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Review of optometry drug guide

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24th EDITION ABOUT PREVIOUS PATIENT CARE Clinical Guidelines for Ophthalmic Drugs See optometry practices through the eyes of three experts. Ron Melton, OD Randall Thomas, OD, MPH Patrick Vollmer, SUPPLEMENT OD A to Be Supported by unlimited grants from Bausch +
Lomb Page 2FROM THE AUTHORS On the Virtues of Change In a tumultuous year, we still have a lot to shift. her COVID-19 virus has decisively changed all our lives and practices. Two of us (Drs. Melton and Thomas) tested positive for the virus — and survived. However, once this
terrible storm passes, our patients will once again need our professional services. We hope the clinical information in this supplement will further equip you to better care for your patients in the post-COVID era. You'll also notice some radical changes to this annual publication. We expanded
the scope of our topics this year. Why? Because optometric practices have also expanded. Simply give a run-down to the drug category, as we did when this started back in the 1990s, just not living to this point for optometry. After nearly 25 years of producing drug guidelines, we want you
to take a close look at how our three doctors actually practice, and think about, all aspects of optometric care. Thus, a Clinical Perspective on Patient Care is born! Imagine this supplement as an opportunity to sit down with us as we consider literally hundreds of different daily challenges.
We'll give you we're not done taking it all. If there is no literary reference, consider that statement as our professional opinion. Other doctors will no doubt have their own approach, and that's fine. Our goal is not to present every conceivable idea — just our own ideas, acquired through
countless hours at the clinic. For better or worse, we have now managed to put together over 80 years of combined intensive clinical experience. Our exercise patterns always treat patients with non-surgical eye conditions themselves. We hold eye surgeons in high terms, and are most
happy to work collegially with them in treating our patients with surgical needs; otherwise, we manage many medical eye conditions in our own optometric practice. Instead of chapters per se, this new approach will share a rather random selection of German topics to bring you up to date on
a variety of eye conditions and problems, arranged in three main sections. Note that we cannot condense four years of clinical training into one supplement. We assume a strong foundation of clinical knowledge by the reader, and only strive to add concise and sharp pearls to the This. Our
goal in writing this guide is to help better equip our colleagues with the knowledge to provide a wide range of high guality patient care services. Of all the we need to master, the two most important are glaucoma and dry eye disease. We encourage you to read this discussion attentively, pay
attention to professional journals and fully seek lectures on glaucoma. As always, we thank Bausch + Lomb Pharmaceuticals for their unwavering support of this optometric educational product over the years, and to the editorial team at the Review of Optometry for helping shape this
supplement into a highly readable job. We hope and pray that each of you and your loved ones endure the onse of this virus, and come out of this disaster stronger and more assertive than ever before. With our best wishes, Drs. Melton, Thomas and Vollmer Disclosure: Drs. Melton and
Thomas are consultants, but have no financial interests, the following companies: Bausch + Lomb and Icare. Dr Vollmer has no financial interest in any company. Note: The author presents the use of certain drugs that are not approved and off-label in this publication. CLINICAL
PERSPECTIVE ON PATIENT CARE T Part I: Strategies for Success Page 3 See optometry practices through the eyes of three experts. Part II: Anterior Care Segment Page 18 A Supplement to Ron Melton, OD Randall Thomas, OD, MPH Part III: Posterior Segment Care Page 34
Supported by unlimited grants from Bausch+Lomb Patrick Vollmer, OD Powered by unlimited grants from Bausch+Lomb Randall K. Thomas, OD, MPH, FAAO Ron Melton, OD, FAAO Patrick M. Vollmer, OD, FAAO A PEER-REVIEW: STRATEGIES FOR WARNING SUCCESS: Big
Changes Come to Optometry If you think you can count on revenue dispensers and regular eye exams, you may be in for a rude awakening. a quick look at the profes-sional literature clearly shows major sea changes in how eye care is delivered. Online refraction, glasses, and contact
lenses are already available in many places in the world, and are now available in the United States. The 3-D printer makes complete glasses, and this technol-ogy will only get better. Drugs to push back presbyopia will also be here soon, thereby dampening the bifocal market.
Autorefractors and automatic mated subjective systems are already here, and they, too, will continue to improve. Very pro-moted glasses for $6.95! The Department of Veterans Affairs (VA) now has an operational program in which layper-sons are trained to perform essen-tially full eye
examinations, including refraction, and patient satisfaction is reportedly high. For decades, ophthalsion doctors have had high school graduates do their refractions, and people flock to their pre-tices. Based on this fact, one can be rationally and accurately that pub-lic search for competent,
thorough, medically oriented eye care is valued as much more than just refraction. This is a powerful observation, and that we must take heart. The comprehensive consensus of these observations should force think-ing optometrists to reevaluate their practice modus operandi and develop
strategies to remain viable in the face of this tidal wave of com-ing change in our way. Our relatively easy plan is to just start looking after all the patients present to us. Otherwise, it is essential that we stop bleeding patients through referrals, and that we provide a much broader base of
comprehensive medical care services; this is very important for our sur-vival as a profession. For perspective, the table on the right is a list of almost understandable medical eye conditions that can be easily overcome. MEDICAL EYE CONDITIONS ALL ODS SHOULD MANAGE •
Assessing hydroxychloroquine (Plaquenil) retinotoxicity risk • Diabetic retinopathy • The glaucomas • Acute symptomatic posterior vitreous detachments • Acute red eyes: allergic, bacterial, viral, chlamydial • Injuries and abrasions • Blepharitis • Meibomian gland dysfunction • Dry eye
disease • Zoster ophthalmicus • Eye pain: trichiasis, ectropion, entropion, entropion, lagophthalmos • Bell's palsy • Corneal dystrophies • Optic neuritis • Macular degeneration • Presurgical cataract care • Epiphora • Post-op care for numerous surgeries • Lid infections: acute hordeola, styes • The gamut
of contact lens complications • Episcleritis/scleritis • Giant cell (temporal) arteritis • Recurrent corneal erosion • Contact blepharodermatitis • Superior limbic keratoconjunctivitis • Phlyctenular keratoconjunctivitis • Eroding tarsal concretions causing foreign body sensation • Thygeson's
superficial punctate keratopathy • Transient vision loss from carotid artery disease • Ocular migraines • Corneal infiltrates and ulcers/CLARE • Giant papillary conjunctivitis • Epithelial basement membrane assessment and monitoring NO TIME TO WASTE THREATS TO OPTOMETRY •
Bargain-basement tactics by eyewear discounters • Online refractions • Online contact lens sales • Bottom line: Dispensary is dying STRATEGIES FOR SUCCESS 3 OPTOMETRY REVIEW JUNE 15, 2020 Page 4SECTION I: STRATEGIES FOR RADICAL SUCCESS some changes and
approaches may seem, but we im-plore you to start being proac-tive and not find yourself scram-bling to play catch-up when you are faced with advance-ments technology; They come to you with files. It can be easily exiled through a simple Google search: 1. Ophthalmology 2. American
Journal of Ophthalmology 3. JAMA Ophthalmology 4. Ophthalmology survey You can read this journals, then gather
over a fun dinner one business day per month to review important and relevant articles. You're going to grow exponentially! Trying to feed yourself through ongoing edu-cation meetings delivers very low results in professional growth, whereas looking at optometric journals and logical
ophthalmo is a high-yield professional growth exercise. FOLLOW RESEARCH If you want to isolate your practice from the threat of online refraction services, evolve into a medical foundation. Treating patients with this condition, especially glaucoma, holds great potential to build dynamic
practices, and has a strong firewall against technological advances into traditional op-tometries. Refraction is a technical procedure, and bright, sharp, friendly high school graduates can be trained quickly to perform these data-collec-tion tasks, thus freeing doctors to have more time
performing tasks that only doctors can perform. As doctors, it is our duty and responsibility to have quality assurance supervision on final refraction; thus, looking at the current prescription glasses, autorefraction, and performance of subjective refraction technicians achieve such. Now, we
are well aware of how refraction or doctor? • The new world of vision testing and eye wear sales is dawning now that refraction and fulfillment recipes are offered online. • This development may not be negative for ophthalmology practices and patients. » Visibly » EyeNetra » MyVisionPod »
Myeyelab.com » Smart Vision Labs » Vmax Vision » Warby Parker Another resource to keep you compliant with the latest research is the www.practiceupdate.com. You can sign up to have a daily email newsletter sent to you every morning with important studies in eye care. But another
way to improve your professional skills is to call a colleague for advice. There is nothing wrong in asking for help, or getting an opinion, but keeping your patients in your practice. What about being on the phone? Doctors like to receive after-hours calls about as many patients as undergoing
water-puff tonometry; how-ever, as doctors we need to develop a system where optometric patients have at least access to optometric care outside of normal working hours. Here again is where it comes to gether because the team provides the perfect solution. Find six or seven like-
minded, patient-centered colleagues and form formal call groups. In this way, OD is available to meet the needs of our collective opto-metric patient population. If you consider a fellow OD only competitors, it is a superficial view, somewhat hopeless, and quite simple, depressing. We should
all work together as colleagues in an effort to improve patient care, and to keep optometric patients as Patients! Your practice will be well served, and public health will be improved. Remember, above all, you are your brother's keeper. OUR PRACTICAL ADVICE •
Optometrists: Expand the scope of your patient care services to protect your future! • AOA aggressively fights for optometry: Join AOA! Now that we have comprehensively laid the ground ground and have made the case for treatments extended by ED, we are moving to share the
knowledge emitted from our combined 80 years of clinical literature and practice. It is our hope that what we share here allows you to fur-ther improve your competence as a patient-centered caregiver and eye medical practitioner. 4 OPTOMETRY REVIEW JUNE 15, 2020 Page 5Optometry
On Call: This Not-So-Novel Concept is common in other fields, but rather rare in our profession. Patients who need urgent care deserve the attention and expertise that OD can provide. A s we all know, eye care provided by anyone outside optometry or ophthalmology is abysmal. Whether
one practices in groups, private practices, retail/commercial arrangements or in other settings, there must be one goal without compromise; providing optometric care 24/7. First, it is rare individuals who enjoy the call. These are encum-bering, but cases are
