


Clinical Pearls for the Primary Eye Care Practice

Optometric Education Consultants
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Financial disclosure statement

- Associate Professor of Clinical Ophthalmology
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- Optometric Editor, Primary Care Optometry News
- No financial disclosures



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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 56 yof

Ocular history: c/o blurred vision with eyeglasses. Corneal dystrophy. Brother with PKP and graft rejection. Wants to avoid surgery. Muro gtt prn - limited relief.

VA cc OD 20/100 & OS 20/80.

Biomicroscopy - Mild ABMD and Fuch's endothelial dystrophy OU.

Impression: ABMD OU, Fuch's corneal dystrophy OU.

Plan:

1. PureVision 2 89 145
-300 -125 x 68 = 20/30
-350 -150 x 107 = 20/25
2. Clear care qhs / replace q 1 month
3. Muro ung OU qhs.



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Clinical Pearls For The Primary Eye Care Practice

Clinical Case 56 yof - 2 year f/u visit

Ocular history: 'vision in right eye a little blurry.' Wearing soft lenses qd x 12+ hours. Clear care qhs. Replace q 1 mth. Muro ung OU qhs.

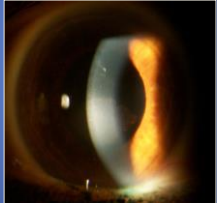
VA cc OD 20/60 & OS 20/30.

Biomicroscopy - ABMD stable OU. Progressive Fuch's endothelial dystrophy.

Impression: ABMD OU, Fuch's corneal dystrophy OD > OS.

Plan:

1. DSAEK vs DMEK consult.
2. Continue with contact lenses in interim.



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Clinical Pearls

Fuch's Dystrophy

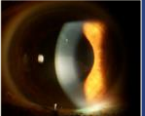
- Female > male. Symptomatic 6th decade.
- Autosomal dominant
- Repeating trinucleotide on **TCF4 gene 96% positive predictor** (Baratz ARVO 2012)

Diagnosis

- Symptoms
- Biomicroscopy, Speculars, & Pachymetry

Repp, etal Oph 2013

- Central:Peripheral corneal thickness ratio
- Advanced Fuch's = **1.03**
- Mild-moderate Fuchs = 0.95
- Controls = **0.87**



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Clinical Pearls For The Primary Eye Care Practice

Clinical Pearls

Muro 5% ung vs FreshKote qhs?
Muro 128 - 5% NaCl
FreshKote - Amisol, lacrophillic aqueous, mucomimetics

DSAEK vs DMEK? Majmudar OSN 4-25-2014
DMEK quicker recovery - 3-4 wks vs several mths
DMEK 95% BCVA > 20/40 vs DSAEK 43% > 20/40
DMEK +0.24D shift vs DSAEK +1.1D shift
DMEK 1% rejection rate vs DSAEK 12% rejection rate

Does DMEK work? Price, etal J Ref Surg 2010
Pentacam imaging of 29 eyes with Fuchs Dystrophy
Pachymetry pre-DMEK of 656u vs 539u post-op
No difference in **simulated keratometry or astigmatism**
Anterior shift of posterior cornea of 69u

Do we even need donor tissue? Garcerant, etal Curr Op Oph 2019
Clearing in 63-100% cases with DSO and Rho-kinase inhibitor

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 57 yom

- Keratoconus x 35 yrs
- OD PKP 1985
- Intolerant to GPCL
- Suboptimal fit with Hybrid
- Decreased WT with piggybacks due to dryness
- Suboptimal VA with KeraSoft

Systemic History: Asthma & psoriatic arthritis

Meds: Albuterol, Prednisone, & Triamcinolone IM injections

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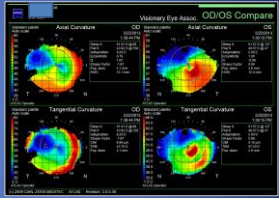
Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 57 yom

UCVA
 OD < 20/400
 OS 20/300

Rx
 OD -5.50-5.00x141 = 20/50-
 OS -2.50-2.50x104 = 20/80-

Biomicroscopy
 Mild MGD & moderate evaporative dry eye
 PKP clear & compact OD
 Moderately advanced KCN OS.



