

Current Protocols

Topical and Oral Medications
for Ocular Disease

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DISCLOSURES

- Jill Autry, OD, RPh
 - Tropical CE—Continuing Education Company
 - Owner/Partner
 - Eye Center of Texas Ophthalmology
 - Owner/Partner
 - Allergan Pharmaceuticals
 - Speaker's Bureau
 - Consultant
 - Alcon Surgical
 - Speaker's Bureau
 - Primary Care Optometry News
 - Editorial Board Member
 - Review of Optometry
 - Editorial Board Member

4th Generation Fluoroquinolone

- Besivance (besifloxacin)
- Covers MRSA
- Durasite vehicle
- Good gram positive, gram negative, and anaerobic coverage
- Use for pre-op Lasik/PRK/retina surgeries
- Use for contact lens related ulceration
 - Central/severe—alternate q30min with fortified 3rd generation cephalosporin (Fortaz) or fortified tobramycin
 - Peripheral/less severe-Besivance qid to q2h

Intraoperative injection with cataract surgery

- Vigamox (moxifloxacin)
 - Non-preserved
 - Injected into the anterior chamber at the time of surgery
- No longer use antibiotic around cataract surgery
 - Unless patient is allergic to fluoroquinolones and then we prescribe tobramycin pre and post
- Also use Vigamox for prophylaxis of abrasions with vegetative material
- Also use Vigamox if suspect possible fungal ulcer while awaiting culture results

2nd Generation Fluoroquinolone

- Ocuflox (ofloxacin)
- Pre-and post op pterygium
- Post-intravitreal injections (in office)
- Prophylaxis for corneal abrasions, foreign body removal, bandage lens use
- Bacterial conjunctivitis

Other antibiotics

- Tobramycin
 - Fortify in office for severe corneal infections after hours or self-pay patients
 - Use in pregnant or nursing patients when antibiotic necessary
 - Use around surgery if allergic to fluoroquinolones
- Erythromycin or bacitracin ophthalmic ointment
 - Used for antibiotic coverage on abrasion if patching
 - Used for treatment of eyelids with anterior blepharitis and staph exotoxin sensitivity
 - Used for treatment of irregular cornea, dry eye as a bland ointment instead of OTC ointments
 - Used for bedtime coverage if mild bacterial keratitis or healing severe bacterial keratitis

Topical steroids

- Durezol
 - Starting q1-2h for severe iritis, qid for less severe
 - Steroid of choice for intraocular inflammation and severe surface disease (pseudomembranes with viral conjunctivitis)
 - With post-op pterygium, long taper
 - Use post-op retinal surgeries unless IOP increases
- Lotemax gel
 - Steroid of choice for mild/moderate surface inflammation
 - Episcleritis
 - Dry eye
 - Mild anterior chamber inflammation
 - CL sterile infiltrates
 - Steroid of choice for known steroid responder or glaucoma patient needing steroid
 - Use after cataract surgery and LASIK/PRK

Topical steroids

- Lotemax suspension
 - For Medicaid coverage of Lotemax (they cover suspension, not gel in Texas)
- Prednisolone acetate 1%
 - Preferred as branded PRED FORTE for severe surface inflammation
 - Branded PRED FORTE is my drug of choice for SEIs and pseudomembranes due to viral conjunctivitis
 - Also my choice for severe staph exotoxin sensitivity
 - Will use generic when patient cannot afford other alternatives or insurance will only cover generic steroid
 - Store generic formulation upside down and then shake before use to get increased concentration of medication from bottle tip

Antibiotic/steroid combo

- Maxitrol ung
 - For eyelid infections/inflammation
 - Corneal inflammation that needs antibiotic coverage
- Tobradex suspension
 - Epiphora x 2 weeks tid to qid to see if punctal flow will improve
 - Canaliculitis tid to qid
 - Conjunctival abrasion
 - Post-foreign body removal
- Zylet suspension
 - Same uses as tobradex
 - Less steroid response if concerned

Topical NSAIDs

- Ketorolac 0.5%
 - Most common generic NSAID used
 - Order 0.5% as it is most commonly stocked in pharmacy
 - All NSAIDs sting/burn
 - Used as the generic NSAID of choice for cataract surgery, retinal surgery/treatments
- Prolensa/Illevro
 - Commonly used brand name NSAIDs
 - Once-twice daily therapy for most conditions
 - Non-foveal/mild foveal ME, ERM, VMT,
 - Used up to qid for CSR treatment
- Bromsite
 - Used as brand NSAID of choice for cataract surgery
 - 5ml bottle and qd dosing allows for same bottle both eyes
 - Good coupon coverage

