

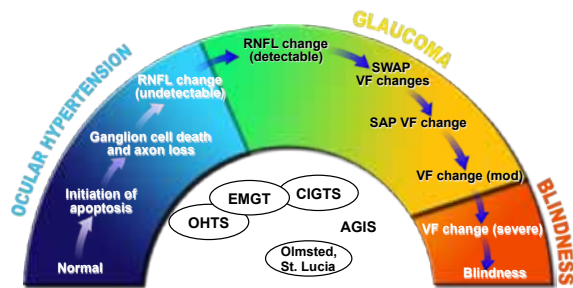
Controversies in Glaucoma

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Question 1 Is the Optic Nerve Always the First Place Glaucoma is Discovered?

Any Reason to Look at the Fields
if the Optic Nerve Appears
Healthy?

The Glaucoma Continuum



Ocular Hypertension Treatment Study First POAG Endpoint per Participant

	Medication		Observation	
	N	%	N	%
Visual Field	15	41.7	29	32.6
Optic Disc	18	50.0	51	57.3
Concurrent Visual Field and Optic Disc	3	8.3	9	10.1
Total	36	100	89	100

Question Is Pachymetry a Standard of Care?

Do you correct for corneal
thickness when determining IOP

If so, how much?

Is the Person Who Has Had Refractive Surgery at a Greater Risk of Developing Glaucoma?

Are Risk Calculators Useful When Deciding Whether to Treat Ocular Hypertension?

The OHTS-EGPS Risk Calculator

Available for free as PDF download at <http://ohts.wustl.edu/risk/calculator.html>

CONTINUOUS METHOD FOR ESTIMATING 5-YEAR RISK OF DEVELOPING POAG

INSTRUCTIONS:
 1. Enter Patient Age and Corneal Thickness (all four eye measurements need to be entered to calculate).
 2. Click "Estimate Risk" to obtain the predicted 5-year risk of developing POAG.
 3. Tooltips can be viewed by hovering your mouse over any question mark.

FACTOR	RIGHT EYE MEASUREMENTS			LEFT EYE MEASUREMENTS		
	1st	2nd	3rd	1st	2nd	3rd
1. Age (years)						
2. Corneal Thickness (µm)						
3. Vertical Cup to Disc Ratio by Corneal						
4. Right Intraocular Pressure (mmHg)						

Buttons: Estimate Risk, Cancel, Reset

POINT SYSTEM FOR ESTIMATING 5-YEAR RISK OF DEVELOPING POAG

INSTRUCTIONS:
 1. Select data for age and ocular data coverage of multiple measures of right and left eyes. For Parsimony, select one value for Humphrey FBC or Corneal Thickness depending on which instrument was used.
 2. Click "Estimate" to obtain the total points and predicted risk.
 3. Tooltips can be viewed by hovering your mouse over any question mark.

FACTORS	0	Points for Factors			
		1	2	3	4
Age (years)	0-4	5-14	15-24	25-34	35-44
Estimated Probability (per eye)	0.00	0.05	0.10	0.15	0.20
Corneal Thickness (µm)	540-550	550-560	560-570	570-580	580-590
Vertical Cup/Disc Ratio by Corneal	0.0-0.1	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5
Right IOP (mmHg)	10-11	12-13	14-15	16-17	18-19
Estimated 5-year Risk of Developing POAG	0.0%	0.5%	1.0%	1.5%	2.0%

Buttons: Estimate, Cancel, Reset

What is the Harm in Waiting Until Glaucomatous Damage is Present?

Why Treat Ocular Hypertension, Suspicious Optic Nerves or Visual Fields if Glaucoma is not Definite?

Why Treat the Glaucoma Suspect?

- Suspicious signs of glaucoma often precede obvious disease
 - Difficult question is at what point therapy should be initiated
- Factors include
 - IOP
 - Optic nerve appearance
 - Visual Field
 - Patient's fear of going blind
 - Desire to do no harm
 - Doctor's attitude towards using unnecessary resources unnecessarily

Why Treat the Glaucoma Suspect?

- Ocular hypertension is a common condition facing ODS
 - Estimated 4-9% of population above 40 years old
 - Defined as IOP > 21 mmHg
 - Millions of people
 - After examining these individuals and subjecting them to many tests, still the threshold for glaucoma is not achieved
 - What does the Doctor do then?
 - We also have the question of how to handle those individuals with suspicious optic nerves or visual fields that often do not reach the glaucoma threshold?

