Understanding and Evaluating Visual Field Tests

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Overview

- Basic types of visual field testing
- Determining medical necessity for blepharoplasty
- Professional society guidelines for visual field testing and documentation
- The role of independent medical review in determining medical necessity for blepharoplasty
Blepharoplasty: Not Just a Cosmetic Procedure

Numerous functional indications that require restoration of impaired vision

- Blepharochalasis
- Blepharospasm
- Dermatochalasis
- Ectropion
- Entropion
- Epiblepharon
- Thyroid disease
The Challenge of Documenting Medical Necessity

- Medicare and other health plans generally view the procedure as cosmetic
- Many health plans require visual field testing, but these results alone do not provide enough evidence
- Documentation must be thorough
  - Detailed medical history
  - Physical-examination findings
  - Preoperative photographs
Visual Field (Perimetry) Testing
Measuring Eyelid/Brow Defects

- Two basic types of visual field tests
  - Static perimetry: tests different locations throughout the field, one at a time
  - Kinetic perimetry: uses a mobile stimulus moved by an operator

- Many health insurance plans require testing on either one of the following:
  - Goldmann perimeter
  - Programmable automated perimeter
Goldmann Perimetry: The First Standardized Measurement Technique

- Testing is done in a bowl-shaped instrument (perimeter)
  - All testing distances are equal
  - Background and stimulus luminances can be tightly controlled
  - Dimmer stimuli are used for testing the very center of vision; intensity increases as more peripheral portions of the field are tested

- Potential for operator bias exists
Indications for Goldmann Test

- Patient cannot reliably perform an automated visual field
- Full extent of the visual field needs to be tested
- Visual field defect found on an automated visual field needs to be confirmed
Goldmann Perimetry: Test Result Reporting

• Test results are reported as isopters
  - Operator draws contour lines to outline the areas where stimuli of various intensity can be perceived
  - Each isopter is color-coded to the size and intensity of the stimulus used

• Results may not be reproducible by a different operator

• Lacks a computerized system for storage and comparison to normative data
SAMPLE GOLDMANN REPORT

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SAMPLE GOLDMANN REPORT
Introduction of Automated Equipment Signals Move to Static Perimetry

- The stimulus size and intensity are varied; presentation is limited to various fixed locations

- Common brands of equipment include:
  - Humphrey
  - Octopus
  - Dicon
Automated Perimetry

Measuring Threshold Static Perimetry

A dim light is presented at a particular location

- If the patient does not see the light, it is gradually made brighter until it can be seen
- The minimum brightness required for the detection of a light stimulus is called the threshold sensitivity level of that location
- The procedure is then repeated at several other locations, until the entire visual field is tested
Test Result Reporting

The sensitivity found at each point can be presented:

- In a matrix of numbers, or
- As a gray-scale pattern with interpolation for the points that were not tested
SAMPLE AUTOMATED PERIMETRY REPORT (R Untaped)

Name: [Redacted]  ID: [Redacted]  DOB: [Redacted]  Eye: Right

Superior 30 Point Screening Test

Fixation Monitor: Blind Spot
Fixation Target: Bottom LED
Fixation Losses: 3/6 xx
False POS Errors: 0/6
False NEG Errors: 2/4 xx
Test Duration: 03:52

Central Reference: 33 dB
Peripheral Reference: 33 dB

Stimulus: Ill. White
Background: 31.5 ASB
Strategy: Two Zone
Test Mode: Age Corrected

Pupil Diameter:   Date: 07-19-2012
Visual Acuity:   Time: 6:49 AM
RX: +0.00 DS - 2.25 DC X 7
Age: 49

Graph showing visual field test results.
SAMPLE AUTOMATED PERIMETRY REPORT (L Untaped)

Name: [Redacted]
ID: [Redacted]
Eye: Left
DOB: [Redacted]