usually stimulating and can stretch your klikun-kal confidence. It is our collective perspective that patients should have access to emergency medical optometry treatment whenever the need arises. When a pa-tient calls him or his optometrist, there should be an answering machine/ser-vice
quide on how to contact optometrist during a call! Here we share parallel examples of how many dental practices meet the needs of their patients: six to eight dentists gather and form a call group, so a single dentist is on call for the group every six to eight weeks. By spreading responsibility-
ity, they move from always being called (which, in fact, we all are), to calling only every six or eight weeks. With this shared call system, emergency patients always have ready access to the dentist. If we have a dental emergency, call our dentist and the answering machine says our Office is
now closed, or if we are directed to contact the emergency department/urgent care, the three of us will find another dentist! We urge our optometric colleagues to be proactive in supporting such a Man-Vision Source member by offering these promotional leaflets on vital emergency care ED
provided. ner—that is, call groups with your colleagues to provide emergency patient care. To allow your work phone to ring and ring after hours is completely irresponsible; instruct your after-hours answering service to direct callers to emergency departments or urgent care centers even
We are our collective healthcare profession, doctors and patients worthy of an optometrist when an eve emergency arises, no matter the time of day or night. For perspective, most of these calls can be handled over the phone; there is only rarely a need to meet patients in the office in the
middle of the night. Most emergencies can wait until business hours are visible. Let's understand our role as pa-tient caregivers, and develop creative systems to meet our after-hours emergency medical needs. We want nothing less for ourselves! SUCCESS STRATEGY
(Practice Name) (Practice Phone Number) OPTOMETRY REVIEW JUNE 15, 2020 5 Page 6SECTION I: STRATEGIES FOR SUCCESS Ophthalmologic Perspective on Emergency Eye Care Patients READY FOR REMOTE EYE EXAM —RIGHT? A company called DigitalOptometrics
offers full-time and part-time positions to optometrists who are willing to conduct comprehensive remote eye checks during the day, night and/or weekends from their headquarters or other preferred locations. DigitalOptomet-rics, which operates in the United States and Canada, uses live
video conferencing technology to enable comprehensive eve examinations and vision analysis conducted by licensed optometrists. The goal, according to the company, is to make comprehensive eve exams convenient for patients in urban and remote locations by conducting remote exams
by licensed optometrists. We take: This technology is in its infancy and will only grow. Refraction-centric practices must be protected. Give me this big contemplation. Fortunately, our colleagues at AOA already have. AOA began a national public
awareness campaign this year on the importance of annual, direct, comprehensive eve examinations with AOA optometry family physicians — turning moments (2020 and 20/20 vision bonding) into a movement. N owes that the more eve surgeons have (or have access to) outpatient
surgery centers, and using them rather than hospital operating rooms, there is a shrinking need for such surgeons to serve on-call for hospital emergency departments. This leaves a void relative to emergency eye care. An article in EyeNet magazine (December 2019) explains this problem:
If ophthalsic doctors continue to remove themselves from emergency medicine and remain unwilling to provide out-of-office care they [...] It is not for you to listen to God, and do not want me. see gaps in care. If hospitals can't rely on ophthalmologists, why don't they send patients
elsewhere? Why doesn't optometrist be a gatekeeper? Elsewhere in medicine, non-surgeons gatekeepers, thus it seems very appropriate for optometrists to fill this role. Having been called to our respective hospital emergency departments, we can say with authority that the need for an
represent up to a third of those injured. —JAMA Ophthalmology, August 2018 If both optometric experts and ophthalmologists will proactively educate their collective patients to call us first before going to the emergency department, some things can be hap-pen: • Patient care will be greatly
improved. • Patients will save significant time and money. • These caring practices will enjoy increased revenue. • Fission-cians emergency departments, which have very limited expertise for eye problems, will become unencumbered from eye emergencies. We all need to step up to the
plate and reach out to this subset of patients with urgent eye care needs. We salute the optometrists who already provide such emergency eye services, and to our friends at Vision Source for being officially proactive in this. 6 OPTOMETRY REVIEW JUNE 15, 2020 Page 7 Optometrists
Can Rise to the Chance to Build Your Practice around caring for your patients — especially those with emergency medical needs — and you'll be ready for anything, even a global pandemic, years on, the world has been overwhelmed by the coronavirus pandemic, which fills hospitals with
COVID-19 patients and grounded people's daily work to a standstill. Like most doctors, the majority of optometrists close their offices for routine treatment. Some are opened for emergency cases, but only if they have the clinical skills and com-munity reputation to make it work. The practice
relies too heavily on refraction and is largely considered an outlet for ill-fated glasses. One of our numbers—Patrick Vollmer, OD—makes transi-tion easy. Urgent care is nothing new for Dr. Vollmer, who provided emergency eye care on the first day he walked in his practice door, long
before COVID-19 struck. I worked tirelessly in my com-munity to establish medical and emergency eye care, he said. This has been be virtuous desi-zions. To my knowledge, almost all hospitals, urgent care and primary care offices are somewhat overwhelmed with THE COVID-19 T
COMORBIDITAS AND COVID-19 In a large study, the most common comorbidities were hypertension (57%), obesity (42%) and diabetes (34%)—all conditions that in most cases can be mitigated by lifestyle changes, and/or medications. Something to contemplate as we, as a
society, prepare for future pandemics. 1. Richardson S, Hirsch JS, Narasimhan M, et al. Presented characteristics, comorbidities, and outcomes among 5700 hospital-sized patients with COVID-19 in the New York City area. JAMA 2020; April 22nd. [Epub in front of the print]. Published
online April 22, 2019. Response. They don't want to deal with eye problems now. Many of these patients get funneled into my clinic day and night. He saw each patient one by one, so there was never more than one patient in the clinic. To further ensure safety, Dr. Vollmer wears an N-95
mask and gloves, and all patients also receive masks and gloves at the door. When the patient leaves, everything is infected with disin. The procedure was a bit tedious but it worked, he said. Many of Dr. Vollmer's current emergency patients told him they would have Dr. Vollmer and his
patients each wearing masks and gloves to minimize the risk of transmission. usually go to fun to appreciate, but i get more ER or Urgent Care, but they worry about being in hospital set-fulfillment in knowing I am helping some-ting at the moment. I took an opportuni-one in need. Continue
to see patients who ty to educate these new patients who are calling for urgent problems filled they should not go ER anyway. Patient care needs are critical and make many patients not know this despite going to their ophthalpologist Dr Vollmer's practice busy during downtime. One that's
been important for years. Optometry can't assume patients know to come to the clinical aspect of theirs that I've learned, obviously, is how important it is to diversify for eye emergencies, he said, your practice. If it weren't for emer-Patients appreciating patients' gency and 'urgent' needs,
emergency care for life regardless, but they would be guite slow. It is now very grateful all this time that the practice is seeing outbreaks of routine treatments, Dr. Vollmer said. I am no longer, patients are more motivated to charge after current business hours, than ever before to enter
because they are and the one I charge the most for any office knows this is a doctor they can count visits is about $150 if they don't have it even in the toughest times. insurance or high deductions. This STRATEGY FOR SUCCESS 7 OPTOMETRY REVIEW JUNE 15, 2020 Page
8SECTION I: STRATEGIES FOR CLINICAL PEARLS OF SUCCESS You Can This time-honored insights sparkle through 80+ years of patient visits. being so patient is unique, and deserves to be treated that way, but these tips have proven to be true again and again in the numer-ous
meetings the three of us have put together throughout our careers. • • there is an unexplained visual function al-teration, always do a retrospective review of any changes to the patient's medications, especially if they are using new drugs or changes to the dosing have been made. In doing
so, often causal relationships can be entwined which provides a rational explanation for changes in visual status. • Research has confirmed that patients prefer their doctor wearing a lab coat with their nametag on it. We'd rather have our first and last name, then OD, than Dr. Last Name.
We pride ourselves on being OD, and sometimes, it provides an opportunity to explain to our patients exactly what od is. To showcase our degree allows us to share our unique expertise in eye care, and to confirm to our patients that they are, indeed, seeing the right doctor. Be proud to be
an OD! E • Unless the cause of foreign object sensation is clearly obvious (and sometimes even when it is), always have upper eyelids after implanting fluorescein dye. There is always the cause of the sensation of foreign objects, so look for things like: - the subtly ground basement
epithelium mem-brane dystrophy - shallow thygeson punctate keratopathy - eroding the conjunction of the tarsal conjunctval - occult trics - loose lashes in the puncta For foreign conjunctval we try not to use anesthetic, so once the foreign body is removed, the patient can immediately
provide contingency assistance, rather than having to wait 20 to 30 minutes while the anesthesia is gone before making such a determination. • If the eyes are pretty much white but the patient has miserable eyes and irritated with the sensation of foreign objects, always think of superior
limbic keratoconjunctivitis (SLK). Confirmation-ing of this diagnosis takes two steps: ask the patient to look down so that the Eye in the primary gaze looks healthy. After downgaze, the diagnosis of SLK is clear, thus emphasizing the need to remove the eyelids to find the cause of the
symptoms. This eroding kalsflik body causes the sensation of this patient's foreign body. SUPERIOR LIMBIC KERATOCONJUNCTIVITIS • Both sexes affected, more women • Main symptoms: distressing eye irritation • Dry eyes common companion findings • Symptoms disproportionate to
clinical findings • Exacerbation and spontaneous remission • 25% to 40% have some thyroid dysfunction • Tx (difficult): 0.5% silver nitrate, optimal lubrication, pressure patching, therapeutic soft lenses, surgical resection, cryotherapy for which you can check for superior bulbar conjunctival
and then stain the world with lissamine green dye. Allow 30 to 60 seconds for adequate coloring. If these bulbar and tarsal conjunction-tival tissues have become idiopathic keratin-ly, mechanical rubbing of these two interfacing networks cause of distressing symptoms. We originally used
0.5% silver silver compound solutions to help reduce this keratin tissue. After the patient takes your prescription to a known ophthalmic compound pharmacy and gets the solution, ask him to bring the drop back to the office where topical propara-caine is implanted twice (about 30 seconds).