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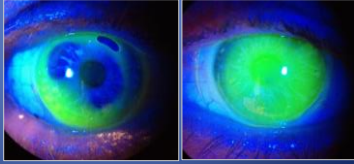
Clinical Case - 57 yom

- Zenlens **Prolate** (Boston XO)
- OD 7.20 16.0 5.10 sag -6.00 2 FLT = 20/20-
- OS 7.10 16.0 4.80 sag -7.50-2.00x60 3 FLT = 20/20-

Boston DC qhs , ReNu Fresh MPS qhs, PF saline qam

Mid-day PF saline refill (fogging)

Adjunct Tx:
 Lotemax gel OU qhs
 Bruder Mask OU qhs
 Pred 1% OD prn



OD Zenlens Oblate OD Zenlens Prolate

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Scleral Lens Clinical Pearls

- Increased popularity due to
 - More O₂ permeable materials & better designs
 - Better understanding of fitting relationship (**AS-OCT**)
- Expanded applications
 - KCN, ectasia, OSD, GHD ... ametropia
 - **Meridional elevation delta > 300u** (Zheng GSLS 2015)
- Challenges
 - Dynamic nature of fit
Average **112u** settling over ~8 hrs (Kauffman OVS)
 - Mid-day fogging
CMC gtt in lens insertion (DeNaeyer CLS 2019)
 - Corneal Edema
DK 120+, CT < 200u, VLT < 150u (Compan IOVS 2014)

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Clinical case - 47 yof

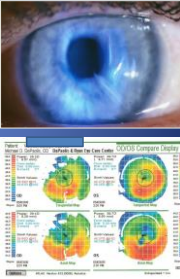
Ocular history: Bilateral RK with T-cuts 1997.
 Consecutive hyperopia and irregular astigmatism OU.
 C/O multiple images and variable vision.

Contact Lens History: Intolerant to GPCL's.
 Variable (diurnal) vision with SCL's.

Systemic history: Excellent. No meds.

MR OD +150 - 525 x 105 = 20/40-
 OS +100 - 800 x 121 = 20/50-

Biomicroscopy: Multiple RK with T-cuts OU.
 Aqueous deficient & evaporative dry eye OU.



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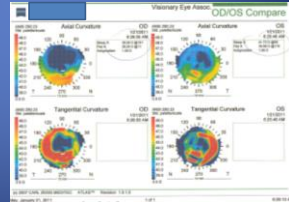
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Clinical case - 47 yof

Surgical History:
 RK incisions revision with suturing OU
 Corneal collagen crosslinking OS 1 month later
 Corneal collagen crosslinking OD 3 months later

Topography stable (sim Ks)
 OD 3824 x 3984
 OS 3988 x 4173

Refraction
 OD +225 - 250 x 105 = 20/25
 OS plano - 275 x 85 = 20/20-

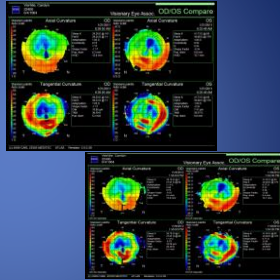


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Clinical case – 47 yof

Biomicroscopy:
Multiple RK with T-cuts OU.
Persistent dry eye OU.



Contact Lens History:

OD PureVision 2 Toric
89 +175 – 125 x 100 = 20/30
OS Biofinity Toric
86 -150 – 075 x 70 = 20/40

Final Rx:

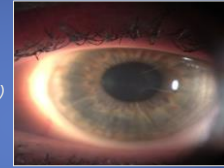
OD Alden NovaKone 96 145 86 +250 – 250 x 105 2 IT = 20/25+
OS Alden NovaKone 90 145 86 plano – 250 x 70 1 IT = 20/20-
Clear Care qhs.