Cataract surgery protocol

- No drops pre-op; only using drops post-operatively
- Antibiotic
 - Vigamox injected into the anterior chamber at time of surgery
 - Non-preserved; broad spectrum coverage
 - Use tobramycin peri-operatively if fluoroquinolone allergy
- NSAID
 - Bromsite qd for 3 weeks post-op
 - OR
 - Ketorolac 0.5% tid for 3 weeks post-op
- Steroid
 - Lotemax gel tid for 3 weeks post-op
 - OR
 - Tobradex tid for 3 weeks post-op

Extended taper post-phaco

- Extended taper of NSAIDs and steroids post-op for high risk patients
 - History of chronic iritis
 - History of retinal surgery
 - History of macular disease
 - Including epiretinal membrane
 - History of diabetic macular edema/severe diabetes
- 3 more weeks of NSAID and steroid
 - Bromsite qd for total of 6 weeks post-op OR Ketorolac 0.5% tid for total of 6 weeks post-op
 - Lotemax gel tid for total of 6 weeks post-op OR Tobradex tid for total of 6 weeks post-op

Glaucoma agents

Prostaglandins

- First-line treatment for most open angle and secondary glaucomas/ocular hypertension except for
 - Uveitic glaucomas
 - Glaucoma associated with retinal disease
 - Peri-operative pressure spikes

Glaucoma agents

Prostaglandins

- Lumigan 0.01% is our prostaglandin of choice
 - Gets lowest IOPs in high tension and low tension glaucoma against other prostaglandins
 - Branded agent
 - Less redness than older 0.03% version
- Latanoprost
 - If insurance requires, difficulty with paying for Lumigan, self-pay, complains of redness with Lumigan and/or Travatan Z
 - Medicaid
- Travatan Z
 - If insurance requires/gets meds from VA

Glaucoma agents

Combination products

- Combigan
 - Alphagan plus timolol
 - No in patients where beta-blockers contraindicated
 - First-line agent if prostaglandin contraindicated
 - As add-on to prostaglandin for increased effect
 - Good insurance coverage
 - Covered by Medicaid
- Cosopt
 - Dorzolamide plus timolol
 - No in patients where beta-blockers contraindicated
 - If Combigan not covered
 - Self pay (generic available)
 - Taste complaints/burning complaints

Glaucoma agents

Combination products

- Simbrinza
 - Alphagan plus brinzolamide
 - If beta blocker contraindicated
 - Complaints regarding suspension

Glaucoma agents

Alphagan products

- Alpha-agonist
 - Additive choice to other agents for treatment of most open angle and secondary glaucoma/OHTN
 - Choice for additive or first-line treatment for LTG as neuroprotective—usually additive to prostaglandin
- Alphagan P 0.1%
 - Choice over generic brimonidine as only 10% vs 30% allergy rate
 - Less systemic side effects of somnolence, hypotension
- Brimonidine 0.2% generic
 - Increased risk of ocular allergy
 - Cheapest option of brimonidine products

Glaucoma agents

CAI products

- Dorzolamide (Trusopt)
 - Used for additive treatment bid to tid
 - Complaints of stinging
 - Complaints of bad taste
- Brinzolamide (Azopt)
 - Less often prescribed than dorzolamide
 - Not available in generic
 - Suspension not well received by patients

Glaucoma agents

Beta blocker products

- Timolol 0.5%
 - Used mostly in combination products
- Contraindicated in patients with respiratory disease
 - Asthma
 - COPD
 - Chronic bronchitis
- Relative contraindication with heart failure
- OK in HTN
- OK in patients with pacemaker
- OK in patients with history of heart attack if not heart failure

Newest glaucoma agents

- Vyzulta®
 - Latanoprost with nitric oxide metabolite
 - Uveoscleral outflow enhancement primary MOA
 - Enhancement of TM outflow-secondary MOA
 - Enhancement of Schlemm canal outflow-secondary MOA
 - Dilation of blood vessels for neuroprotection?
 - No inflow mechanism only outflow
 - Greater likelihood of hitting less than 18mmHg at all time points.