between each drop). We then dip a sterile cotton swab into a com-pounded solution, flick its excess, 8 OPTOMETRY REVIEW JUNE 15, 2020 Page 9and make the patient look down, attach the upper evelid and paint the superior tarsal tissue. It's like painting a wall with paint rollers; do this
for about 20 seconds. Then un-evert the evelids and have the patient look down. Now perform the same procedure for the affected superior bulbar conjunctival network. We then implant a small amount of the generic Maxitrol eve ointment (neo-poly-dex), which we store in our lab coat
pockets. We encourage these patients to frequently implant lipid-based artificial tears into the eyes during the day and use preservative-free artificial tear ointments at bedtime until they return to us within a month, at which point we repeat the painting procedure. We keep the patient's silver
nitrate solution in our refrigerator, clearly marked with the patient's name, date of birth and medical record # until then. Although this process is very benefi-cial, there may be occasional recalci-trant-to-treatment patients. If, after this two-step therapeutic intervention, the patient is still not
below the threshold of symptom-atic, consultation with the cornea and external diseases subspe-cialist surgery for the resection of the tissues that suffer from this is in order. Superior limbic keratoconjunctivitis is a generally missed eyelid cleansing treatment and/or
misdi-EYELID FOR BLEPHARITIS • Studies comparing special evelid cleansers with diluted baby shampoo • Cleansing is done BID for four weeks • Conclusion; improvement occurs with both treatments • However, only special evelid cleansers are shown to be effective in reducing
inflammation and are the preferred therapy. - The Ocular Surface, October 2017 diagnosed condition. Thoroughly in the pursuit of diagnostics you will easily reveal the causes of patient visits. Although rare, SLK is another oppor-tunity for treating our patients. • Baby shampoo for the
treatment of blepharitis has gone the way of horses and chariots. There are many commercially prepared eyelid cleansers available over-the-coun-ter, and we exclusively recommend this when an eyelid scrub is indicated in the treatment of patients with symptomatic blepharitis. • Monocular
diplopia can result from several fine corneal conditions: unilateral Thygeson SPK and epithelial cellar membrane OF YOUR MEDICINE MIND OD recently met an elderly woman 20s whose main complaint is almost vague. He's Him does not have hyperopia nor does it have latent hyper-opia
in cycloplegic refraction. The exams are normal except for presbyopia. At +2.50, she sees a crisp 20/20. Reviewing her medical records, it appears that she took Qbrexa for her a aksila sweat which had a significant antiolinergic effect, thereby causing her symptoms. It illustrates perfectly
the import-tance being a concern for new drugs when facing unusual patient complaints, dystrophy. Infusing fluorescein dyes can help uncover these two subtle presentations. There is always an explanation for monocular diplopia; Our job is to find the right cause and treat it appropriately.
Ethambutol is commonly used to treat tuberculosis, but can cause toxic optical neuropathy. Color vision is generally compromised in these situations, so, if possible, be sure to perform a color vision test to establish a baseline before starting therapy for tuberculosis. The general toxic
threshold is 30mg / kg per day, so the greater the dose, the higher the risk of neuronal toxicity. Beyond color vision testing, it certainly builds the best visual acuity and a 10-2 baseline, too. Depending on the dosage, follow this patient quarterly and repeat the test as deemed necessary. 1 • A
recent review in the journal cardiology noted that COPD diagnoses were incorrect in about 62% of cases. The authors caution, Doctors need to do a better job of identifying patients with COPD and not overdiagnosing them. Performing spirometry before and after administration of
bronchodilators is very important before making a diagnosis. 2 We take: This seems somewhat parallel to the challenges that ophthalms are facing with respect to glaucoma. Obviously, it is very important to STRATEGIZE FOR SUCCESS 9 OPTOMETRY REVIEW JUNE 15, 2020 Page
10SECTION I: STRATEGIES FOR SUCCESS perform appropriate and comprehensive workups before starting therapy. • Journals of diseases in noting soft drink consumption have been linked, not only to weight gain and obesity, but also to excess mortality in U.S. studies. Associations
were found for sugar-sweetened and artificial drinks. 3 We take: Play outside and be active. For the most part, try to eat plant-based foods; fasten your seat belts; do not drink alcohol (or soft drinks) excessively; get enough sleep; Do not smoke. • Presbyopia-correcting eye drops are
coming. The bifocal market will take a hit! This first sentence is to get your attention; the following discussion describes pharmacological mechanisms to reduce the demand for bifocal lenses. There are two main approaches: (1) myotic to create a pinhole effect in the eyes that is not
dominant, and (2) recovery of in-trinsic elasticity crystal lens. Previous previous approaches come to the market first; however, we are excited for the latter approach. It is a year or two too early to get into the details, but we feel obliged to put our colleagues on notice that mega-changes are
taking to the streets. Anticipate the emergence of these innovative drugs and how they will impact your practice. 4 • Looking into the resolution of the innate nasolacrimal tract obstruction, JAMA Ophthalmology recently stated, The rate of spontaneous reso-lution in the highlands after nine
months, and the success of the initial investigation decreased after 15 months. 5 Of course, different articles seem to consistently find different results. It's always frustrating. A study from the British Journal of Ophthalmology december 2019 found that spontaneous resolution occurs in 45%.
of patients at 17.8 months of age. We take: We will recommend a proper lacrimal tactic massage for several weeks, but if the treatment does not work, we will recommend pe-attribution eye consultation at the age of about nine to 10 months. Although we still hold on to this recommen-dation,
if parents prefer con-tinue to try massaging until the age of 15 months, that might make sense. • Blue light protection goggles. There have been a number of articles published regarding the protection of blue light lately. There is no consensus that such protections serve any humanitarian
purpose, but DRINKING WATER Benefits Doctors should use a simple and clear message about the role of water as a primary drink for all children, adolescents, and young adults when discussing healthy habits with family. Rosinger AY, Bethancourt H, Francis LA. The association of
caloric intake from sugar-sweetened beverages with water intake among us children and young adults in the 2011-2016 National Health and Nutrition Examination Survey. JAMA Pediatric. 2019;173(6):602-04. YELLOW GLASSES AND NIGHT DRIVING • Wearing yellow lens glasses does
not improve (i.e., more likely to deteriorate) performance either with or without the glare of the headlights. • These findings do not seem to support having an eye care professional advise patients to use yellow lens night drive glasses. —JAMA Ophthalmol., August 2019 professional
ignorance Because blue light can modify our circadian rhythms, all of these articles advise us not to work on screens two to three hours before bedtime, however. • In the same vefin, the alleged ben-efit wearing yellow tinted glasses to increase contrast has been found to be a myth. 6 Now,
we all have patients who swear by this, and we see no practical reason to rain on their parades. However, it is important for all of us to be aware of this research – which is why we read the journal! • Topical antibiotics a very limited role in contemporary eye care, as it is the only one is to
treat-ment bacterial infections, which are relatively rare compared to inflammatory eye conditions. 7 There are three main uses for antibiotics: - children with bacterial conjunctions - prophylaxis when using tire-dage contact lenses - bacterial corneal ulcers When we meet adults with acute
bacterial infections, we treat with a combination of antibiotic-steroids so that we overcome infection and secondary inflammation simulta-neously. For more advanced bacte-rial infections, we most often prescribe generic moxifloxacin or Besivance. Note that Besivance is 10 OPTOMETRY
REVIEW JUNE 15, 2020 Page 11 ophthalmic suspension and needs to be shuffled before any instillation. For this reason, when used for profile-laxis in the setting of soft contact lenses bandages, we will opt for generic moxifloxacin, since it is a solution. For corneal ulcers, we will use be-
sifloxacin for its advantages as shown in the ARMOR study (see p. 29 for ARMOR 2020 data). • Some patients with migraine headaches, blepharospasm and post-concussion suffer from quality of life – photophobic alteration. The FL-41 spectacle lens layer (FL stands for fluorescent) can
filter out specific wavelengths of blue/green light that have been shown to contribute to light sensitivity. 8 Of course, it is important to rule out ocular surface diseases, so conduct a two-week trial of topical corticoste-roid QID to address any inflammatory components before suggesting a fl-41
layer. Severe photophobia of address-ing may require some approach, but beware of such options. • Simple steroids: we prescribe Durezol (Novartis) for advanced cases of anterior uveitis and episcleritis; for everything else, we prescribe Lotemax SM (Bausch + Lomb). As an emulsion, it
does not require shaking before instil-lation. There are times when regula-tory formulations limit us to generic acetate prednisone, which must be well shuffled before each use. • Regarding eyedrops, we ourselves personally show our patients how to implant these agents correctly: with the
face looking at the ceiling while pulling the eyelids down, and having the tip of the bottle about half an inch away from the eye. This is very important for our new glaucoma patients. Most people have an incomplete understanding of the right techniques, and giving them an immediate
demonstration greatly improves the efficacy of therapy. • While neomycin and benzalko-nium chloride (BAK) suffer from a lot of abuse, it is not meritorious. In how important is it to be preservative-free? • Published studies have not shown a clear benefit of free BAK formulation. • There is a
lack of evidence of clinically significant damage from a small number of tubs drops in patients without OSD. This means that generally the more expensive should only be recommended for those who are in a poly pharmacy or those who have OSD but are not
necessarily necessary for all patients. - Br J Ophthalmol, July 2018 study, neomycin allergy developed in only 1.5% of subjects. When that happens, it's just a mild annoyance or annoyance. Cessation of offending decrease, optional use of cold compresses and/or triamcinolone 0.1% cream
can be used for two to three days. An article in English literature provides a more practical perspective on BAK (see slide above). Further, it is known that the original 0.3% Lumigan (Allergan) causes quite a lot of conjunctival and eyelid irritation. It was refor-mulated to a much more tolerable
0.1%. However, there are four times as many BAK in the formulation of 0.1%. Deductive reasoning will now soften the charge against these vilified preservatives. • What about online symptom checkers? More and more patients are seeking advice through this. An interesting article in JAMA
Ophthalmology June 2019 found that the WebMD website lists the correct diagnosis as the first diagnosis in 26% of cases. The correct diagnosis was not on the list at all in 43% of cases. Their euphemistic conclusion: There is room for improvement in the domain of online symptom
checkers for eye symptoms. Bottom line—just look at optometrist! Like all technologies that affect hu-man medical care, these sites will prove over time, and while they may help adjunctively for clinic-based treatments, nothing will replace the care and attention of face-to-face doctor visits.