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Clinical Pearls For The Primary Eye Care Practice

Clinical case – 47 yof

Biomicroscopy:
▪ Grade 1+ MGD (hyposecretory)
▪ Grade 1 conjunctivochalasis
▪ Tear prism ~ 0.25mm
▪ TBUT 5-7 seconds



Aqueous Deficiency & Evaporative Dry Eye

Treatment:

- Good hydration and omega 3 intake (EPA+DHA = 1,000 mg)
- Bruder mask qd x 4-5 minutes / Systane Lid Wipes qhs
- Systane Balance PF qid+
- Parasol punctal plug lower lid

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Clinical Pearls

- Meibomian Gland Thermal Therapy
 - LipiFlow (J&J) Thermal Pulse Tx (J&J LipiFlow)
Blackie, etal Clin Oph 2016
LipiFlow superior to HC. 86% maintain **up to 1 year**
 - I-Lux (Alcon) – comparable to LipiFlow @ 1mth Merchea AAO 2019
 - Tear Care (Sight Sciences) – Olympia Trial clinicaltrials.gov
Badawi Clin Ther 2019 – TearCare superior to HC. **Retx @ 6mth**
 - IPL + MGX – effective in refractory MGD Arita, etal Oc Surf 2019
- Immunomodulation
 - IMPACT Study Stonecipher, etal Clin Oph 2016
Restasis bid x 6 month - OSDI, staining, TBUT, & **visual scores**
 - OPUS-1 Sheppard, etal Oph 2014
Xiidra bid – improved SPK and LG stain (**day 14**)
– improved discomfort and dryness (**day 84**)

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Clinical Pearls

- Alternate Contact Lens Design
Alden Zenlens Scleral Lens vs Boston Prose
- Hyperopic / Astigmatic PRK Koch Oph 2009
 - 32 RK eyes treated with WFG PRK with mitomycin
 - UCVA: 50% 20/20 and 100% 20/40
 - 19% developed haze, but **no eye lost > 1 line BCVA**
- Phakic Toric IOL Gills, etal J Cat & Ref Surg 2002
 - 13 RK eyes with mean astigmatism 5.54D
 - **all eyes < 1D post-op** & 69% UCVA 20/40 or better

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Clinical Case - 63 yof

Ocular History: Successful monovision soft CL wear.
C/O dryness, blurred vision, and contact lens intolerance.
"I think my dryness is due to my medications"

Contact Lens History: Biofinity Toric SCL. ReNu qhs. Rep q2 mth .

Systemic History: HTN, hypo-T, **Non-smoker small cell lung CA.**

Medications: Amlodipine, levothyroxine, & **Tarceva.** NKDA.

Exam: VA OD cc 20/60 & OS cc 20/50
Pupils, motilities, & CVF's normal OU
IOP's 14 OU
DFE: Normal disc, macula, vessels, periphery OU

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Clinical Case - 63 yof

Refraction: OD - 125-075x180 / +225 = 20/25
OS - 200-050x170 / +225 = 20/40

Biomicroscopy: Mild MGD, mild injection, coalesced SPK,
AC d&q, iris normal, grade 1 NS OU.

Tear Osmolarity 308 mOsm/L OD & 319 mOsm/L
TBUT ~ 5s

Impression: Tear deficient & evaporative
dry eye (likely 2* to chemo agent)

- Plan:**
- Environment, hydration, & **omega 3s (?)**
 - Hot compress qd x 5 minutes
 - Systane Balance PF qid,
 - Lotemax gel bid,
 - Clarti 1-Day toric OD / no lens OS



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Clinical Case - 63 yof

2 week follow-up:

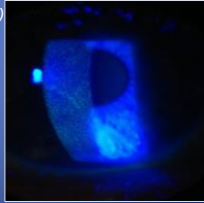
Ocular History: Compliant with all treatments. Right eye feels much better and is much clearer. Left eye still symptomatic.

