

**Pacific University**  
**CommonKnowledge**

---

Faculty Scholarship (COO)

College of Optometry

---

2015

# Evidence Based Eye Care

Len V. Koh

Follow this and additional works at: <http://commons.pacificu.edu/coofac>

 Part of the [Optometry Commons](#)

---

## Recommended Citation

<https://clinicaltrials.gov>

This Poster is brought to you for free and open access by the College of Optometry at CommonKnowledge. It has been accepted for inclusion in Faculty Scholarship (COO) by an authorized administrator of CommonKnowledge. For more information, please contact [CommonKnowledge@pacificu.edu](mailto:CommonKnowledge@pacificu.edu).

---

# Evidence Based Eye Care

**Description**

A summary of the results from numerous randomized clinical trials in eye care for students and clinicians.

**Keywords**

Randomized clinical trials, Optometry, Ophthalmology, Evidence based, Ocular disease

**Disciplines**

Optometry

**Comments**

The poster can be printed 'scale to fit' at your preference.

**Rights**

Terms of use for work posted in CommonKnowledge.

<b>Amblyopia</b>	<b>ATS 1</b> 3-7yo (VA20/40-20/100) 1% atropine & daily patching >6 h improved VA @ 6 months	<b>ATS 2</b> 3-7yo (VA20/40-20/80) Patching 2h = 6h (moderate) 6h = FT (20/100-20/400)	<b>ATS3</b> 7-13yo benefit from patch/atropine 13-18yo benefit from patch w/o prior Tx	<b>ATS4</b> <7yo (VA20/40-20/80) Daily = Weekend-only atropine	<b>ATS5</b> 2h/d X 5 weeks work <b>ATS6</b> Near activities does not improve VA	<b>ATS7</b> 3-10yo (bilateral refractive amblyopia) Spectacles improve to 20/25+ within 1 yr	<b>ATS9</b> 7-12yo 2h patching = weekend only atropine	<b>ATS10</b> Bangerter filters = patching
<b>Myopia Control</b>	<b>LORIC Study</b> 35 children (7-12yo) 2 years AL ↑ 0.29 (CRT) vs 0.54mm	<b>K Reshaping</b> 40 children (8-11yo) 2 years AL ↓ 0.16mm annually	<b>Dual-Focus Soft CL</b> 40 children (11-14yo) 20 months +2.00 center distance Progression ↓ 30%	<b>CL ↓ Peripheral Hyperopia</b> 45 Children (7-14yo) Multifocal CL (CIBA) 33% less AL growth	<b>Multifocal CL</b> 27/40 children (8-11yo) 2 years Proclear MF"D" +2.00 50% less progression	<b>ROMIO Study</b> 78/102 kids (6-10yo) 2 years Ortho-K: 43% less AL growth	<b>ATOM 1</b> 364 kids (6-12 yo) 2 years OD/OS 1% atropine nightly -1.20D vs -0.28D	<b>ATOM 2</b> 400 kids (6-12yo) 2 years atropine qhs OU 0.5% = -0.30D 0.1% = -0.38D 0.01% = -0.49D
<b>Dry Eye &amp; MGD Workshop</b>	<b>DEWS-Questionnaire</b> OSDI Mild 13-22 Moderate 23-32 Severe 33-100	<b>DEWS-Tests</b> Tearlab ≥ 312 mOsm/L TBUT ≤ 10 sec Schirmer Test ≤ 10 mm	<b>Dry Eye Management</b> Artificial Tears Eyelid therapy Anti-inflammatories Tetracyclines	<b>Dry Eye Management</b> Punctal plugs Secretagogues Serum Scleral contact lenses	<b>MGD</b> Eyelid hygiene Eyelid warming (>4min bid) + firm massage Artificial Tears	<b>MGD</b> Topical azithromycin Tetracyclines Antiinflammatory therapy	<b>Ocular TRUST (Tracking Resistance in U.S. Today)</b> MRSA susceptibility to fluoroquinolones = 15.2% MRSA: Bactrim/Septa 160/800mg po BID X 10d Periocular MRSA infections: IV vancomycin	
<b>Contact Lens Wear</b>	<b>Cornea O2 Requirements</b> Equivalent O2 % (EOP) > 10% for no K edema Highest EOP from CL ~ 16% EOP Dk/t = 24, daily wear w/o K edema Dk/t = 87, extended wear w 3-4% edema		<b>Prevalence of Keratitis</b> Annual incidence (AI) = 4.1 per 10,000 dailes AI = 20/10,000 for EW	<b>Steroids for K Ulcers</b> 1. Vigamox q1h 2d, q2h-qid 3wks 2. (+) 1% pred PO4 qid 1wk, bid 1wk, qd 1wk Same BCVA @ 3 mo	<b>Keratoconus (CLEK)</b>	<b>CLEK Study</b> <u>Etiology:</u> freq rub 50%, FHx 18% <u>Associations:</u> Allergies (53%), Asthma (15%), Atopic dermatitis (8%)	<b>CLEK Study</b> 74% wore RGPs, 64% also wore glasses K scarring: 15% over 5 years. CL ↑ risk of K scarring	<b>CLEK Study</b> 10% had unilateral PK in 8 years. 2.5% had bilateral PK in 8 years