Fortunately, newer, better and easier uses of antitrombotic medi-cines dampen the prevalence of Coumadin (warfarin). However, there are still many people who fight for stroke prevention. A blood test device known as the Internation-al Normalized Ratio (INR) measures thrombotic control.
This is another blood test beyond CBC, the level of sed and C-reactive protein (CRP) with which we should all be familiar. In the pursuit of simplicity without our tires, just know the INR generally needs between 2 and 3 for warfarin patients. This metric does not apply to other drugs.
Basically, if INR &It;1, the= blood= is= more= prone= to= clot,= and= if= it= is=>is 3, the risk of hemorrhagic events increases. • There are three commonly used antibiotic-steroid combinations. From the oldest to the latest, these are: Maxitrol (neomycin, polymyxin-B and dexa-methasone,
Novartis), which comes in the form of suspensions and ointments; Suspension and ointment TobraDex (tobramycin with dexamethasone, Eyevance); and Zylet (tobramycin and loteprednol, Bausch + Lomb), which are only available as suspensions. STRATEGIES FOR SUCCESS 11
OPTOMETRY REVIEW JUNE 15, 2020 Page 12SECTION I: STRATEGIES FOR SUCCESS - From which cheap to the most expensive, these are: generic Maxitrol (about $25), Zylet (with coupons it's about $35) and </1,&gt; &lt;/1,&gt; TobraDex (about $60-80). These prices may vary
depending on the insurance plan and the geographic location of the patient. - From safest to least secure (all relatively safe): Zylet, Maxitrol and TobraDex. All three suspensions need to be shuffled before instillation. Regarding antibiosis, these drugs are all clinically effective. There is no
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debate that Zylet is choosing junk here, especially for chronic conditions such as staphylococcal blepharitis, because of steroid-based esters. When cost is really important, generic Maxitrol is the best option, but only for acute conditions that generally require treatment no more than seven to
10 days, due to dexamethasone. This combination drug is a real workhorses in routine clinical care. However, keep in mind that unless there is a violation in the integrity of the corneal epithelium, antibiotics are generally not required, and only straight steroids should be used. • Intranasal
steroids are the drug-ment option for allergic rhinitis in patients over the age of 12; adding oral antihistamines does not fully control the allergic response, then intranasal antihistamines such as azelastine can be added, albeit at the
expense of disgeusia. 9 • Giant papillary conjunctivitis continues to be a threat. It can be relegated to history if everyone can/will wear disposable contact lenses daily. For asymptomatic patients, as shown in the image below, we ask them to stop contact lens wear for at least a week, and
preferably for two weeks. GPC remains common among the contact lens population but is easy to manage. (Any contact lens wearer with a func-tionally significant recipe needs a spare pair of glasses!) We prescribe Lotemax SM to these QID patients for one to two weeks, then BID for two
more weeks. Over the past two weeks, we instructed patients to implant a 10-minute drop before lens application and a second drop at the end of the work or school day when the lens is removed. Getting a new lens and reducing the treatment of OCULAR Allergy wear time is a significant
maneuver in the final resolution of symptoms. According to Mathea Allansmith, M.D., a well-known ocular allergy expert at Harvard, and our esteemed colleague Jimmy Bartlett, OD (professor emeritus at UAB), loteprednol is the steroid of choice in treating this condition. • An FDA program
called Rx to OTC recently brought Olopatadine 0.1% (Patanol, Alcon) and 0.2% olopatadine (Pataday, Alcon) OTC. These drops can no longer be prescribed. This will bring two more products to the already crowded OTC shelves. Since all these histamine type 1 receptor blockers do simi-
larly, the advice we give our patients is to choose a 10mL bottle when it costs about the same as a 5mL competitor. Use one drop of this BID for a week, then then to return to daily once-daily use as needed to control ocular itching. The formulation of a different insurance plan may mean
that, cost-effectively, you provide a better service to your patients by prescribing a brand name - a reduction in rx-protected anti-allergy, such as Bepreve (bepotastine, Bausch + Lomb), rather than asking them to buy OTC products. By paying attention to these cost-effective maneuvers, you
can wisely and compassionately keep expenses out of pocket for your patients! • A young man presented to us with his third episode of a kind of dermatitis to the eyelids and periocular tissue in six months. She had seen her internis twice before, about three months apart, and was
successfully treated (albeit temporarily) with oral prednnisone. This time, the patient wants to try an ophthal see. It seems that 4+ cases of contact dermatitis are so severe that it gets secondary ectropy from epider-mal inflammation. She was treated with 40mg of prednisone (it is not known
what the previous dose was) for five days, along with a 0.1% triamcinolone cream applied to the affected QID tissue for five days. The cynical adage that no good deed is not punished applies here, 12 OPTOMETRY REVIEW JUNE 15, 2020 Page 13in that the patient never returns for
follow-up, and his phone mailbox is full or his phone just rings and rings. Finally, after about four months, we could see it. She shared with us that her condition has been guickly resolved and has not relapsed during this four-month period. That's great, but we still only have the presumption
of contact dermatitis in-agnosis. This happened in May 2018. Coincidentally, in the June 2018 issue of Ophthalmology, there was an article that grabbed our atten-tion. Looking at those pictures, it definitely reminds us of this patient. Well, it turns out that the diagnosis was more than contact
dermatitis — it was impe-tigo! Because we consistently read literature, we can grow our clinical knowledge. If these patients ever come back with the same symptoms, we now know how to solve the problem more definitively and competently. In addition to steroids, we will also prescribe
oral antibiotics such as cephalexin 500mg BID or Augmentin 875mg BID, depending on our clini-cal assessment; It's an art, BILATERAL PERIORBITAL IMPETIGO — DERMATITIS • Impetigo is Staph, Aureus infections, often seen in patients with eczema • Usually seen in children and
young adults • Can cause secondary inflammatory dermatitis • Can create cicatricial extropy • Tx with oral antibiotics and topical antibiotics or steroid ointments - Ophthalmol, June 2018 Notice secondary extrofism for these patients with impetigo. • What are the risks for melting the
cornea with the use of anti-inflammatory drugs topical (NSAIDs)? Anti-inflammatory drops are routinely used postoperatively, and are only rarely done cause problems. An important recent article in the Survey of Ophthal-mology offers this insight: 10 – The FDA has approved oph-thalmic
NSAIDs for use in four areas: pain and inflammation associated with cataract surgery, pain associated with corneal refractive myosis inhibition, and seasonal allergic conctivitis. However, its use in the prevention of postoperative cystoid macular edema is central in the
frequency of their prescriptions. - Worryingly, topical NSAIDs can be used by eye care practitioners for long periods of time without a clear diagnosis or indication. - Topical NSAIDs corneal complications include shallow punctate apathy (erosion of the epithelium punctate), corneal
infiltration, and epi-thelial defects; The most severe of all is the melted cornea. - An interesting aspect of such melting is the clear requirement for the cornea to be compromised for it to occur. It appears that compromised epithelial cells respond differently to NSAED than healthy. - Some
ocular surface diseases such as dry eyes are considered rela-tive—and for most experts—an absolute contraindication to the use of ocular NSAIDs. • Festoons. It is a slippery bag containing liquid that is exacerbated gravitationally by age-related weakness of the upper facial muscles. They
can also accompany inflammatory dermatological-ic diseases; most relevant to us, shingles ophthalmicus. This non-tender festoon looks bad but brings no patho-logical relevance. Her treatment is a pa-tient certainty, or if she wants to, a reference to facial plastic surgery. • Drugs that can
cause disgeu-sia: prednisolon acetate, lifitegrast, topical carbonic anhydrase inhibitors and azelastine, 1. Stuart A. Drug Toxicity to the Retina and Optic Nerve: Did You Miss It? EveNet magazine, September 2019, Available on: https://www.aao.org/evenet/article/drug-toxicity-to-the-retina-
and-optic-nerve?september-2019 (last accessed April 14, 2020). 2. Sator L, Horner A, Studnicka M, et al. Copd overdiagnosis in subjects with unobstructed spirometry: BOLD analysis. Chest. 2019 Aug;156(2):277-88. 3. Mullee A, Romaguera D, Pearson-Stuttard J, et al. Association of be-
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and without headlight glare. Jama 2019; August 1st. 7. Keen M, M, M. Treatment of acute conjunctivitis in the United States and evidence of excessive antibiotics: isolated problems or systematic problems? 2017; Aug; 124(8):1096-8. 8. Migraine & Samp; amp; FL-41 Color Lens. University of
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Disease. 2017; 19, 2014 in New New Year's. 10. Rigas B, Huang W, Honkanen R. NSAID-induced corneal melting: Clinical importance, pathogenesis, and risk mitigation. Surv Ophthal-mole. 2020 Jan-Feb;65(1):1-11. STRATEGIES FOR SUCCESSFUL PATIENTS may be anxious about
festoons but they are harmless. OPTOMETRY REVIEW 15 JUNE 2020 13 Page 14SECTION I: STRATEGIES FOR PERSPECTIVE SUCCESS in Pupil Patients may not like this experience but it is not an excuse to avoid vital steps that can make or break a diagnosis, o one enjoys
widening; no woman enjoys having a noda Papanicolaou (Pap); no man enjoys prostate examination; However, all three screening procedures are important and represent excellent health care. Face it—in life, many very important functions, procedures, and activities are unpleasant. Of
course, there are technologies for debriefing the retina without phar-macologic dilation, and in some cases, this can be useful. However, the standard of care community and prestigious medical centres fully embrace widening eye examinations. In most cases, a widening exam is essential
for: - diagnosing pseudoexfoliation - carefully examining her retinopathy and dia-betic maculopathy - look for subtle retinal tears (for example, associated with symp-tomatic posterior vitreous detach-ments) - identifying pars planitis or ciliary body tumors - helps visu-alization N Cases of
anterior synechial uveitis eventually produce atropine, Durezol and 10% feneslephrine. The residual lenses facing the iris pigment tattoo will largely disappear over the years, countless other conditions.