VA: OD scl 20/25 (D) & OS sc 20/40 (N)

Biomicroscopy: Mild MGD OU, trace injection OS > OD, trace SPK OD & coalesced SPK OS, AC d&q, iris normal, grade 1 NS

Plan:

- Hydration and omega 3s
- Hot compress qd x 5 minutes
- Systane Balance PF qid
- Clariti 1-Day toric OD & Clariti 1-Day +025 OS



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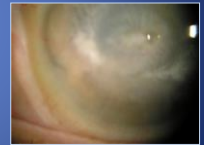
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Clinical Pearls

Just what is Tarceva?

- Erlotinib** is an EGF receptor inhibitor approved for pancreatic cancer and metastatic non-smoker small cell lung cancer

- Borkar, etal Sup Care Cancer 2013
- Dry Eye
 - Blepharitis and trichiasis
 - Corneal abrasions and sterile melts
- Sun, etal J Clin Pharm (2018)
 - Ocular side effects **dose dependent**
 - Erlotinib > 150mg per day



What are reasonable **adjunct** treatments?

- Punctal plugs
- Cyclosporin or Lifitgrast
- Amniotic membrane

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 35 yof

Ocular History: Dx of 'forme fruste' keratoconus 3 months prior. Intolerant to GPCL due to dryness and fb sensation. Resumed SCL wear. C/O blurry and cloudy VA. Eyes burn & tear after lens removal ... must wear my lenses!

Contact Lens History: Acuvue Oasys OU. OptiFree Replenish qhs. No rub, no rinse. Replaces q 2-3 mths.

Systemic History: Excellent. No medications. NKDA.

Exam: VA OD cc 20/30 & OS cc 20/70 (spectacles)
Pupils, motilities, and CVF's normal OU
IOP's: 12mm Hg OU
DFE: Normal disc, macula, vasculature, periphery OU

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 35 yof

Refraction: OD -425-075 x 100 = 20/20-
OS -500-050 x 50 = 20/25

Simulated Keratometry: OD 4378 x 4435 @ 48
OS 4370 x 4448 @ 7

Keratoconus Indices:

Negative OD
Negative OS



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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 35 yof

Biomicroscopy:

Moderate MGD OU
Mild conjunctival injection OU
Superior limbal haze OU
Negative wetting OU
AC d&q OU
Iris normal OU
Lens clear OU

Pachymetry:
545u OD
538u OS



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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 35 yof

Impression: MGD with tear evaporative dry eye OU
CL related limbal stem cell deficiency OU

- Plan:
- Discontinue contact lenses
 - Lotemax gel OU qid x2 wk, bid x2 wk
 - Bruder Mask OU qd
 - Blink PF OU qid
 - 1000 mg fish oil qd (EPA/DHA)
 - 500 mg Vitamin C bid
 - F/U 1 mth

1 month f/u

CC: eyes feel much better. VA stable. No burning or tearing.

VA OD cc 20/20 OS cc 20/25

Biomicroscopy: Fading stromal haze OU. Improved ocular wetting OU.

- Plan:
- Continue Bruder mask qhs, omega 3s, and Blink PF qid
 - Eventual refit Alcon Dailies Total 1 85 -450 OD & -475 OS

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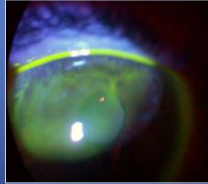
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What is Limbal Stem Cell Deficiency (LSCD) ?

- Corneal epithelial stem cells are within the Palisades of Vogt
- Stem cells progressively differentiate and migrate centrally (transiently amplifying cells)
- Limbal stem cell fx is modulated by developmental, hormonal, neuronal, vascular and inflammatory factors

LSCD caused by

- Congenital Diseases
- Infection
- Inflammation
- Immune disorders
- Trauma (contact lens)
- Chemical, thermal, radiation burns



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Clinical Pearls For The Primary Care Practice

Clinical Pearls

Contact Lens induced LSCD

- 2.5% of all contact lens wearers (15% of all LSCD cases)
- Bilateral and **most often superior limbus**
- Conjunctival goblet cells on cornea via impression cytology

Landage, et al. Inv Oph & Vis Sci 2003.