“Before expensive and quality of life-limiting therapy is begun, we must ensure that a disease actually exists and that a glaucomatous process has begun”

Alan L. Robin, MD

Why Treat the Glaucoma Suspect?

- Assumption with ocular hypertension is that it is similar to cancer
 - Treating early will prevent a devastating blinding condition
 - Prevent it from spreading and becoming aggressive
 - Is their data to support this?
 - Does the rate of loss diminish with therapy?
 - Does the disease progress more rapidly if therapy is begun after damage is present?
 - Can you watch your patients with OHTN carefully rather than treating them?

Why Treat the Glaucoma Suspect?

- To further cloud this issue, OHTS results show that 9.5% w/o therapy converted but STILL 4.4% converted with therapy
- Do we have an answer as to why we should treat the individual early without damage?
 - NO though the OHTS II should answer the question in several years time
- Until then, what to do?
- Prior to OHTS, conventional wisdom was that 0.5-1.0% of individuals with OHTN converted to glaucoma yearly

Why Treat the Glaucoma Suspect?

- OHTS found that certain individuals with OHTN showed a greater level of conversion
 - 5-7% conversion when taking in account other factors besides IOP
- Led to the each individual being evaluated and ranking them in regards to risk level
 - High, Medium or Low
- OHTS data allows risk level at 5 years to be calculated

Why Treat the Glaucoma Suspect?

- Given the evidence we have, makes sense to treat higher risk groups if we can do so conveniently, effectively, and without causing intolerable side effects
- STILL it is the patient's choice after being presented with the evidence what route to proceed with

At What Risk is the Therapy for Ocular Hypertension Indicated?

The slide titled "Clinical Risk Thresholds for Treatment" contains a table with two columns: "Level of Risk Over 1 Year" and "Recommended Action".

Level of Risk Over 1 Year	Recommended Action
Low < 1%	Observe and monitor
Moderate 1% to 10%	Consider treatment
High > 10%	Treat

Additional text on the slide includes: "This risk is not intended to substitute for your clinical judgment and judgment. Individual treatment will vary based on individual patient characteristics." and "Read the article published in the Ocular Hypertension Group at the University of California San Diego."

Is Goldmann Tonometry Outdated?

Does one need to convert to the newer forms of tonometry?

Which is the Preferred Visual Field Test to Use?

SITA Standard Versus SITA Fast?
24-2 vs. 30-2?

If the Visual Field Gets Worse,
Do You Need to Confirm the
Change Before Advancing
Therapy?

Variability of Field Defect No Confirmation



Question Can the Matrix Replace My Humphrey Perimeter ???

Can you use the FDT Matrix
Perimeter to Threshold
the Visual Field?

Following for Change with Visual Fields

Can you use Overview Printouts?
Or is the Glaucoma Progression
Analysis (GPA) Needed?

Question Optic Nerve Imaging?

Is There A Need?
Are They a Standard of Care?
Isn't a Dilated Stereo View along with
Fundus Photographs Enough?

If you do Imaging, do you still
need to take Optic Nerve
Photographs for a patient with
OHTN or Glaucoma?

How many times do you measure
IOP before beginning treatment?

At least two and preferably three
times

Beginning treatment

- How much IOP lowering do you usually shoot for? Do you chose a fixed percentage or lowering to a certain level (AGIS 12.3)?
 - Aim for 25 – 30 %
 - Usually not satisfied with IOP > 17 mm Hg
 - Happy with IOP < 15 mm Hg in advanced disease
 - Don't kill yourself or patient trying to get to 12.3 mm Hg – follow the discs and fields frequently

Do you always use a one eye therapeutic trial?

Can you really predict effect in fellow based on initial treatment response of first eye?

Are Topical Beta Blockers Safe to Use?

OHTS and Safety Issues

- No differences in SF-36 or participant self-reported ocular or systemic symptoms except for those associated with prostaglandin analogues
- Slight excess in cataract surgery in medication group (5.1%) compared to observation group (2.5%), $p=.17$

If a patient is using a PG and needs further lowering, what should be used?

Medications vs. ALT
Timolol vs. Alphagan vs.
Topical CAI

Managing Glaucoma

- First medication
 - Prostaglandin
- Second medication
 - Topical CAI or Beta Blocker
 - Or switch to different prostaglandin
- Third medication or Modality
 - Fixed Combination "CoSopt"
- Fourth medication or modality
 - Brimonidine or ALT/SLT
- Fifth modality- Surgery

Is Filter Surgery Still the Primary Surgical Procedure?

Or are Tube Procedures
Becoming the Method of Choice?