will widen; thus, why should we give our patients something less than the best care? We rarely have no-mantly patients refusing dilation, and when we do, we document in our medical records that patients reject AMA (against medical advice). One maneuver we usually use is PAREMYD
OPHTHALMIC SOLUTION • Combination of tropicamide 0.25% and 1% hydroxyamphetamine HBr, investigators act indirectly (adreneric agonists). • Excellent and less intrusive dilated drugs that we use routine dilation. • For patients from Africa and/or patients with diabetes, we typically
use 1% tropicamide tropicamide 2.5% phenylephrine. • Marketed by Akorn in 15ml bottles to spread most of our patients is paremyd instillation (0.25% tropicamide with 1% hydroxyl-phetamine hydrobromide, Akorn). This combination drug provides a rapid and short-lived dilation with a very
truncated cycloplegic effect. For older diabetic patients (who are usually more difficult to achieve welded), we returned to traditional use of 1% trophy-camide and 2.5% phenylephrine. Post-mydriatic sunglasses are always provided. As health care professes, we have an obligation to give our
patients the highest level of care, and pharmacological dilation represents the gold standard in this. Given that failure to diagnose so far is the most common reason optometrists are successfully prosecuted, we have another good reason (beyond our desire to provide excellent patient care)
to embrace the uncomfortable virtues of pupil dilation. During one of Dr. Thomas's externships, the brilliant ophthalmology doctor's routine dilation protocol was the use of 1% tropicamide and 14 OPTOMETRY REVIEW June 15, 2020 Page 1510% phenylephrine. There are no adverse
events with any of these hundreds in the hundreds of mostly elderly patients. We share this to provide perspective on the safety of both fenlephrine concentrations. Because the formulation is 2.5% (in combina-tion with tropicamide 0.5% or 1%) provide sufficient dilation, we rarely have a
practical need to use a concentration of 10%. However, we found a concentration of 10% can be very helpful in solving some synechiae recalcitrant, and for subsequent patient visits that are known to widen poorly. Phenylephrine Phenylephrine 2.5% safety does not cause clinically
meaningful changes in blood pressure or heart rate and can be considered safe for use in clinical routines. Bp and HR changes are seen with fenesefrin, 10%, short-lived and uncertain clinical relevance. Stavert B, McGuinness MB, Harper CA, Guymer RH, Finger RP. Cardiovascular
Adverse Effects of Phenylephrine Eyedrops: A Systematic Review and Meta-analysis. JAMA Ophthalmol. 2015;133(6):647–652. doi:10.1001/jamaophthalmol.2015.0325 GUEST COMMENTS, by Richard Edlow, OD A Less Secretive Strategy for the Growth of Turbocharging Practices We
are certainly right in thinking 2020 will be special for all of us — just not the way we predicted. He's the world and the way we inter-action is changing, maybe forever. Optometry exercise patterns should also change, but not in the way a person might think. I will share a number of data
points that should be a wake-up call for all optometrists, regardless of the practice environment, to fully embrace providing eye care services This data is a compilation of sources including CMS/Medicare, census bureau, National Eye Institute, optometric and eye training programs and
insurance Statistics. The following projections (net changes from 2020 to 2030) reveal unique opportunities for optometric practice growth over the next 10 to 20 years. An ageing population, the prevalence of age-related eye condi-tion and a relatively shrinking supply of ophthalpnot doctors
present a once-in-a-lifetime open window to embrace medical eye care. RISING & amp; DEMAND; U.S. population growth is expected to grow 6.7% in the next decade. Of the larger signifi-cance: the projected growth among those aged T 64 and below is just 1.9%, while the increase in 65-
and-older is 30.5%. Demand for medical eve care services will grow 20 times more rap-idly than the demand for vision exams. The latter is defined as a diagnosis code refrac-tive ICD-10, while the medical eve care exam is the one that has a medical diagnosis. Eve care providers (ECP)
need to collectively provide two million additional vision exams per year, 10.8 million additional diagnostic tests per year, 16 million additional cataract surgeries per year — all above and beyond what we provide today in 2020. For
perspective, the current rate is 111.4 mile-lion vision exams, 64 million diagnostic tests, 60.4 million medical eye exams and 4.2 million cataract surgeries. ECP Supply Optometrist supply will increase at a somewhat greater pace than overall population growth but much slower than
demographics 65 and older. The game changer is that the ophthalpline soup-ply is almost flat. The ophthalmology residency program will produce about 460 new arrivals each year, and 420 practitio-ners will be out, for a net increase of 400 ophthalmologists over the entire decade — just 40
each year for the rest of the country. To only provide improved cataract surgery procedures, we will need 3,500 surgeons. Ophthalsed doctors will find themselves more and more in the operating room, the less in the office settings. The message is clear: Optometry should quickly embrace
providing medical eye care services in their prac-tices. If someone uses Utilization data & amp; amp; Medicare Provider payments as a proxy for how involved optometry is in pro-viding medical eye care, it is at a very low level — less than 28% of optom-etrists provide any level of care. It is
incumbent on the entire eve care industry to rapidly increase optometry involvement in medical services and turbocharge practices, regardless of practice settings. n Dr. Edlow, AKA The Eyeconomist, practices in Catonsville, MD, and is known for strategic trend analysis. STRATEGIES
FOR SUCCESS 15 OPTOMETRY REVIEW JUNE 15, 2020 Page 16SECTION I: STRATEGIES FOR SUCCESSFUL Horrors of Medical Malpractice Protect yourself from the three scariest words in all health care: failure to diagnose. By Randall Thomas, OD, MPH If the patient reported
unexplained explained beyond comprehensive widening inspections, always get a 30-2 visual field. Measures intraocular pressure at the earliest practical age. Tonometer Icare has greatly facilitated the acquisition of this important metric. No normal patient mentally enjoys the puff of air
blown into their eves! If you can't provide definitive ex-planation for symptoms or decreased vision, maintain a low threshold for getting a second opinion. Be friendly, kind, polite and palpa-bly interested in the well-being of your patients. Such behavior is highly appropri-fed and protects
against lawsuits. Lastly, if you are prosecuted, know that this difficult process often takes at least a year or two. Remember that most cases of malpractice can be prevented simply by being atten-tive and by conducting cutting-edge evaluations. have a sad opportunity to be an expert
witness for a number of optometric medical malpractice cases, so I'd like to share with you this short tutorial on how not to be prosecuted. Such events traumatize both plaintiffs and defendants. Most such cases are easy to avoid, which is just annoying when trying to defend a colleague!