Corneal "homeostasis"

Transiently amplified limbal stem cells -> migratory basal cells -> wing cells -> surface (squamous) cells

Termote, et al. Can J Oph 2017

N = 27 eyes with CL related LSCD

- All soft lenses / 75% Si-Hy lenses
- Mean wear time 18.1 years
- PF topical steroids & PF AT gtt



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How is LSCD best managed ?

Partial LSCD

- Lubrication
- Anti-inflammatory agents (corticosteroid, cyclosporin, lifitegrast)
- Vitamin A (.01%) ung
- Amniotic Membrane
- Autologous serum or Platelet Rich Plasma
 - Hussain, et al. Cornea (2014) "Reasonable in severe disease"

Total LSCD Fernandez, et al. BMJ Open Ophth 2018

- conjunctival limbal autograft - risk to contralateral eye ?
- conjunctival limbal allograft - donor and immunosuppressive ?
- oral mucosal epithelial transplantation - 50-70% successful
- cultured limbal epithelial transplantation - 75-84% successful

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 44 yof

Ocular History:

Referred by corneal specialist

Previously wore soft contact lenses, but d/c due to dryness

Previous OTC: Refresh Optive, Systane, & TheraTears

Previous Rx: Pred Forte & Alrex

Current eye gtt: Patanol ou bid, Restasis ou bid, fish oil daily

Cc: 'I get **eye hemorrhages monthly**.' I'd like to get back into wearing contact lenses if possible'.

Systemic History: +Anxiety. (-) Thyroid. (-) Arthritis.

(-) hematology work-up.

Medications: Fluoxetine qd, Fish oil qd.

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 44 yof

VA: OD Rx 20/20- & OS Rx 20/20.

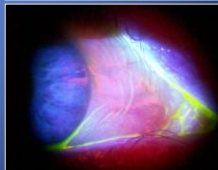
Externals: (+) malar flush

Biomicroscopy:

- Grade 3 MGD OU
- Grade 2 conjunctivochalasis OU
- Grade 1 conjunctival LG stain OU
- Cornea clear with TBUT 8-10 sec OU
- Tear prism <0.5mm OU

Impression:

- MGD
- Combined ADDE(?) & EDE
- Rosacea (ocular)
- Subconjunctival hemorrhage (Menstrual related ?)



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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 44 yof

Plan:

- Spoke with ob-gyn - r/o causes for menorrhagia
- Spoke with pcp - doxycycline 50 mg qd
- Bruder Mask OU bid
- Nordic Naturals ProOmega - 2 softgels po qd
- Lotemax gel OU bid
- Patanol OU qam
- Restasis OU bid

1 month follow-up

Doing much better symptomatically

Biomicroscopy: improved MGD, LG staining, & TBUT

Plan:

- Discontinue Lotemax gel
- Continue all other treatments
- 2 month follow-up

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 44 yof

3 month follow-up

CC: 'doing great, no hemorrhages in 2 months.'

VA: OD Rx 20/20 & OS Rx 20/20.

Biomicroscopy:

Gr 1 MGD OU

Gr 1 conjunctivochalasis w/o lissamine green staining OU

Cornea clear with TBUT ~ 10 seconds OU

Plan:

- Continue hot compress OU qd
- Continue Restasis OU bid & Patanol OU prn
- Continue ProOmega qd
- Doxycycline 50 mg qod x 1 mth, then discontinue
- BioTrue Daily Disposable

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Clinical Pearls

Is conjunctivochalasis the "demon in the closet?"

Acera, etal Invest Ophth Vis Sci (2013)

- N = 12 eyes conjunctival resection conjunctivochalasis
 - Improved pro-MMP-9 levels
 - Less epithelial defects, epiphora, and symptoms
- Yamamoto, etal Eye Cont Lens (2015 epub)
 - N = 362 pts with subconjunctival hemorrhage (SCH)
 - Conjunctivochalasis + visual demands = 3+ SCH
 - N = 38 pts conjunctivochalasis (CCh) surgery for SCH
 - 80+% no SCH recurrence after surgery

Is this the ideal application for low dose corticosteroid?

