence • Added “age-related” to title to be more specific • Deleted section on RetnaGene as the test no longer exists • Further clarified description information • Added references • Still non-covered
12/28/2020	• Medical policy placed on the new Paramount Medical policy format
03/02/2023	• Medical Policy updated to reflect Medicaid coverage to Anthem as of 02/01/2023
05/10/2024	• Policy reviewed and updated to reflect most current clinical evidence

	• Added noncovered procedure code 0205U
5/1/2025	• Medical Policy reviewed and updated to reflect the most current clinical evidence • No change to policy statement

Paramount reserves the right to review and revise our policies periodically when necessary. When there is an update, we will publish the most current policy to https://www.paramounthealthcare.com/providers/medical-policies/policy-library

REFERENCES/RESOURCES

Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs

NCDs https://www.cms.gov/medicare-coverage-database/searchresults.aspx?keyword=&keywordType=starts&areaId=s29&docType=NCD&contractOption=all

LCDs https://www.cms.gov/medicare-coverage-database/searchresults.aspx?keyword=&keywordType=starts&areaId=s29&docType=F,P&contractOption=all

American Medical Association, *Current Procedural Terminology (CPT®)* and associated publications and services https://www.ama-assn.org/amaone/cpt-current-procedural-terminology

Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets https://www.cms.gov/Medicare/Coding/HCPCSReleaseCodeSets/HCPCS-Quarterly-Update

U.S. Preventive Services Task Force, https://www.uspreventiveservicestaskforce.org/uspstf/
Industry Standard Review

Hayes, Inc., Lansdale, PA: Author. Health Technology Assessments. https://www.hayesinc.com/

Industry Standard Review

Genetics Home Reference, National Institute of Health, U.S. National Library of Medicine, Age-Related Macular Degeneration.

American Academy of Ophthalmology Retina/Vitreous Panel. Preferred Practice Pattern® Guidelines. Age-Related Macular Degeneration. San Francisco, CA: American Academy of Ophthalmology; 2015. Available at: www.aao.org/ppp.

Stone, E. Genetic Testing for Age-Related Macular Degeneration Not Indicated Now, Stone, E. Genetic Testing for Age-Related Macular Degeneration Not Indicated Now, JAMA Ophthalmology, 2015, 2015.