

# Medical Policy



## Quantitative Pupillometry/Pupillography

Policy Number: PG0319

Last Reviewed Date: 04/01/2025

Last Revised: 4/1/2025

HMO AND PPO

ELITE (MEDICARE ADVANTAGE)

MARKETPLACE

### 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:

☒ Professional

☒ Facility

### DESCRIPTION:

Pupillary examination has been used as a basic measure in critically ill patients and is important for the prognosis and management of disease. Traditionally, pupillary measurements have been carried out in a subjective manner -- by means of a pen flashlight to evaluate for reactivity and a pupil gauge for pupil size. Pupillometry refers to an objective way of measuring the diameter of the pupil.

The NeurOptics NPi-100 Pupillometer is a hand-held portable infrared device that allows for reliable and objective measurement of pupillary light reflex and pupil size. Moreover, the numeric scale of the Neurological Pupil index (NPi), allows for a more rigorous interpretation and classification of the pupillary response. The Pupillometer and its NPi scale reduce subjectivity from the measurement by comparing the pupillary light reflex against normative data in the NPi model and automatically deriving whether the pupillary reflex falls within the normal range ("brisk") or outside of the normal range ("sluggish") and provide a reliable way to quantitatively classify the pupillary light response.

There is insufficient evidence in the published peer-reviewed scientific literature to demonstrate the effectiveness or clinical utility of quantitative pupillometry for any indication. Studies are limited by uncontrolled design; high-quality controlled clinical trial data are lacking. The role of pupillometry has not been established.

### POLICY:

#### **Paramount Commercial Insurance Plans and Elite (Medicare Advantage) Plans**

- Quantitative Pupillometry is non-covered (95919)
- Quantitative Pupillography is non-covered (92499)

### COVERAGE CRITERIA:

#### **Paramount Commercial Insurance Plans and Elite (Medicare Advantage) Plans**

Paramount has determined that Quantitative Pupillometry/Pupillography is experimental/investigational and therefore non-covered because there is insufficient evidence in the peer-reviewed medical literature of the effectiveness of this procedure.

Paramount considers the use of quantitative pupillometry/pupillography experimental/investigational for all

indications including the following (not an all-inclusive list) because its effectiveness has not been established.

- Acute mountain sickness
- Age-related macular degeneration (monitoring the progression of disease and assessing changes in retinal function that result from treatments)
- Alzheimer's disease
- Brain death determination
- Brain injury
- Congenital central hypoventilation syndrome
- Diagnosis and evaluation of treatment success in non-convulsive status epilepticus
- Detection of impaired cerebral autoregulation in critically ill persons
- Discriminating compressive lesions from microvascular ischemic third nerve palsy
- Excessive sleep
- Glaucoma
- Impaired or loss of consciousness
- Neuromonitoring of delirium in sedated mechanically ventilated critically ill persons
- Pain assessment
- Parkinson disease
- Prediction of outcome after cardiac arrest
- Prediction of post-operative opioid-induced respiratory depression
- Pre-transplant screening and post-transplant monitoring in persons undergoing liver transplantation
- Rheumatic diseases (e.g., rheumatoid arthritis, Sjogren's syndrome, systemic lupus erythematosus, and systemic sclerosis)
- Screening for elevated intra-cranial pressure

Paramount considers the use of chromatic pupillography experimental/investigational for the following (not an all-inclusive list) because its effectiveness has not been established:

- For detection of glaucoma
- For detection of Leber congenital amaurosis
- For detection of optic nerve diseases (e.g., optic neuritis and non-arteritic anterior ischemic optic neuropathy)
- For detection of retinitis pigmentosa
- For evaluation of Gaucher disease
- For evaluation of hemianopia
- For monitoring of progression of retinal and optic nerve diseases or recovery after treatment.

#### **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.**

<b>CPT CODE</b>	
<b>92499</b>	Unlisted ophthalmological service or procedure <b>Not covered when billed for Quantitative Pupillography procedures</b>
<b>95919</b>	Quantitative pupillometry with physician or qualified health care professional interpretation and report, unilateral or bilateral

#### **REVISION HISTORY EXPLANATION: ORIGINAL EFFECTIVE DATE:12/19/2014**

<b>Date</b>	<b>Explanation &amp; Changes</b>
<b>12/19/14</b>	<ul style="list-style-type: none"> <li>• Policy created to reflect most current clinical evidence per The Technology Assessment Working Group</li> </ul>
<b>12/17/15</b>	<ul style="list-style-type: none"> <li>• Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group</li> </ul>

12/16/16	<ul style="list-style-type: none"> <li>Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG)</li> </ul>
12/21/2020	<ul style="list-style-type: none"> <li>Medical policy placed on the new Paramount Medical Policy Format</li> </ul>
07/14/2021	<ul style="list-style-type: none"> <li>Documented procedure 0341T is a deleted code</li> <li>For quantitative pupillometry with interpretations and report, unilateral or bilateral, use 92499</li> <li>Changed title from Quantitative Pupillometry to Quantitative Pupillometry/Pupillography</li> </ul>
01/01/2023	<ul style="list-style-type: none"> <li>Paramount removed deleted procedure code 0341T</li> <li>Paramount added noncoverage for procedure code 95919 for the HMO, PPO, Individual Marketplace, Elite/ProMedica Medicare Plan product lines, effective 3/1/2023</li> <li>Paramount added coverage for procedure code 95919 for the Advantage product line without a prior authorization, effective 1/1/2023</li> </ul>
02/20/2023	<ul style="list-style-type: none"> <li>Medical Policy updated to reflect Medicaid coverage to Anthem as of 02/01/2023</li> </ul>
04/01/2024	<ul style="list-style-type: none"> <li>Medical Policy reviewed and updated to reflect the most current clinical evidence</li> </ul>
04/01/2025	<ul style="list-style-type: none"> <li>Medical Policy reviewed. No changes to policy statement.</li> </ul>

**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>

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., <https://www.hayesinc.com/>

Industry Standard Review