- Lotemax SM (0.38% loteprednol) and Invelty (1% loteprednol)
 - Pflugfelder AJO 2004 – loteprednol safe & effective for inflammatory DE
- Dextenza (0.4mg dexamethasone punctal plug)
 - FDA approval for post-op adjunct time release over 30 days
- Flarex (0.1% fluorometholone)
 - Pinto-Fraga AJO 2016 – FML improves dry eye signs/sx and buffers flares

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Clinical Pearls

Is a low dose oral contraceptive acceptable in recurrent menstrual cycle subconjunctival hemorrhage?

Dua, etal Ophth Plast Reconstr Surg (2014)

- Case of 'vicarious orbital menstruation' responded favorably to oral contraceptives

What else to keep in mind?

- Thrombocytopenic purpura
- Amyloidosis
- von-Willenbrand Disease

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case – 48 yof

Ocular History: Reis-Buckler's corneal dystrophy.

PTK OD 2006 and OS 2007 with repeat OU in 2014.

c/o intermittent irritation, photophobia, and blurred VA.

Systemic History: Excellent. No medications. NKDA.

Family History: Mother and Daughter with Reis-Buckler's.

VA OD cc 20/70 & OS cc 20/80 (spectacles)

Pupils, motilities, and CVF normal OU

IOP's: 12mm Hg OU

DFE: Normal disc, macula, vasculature, periphery OU

OD +1.00-1.00 x 25 = 20/70

OS +1.00-1.00 x 165 = 20/80-

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case – 48 yof

Biomicroscopy: Recurrent Reis-Buckler's Corneal Dystrophy OU

Contact Lens Tx:

Biofinity Toric 8.6

OD +125-075x40 = 20/40

OS +050-075x140 = 20/50-

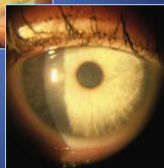
Clear Care qhs

Monthly replacement

Polysporin ung OU qhs prn

Next step??

Pachymetry 653u OD and 743u OS.



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Clinical Pearls

What is Reis-Buckler's Dystrophy and prognosis?

- Autosomal Dominant with sx onset 2nd decade of life
- Early sx of RCE and foreign body
- Later sx of photophobia and blur
- Changes primarily at Bowman's and anterior stroma ??

Qui, etal BMC Ophth 2016

- RBCD linked to mutation of TGFB1 gene
- TGFB1 gene of keratocyte origin!
- Confocal microscopy, AS-OCT, and histology – deep stroma!

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Clinical Pearls For The Primary Eye Care Practice

Clinical Pearls PTK or DALK or PKP?

Eggink, etal Cont Lens & Ant Eye 2002

- N = 6 RBCD eyes tx with PTK
- BCVA 0.8 logMar to 0.15 logMar

Qui, etal BMC Ophth 2016

- N = 4 RBCD eyes tx with DALK w/o recurrence to date

Reddy, etal Cornea 2015

- N = 109 PKP eyes and 21 DALK eyes over 1 year
- DALK less endothelial graft rejection & glaucoma
- DALK risk? Descemet membrane perforation or detachment

Chan, etal Can J Oph 2018

- N = 1104 consecutive corneal transplants @ KEI over 3 years
- 80% lamellar surgeries
- DALK increasing and PKP decreasing

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Clinical Pearls For The Primary Eye Care Practice

Clinical case – 34 YOF

Ocular history

- Previous EWSCLOU
- Bilateral acanthamoeba keratitis

Systemic history

- Excellent. No med. No nkda

Chief complaint:

- Blurred Vision with spectacles OU. Intolerant to GPCL OU.
- Am I a candidate for LASIK surgery?