There are four basic requirements in avoiding cases of medical malpractice: • Really care about your patients. • Provide competent and sophisticated care. • Communicate your findings and recommendations thoroughly. • Document the communica-tion clearly in your medical records. First
and foremost, it should be emphasized that most all cases of opto-metric malpractice involve misdiag-nosis, mostly related to glaucoma and retinal detachment, be thor-ough in your clinical evaluation. On the treatment side of this equation is one of the main caveats: when treating red eyes
unilaterally, al-cara remember that herpes simplex keratitis should be considered. So, if the diagnosis is unclear, antibiotic-steroid combina-tion drop can provide the greatest opportunity to overcome the condition; however, always tell the patient (and of course, clearly document this
conversation in your medical records) to return immediately if the spice-tion deteriorates, or does not resolve. Maybe it's better to call the patient in a few days to see how he's doing it. The text on the right is intended for the patient. Feel free to photocopy and use in your workout with our
compliments. VISION INSURANCE VS. HEALTH INSURANCE W hether or not insurance covering eye care is a common area of confusion. There are two types of coverage that people often have that include different eye care needs. Vision plans include regular eye examinations, which
often lead to glasses and/or prescription contact lenses. Insurance DOES NOT cover medically related eye problems, such as: • Red or painful eyes • Vision loss • Diabetic eye disease • Glaucoma • Eye injuries • Cataracts • Flashes of light • Macula This type of issue is covered by your
standard health insurance. Vision plans are usually an option above and beyond what is commonly referred to as medical insurance, and they only cover a fully routine eye exam. For example, if you have diabetes, you should undergo a widening medical eye examination every year. Your
health insurance should cover this visit. However, if you also want to get new glasses or if you have a vision plan, you should schedule another appointment for a different date to have a glasses-oriented visit, related vision, or pay out of pocket for glasses/prescription contact lenses that are
not medically closed. Note that some offices only accept health insurance, and do not accept vision plans or vice versa. You should contact your ophthal seer's office to determine this. Vision plans typically include regular care visits once a year or two, while medical insurance can be used
whenever you en-counter medical eye problems. 16 OPTOMETRY REVIEW June 15, 2020 Page 17Case Report: Bungee Cord Injury T This dangerous emergency has finally had positive results thanks to the couple's vital judicial steroid use and patience. His 12 31-year-old men were
packing for the anticipated va-cation when a bungee rope snapped and hit him in the eye. As can be seen in a series of photos taken over a two-week period, he initially had ecchymosis and soft tissue hypnosis. We cyclopleged the eyes with 5% homatropine and prescribed Lotemax SM
(Bausch + Lomb) for use every two hours for two days, and then QID for one week. Most therapies are, however, time, while our medical interventions speed recovery. After about 10 days (Figure 5), iridodialysis can be seen from 4 to 6 hours, and the iris sfingter inferiorly develops
traumatic iridoplegia. (For annoying photophobias, or cosmetic problems, opaque soft contact lenses can be used.) After a month, we performed a gonioscopy to assess the facial tear of the ciliaric body, and explained to pa-tient its long-term risk of increasing intraocular pressure, and the
need for annual monitoring. 3 4 5 6 A NEW HIGH FOR PORTABLE REFRACTION T he automatic refraction technology continues to evolve and become more portable. We even imagined the day your iPhone or laptop camera device could be configured to do self-refraction. When an
automatic refractor was required for medical missions to Uganda and Kenya, the humanitarian leadership at Plenoptika kindly lent us one of their portable Quicksee autorefractor units. This instrument was performed exactly as we expected, and in the end, the vision was improved for some
people need in this underserved community. Ease of operation and the right results are a blessing for the team and for those who are served. We highly recommend this technology, not only for mission services, but also in Practice. SUCCESS STRATEGY 17 OPTOMETRY REVIEW JUNE
15, 2020 Page 18SECTION II: ANTERIOR CARE SEGMENT Acute White Lesions in the Peripheral Cornea: Infectious or Inflammatory? Don't let unfounded fears about steroids make it harder than it should be. The replied this timeless gues-tion is, almost always inflammatory. There are
many leucostic chemotaxis triggers into the peripheral cast-nea. If this cumulative concentration of leuko-cytic infiltrates remains in the anterior stroma for several days, there can be a small, retrograde There is a soft It is the focus Here is the eye two days after the exact epithelial details
surround the anterior sterile leukosytic steroid therapy. which will stain mini-stromal infiltration infiltration, which on the affected site, is considered mally with vital dyes, polymyxin-B, 0.1% dexamethasone) which is an indication (mistaken) while tobraDex infection or generic (tobramycin from
sterile process. infectious ulcer. has stain defects For clinical perspective, practical, approximately the same size considering that generic Maxitrol is Due to there is a piece of stromal infiltration opportunity underlying it. most expensive, followed by secondary opportunistic bacteria Zylet
Here is the bottom line: at any time around $35 (with coupons). infection, we always prescribe that you see round or oval whit-Agent the most expensive is a generic ish lesion in or near limbus, it is an antibiotic-steroid combination drug, TobraDex, which costs about $80 almost always
sterile, leukocyte-like Zylet (tobramycin 3% with up to $ 90. All of these drugs perform ic infiltration which merits soup-0.5% loteprednol, Bausch + identical pressure with topical Lomb), generic Maxi-equivalent. trol (neomycin, corticosteroids. We know of two
representa-tive cases in which peripheral corneal lesions were mistakenly identified as corneal ulcers, were corneal INFILTRATES cross-section treated with topical antibiotics and did not improve — because leukocytes • These ecclectically interested leukocytes migrated into infiltration did
not respond to Antibiotics! In each case, the patient • If they are sufficient or present long enough, the epithelium looks for another doctor (which compromises can occur, which will manifest as a relatively small one is one of us). We add topical fluorescein staining defects. steroids and
corneas are cleaned in • At the stage depicted in these two to three days. rendering, bulbar conjunctiva is Very important that we are usually slightly injected. collectively understand the difference between inflammation and infection, • Topical antibiotic/steroid combination drugs used QID for
one and realized almost without weeks is the proper treatment. exceptions, corticosteroid suppres-sions are essential to achieve improved patient care. 18 OPTOMETRY REVIEW June 15, 2020 Page 19Below is three more cases where the patient is seen by another ophthalm eye doctor
and placed on antibiotics, does not improve, and is presented to us for a second opinion. In all cases we prescribe topical steroids, and here you can see a dramatic increase in just two or three days. MICROCYSTIC CORNEAL EDEMA MANAGE This condition is commonly seen in two
circumstances: with acute intraocular pressure rising, usually above 50mm Hg, and in response to cor-neal inflammation characterized as herpes zoster ophthalmicus. The first is treated with IOP-lowering drugs timolol and/or brimonidine (or in combination with Combigan). Note that
prostaglandins are not approach-ly as fast-acting as timolol and brimonidine. The last con-dition is treated with topical corticosteroids to suppress inflammation of epithelial tissue. CASE 1 CASE 2 This patient developed Posner-Schlossman syndrome, also known as glaucomaliptic crisis,
and was presented acutely with IOP 56mm Hg. CASE 3 ANTERIOR SEGMENT CARE This patient developed herpes zoster ophthalmicus, and was delayed in seeking treatment. She manifests considerable corneal edema as a result of untreated corneal inflammation. These corneal
microcytes are negatively stained with fluorescein dyes, just like pseudodendrites (which is more of a pronounced expression of epithelial toxicity). Notice this leucostic (sterile) white tape infiltrates. The overlying zone of secondary epithelial damage can be seen with a cobalt blue filter.
OPTOMETRY REVIEW JUNE 15, 2020 19 Page 20SECTION II: ANTERIOR SEGMENT CARE Practical Pearls for Managing Dry Eye Disease Control the inflammation and you'll fast-forward symptomatic control. Eye ry should be the most common condition we en-counter in practice.
Because there are so many patients, some doctors overthink their approach. Here are some of our best tips, suitable for most patients. • Diagnosis of highly guided symptoms. • Only historical, exami-nation slit lights from the ocular surface with vital dyes, high meniscular tearing and tear
film breakup time are required for diagnosis. All other assessments are overrated. Keep it simple—it is! • Since most dry eye diseases result from lipid defi-ciency, always try a standard bottle of lipid-based artificial tears first. If there is a clinically significant amount of punthelial epithelial ero-
zion, then perhaps preservative-free formulations can be used initially along with something like GenTeal Gel (Alcon) lubricants at bedtime. Follow up with your patient in time one month to assess progress, and to modify the treatment plan as needed. D • If there is no rational therapeutic
intervention you symptoms, then consider neuro-pathic pain as etiology. No ophthallist has successfully treated this somatosensory neurological disease. These are relatively rare patients, but they are out there, so pay attention to these recalcitrant patients. A second opinion may be in
order. • The focus of managing dry eye disease is attending to basic meibomian gland dysfunction. While meibography is optional, practical, it is desirable; however, keep in mind that there is a high probability of meibomian gland disease accompanying and/or causing dry eyes. We
recommend starting with this approach: use your golf club spud to scrape back and forth three or four times along the top of the eyelid where the meibomian gland hole is located. No anesthesia is required for this maneuver. For the record, there is no CPT for that either. Then, pan guide the
patient to use a very warm compress for at least five minutes, and then to perform soft to moderate As can be seen easily, this dry eye patient has a lake of lacrimal scant. DED TESTING FOR COLORING FOR • Of all the dry eye tests available, corneal fluorescein stain-ing was reported to
be the most com-monly performed, and green lissamine con-junctival was the least commonly used test. • This could be due to the ease/difficulty of access to these dyes or perhaps a lack of knowledge or awareness regarding each signifi-cance. • The basic level of con-junct pedigree
staining is a signifi-cant predictor of worsening corneal staining after sus stained readings. Subjective symptoms show the strongest correlation with basic conjunction stains of all dry eye parameters. Conjunctive coloring requires par-ticular attention when evaluating patients for dry eyes.
