

# Special Session - Contemporary Glaucoma Care

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2 hours

This special course will provide an in-depth discussion of glaucoma and enrich the primary care optometrist with the most advanced diagnostic tools and successful treatment options for managing glaucoma patients and suspects. An update on diagnostic and treatment pearls as well as a review of important medications used to treat glaucoma will be discussed as part of the case presentations.

Learning Objectives:

- Be equipped with a practical, clinical base of information regarding the current trends in glaucoma management
- Review steps of a comprehensive glaucoma evaluation
- Recognize ocular surface disorders in the glaucoma patient
- Gain understanding of the newest technological advances and breakthroughs in glaucoma
- Analyze best treatment options for patients with glaucoma
- Evaluate glaucoma disease and understand what is essential for a comprehensive optometrist to know to improve patient outcomes

## **1. Introduction & Disclosures**

- Presenters: Drs. Ron Melton & Randall Thomas
- Financial disclosures noted

## **2. Epidemiology & Risk Factors**

- Definition of Ocular Hypertension (OHT) & Glaucoma
- Incidence/Prevalence: 5% of Americans over 40 have OHT
- Key risk factors:

- Age predilection
- IOP range
- Central Corneal Thickness (CCT) considerations
- Cup-to-disc ratio considerations
- VF loss patterns

### **3. Ocular Hypertension Treatment Study (OHTS) & Treatment Decisions**

- Median POAG development
  - Untreated arm: 6 yrs
  - Treated arm: 8.7 yrs
- Low-risk patients may not need early treatment
- Treatment risks vs. benefits

### **4. Optic Nerve Head Evaluation**

- Cup depth
- Rim anatomy
- ISN'T rule
- PPA zones
- RNFL thinning
- Case study
  - 70 y/o patient with evolving ONH changes

### **5. Retinal Nerve Fiber Layer (RNFL) & VF Testing**

- Structure versus Function Debate
  - RNFL thinning precedes VF defects
- VF Patterns in POAG
- Importance of quadrant-specific analysis of OCT & VF

### **6. Narrow Angles & Laser Peripheral Iridotomy**

- LPI not always sufficient

- Essential diagnostics & interpretation
  - Anterior Segment-OCT
  - Gonioscopy
- Risk factors for narrow angle glaucoma/angle closure
  - Age
  - Sex
  - Race
  - Hyperopia
  - Family History
- Pupillary Dilation Risks (5 min)
  - Rare angle closure post-dilation
  - LPI not routinely needed before dilation

## **8. Systemic Medications & Effect on Glaucoma**

- Potentially Protective Effects
  - Selective Serotonin Reuptake Inhibitors (SSRIs)
    - Clinical Studies
    - Examples
  - Selective Norepinephrine Reuptake Inhibitors (SNRIs)
    - Clinical Studies
    - Examples
- Potentially Harmful Effects
  - Calcium Channel Blockers (CCBs)
    - Esp. Amlodipine
  - Low BP increases NTG risk

## **9. IOP Dynamics & Sleep**

- Nocturnal IOP elevation

- Supine posture increases episcleral venous pressure

## **10. Tonometry Advances**

- Rebound tonometry vs. GAT
  - Clinical Studies
- iCare HOME for self-monitoring
  - Clinical Validity

## **11. Visual Field Testing**

- SITA-Faster protocol
  - Recommend 3 tests/year for 2 years
- Faster, reliable VF progression tracking
- New perimeters

## **12. Gonioscopy & Angle Closure Prevention**

- Gonioscopy underutilized
  - Clinical Studies
- Review of anatomical angle structures
- [www.gonioscopy.org](http://www.gonioscopy.org) for training

## **13. Cataract Surgery & MIGS**

- Phacoemulsification
  - Reduction in IOP from cataract surgery alone shown in clinical studies
- MIGS
  - Less invasive than some other surgeries
  - Modest additional benefit

## **14. Glaucoma Medications Overview**

- Prostaglandin analogs (PGAs)
  - Mechanism of Action
  - Examples

- Beta-blockers
  - Mechanism of Action
  - Examples
- Carbonic Anhydrase Inhibitors (CAIs)
  - Mechanism of Action
  - Examples
- Rho-kinase inhibitors
  - Mechanism of Action
  - Examples
- Combo therapies: Xalacom, DuoTrav, Rocklatan
  - Mechanism of Action
  - Examples
- Intracameral, sustained-release implants
  - Durysta
  - iDose TR

## **15. Drug Side Effects & Considerations**

- PGA-associated periorbitopathy
- Preservative-free options
- Pregnancy cautions

## **16. SLT & Direct SLT**

- SLT as first-line treatment
  - Literature search results of clinical efficacy
- Direct SLT
  - Eye-tracking tech
  - Non-gonioscopic
  - Outcomes vs. traditional SLT

## **17. Lifestyle & Prevention of Glaucoma**

- Exercise: 150 min/week reduces risk 40–50%
- Caffeine: moderate intake advised
- Marijuana: not recommended by AAO

## **18. Summary/Conclusion**