Newest glaucoma agents

- Rhopressor®
 - Enhances TM outflow
 - Lowers episcleral venous pressure as secondary MOA
 - Results in aqueous suppression as secondary MOA
 - Most likely use will be to add to prostaglandins
 - Alone it is comparable to timolol bid so additive not first-line
 - Option over timolol and combinations with timolol
 - ? Better for low-tension glaucoma

Dry eye prescription products

- Restasis
 - Increases tear production as an immunomodulator
 - Available non-preserved vials and non-preserved bottle
- Often initiate with Lotemax BID - QID
 - Treatment of moderate to severe dry eye
 - Treatment of irregular topography due to dry eye pre-op phaco
- Treatment of corneal epithelial dysplasia
- If patients using artificial tears daily 2 or more times a day
- Can take up to 6 months to see full effect
- Can burn in 15% of patients—keep in refrigerator
- On Medicaid in Texas

Dry eye prescription products

- Xiidra
 - Second line agent for dry eye
 - Lymphocyte antigen (LFA-1) antagonist
 - Patient complaints of bad taste
 - Episodes of corneal erosions/dense epithelial loss with product in our office with multiple patients

Topical Antivirals

- Zirgan
 - For treatment of herpes simplex keratitis
 - Usually in addition to oral antivirals for severe cases; otherwise can use orals alone
 - 5x a day to start, taper with improvement
- Rare use of trifluridine topically
- Betadine treatment in office for EKC with topical steroid to follow

Topical antifungal

- Natamycin 5%
 - Only commercially available antifungal ophthalmic product
 - Once confirmed fungal with culture, start q1h
 - Often use oral fluconazole in addition to topical natamycin

Allergy products

- OTC Zaditor/Alaway
 - My recommendation as first-line
 - Mast-cell stabilizer/antihistamine
 - Alaway cheaper and bigger bottle
- Pazeo
 - Branded once daily product
- Bepreve
 - For patients who also suffer from allergic rhinitis
 - BID dosing
 - 10 ml product most cost-effective if covered
- Olapatadine generic
 - Generic bid product, larger bottle

Demodex Treatment

- Tea tree oil products
 - Commercially available Cliradex
 - Compounded 50% tea tree oil scrubs
 - To eyebrows and eyelids once weekly for one month
 - Apply to lid margin with Q-tip
 - Anesthetic first!
 - Tea tree oil shampoo (10%) to hair, eyebrows, and eyelid margins nightly for one month
- Lid hygiene

Cycloplegics

- Cyclopentolate
 - In office for wet refractions
 - Rare use for ocular disease treatment
- Homatropine 5%
 - Keep a bottle for in-office use
 - Hyphema
 - Corneal ulcer
 - Foreign body removal
 - Corneal abrasion
 - Break synechiae along with 10% phenylephrine
 - Prescribe bid to tid for severe iritis
- Atropine 1%
 - Used post-operatively for retina cases

Oral antibiotics

- Amoxicillin
 - For most skin and soft tissue infections
 - 875 mg bid adult dose
 - 20-40mg/kg/day pediatric dose
 - No with PCN allergy
- Augmentin (amoxicillin plus clavulanic acid)
 - As an alternative to Amoxicillin for skin and soft tissue infections
 - 875 mg bid
 - 20-40mg/kg/day pediatric dose
 - If haemophilus influenzae is suspected in children with preseptal
 - No with PCN allergy

Oral antibiotics

- Doxycycline
 - For skin and soft tissue infections
 - Option for PCN allergy
 - No in children less than 8, nursing mothers, pregnancy
 - For suspected MRSA infections
 - 100mg bid for antibiotic dosing for skin/soft tissue infections
 - Also use 100mg bid for cat-scratch neuroretinitis treatment
 - 50mg qd to bid for anti-inflammatory uses
 - Ocular rosacea, meibomian gland dysfunction

Oral antibiotics

- Septra DS (aka Bactrim DS)
 - For skin and soft tissue infections
 - Option for PCN allergy
 - No in sulfa allergy
 - For suspected MRSA infections
 - For treatment of ocular toxoplasmosis
 - 1 DS tablet bid