Ocular medications:

- Pred 1% OS qid & Zovirax ung OS bid

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Clinical Pearls For The Primary Eye Care Practice

Clinical case – 34 yof

Visual acuity cc

- OD 20/40+
- OS 20/400


Biomicroscopy

- Corneal leukoma and Neovascularization OS > OD
- No active HSV keratitis OS

Symmetrical corneal sensation

Pachymetry

- OD 545 u & OS 553 u



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Clinical Pearls For The Primary Eye Care Practice

Clinical case – 34 yof

Refraction

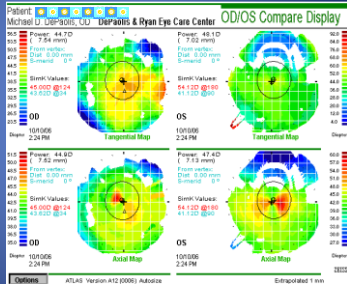
- OD -6.25-0.75x45 = 20/20
- OS -4.50-5.50x91 = 20/50

Topography

- Irregular astigmatism OU

Keratometry

- OD 43.62 x 45.00
- OS 41.12 x 54.12



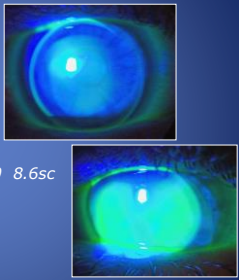
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Clinical Pearls For The Primary Eye Care Practice

Clinical case – 34 yof

Contact Lenses

- OD Boston EO 7.60 9.3/7.8 -6.00
- BCVA 20/20
- OS SynergEyes A 7.30 14.5 -8.00 8.6sc
- BCVA 20/25
- ClearCare qhs.
- Sensitive Eyes saline qam.
- No water exposure!



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Important acanthamoeba facts

Seal, etal Eye 2003

- Occur in 1:30,000 wearing years. 88% soft & 12% GPCL

Joslin, etal AJO 2006 & 2007

- 40 AK cases in Chicago 2003-2005. 6.67x increased RR
- Increased risk showering, reusing solution, and not rubbing Tu, etal Cornea 2008

Tu, etal Ophthal 2008

- Confocal microscopy 91% specific and 99% sensitive in dx

Dart, etal AJO 2009

- Diamadines and biguanides best treatment combination

Said, etal Oph 2014

- CCXL valuable adjunct in eradication of AK

Naranino, etal AJO 2019

- RB-PDT valuable adjunct in eradicating AK

Johnston, etal J Clin Microbiol 2009

- 11 solutions ... only peroxide demonstrated cysticidal efficacy

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 79 yom

Ocular history

- Fuch's combined corneal dystrophy OU
- Penetrating keratoplasty (PKP) OD 1998 and OS 2000
- Cataract with PCIOL OU 2011
- PTK OS 2012
- HSV corneal ulcer OS 2012
- POAG - Dorzolamide/Timolol OU bid, Brimonidine OU bid.

Externals:

- Pupils and motilities normal.

Biomicroscopy

- Grade 2 meibomian gland dysfunction (MGD) OU
- Grade 1 conjunctival chalasis with tear prism < 1/2 mm
- PKP clear & compact OD / PKP trace epithelial & stromal edema OS
- TBUT 5-10 seconds OU

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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 79 yom

Refraction

OD Plano - 2.25 x 150 = 20/40+
OS +2.00 - 5.00 x 117 = 20/60.

Keratometry

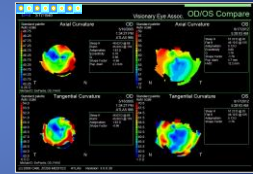
OD 45.00 @ 178 / 46.63 @ 88
OS 46.10 @ 125 / 51.25 @ 35

Tonometry:

OD 17 mm Hg
OS 17 mm Hg

Pachymetry:

OD 612u
OS 561u



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Clinical Pearls For The Primary Eye Care Practice

Clinical Case - 79 yom

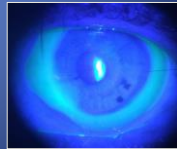
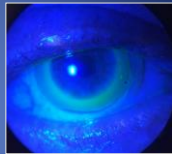
Contact Lens Data

OD Alden Prolate Zenlens (Boston XO)
7.10 16.0 -3.50
4.8 sag 1 Flt = 20/20 (N)

OS Alden Prolate Zenlens (Boston XO)
6.20 16.0 -8.50-1.00x35
5.1 sag 2 Flt = 20/30 (D)