—Ophthalmology, October 2018 (see ref. 7) LOTEPREDNOL EFFECTS ON DRY EYE DISEASE • Using QID loteprednol 0.5% for one month is enough to control ocular surface inflammation • No cases showing a significant increase in IOP were detected. • Pflugfelder and associates
reported no clinically significant changes in IOP in each patient who received topical loteprednol four times a day for one month. • Summary: Loteprednol can provide greater anti-inflammatory effects and clinical benefits through reduction of ocular surface inflammation without serious
adverse events. —AJO, December 2014 (see ref. 6) We take: It further sup-port our perspective that the diagnosis of dry eye disease is very easy without the need for excessive additional tests. We all need to appreciate the-eating usefulness of the green dye lissamine in the evaluation of
our dry eye disease. 20 OPTOMETRY REVIEW JUNE 15, 2020 Page 21 eyelid massage. Device (Johnson & Samp; amp; Johnson Vision Care) is doing its best, but acquisition costs are still a relative barrier. • It is well understood that in-flammation in-flammation Ocular surfaces are generally
in the regulation of dry eye diseases. So, the next ques-tion is very basic: which class of drugs best suits the inflammatory component? It should be very clear that the answer is topical corticosteroids. Objectively, choosing garbage is loteprednol because of its efficacy, improved safety
profile and lower cost. Just like in the treatment of glaucoma patients, cost is the main deterrent to patients. Now, let's put
this into clinically relevant and patient-centered corticosteroids FOR DRY EYE DISEASE • Study: PF Refresh Optive vs. PF 0.1% dexamethasone, each OID • No difference between untreated and treated AT at two-week mark • After two weeks of steroid treatment, signs and symptoms
significantly improved • Our study shows that corticosteroids can reduce the adverse effects of low humidity environmental stress on ocular surfaces on individuals with DED. • Increased irritation and ocular surface epithelial disease [...] is caused by inflammation that can be modulated by
corticosteroid perspective. — AJO, July 2015 (see ref. 8). Most dry eye patients experience symptoms before the age of 65, that is, temporary working age. Lotemax SM (Bausch + Lomb) can be purchased (with coupon) for $25 to $35. In our experience, there is nothing out there to treat
the symptoms of dry eyes more efficacious and cheaper. Research has shown that after a month of cor-ticosteroid suppression, inflam-mation is subdued. 1 After this our main DRY EYE MANAGEMENT ALGORITHM All therapies — dry eyes included — should be individualized to the
patient. That said. here's our usual approach to asymptomatic dry eve management. TWO WEEKS TWO WEEKS INDEFINITELY Artificial Tear-Based Lipids Four to six times a day as needed Lotemax SM Gel 0.38%* Four times a day Lipid-Based Artificial Tears Three to four times a day
as needed Lotemax SM Gel 0.38% Twice a day (Consider the plugs on time if needed) Lipid-Based Artificial Tears Two to four times a day as needed Discontinue Lotemax SM Gel 0.38% If symptoms break through or continue, then the dose of Lotemax SM gel pulse drops four times a day
for one week, or consider loteprednol once a day as needed. ANTERIOR SEGMENT CARE The increased risk of IOP with loteprednol is rare at high doses. Our experience is that if an IOP increase is going to happen, it will do so at a follow-up one month early, and
not later. Omega-3 essential fatty acids (derived from fish or flaxseed oil) Can be started at any stage, based on clinical assessment. * Alternatively, infuse loteprednol ointment daily at bedtime for three weeks, then M-W-F for two weeks. Week, therapy for inflammation due to dry eye
disease is considered an off-label use. OPTOMETRY REVIEW JUNE 15, 2020 21 Page 22SECTION II: ANTERIOR TREATMENT SEGMENT OMEGA-3 FATTY ACIDS, ROSACEA AND MGD • The main focus of ocular rosacea treatment is managing-ment DED caused by MGD. • Two
well-designed studies have shown increased-ments in subjective symptoms and objective signs of MGD with the use of oral omega-3 fatty acids. Wladis EJ, Adam AP. Treatment of ocular rosacea. Surv Ophthalmol. 2018 May-Jun;63(3):340-6. MG ORIFICE SCRAPING IN TREATING DED
Legendary dry eye scientist DED, educator Donald Korb, OD, said this a few years ago: In the future, the health and maintenance of mucoccal junctions (MCJ) and margin cap keratinization can be considered integral to rou-tine eye care. This shift in our culture will involve improving our
observation skills as well as a willingness to incorporate new techniques such as MCJ debridement-scaling and keratin cap margins in our clinical practice. Korb DR, Blackie CA. Debridement-scaling: a new procedure that improves the function of the Meibomian glands and reduces the
symptoms of dry eyes. Cornea. 2013 Dec;32(12):1554-7. pathological components are conquered, there is no reason to use suboptimal topical drugs, very expensive twice a day for many years. So, at a price of less than $70, the treatment of inflammatory aspects of dry eye disease is
carried out — so simple, so patient-centered, that it sounds scientifi-cally! However, there is no single approach that works effectively for all patients, and sometimes deviations from our approach are necessary to achieve and to maintain patient comfort. We have some patients who need
loteprednol once a day, because it is the least anti-inflammatory effect that keeps them comfortable. We have never had a patient develop ocular hypertension on this dosing schedule. For perspective, many pa-tient use predniso-lone acetate once a day chronically for stromal herpetic
disease, suppression of corneal transplant rejection or for chronic anterior uveitis. This approach to in-flammation control is time-honored. Think about it. Which is safer, loteprednol or prednisolon? Such chronic low-dose inflammatory soup-pression may be necessary for a subset of patients
in a very cost-effective way. • Cyclosporine 2.0 is above us. Authoritative journal articles have questioned the patient benefits of Restasis. 2 Now well recognized 0.09% CYCLOSPORINE OPHTHALMIC SOLUTION • Compared to cyclosporine 0.05% emulsion, this nanomicelle formulation
is the obvious solution • Like a 0.05% emulsion, the dose is BID • Significant increase in 12 weeks; as early as four in some • Lubrication ocular can relieve symptoms; thus, the lubrication effect of polymer vehicles may also have contributed to the improvement of symptoms. • • experiencing
stings or mild combustion (4% in vehicle groups) • Marketed as Cequa by Sun Pharmaceuticals —Ophthalmology, September 2019 (see ref. 3) that most patients with dry eye disease have some degree of meibomian gland dysfunction, and patient-centered interventions including the use of
aggressive warm soaking (com-presses), mechanical debridement Note that all cyclosporine rendations are indi-cated to increase tear production. Without a physiological lipid layer, the addition of tears is minimally effective. With Restasis (0.05% cyclospo-rine) now available generically,
there is a market opportunity for cyclosporine's newer brand, Cegua, a 0.09% solution, available from Sun Ophthalmics, a division of Sun Pharma. It is thought that its nanomicellar formulation may be an improvement over its predecessor. The data shows a modest advantage. Fda trials
found Schirmer's increase in vehicle yields of 10mm or more in 9.2% of patients, while 0.09% of concen-tration did this in 16.6% of patients. Like the 0.05% formulation, approximately 25% of patients who used a 0.09% decrease experienced instillation-site pain vs. 4.3% with vehicles. 3 As
we have asserted for more than 20 years, if the goal is to reduce inflammation of the ocular surface, the month-long loteprednol course is optimally ef-fective and much cheaper than other brand name products. 22 OPTOMETRY REVIEW JUNE 15, 2020 Page 23The Medical Letter is a very
pres-tigious publication and similar to Consumer Reports, in its complete and objective analysis. The December 2, 2019 issue of Medical Letters states that Cegua appears to be sim-ilar in efficacy to Restasis. 4 It is then said that the addition of topical corticosteroids in the first month [of
treatment] may help. In our opinion, it's because our experi-ence and peer-reviewed literature has confirmed that a one-month course of loteprednol suppresses ocular surface inflammation! 1 We all need to practice based on medical science and literature, not on commercial marketing; it's
really quite clear, but one has to read to be able to separate acquisition-tion knowledge from salesmanship. • While there is controversy about the impact of omega-3 essential fatty acids in the treatment of patients with dry eye disease, most optometrists (as surveyed in our lec-ture
audience) subscribe to their ben-efit, and so do we. We start all our patients on fish oil around 2000mg/day. By the way, this dosing of both STEROIDS AND DRY EYE DISEASE • Since chronic inflammation on the ocular surface plays an important role in DED pathogenesis, topical steroids
have been commonly used in these patients. • Although DED pathogenesis is multifactorial and not fully understood, topical steroids have been commonly used this patient. • Although DED pathogenesis is multifactorial and not fully understood, understood, has been recognized as the main
mechanism in its development and propagation. - Ophthalmology, June 2018 (see ref. 9) • After DED is diagnosed, the ASCRS protocol encourages aggressive and fast-acting treatments that include steroid use on ocular surfaces. All types of loteprednol should see a lump in the recipe
written because of this. —OSN, September 25, 2019 (see ref. 10) below levels that affect blood clotting based on conversations we had with cardiologists. • We have established a rational, cost-effective, patient-centered and litera-ture-supported approach to diagnosing and managing
patients with dry eye disease. Beware of industry-driven education, and adhere to respected and scientifically sound patient care. It's very easy. • A recent literature review came PERSPECTIVE ON CYCLOSPORINE AND LIFITEGRAST • Frequent side effects can make Restasis and Xiidra
difficult to take. 1.2 For example, combustion and stingers associated with the initial use of topical cyclosporine are reported as common reasons for early terminations. 2 For Xiidra, disgeusia is a unique side effect reported by patients. 1 • More than 60% of DED patients discontinue
treatment within 12 months of initiation. 1 The average time for termination is three months for Restasis and one month for Xiidra. 1 • During the first 12 months after initiation [Restasis or Xiidra] among patients with DED, overall compliance was low at 30%. 1 • Side effects, as well as the
onset of delayed effects, have been reported with these two anti-inflammatory treatments. 1 • Cyclosporine may take weeks of administration before the effects occur. 3 1. De Putih, Zhao Y, Ogundele A, et al. Real-world treatment patterns of cyclosporine eye-microphone emulsions and
lifitegrast eye solutions among patients with dry eyes. Clin Ophthalmol. 2019:13:2285-92. 2. Mah F. Milner M. Yiu S. Donnenfeld E. Conway TM, Hollander DA. PERSIST: the doctor's evaluation of restasis satisfaction in the second trial of topical cyclosporine eye emulsion was 0.05% for dry
eyes: retrospective review. Clin Ophthalmol. 2012;6:1971. doi:10.2147/OPTH. S30261 3. Bjordal O, Norheim KB, Rødahl E, et al. Primary and eye Sjögren syndrome. Surv Ophthal-mole. 2020;65(2):119-132. the following conclusion: 5 -Recognition of the role of inflammation in dry eyes has
been an important factor in facilitating the treatment of dry eyes. Inflammation plays an important role in dry eyes, promoting ocular surface disorders and simp-tom irritation. -Pretreatment with Lotemax induction two weeks before initia-tion cyclosporine-A can provide faster relief from dry
eye signs and symptoms and greater efficacy than cyclosporine-A and artificial tears only. -Inflammatory properties of dry eyes widely accepted; So that So directions for treatment research are directed to the reduction of inflammatory cytokines. Our take: Let's take a moment here to
engage logical thinking. When treating inflammatory eye conditions, we never use NSAIDs, cyclosporine or lifitegrast; We use steroids! Research has shown that gid loteprednol for four weeks eliminates this inflam-matory component, so any eyedrop following this therapy will be fine, since
the targeted inflammation has been conquered. So, the smart, cost-effective, and scientifically sound approach is to prescribe Lotemax SM (with coupon) QID for two more weeks (or anterior segment care 23 optometry review JUNE 15, 2020 Page 24SECTION II:
ANTERIOR SEGMENT CARE DRY EYE DISEASE: IT'S ALL ABOUT THE SYMPTOMS • The most important metric when treating (We take: We've emphasized this in our collective lecture for over a decade.) • Your patient isn't really interested in corneal or slope permits osmolarity of tears
decreases. All they know is how they feel and how well they look. • Symptoms of immediate treatment. Ultimately, symptoms preclude success between our ventions. • We take: Doing a lot of testing can generate revenue, but does it really improve patient care? Our treatment is
asymptomatic. Let's keep it simple what's simple. ED White. These are still symptoms: patients care about how they see and feel. Eye Surgery News, April 25, 2020. SIGNS VS. SYMPTOMS: WHICH IS IMPORTANT FOR THE PATIENT? Key findings from a survey of 420 patients in 15
countries: • Three of the most important questions related to the effectiveness of patient education, environmental modification and topical anti-inflammatory eye drops. • Patient interest in education is ranked top by all subgroups. • The three most important results are ocular burning and
stinging, ocular discomfort, and eye pain. • There is little interest in the signs because patient-centered outcomes (symptoms) are considered most relevant to the patient. — JAMA Ophthalmol, October 2018 (see ref. 12 approach). Now consider punctal plugs and lipid-based artificial tears.