Superior 35 Point Screening Test

Fixation Monitor: Blind Spot
Fixation Target: Bottom LED
Fixation Losses: 1/5 xx
False Pos Errors: 0/6
False Neg Errors: 0/4
Test Duration: 03:11

Central Reference: 33 dB
Peripheral Reference: 33 dB

Stimulus: Ill White
Background: 31.5 Asb
Visual Acuity:

Pupil Diameter:

Date: 07-18-2012
Time: 8:56 AM
Age: 49

RX: +1.00 DS DC X
SAMPLE AUTOMATED PERIMETRY REPORT (L Taped)

Name: [Redacted]
ID: [Redacted]
DOB: [Redacted]

Superior 36 Point Screening Test

Fixation Monitor: Blind Spot
Fixation Target: Bottom LED
Fixation Losses: 0/6 xx
False POS Errors: 1/5
False NEG Errors: 1/6
Test Duration: 03:00

Central Reference: 33 dB
Peripheral Reference: 33 dB

Stimulus: Ill White
Background: 31.5 ASB
Strategy: Two Zone
Test Mode: Age Corrected

Pupil Diameter:
Date: 07-16-2012
Time: 9:15 AM
Age: 40

Rx: +1.00 Ds DC X
Os Taped

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HEALTHCARE MANAGEMENT
Determining Medical Necessity for Blepharoplasty
Normal vs. Impaired

• Superior visual field is the most significant measurement in determining the need for eyelid/brow surgery

• Normal extent of the superior visual field
  - ~55 to 60 degrees at 90-degree meridian

• Impairment of the superior visual field
  - Ranges from 20% (mild ptosis) to 64% (more severe cases where the eyelid crosses the middle of the pupil)
Health Plan Coverage for Blepharoplasty

• Most health plans do not cover blepharoplasty when performed solely for the purpose of:
  - Improving or altering appearance or self-esteem
  - Treating psychological symptomatology or psychosocial complaints related to one’s appearance

• Specifically excluded under some plans

• Specific criteria must be well documented in order to consider medically necessary
When Is Surgery Needed?

- Obstruction of the visual field interferes with patient’s ability to perform daily activities
- Testing demonstrates a minimum of at least 12-degree or 30% loss of upper field vision
  - Upper lid skin and/or upper lid margin should be in repose and elevated (by taping the lid) to show potential correction by proposed procedure(s)

CMS. LCD for Blepharoplasty (L31828). Effective July 1, 2012.
Sample Plan Language

- **Blepharochalasis, dermatochalasis, or pseudoptosis with upper visual field loss of at least 20 degrees or 30% on visual field testing that is corrected when the upper lid margin is elevated by taping the eyelid AND preoperative frontal photographs demonstrate BOTH of the following:**
  - Light reflex in the cornea with the head perpendicular to the plane of the camera (i.e., not tilted)
  - Findings consistent with visual field loss documented on visual field testing
Sample Plan Language (cont’d)

- **Difficulty tolerating a prosthesis in an anophthalmic socket**
- **Epiphora (i.e., excessive tearing) due to ectropion and/or punctual eversion**
- **Painful blepharospasm that is refractory to medical management (e.g., botulinum toxin injections)**
- **Orbital sequelae of thyroid disease or nerve palsy (e.g., exposure keratitis)**
- **Upper eyelid defect caused by trauma, tumor, or ablative surgery resulting in a severe physical deformity or disfigurement that is causing functional visual impairment as confirmed by preoperative frontal photographs**
Medicare Coverage for Blepharoplasty

- Considered functional/reconstructive corrective surgery when:
  - Documented ptosis, pseudoptosis, or dermatochalasis
  - Interference with vision or visual field
  - Difficulty reading due to upper eyelid drooping
  - Patient is looking through the eyelashes or seeing upper eyelid skin
  - Chronic blepharitis
  - Visual impairment with near or far vision due to dermatochalasis, blepharochalasis, or blepharoptosis
  - Symptomatic redundant skin weighing down on the upper lashes
  - Chronic, symptomatic dermatitis of pretarsal skin caused by redundant upper lid skin
  - Prosthesis difficulties in an anophthalmic socket