Clear Care qhs

PF saline rinse and insertion qam
PF artificial tears prn



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Clinical Pearls For The Primary Eye Care Practice

Case study - 70 yom

Dry Eye treatment

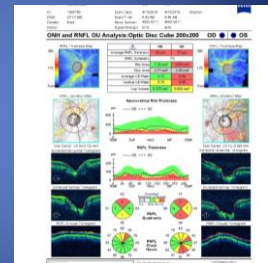
- Bruder Mask & lid hygiene qd
- PF artificial tears prn
- Dietary omega 3's

POAG

- Dorzolamide / Timolol OU bid
- Brimonidine OU bid

Corneal treatment

- Alex OU qhs



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Clinical Pearls For The Primary Eye Care Practice

Clinical Pearls

Are Scleral lenses indicated in this case?

LaPorta, etal AJO 2016

- 41 eyes with moderate to severe dry eye refractory to standard tx
- improved BCVA, osmolarity, DE sx, and QOL scores

Does glaucoma impact graft survival?

Stewart, etal AJO 2011

- UK registry 6255 grafts and 1994 grafts with glaucoma
- 3 yr survival: 86% w/o and 72% w glaucoma
- surgical mgt and endothelial dysfx increase risk of failure

Do scleral lenses influence IOP?

Shahnazi, etal Eye Con Lens 2019

- 46 eyes wearing scleral lenses for OSD
- mean increase in CTT of 7.2u and mean decrease in IOP of 0.89mm

Should we avoid a prostaglandin given history of HSV keratitis?

- Deai, etal Cornea 2004 2 cases / 1 bilateral
- Wand, etal AJO 1999 3 cases / 1 bilateral

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Clinical Pearls For The Primary Eye Care Practice

Case study - 40 yof

Ocular History

- c/o dryness OU and foreign body sensation OS x 3 years.
- chalazion removal LUL 3 years ago with symptoms ever since.
- at times, LUL swells and droops. Recent MRI negative.
- Xiidra bid. TheraTears prn. Hot compress. Omega 3's daily.
- Systemic History: Negative. No meds.

Exam:

UCVA: 20/20- OD & 20/20 OS.

Externals: Pupils, motilities, and CVF normal OU.
IOP 19 OD and 19 OS.

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Clinical Pearls For The Primary Eye Care Practice

Case study – 40 yof

Biomicroscopy:

- Grade 2 MG inspissation OU.
- No tarsal foreign body on LUL eversion.
- Conjunctiva clear with weak tear prism.
- Trace inferior SPK OU. TBUT 3-5 seconds OU. No ABMD.

Diagnosis: Bilateral Dry Eyes



Plan:

- Continue Xiidra OU bid.
- Continue TheraTears OU bid.
- Bruder Mask daily x 5 minutes.
- GNC TS Fish Oil Mini bid.
- Lotemax gel OS qhs
- 1-month follow-up

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Clinical Pearls For The Primary Eye Care Practice

Case study – 40 yof

1- month follow-up:

- Symptoms improved with Lotemax gel, but now worse again.
- Compliant with all other tx.

Biomicroscopy:

- Unchanged.
- Tarsal fissure LUL.
- No staining or fb track

Impression: Bilateral Dry eyes
Tarsal Fissure LUL

Plan:

- Continue all dry eye tx
- Totals Dailies 1 8.5 -0.25 OS.
- Schedule oculoplastics consult.



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Clinical Pearls For The Primary Eye Care Practice

Clinical Pearls

- Tarsal conjunctival keloids rare
 - D'Hermies, etal J Fr Oph 2003
 - Lim & Son SpringerPlus 2016
- Management
 - Bandage Contact Lens
 - Ung qhs
 - Triamcinolone injection
 - Surgical Revision
 - amniotic membrane graft
 - mitomycin C
- Other sources of tarsal fibrosis
 - Papillary conjunctivitis
 - Vernal conjunctivitis
 - Conjunctival lithiasis
 - Pyogenic granuloma
 - Cicatricial Ocular Pemphigoid

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Clinical Pearls For The Primary Eye Care Practice

Thank you for attending!



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