Oral antibiotics

- Azithromycin
 - 1000mg one time dose for suspected Chlamydia
 - I personally Rx 500mg #4 pills, take 2 now and repeat 2 more in 2 weeks
 - Z-pack for mild skin and soft tissue infections
 - 250mg qd for meibomian gland dysfunction in patients who cannot take/tolerate doxycycline
- Avelox
 - For therapeutic levels of antibiotic into the vitreous
 - 400mg qd
 - If blebitis suspected
 - If intraocular foreign body
 - Suspected endophthalmitis

Oral antivirals

- Valacyclovir
 - 1000 mg tid for herpes zoster (shingles)
 - Often with oral steroid dose pack
 - 500 mg tid for treatment of herpes simplex keratitis
 - NO TOPICAL STEROIDS
 - 500 mg tid for treatment of herpes simplex conjunctivitis or periocular lesions
 - NO TOPICAL STEROIDS
 - 500 mg tid suspected herpes disciform keratitis
 - With topical steroids
 - 500 mg tid for suspected herpetic uveitic glaucoma
 - With topical steroids and glaucoma agents
 - 1000 mg tid for Bell's Palsy (diagnosis of exclusion)
 - 500 mg qd for prevention of recurrences in patients with history of multiple herpes simplex keratitis episodes/disciform keratitis

Oral antivirals

- Acyclovir
 - When self-pay due to cheaper than valacyclovir
- 800mg 5x day for zoster or Bell's Palsy
 - Often add oral steroid dose pack
- 400mg 5x day for herpes simplex keratitis
 - NO TOPICAL STEROIDS
- 400 mg 5x day for herpes conjunctivitis or periocular lesions
 - NO TOPICAL STEROIDS
- 400mg 5x day for suspected herpes disciform keratitis
 - With topical steroids
- 400mg 5x day for suspected herpetic uveitic glaucoma
 - With topical steroids and glaucoma agents
- 400mg qd for prevention of recurrences in patients with history of multiple herpes simplex keratitis episodes/disciform keratitis

Oral steroids

- Medrol dosepak
 - Methylprednisolone 4mg tablets
 - I tell patients to take all pills for each day at breakfast
 - With food and/or milk
 - Along with antihistamines and mast-cell stabilizers for severe allergic reactions
 - With oral antivirals for severe cases of herpes zoster
 - Along with Durezol for severe anterior uveitis
 - Along with Durezol for severe DLK

Oral steroids

- Prednisone 20mg
 - We usually prescribe 20mg making tapering easier
 - Generally start 80 mg/day
 - Non-infectious posterior uveitis
 - Scleritis
 - Arteritic ischemic optic neuropathy
 - Post-intravenous steroids for optic neuritis
 - Inflammatory orbital pseudotumor

Pain meds

- Use cycloplegia for most ocular pain
- Tylenol #3 (acetaminophen 300mg and codeine 30mg)
 - 1-2 q4-6h prn pain
 - Contains codeine
 - Schedule 3 narcotic
- Ultram (tramadol)
 - 50mg tablet
 - 1-2 q4-6h prn pain
 - Synthetic opioid

Oral glaucoma agents

- Acetazolamide (Diamox)
 - Comes in 125mg, 250mg, 500mg sequels
 - Angle closure
 - (2) 250mg tablets initially—order iridotomy
 - Use occasionally for max medical glaucoma therapy or post-op spikes
 - More often use methazolamide for longer term therapy
 - Pseudotumor cerebri
 - 500mg bid sequels up to 2 grams total daily

Oral glaucoma agents

- Methazolamide (Neptazane)
 - Comes in 25mg and 50mg
 - Use in addition to maximum topical glaucoma treatment
 - Often before initiating trabeculectomy/XEN

Other orals

- Loratadine and pseudoephedrine 12-hr
 - Generic Claritin D 12-hr
 - Take qam dose only x 10 days for pain on eye movements secondary to suspected sinus congestion
- Diphenhydramine 25mg
 - Generic Benadryl
 - OTC for sleep

In-office use

- Homatropine 5%
- Phenylephrine 10%
- Muro-128 5% solution
- Atropine 1%
- Pilocarpine 1%
- Topical glycerin
- Tobramycin vials and drops to make fortified tobramycin
- Acetazolamide 250mg
- Diphenhydramine 25mg
- Prochlorperazine 10mg
- Aspirin 81mg tablets
- Ibuprofen 600mg tablets
- Betadine
