Glaucoma in the 21st Century
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How will diagnosis and care for glaucoma change in the 21st century?

1. Trend to specialization will continue
   - Knowledge base that is needed will expand
   - More drugs, more delivery systems
   - Compare training in 1975 to 2015
   - Glaucoma surgeons will do mostly glaucoma surgery
   - Contracting scope of practice will likely improve quality

2. Surgery is changing: MIGS
   - Minimally invasive surgery getting lots of press
   - None has shown ability to replace trabeculectomy
   - Only proven to slightly improve on phaco’s effect on IOP
   - Tube shunt surgery helpful but has it’s own problems
   - Xen shunt may be an improvement
   - Ideal would be an externally controllable tube shunt

3. Improvements in diagnosis more valuable than new surgery
   - Analysis of OCT at the optic disc has radically changed
   - Now using Bruch’s membrane opening as the key baseline
   - Clinical disc exam still useful as a check for OCT errors, disc hemorrhage
4. How often should you do a visual field test?
   - More often in potential glaucoma suspects
   - Many fields in first 2 years of management in treated glaucoma
   - The future need is a better test

5. Structure and function should match up (but don’t)
   - Ideal when upper NFL loss matches lower field defect
   - One can happen before the other, usually structure first
   - Still working toward a combined structure/function index
   - May mean moving into central 10 degrees

6. Glaucoma screening isn’t useful (yet)
   - Due to failure of single tests to find glaucoma at high predictive value
   - Targeted identification of suspects is the key
   - Family members aren’t getting examined effectively, annually
   - Screening by OCT imaging in field setting has promise

7. The cost of glaucoma care is going to be an issue
   - It’s actually going down the last decade
   - Cataract and retinal care cost a lot more
   - Outlier single patients with high cost must be avoided
   - The care model should be based on outcome, not fee for “service”

8. Since adherence is not good enough with drops, sustained delivery is needed
   - Probably only half of eyedrops are taken
   - Sustained delivery would mean 100% adherence
   - Some side effects would be avoided
   - Model for how to place drug in care system needed
9. Neuroprotection is coming (see separate lecture)

10. Angle closure glaucoma mechanisms better understood

- Behavior of iris explains who is most susceptible
- Behavior of iris related to regional differences in prevalence
- Malignant glaucoma is not “misdirected aqueous”
- Too many iridotomies are being done