Bringing the Love Back to the Visual Field
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Course Description

The OCT has become an important diagnostic instrument in eye care. The visual field is still equally important in the diagnosis and treatment of ocular disease. Advances in software and visual field testing have clouded the waters. This course reviews how to use the visual field in your office with proper and efficient techniques. Learn which test is fitting and increase your confidence in interrupting the visual field. Numerous visual fields will be reviewed via a case presentation style.

Learning Objectives

1. Increase your skills in obtaining a reliable visual field
2. Increase your confidence level in interrupting the visual field
3. Review with software testing is most fitting for the ocular disease you are diagnosing or treating
4. Review the new indices of the visual field and how to apply them in the clinic
5. Review the new techniques and strategies in determining a reliable visual field

Outline
I.   Disclosures

a. Greg A. Caldwell, OD, FAAO will mention many products, instruments and companies during our discussion; I don't have any financial interest in any of these products, instruments or companies.

b. In the past 12 months, I have lectured or participated in a focus group which I received a honorarium for: will provide updated data

c. All of these cases have entered/referred to my practice

II.   Learning Objectives

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e. Review the new techniques and strategies in determining a reliable visual field

III.   Rules During this Presentation

a. There are no rules

b. Have fun, enjoy and relax

c. Ask questions at the time of the case

IV. Normal Visual Field Parameters

    a. More than 90 degrees temporal

    b. 60 degrees nasal and superior

    c. 70 degrees inferior

    d. Horizontal 150 degrees and vertical 130 degrees

    e. Most visual fields test 0-51 decibels

        i. 41-51 decibels is outside human vision

V. Pearls on setting up the visual field

    a. One diopter of refractive blur in undilated patient

        i. A little more than one decibel of depression of the hill of vision

            1. With Goldmann III stimulus

    b. Leave cylindrical errors of less than 2 diopters uncorrected

        i. Adjusted with spherical equivalent

        ii. Above 2 diopters correct the astigmatism with trial lens

    c. The background of a visual field illuminated (31.5 apostilbs)

        i. The minimum brightness for photopic or daylight

        ii. Cones are isolated, test photopic system

            1. More object contrast, less on absolute brightness

        iii. Changes in pupil size, crystalline lens color and transparency have less effect on result

VI. Interpreting the Visual Field Results

    a. Reliability Indices

        i. Fixation Losses

        ii. False Positives

        iii. False Negatives

    b. Threshold Values

    c. Numerical Total Deviation Map

    d. Numerical Pattern Deviation Map

    e. Total Deviation Map

    f. Pattern Deviation Probability Map

    g. Visual Field Indices

        i. Mean Deviation (MD)

            1. How deep is the defect

        ii. Pattern Standard Deviation

1. How localized is the defect

  iii. Visual Fiend Index (VFI)

    1. 100-0 %

 h. Glaucoma Hemifield Test (GHT)

  i. Might be the best place to look for glaucoma defect

  ii. Not designed to be sensitive to neurological or retinal field loss

 i. What parameters are best for staging the patient of time?

  i. Mean deviation and visual field index

VII. Let's look at a visual field of a blind eye and discuss:

 a. Mean deviation

  i. 32 decibels is generally measured in a blind eye (not zero)

 b. Pattern standard deviation

 c. Visual field index

VIII. Let's look at a visual field of a patient trigger happy; increased false positives

 a. Discuss Pattern Deviation Plot

IX. Let's look at a visual field of a patient dazed or not paying attention; increase false negatives

 a. Discuss why cloverleaf visual field

  i. Cloverleaf or butterfly

X. Perimetry in Eye Care

 a. Neurological disease

 b. Retinal disease

 c. Glaucoma

  i. Perimetry is essential in diagnosis and management

  ii. Why test the central 24-30 degrees?

    1. Only a small percentage of glaucomatous defects occur in the peripheral visual field alone

    2. Testing the central 25-30-degree field is preferred in glaucoma management

    3. Most of the retinal ganglion cells are within the 30 degrees of fixation

  iii. 24-2 versus 30-2 Visual Field

    1. 30-2 tests 76 locations

    2. 24-2 tests 54 locations, and tests 30 degrees nasal

      a. Little diagnostic information lost in 24-2

      b. Time is saved

        c.   Fewer trial lens and lid artifacts

    3.   24-2 have become the VF for glaucoma

        a.   Only down side; 30-2 can sometime find progression earlier due to more test points

  iv.   Sita Standard versus Sita Fast

    1.   Sita (patented) strategies are twice as fast as order strategies

    2.   Sita fast takes $2/3^{rd}$ the time of Sita standard

        a.   Sita fast has larger retest variability

    3.   Primary difference is between the two strategies is the amount of certainty that is required before testing is stopped

    4.   Sita standard

        a.   More precise

        b.   More tolerate of mistakes

        c.   Easier test as stimuli are brighter

  v.   Fovea On versus Off

  vi.   Short Wavelength Automated Perimetry (SWAP)

    1.   Blue-yellow perimetry, Goldmann V stimuli on yellow background

        a.   Thought to detect glaucomatous defect earlier than white on white

    2.   Due to Sita standard strategy, can find defect as early

XI.   Interpreting visual fields

    a.   No longer reliable or unreliable

      i.   A continuum from highly reliable to marginally informative

      ii.   False positives- are more destructive to interpretation than formerly believed

     iii.   Gaze tracker is typically a better indicator than blind spot

     iv.   False negatives are expected to be abnormal, even in attentive tester

      v.   Progression is not present or absent

    1.   Is the rate of change acceptable

XII.   How to use visual field to set target IOP

    a.   Mild VF defect

    b.   Moderate VF defect

    c.   Severe VF defect

XIII.   Interpret various visual fields with the skills we discussed

XIV.   Questions

XV.   Thank you