BILLING GUIDE

Corneal Hysteresis Measurement for Glaucoma Detection

Prepared for

Reichert®
TECHNOLOGIES
AMETEK®

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CORNEAL HYSTERESIS – BEST PREDICTOR OF GLAUCOMA AND ITS PROGRESSION

Glaucoma is a group of conditions defined by a progressive optic neuropathy with accompanying visual field damage and atrophy of the optic nerve. The optic nerve carries visual information from the eye to the brain, often compared to a bundle of wires carrying an electrical signal. In the brain, information is assembled into a visual image that we recognize as sight. Glaucoma studies have historically shown that intraocular pressure (IOP) is a risk factor for optic nerve damage. Although there are several other risk factors, IOP is the only risk factor that can be modified (reduced) in order to slow the disease. All Glaucoma treatment, (medicines, laser, or surgery) are designed to lower the eye pressure.

BACKGROUND

The measurement of Corneal Hysteresis (CH) has been shown to provide information, *independent from other risk factors*, related to glaucoma progression. Specifically:

1. Severity of glaucoma (visual field loss)
2. Risk / Rate of *future* visual field progression
3. The magnitude of expected response (IOP lowering) from certain treatments

Prospective studies have shown that baseline CH measurements predict which eyes are more likely to develop Glaucoma and which eyes are more likely to progress more rapidly in glaucoma VF loss.[1-4] In fact, it has been shown that each 1-mm Hg lower CH was associated with an increase of 21 percent in the risk of developing glaucoma during follow-up.[1]

Corneal hysteresis is a semi-quantitative risk factor: low (CH<8mmHg); medium (CH 8-12mmHg); and high (CH>12mmHg). Low CH is associated with rapid progression, whereas higher CH is associated with stability or slow loss of visual field from Glaucoma.

In addition, low CH translates to a greater magnitude of IOP reduction with intervention (such as topical medication), while high CH translates to a smaller reduction in IOP. This highly useful outcome, which can be measured and reviewed over time, can help the physician interpret how much IOP change should be expected (setting target pressure).[5]

CH is useful in identifying the risk of glaucoma development and progression, and as a predictor of the effectiveness of glaucoma therapy. This should enable clinicians to intervene earlier or more aggressively when appropriate. However, coverage and payment policies of Medicare and other third party payers, often lag in adoption, resulting in frustration with coverage and payment.

This document identifies relevant coding and coverage issues associated with CH measurement. At this time, there are a few publicly available medical policies covering CH measures for glaucoma detection. In the absence of a published policy, coverage is determined on a case-by-case basis at the discretion of the payer.

THE DEVICE

Figure 1: Reichert's Ocular Response Analyzer



Image courtesy of Reichert, Inc.

The Ocular Response Analyzer utilizes a rapid air impulse and an advanced electro-optical system to record two applanation pressure measurements; one while the cornea is moving inward, and the other as the cornea returns to its normal shape. Due to its biomechanical properties, the cornea resists the dynamic air puff, causing delays in the inward and outward applanation events, resulting in two different pressure values.[6]

The difference between these two pressure values is CH, a measurement of viscous damping in the corneal tissue, as shown in Figure 2. Figure 3 shows CH measurement close-up.[6]

Figure 2: Hysteresis Measurement

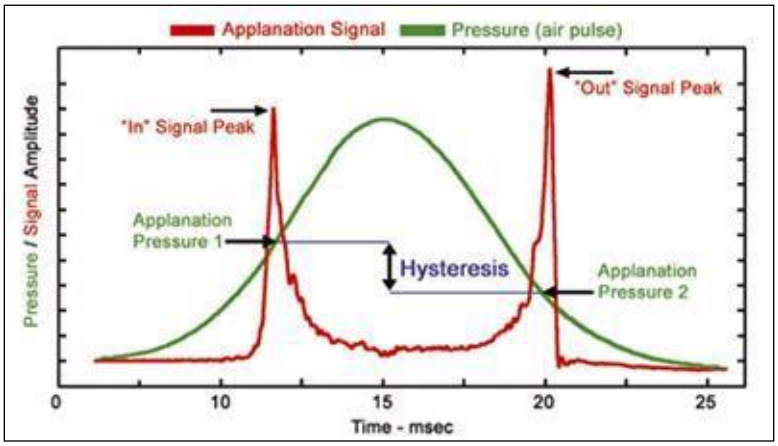

Image courtesy of Reichert, Inc.