CMS. LCD for Blepharoplasty (L31828). Effective July 1, 2012.
Medicare Requires Appropriate Documentation of Conditions

- The visual fields should demonstrate:
  - A minimum 12-degree or 30% loss of upper field of vision
  - Potential correction by proposed procedure(s)
    - Testing should be done with upper lid skin and/or upper lid margin in repose and elevated (by taping of the lid)
- Photographs are not required by most carriers

CMS. LCD for Blepharoplasty (L31828). Effective July 1, 2012.
Professional Society Guidelines for Blepharoplasty
The American Society of Plastic Surgeons

• Blepharoplasty is reconstructive when there is visual field impairment
  - Visual impairment caused by ptosis, blepharochalasis
  - Congenital abnormalities or defects caused by trauma or tumor-ablative surgery

• Formal visual field testing by an optometrist or ophthalmologist is recommended

ASPS. Practice Parameter for Blepharoplasty. 2007.
The ASPS: Additional Documentation Using Photography

- Preoperative photographs may be used:
  - In patient assessment
  - To meet healthcare plan requirements
  - To help the surgeon in planning surgery

- Additional photographs may include:
  - Upward and downward gaze
  - Oblique views
The American Academy of Ophthalmology (AAO)

• Blepharoplasty and repairs of blepharoptosis are functional/reconstructive to correct:
  - Visual impairment with near or far vision due to dermatochalasis, blepharochalasis, or blepharoptosis
  - Symptomatic redundant skin weighing down the upper lashes
  - Chronic, symptomatic dermatitis of pretarsal skin caused by redundant upper lid skin
  - Prosthesis difficulties in an anophthalmic socket

The AAO (cont’d)

- Documented patient complaints that justify functional surgery:
  - Interference with vision or visual field
  - Difficulty reading due to upper eyelid drooping
  - Looking through the eyelashes or seeing the upper eyelid skin
  - Chronic blepharitis

The AAO (cont’d)

- Photographs should demonstrate one or more of the following:
  - Upper eyelid margin approaches to within 2.5 mm (1/4 of the diameter of the visible iris) of the corneal light reflex
  - Upper eyelid skin rests on the eyelashes
  - Upper eyelid indicates the presence of dermatitis
  - Upper eyelid position contributes to difficulty tolerating a prosthesis in an anophthalmic socket
  - Visual fields demonstrate a minimum of 12-degree or 30% loss of upper field of vision*

*With upper lid skin and/or upper margin in repose and elevated (by taping of the lid) to demonstrate potential correction by proposed procedure(s).

Independent Medical Review: Facilitating Determination of Medical Necessity

- The versatility of blepharoplasty for both cosmetic and medical conditions complicates the process of determining medical necessity for the procedure.
- Medical necessity must be supported by thorough clinical documentation, including results of visual field testing.
Role of Independent Medical Review

- Allows access to a range of board-certified physician specialists who keep up-to-date with the latest medical research literature and with the latest standard of care.
- Provides specialty match to allow healthcare plans to ensure that the requested treatment falls under the medical necessity requirements before approving a course of treatment.
- Avoids conflicts of interest, which can relate to economics, lack of specialists to review cases, or having the same doctor who denied a case review an appeal.
Conclusions

- Blepharoplasty is probably best known for its cosmetic indication
- Blepharoplasty is also used for numerous functional indications that require restoration of impaired vision
- Results of visual field testing alone are not enough to determine medical necessity for blepharoplasty
  - Cases can vary subtly, which makes thorough patient documentation critical
  - Health plans and professional societies have varying requirements to demonstrate medical necessity
Questions and Answers
Thank you for attending. All participants will receive a free copy of our latest publication via email:

“Understanding & Evaluating Visual Field Tests”

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