<b>Herpetic Eye Disease Study (HEDS)</b>	<b>HEDS I</b> <u>Stromal keratitis:</u> Pred + Viroptic no additional benefit w oral acyclovir	<b>HEDS II</b> Oral acyclovir (400mg BID X 1 yr) ↓ recurrence of HSK by 41% & stromal keratitis by 50%	<b>Beaver DAM Eye Study</b> 5000 (43-84yo) Cataracts and AMD link to smoking & sun exposure (400-480nm, blue)	<b>Blue Mountain Eye Study (BMES)</b> 49-97yo Nuclear cataract: smoking, alcoholics.	<b>BMES</b> Cortical cataract: diabetes, vascular dz PSC: steroids, smoking, sun, diabetes, myopia	<b>BMES</b> AMD: age, female, smoking Glaucoma: age, diabetes, fhx, 50% undx glaucoma	<b>Chesapeake Bay Watermen Study</b> Chronic UV-B exposure 3.9X ↑ cortical cataract	<b>Salisbury Eye Study</b> African Americans had more cortical cataract. Caucasians had more NSC and PSC.
<b>Glaucoma</b>	<b>AGIS</b> IOP<18, less risk of progression over 7 years First 1.5yr Tx is the most critical IOP<15 no VF progression for 15 yrs 16% experienced VFs are artefacts		<b>CNTGS</b> TP 30% reduction Tx (+) progression, (+) disc heme, (+) migraines	<b>EMGT</b> 45% Tx vs 62% control progress over 6 yrs Tx ↓ risk of progression by 50% ↓1mmHg ↓ 10% progression 5 pt treated for 1 pt benefit		<b>CIGTS</b> Drugs ↓ IOP 38% Filtration ↓ IOP 46% Drugs first then filtration surgery	<b>ICEST</b> Latanoprost & pilocarpine > timolol or Cosoft for PXG	<b>LALES</b> OHTN & glaucoma are higher than non-Hispanic whites, similar to African American
<b>Macular Degeneration</b>	<b>AREDS I</b> 4757 (55-80yo): 500 mg vit C, 400 IU vit E, 15mg β-carotene, 80mg Zn, 2mg Cu <u>Severe AMD:</u> 25% ↓ progression & 19% ↓ in vision loss		<b>AREDS II</b> 4203(50-85yo): 10mg lutein, 2mg zeaxanthin (safer than β-carotene) 350 mg DHA + 650 mg EPA; lower dose of zn No further reduction in AMD progression		<b>CATT</b> Avastin = Lucentis PRN dosing = Monthly Avastin is effective and more affordable	<b>OHTS</b> 10% of OHTN will develop glaucoma is untreated 19.6 'at-risk' Tx to prevent 1 'at-risk' from POAG over 5 years Risk factors: IOP, vertical C/D, CCT, Ethnicity <a href="https://www.deverseye.org/grc/">https://www.deverseye.org/grc/</a> (risk calculator)		
<b>Diabetic Eye Disease</b>	<b>DR Grading Scale</b> <u>Mild NPDR:</u> >1MA, 5% PDR@ 1yr, f/u 1yr <u>Moderate NPDR:</u> 12-27% PDR @ 1yr, f/u 6-8 mo <u>Severe NPDR:</u> '4-2-1': MA, hemes 4 quad, venous beading 2 quad, IRMA 1 quad, 52% PDE @ 1yr, f/u 3-4 mo <u>PDR:</u> NVD, NVE or vitreous hemorrhage		<b>DCCT</b> 1441 DM1 (13-39yo) Intensive: A1C < 6 Retinopathy ↓ 54-76% Neuropathy ↓ 60% Nephropathy ↓ 50%	<b>DRS</b> PRP & focal treatment for NVI & NVE Photocoagulation (argon/xenon) ↓ risk of severe vision loss by > 50%	<b>EDTRS</b> <u>CSME:</u> retinal thickening within 500um (1/3DD) of fovea; Hard exudates within 500um of fovea; retinal thickening ≥ 1DD within 1DD of fovea. Focal photocoagulation effective in CSME Consider PRP for severe NPDR & early PDR Perform PRP for high-risk PDR		<b>UKPDS</b> 5102 (T2DM) Tight BS control, 25% ↓ vascular complications Tight BP control, 34% ↓ vascular complications	<b>LALES</b> 4-year incidences DR 34% Worsen DR 38.9% Better DR 14% ME 5.4% CSME 7.2%
<b>Venous Occlusions</b>	<b>BVOS</b> Laser Tx ↓ neovasc & vitr hemes Grid laser, effective for macular edema (ME)	<b>CVOS</b> PRP for NVI Grid laser for ME	<b>SCORE</b> Grid laser for BRVO ME Intravitreal Kenalog 1mg for CRVO ME	<b>BRAVO</b> 0.3 mg and 0.5 mg ranibizumab, effective for BRVO ME	<b>CRUISE</b> 0.3 mg and 0.5 mg ranibizumab, effective for CRVO ME	<b>Optic Neuritis</b> <b>ONTT</b> Oral prednisone, ineffective, ↑ recurrences IV methylpredx3d, oral predx11d, faster recovery Oral placebox14d, continual recovery over 1 yr 5-year recurrence: 28%		