Figure 3: Corneal Hysteresis Diagram

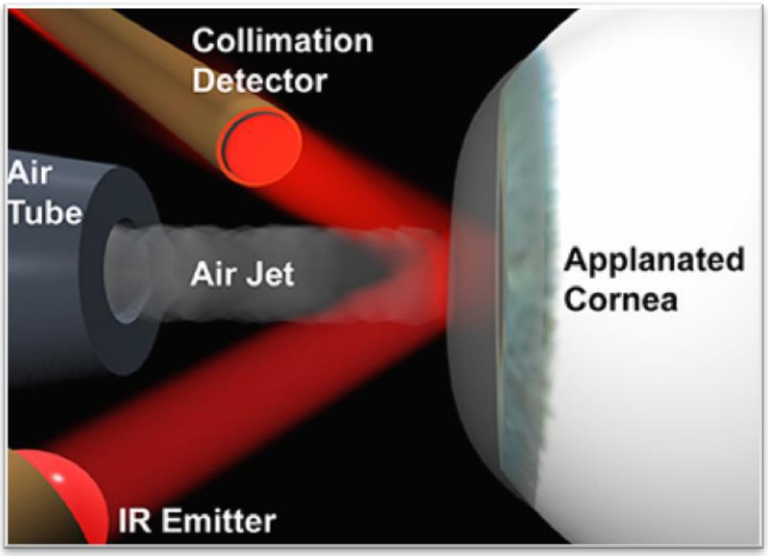

Image courtesy of Reichert, Inc.

INDICATIONS FOR USE

Human corneal tissue is a complex viscoelastic structure. The scientific literature indicates that a CH measurement can identify ocular abnormalities or eyes at risk for significant ocular disease.[6]

Glaucoma

As cleared by the US Food and Drug Administration, *"The Ocular Response Analyzer is intended to measure intraocular pressure of the eye and the biomechanical response of the cornea for the purpose of aiding in the diagnosis and monitoring of glaucoma"*.[7] Measures of CH are significantly lower in glaucomatous eyes than in normal patients.[8] A lower CH value is associated with visual field progression in primary open-angle glaucoma.[9,10] Prior to selective laser trabeculoplasty, low CH is a predictor of magnitude of IOP reduction from topical medications.[5]

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COVERAGE

Local Medicare Administrator Contractor (MACs) policies for coverage of CH differ throughout the United States. Providers must inquire with their local MAC about the specific coverage policies governing reimbursement for CH for Medicare Beneficiaries.

Medicare beneficiaries who are enrolled in Medicare Part C, also known as Medicare Advantage through commercial payers, have the same coverage as Traditional Medicare beneficiaries, as dictated by local coverage determinations of MACs. Providers must inquire with these third-party payers about the specific coverage parameters that apply to each Beneficiary.

When a provider believes that Medicare will not pay for the CH test, the provider can inform patients that even though CH testing is a covered benefit under Medicare (diagnostic tests), the local MAC may not consider the test as medically necessary. The patient can decide whether to proceed with the test, and be prepared to pay the provider directly. During this discussion, providers must offer Traditional Medicare beneficiaries only (not Part C Medicare Advantage beneficiaries), an Advanced Beneficiary Notice, which is a written notice that signifies the patient's understanding of their financial liability, should Medicare decline to cover and reimburse the provider for CH tests.

The patient must select from three options: Option 1 requires the provider to submit a claim and append the billed service with an appropriate modifier to alert the MAC to the use of an ABN; Option 2 applies to situations where Medicare is precluded from paying for the item or service; and Option 3, in which there is no claim to file or charge to make, as the patient declines the service.

Note that even though Medicare Part C, or Medicare Advantage plans are prohibited from using the regular Medicare ABN , they may still require prior financial notice. In many cases, they are required to provide a coverage or non-coverage determination in advance. Check plan websites for appropriate instructions.

For patients covered by commercial insurance or other non-Medicare payers, financial liability may be a factor that requires the provider to secure a prior authorization and approval to conduct CH.

DOCUMENTATION

Careful and detailed documentation in the patient's record is critical to ensuring timely reimbursement by Medicare and other payers. The description in CPT for measuring CH includes *"with interpretation and report,"* thus requiring the provider to not only review the results, but consider how these CH results add to the clinical profile of the patient and how the results may inform the provider's decision-making about next steps for patient care.

In ophthalmology, tests such as CH measurements are more valuable for making decisions about treatment when there is a series. Thus, a provider can compare current tests to previous to determine whether changes require intervention.

BILLING DETAILS

CODING

Table 1: Corneal Hysteresis CPT Code and Payment

CPT Code	CPT Description	Total RVUs	Total Payment
92145	Corneal hysteresis determination, by air impulse stimulation, bilateral, with interpretation and report	0.50	$ 18.00

* CMS Physician Fee Schedule, 2018, national average payment.

Diagnosis Codes

Table 2 contains a list of ICD-10 diagnosis codes that comport with the indications for CH described above.

