You Want Me to Do What Now?!?!?!

The Ins and Outs of Specialty Testing

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Who am I?
Where am I?
What am I?

I have no financial interest in this presentation.

(But if I had a dollar for every Goldmann visual field I've done, I'd take you all to dinner!)

Purpose?

- Diagnostic
- Observation
- Treatment
- Other life issues, i.e. therapy, maintaining independence, preparing for the future

Diagnostic:
- Glaucoma and optic nerve issues
- Neuro issues- tumor, stroke, pseudotumor
- Retina issues- ARMD, diabetic retinopathy, Retinitis Pigmentosa, choroidal issues
- Corneal disease- dry eyes, keratoconus, Fuch's dystrophy, refractive errors
- Misc.- Color deficiencies

Observation:

Watch 'em and watch 'em closely!
Monitor changes.
Prognosis.
Treatment:
Change therapy.
Change monitoring intervals.
Lifestyle modifications.

Other:
Therapy: Certain drug therapies, dry eye therapies, etc.
Maintaining independence: drivers’ license info, occupational therapy assistance, etc.
Preparing for the future: RP, Glaucoma

Anterior Segment

- Schirmer's
- ECC
- Pachymetry
- Topography
- Wavefront

Schirmer's tear testing

- Dry eyes
- With and without anesthetic
- Results: “normal” eye between 10-15 mm
  - mild dry eye between 9-14 mm
  - moderate between 4-8 mm
  - severe dry eye <4
Endothelial cell count

- Specular microscopy
- “Normal” eye cell density varies by age
  - 40s: between 2,300 and 3,100 cells/mm²
  - 60s: between 2,000 and 2,800 cells/mm²

Pachymetry

- Corneal thickness measurement
- Used in glaucoma diagnosis, Refractive surgery procedures and corneal disease management
- “Normal” reading is about 540 microns

Topography

- Corneal mapping: surface or posterior
  - Placido based
  - Scheimpflug (shime-fluke)
Astigmatic Cornea

Oculus Wavefront Technology
Corneal aberration - refractive analysis, corneal topography, optical path difference, and wavefront analysis
Zernike

Posterior Segment
- B-scan
- OCT
- Visual fields
  - Static vs Kinetic
  - Humphrey vs Goldmann
- EOG/ERG

B-scan
- Ultrasonography - “Brightness scan”
- two-dimensional, cross-sectional view of the eye and the orbit

OCT- Ocular Coherence Tomography

Visual Fields
- Static vs Kinetic
- Humphrey vs Goldmann
**EOG/ERG**
- Electrooculography
- Electroretinography

**Other**
- Color Testing
- A scan

**Color Testing**
- Ishihara
- D15
- Farnsworth Munsell

**A scan**
- Axial length

Thank you!
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