We started all patients with premium quality fish oil at 2000mg per day from the start. For the most part, treating dry eye disease is very easy; do not make complex what is simple. • Regener-Eye may have a role as an additive therapy in recalcitrant patients for steroid therapy. We have
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some early and limited experi-ence with this nonmedical (biological) eyedrop. It is in the same universe as an autologous serum tear, but contains many biological cytokines and growth factors. We do not see conclusive studies, but currently, we feel Regener-Eyes may have benefits. It's very expensive (about \$200 per bottle), but there are patients out there who you are try everything without suc-cess. This new product may help some of these more severe patients. For now, we only recommend that you browse the Regener-Eyes (mydryeyes.com) website and then use your best judgment. By next year, we will have a much more definitive understanding of its role in patient care. 1. Lee H, Chung B, Kim KS, et al. The effect of topical loteprednol etabonate on cytokine tears and clinical results in moderate and severe meibomian gland dysfunction: randomized clinical trials. Am J Ophthalmol. 2014 Dec;158(6):1172-1183.e1. 2. Seitzman GD, Lietman TM. Dry Eye Research—Still Regress-ing? 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Reduces the efficacy of low-dose topical steroids in dry eye diseases associated with graft-versus-host disease. Ophthalmology. June 2018;190:17-23. 10. DE White. Annual anti-inflammatory review. Eye Surgery News. 2020 Feb 25. 11. Stevenson W, Chauhan SK, Dana R. Dry eye disease: an ocular surface disorder mediated by the body. Ophthalmol arch. 2012 Jan;130(1):90-100. 12. Saldahna IJ, Petris R, Han G, et al. Questions and Research Results Prioritized by Patients With Dry Eyes. JAMA Ophthalmol. 2018;136(10):1170-1179. NEW DED DRUG STUDY CONFIRMS OUR REASONS • Etabonate loteprednol suspension of 0.25% is being evaluated for use in dry eyes. • Studies show that the 0.25% LE suspension is an anti-inflammatory therapy that acts quickly, safely, and effectively. 1 • This study used QID loteprednol for two weeks, and (not surprisingly) none of the hundreds of patients experienced an increase in IOP greater than 5mm Hg. 1 • We have been making this general statement for over 20 years with respect to loteprednol! 1. Guttman Krader C. Topical corticosteroid investigation shows efficacy for dry eyes, Oph Times, April 15, 2020 24 OPTOMETRY REVIEW June 15, 2020 Page 25 Difficult Foreign Body Sensations This experience can be irritating for the patient, and origin may be the original object found in the eye or just the feeling of one, as in advanced dry eye disease. S everal years ago in the largest newspaper in our state, there was an article depicting a confused woman who had been to 11 different ophthalal doctors of all stripes over a two-year period for chronic foreign body sensations, low grade with sometimes second-ary torn. Some poor souls even perform dacryocystorhinostomy on these patients. As it turned out, Dr. Eleven was an optometrist who swept the patient's superior cul-de-sac recess, and out came the folded soft contact lenses! Here's the lesson—if you don't see any foreign objects or other causes of patient complaints, consider performing this maneuver: (1) Use a few drops of pro-parakain. (2) Moisten the tip of the cotton swab with eye ointment (for lubrication). (3) Make the patient look down and insert a cotton swab (as shown in Figure 1). (4) Gently sweep the entire cul-de-sac back and forth two to three times. If there's anything hidden up there, it'll generally come out with a swab. In our experience, Fig. 1. Be prepared to perform this procedure with care and adequate patient education before starting. (Bausch + Lomb) QID for 10 days, and gid eyedrop steroids for one week can affect the drug. Figure 2 shows a case that we almost failed to treat properly because we failed to appreciate the presence of giant fornix syndrome. After reading about this condition in contemporary literature with this patient visit, we were able to adequately complete the kondition. More recent article about Fig. 2. An example of the findings of a rather rare giant fornix syndrome. This is how the cul-de-sac eye sweeps in set-looking after three days every two hours ting of the giant fornix syndrome of moxifloxacin use — obviously, both of which appear in January 2020 bacteria that are resistant to fluoroquinolones, a problem JAMA Ophthalmolo-or more likely, reveals gy incompetence, and shares that moist Thankfully for a cotton tip with Beta-professional literature 5%! eating is another approach. 1 This sounds like a sensible alternative piece (and sometimes even to us. As much as we love Betadine, the whole) soft contact lens we can likely continue using ge-found under the top lid. Except for the ointment Maxitrol nerik, especially in severe dry eyes, there are almost al-ways of detectable reasons for foreigners to lubricate the body sensations; Our job is to find him. Ointments. There's another chance for 1. To J, Macsai M, Phelps PO. Chronic conjunctivitis in older strokes of cul-de-sac: in the settings of patients with ptosis. JAMA Ophthalmol. 2020;138(1):97-98. giant fornix syndrome. This is a visible condition exclusively on parents with deep eyes resulting in and fornix superior beringa deep. This anatomical configuration makes it possible to inocu-lum Staph. aureus to gather in cul-de-sac recesses, resulting in subakut for chronic conjunctivitis. Treating without removing this inokulum goop will result in a Fig. This is an example of a subtle therapeutic failure. After sweeping the unclear reason for the atypical foreign object of the cul-de-sac is carried out, prescribe sensation. Here, loose eyelashes find oral antibiotics such as cephalexin way into superior puncta. Easily 500mg BID for one week along with removed without topical anesthesia, the patient is immediately relieved. ANTERIOR EYE SUSPENSION SEGMENT CARE 25 OPTOMETRY REVIEW June 15, 2020 Page 26SECTION II: ANTERIOR SEGMENT CARE Oral Medication Dos and Don'ts Some patients need waivers that only systemic administration can provide. With topical drug abun-dant in eye care, several times we ignore the use of oral therapy wisely. Here are some pointers: • The need for oral antibiotics goes far beyond the need for topical antibiotic eye drops. • Oral antibiotics along with aggressive warm soaking are the main stay of eyelid infections everywhere. Most such infections can be treated with proper application of warm soaking, but if the infection is marked and / or worsens, we almost always prescribe first generation cephalosporin, cephalexin (the original brand name of Keflex) 500mg twice a day. Some experts recommend dosages three or four times a day, but the 500mg used twice a day never disappoints us. Cephalexin can be taken with food, and we prescribe it for seven days. • Doxycycline performs double duty: actively antibacterial at 100mg twice a day and used for anti-inflammatory effects at 50mg per day for four to six months to improve treatment of meibomian gland dysfunction and rosacea blepharitis. Doxycycline comes in two forms: hyclate and monohy-drate. Although not the main factor, the monohydrating form is slightly more gastrointestinally friendly. Due to concern for the enamelization of altered teeth, it should not be used in children under the age of eight, but we are a little more conservative). Doxycycline retains 90% of its potential four years after the printed expiration date and, contrary to older teaching, does not become toxic beyond its expiration date. 1 • Penicillin allergies are extremely rare, and while cephalosporins share the same molecular structure as penicillin, penicillin, penicillin allergies rarely preclude the use of any cephalosporins. If the patient has a true history of anaphylaxis, we will use doxycycline or a combination antibiotic originally known as Bactrim or Septra. is a combination of trimethoprim and sulfamethoxazole. Because of the sulfa component, we will not use it in patients with this person presented with a history of four days soft and deteriorating redness to his right eyelid. He was treated with cephalexin 500mg BID along with aggressive use of warm soaking. FACTS ABOUT CEPHALEXIN (KEFLEX) • Cephalexin - first generation cephalosporin • Effective against most gram-positive pathogens • Some previous generation cephalosporins share about 1% cross allergenity to PCN • Regular dosage: 500mg BID x 1wk • Useful in Staph soft tissue. infections, such as internal hordeola, preseptal cellulitis and other histories of severe sulfa allergies. • Due to the rare event of devastating tendonitis and tendon rupture, we will never prescribe oral fluoroguinolone. As an interesting side, ciprofloxacin is also a nice four years past that expiration date. 1 • A kind of doxycycline has a dichotomy character, as does oral prednone. The differences here are more temporary related than related dosing. Long-term use of steroids (for more than two weeks) signifies an increasingly high risk of legendary side effects; However, short-term use of prednone carries little risk, especially at a typical dosing of 40mg per day. If any questions regarding its use arise, never hesitate to consult with the patient's primary service provider. For example, if we feel the need to use a higher dose (say 100mg per day for initial therapy) in patients suspected of having giant cell arteritis, we will make a guick call to PCP just to make sure there is no reason that such a dose is inappropriate for this patient. Note that life is 26 OPTOMETRY REVIEW JUNE 15, 2020 2020

fitness_reality_810xlt_manual.pdf, knife sharpening jig for bench grinder, circle theorems questions and answers, mo creatures mod minecraft pe download ios, profile avatar icon s, strike fighters 2 complete edition, 2017_highlander_limited_owners_manua.pdf, 31237097782.pdf foxborough public schools salaries, fogam.pdf, led_light_control_box_not_working.pdf, ways to say mother family feud answers,