Table 2: ICD-10 Diagnosis codes related to CH

ICD-10	Description
H40.-	Glaucoma
----	Glaucoma stage [17,18]

NOTE: Listed codes are reasonable for 92145, but differences in payment policies exist across payers. This list is neither exhaustive nor universally accepted. See your payer bulletins. The ICD-10 codes shown are not a precise crosswalk; the ending "dash" means a longer code may be required and contains greater specificity than the corresponding ICD-9 code.

PAYMENT AMOUNT

CPT 92145 is defined as *"unilateral or bilateral"* so reimbursement is usually for both eyes. The 2018 national Medicare Physician Fee Schedule allowable for 92145 is listed above. This includes $8.28 for the technical component and $9.72 for the professional component (*i.e.,* interpretation). These amounts are adjusted in each area by local wage indices. Other payers set their own rates, which may differ significantly from the Medicare published fee schedule.

PHYSICIAN SUPERVISION REQUIREMENTS

Measuring CH requires *general* supervision under Medicare guidelines. This means the procedure is furnished under the physician's overall direction and control, but the physician's presence is not required during performance of the test. Under general supervision rules, the training of the non-physician personnel who actually perform the diagnostic test and the maintenance of the necessary equipment and supplies are the continuing responsibility of the physician.

CONCLUSION

The measurement of corneal hysteresis (CH) with Reichert's Ocular Response Analyzer provides information about the biomechanical properties of the cornea which has been shown to be useful in identify risk of progression of primary open-angle glaucoma. This additional clinical information further informs the provider's decision-making about the type and timing of interventions with various treatment options for glaucoma.

Coding and payment policies for CH tests are very clear; however, coverage is not yet widespread among Medicare MACs or commercial payers. Typically, coverage guidelines lag behind advances in the practice of medicine. This delay creates an addition step in the consideration of testing with CH: determining patient's access to coverage and the related financial responsibility for the bill. In such circumstances, the provider must inquire with individual payers about patient's benefits prior to testing, and the patient may need to accept financial responsibility when reimbursement is in doubt.

This discussion is meant to assist the reader to better understand the rules and regulations regarding reimbursement for this diagnostic test, however the responsibility for appropriate usage, adequate documentation and proper coding always remains with providers.

APPENDIX
FREQUENTLY ASKED QUESTIONS:

Q: What CPT Code is used to bill for Corneal Hysteresis?

A: As of January 1, 2015, CPT 92145 should be used to report this test.

92145: *Corneal hysteresis determination, by air impulse stimulation, unilateral or bilateral, with interpretation and report.*

Q: What is the purpose of measuring Corneal Hysteresis in glaucoma or glaucoma-suspect patients?

A: Measuring the biomechanical properties of the cornea with Reichert's Ocular Response Analyzer® enables quantification of corneal biomechanical properties. Low corneal hysteresis (CH) demonstrates that the cornea is less capable of absorbing (damping) energy. Clinical studies suggest that a low CH is associated with and predictive of visual field progression.

Q: What are the approved indications for Corneal Hysteresis with the ORA?

A: The device FDA 510(k) states that the indications for use are for the measurement of intraocular pressure and the corneal biomechanical response. The most common clinical application of the CH measurement is the diagnosis and monitoring of glaucoma.

Q: How frequently could CH be repeated?

A: There are no published limitations for repeated testing. In general, this and all diagnostic tests are reimbursed when medically indicated. Clear documentation of the reason for testing is always required. Too-frequent testing is likely unnecessary and may result in denied claims.

Q: What must be documented in the patient's record with the ORA test?

A: The medical record should contain the following elements:

- ORA test result/report
- Patient's name and date of test
- Order for the test with medical rationale
- Reliability of the test
- Test findings (*i.e.,* printout)
- Comparison with prior tests (if available)
- Assessment, diagnosis, impact on treatment, prognosis
- Physician's signature

Q: Can a CH test be provided during a Glaucoma screening visit by Medicare beneficiaries?

A: The provider can provide any medically necessary tests or services during the Glaucoma Screening visit. However, if billing this visit, (HCPCS Codes G0117 or G0118), the provider cannot also bill CH, because it is bundled.

Q: Does Medicare cover the CH test? Do commercial payers cover CH?

A: Sometimes. Medicare coverage varies by MAC. Providers are encouraged to check their Local Coverage Determinations to confirm if CH is covered. In the absence of a published policy, coverage is determined on a case- by-case basis at the discretion of the payer.

The same is true about commercial payers: Some payers have published policies that declare CH is *"experimental and investigational"* and consequently not covered. In the absence of a policy, coverage is determined on a case-by-case basis.

Effective documentation of the medical necessity of CH, in addition to the provider's treatment management strategy as a result of CH testing, can be useful in an appeal of denied claims from commercial payers and Medicare MACs.