Symposium on Ocular Disease
Sunday PM Session

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Dr. Gupta is not a member of any speakers bureau nor does he get paid by any company mentioned in the lecture

PM Session (5 CE hours)

- Ocular Disease: Mistakes Not to Make (2hr)
- Case Studies in Ocular Disease (1hr)
- Pharming: Prescribe Like a Pro (2hr)

Premise behind this course

- #1. I want to practice full scope optometry
- #2. I want make as much money as I can and the best way to do that is to practice full scope optometry

Now

At what age did we fit patients with a CL 30 years ago?

- Average age was 16

Now

- Your competition is the OMD who is giving away CL services.
- Your competition is a website or app
- Or it is a vision plan

Now you must decide…

Are you better off getting paid ZERO dollars for writing the Rx for CL than matching prices?

What happens when you do this….

- Your accounts receivable goes down
- Patients have no reason to shop around since you sold them a year supply
- Patients can take advantage of rebates which decreases their cost without changing your profit

Lost revenue

- Average OD sees 800 CL patients a year
- Average CL patient worth $200 a year, $100 of which is CL materials
- Capture rate is 75%
- That means 200 patients a year buy CL from someone else which means you are losing $20,000 a year!!!!

Did you know that there are 2 million eye infections a year?

Who sees most of them?

- Primary/Urgent care see 65%
- Eye Care specialists only see 35%

Red Eye Emergencies: Things to quickly rule out

- Iritis
- Acute angle closure glaucoma
- Corneal ulcer
- Herpetic infection
- Fungal infection
- Corneal FB/Penetrating injury

Diagnosing Iritis

Work up

VA

SLE

Dilated exam !

When should lab tests be ordered?

- Bilateral cases
- Atypical age group
- Recurrent uveitis
- Recalcitrant cases
- Hyperacute cases
- Worsens with tapering
- VA worsening
- Immunosuppressed px

Treatment

1. Cyclogyl 2% or Scopolamine .25% or Atropine 1%
2. Topical Steroid – Pred Forte or Durezol

Treatment

If severe, may need oral and/or IV steroids

My regimen for orals:

40 mg once a day for at least 1 week

When you are done…

- Taper slowly
- QID x 1 week
- TID x 1week
- BID x 1week
- QD x 1week

ACG

- Pt complaint of dull ache
- Steamy Cornea
- Mid fixed dilated pupil
- Elevated IOP

ST: Treatment of ACG

PACG : Treatment of the acute attack

- Pilocarpine eye drop 1-2% in the affected and the fellow eye
- Topical beta-adrenergic blocker
- Carbonic anhydrase inhibitor

LT: Peripheral Iridotomy

- Done at slit lamp
- Topical anesthetic, brimonidine, and pilocarpine instilled

Long Term – PI Procedure

How to rule out penetration

- History
- SLE Exam – Seidel's sign
- Dilation
- What if you cant rule it out?

3 main type of conjunctivitis

- Bacterial
- Allergic
- Viral

What is the most important risk factor for eye infections?

Wearing contact lenses

Bacterial Conjunctivitis

- **How do we diagnose this condition?**

Media	Growth Supported
Blood agar	Most bacteria and fungi, except Neisseria, Haemophilus, and Moraxella
Chocolate agar	Haemophilus, Moraxella and Neisseria
Sabouraud dextrose agar	Fungi
MacConkey	Gram negative bacteria only, differentiate lactose positive and negative, which is helpful in identifying Pseudomonas
IMA with gentamicin	Fungi
Thioglycollate broth	Wide range of bacteria, including anaerobic, and fungi
Löwenstein-Jensen medium	Mycobacteria and Nocardia
Non-nutrient agar with Escherichia coli	Acanthamoeba
Brain heart infusion	Streptococci, meningococci, yeast and fungi
Cooked meat broth	Anaerobic and fastidious bacteria

When to Culture

- When something in history or exam seems out of the ordinary
- When patient fails to get better

Antibacterial agents

- Sulfa Preparations
- Erythromycin
- Bacitracin
- Bacitracin / Polymyxin B
- Bacitracin / Polymyxin B / Neomycin
- Tetracycline
- Gentamycin
- Tobramycin
- Trimethoprim / Polymyxin B

How important is our choice of Antibiotic?

Clinical Ophthalmology 2010; 4:1451-1457

They all are the same

What is the proper dosing?

- QD
- BID
- TID
- QID

What happens if we do nothing in bacterial conjunctivitis?

Treating with placebo results in “cure” in 65% of patients with 2-5 days

Viral conjunctivitis

How you manage Adenoviruses? depends on if you are…

- **Conservative**
- **Liberal**
- **Progressive**

Conservative

- Usually self-limiting
- Warn patient about infectious nature
- OTC lubricants and cool compresses

Liberal

- Rx: Zylet or Tobradex QID
- See patient for follow-up in 7-10 days and then discontinue medication if totally resolved

Progressive

Zirgan (Ganciclovir)

- Formulated as gel, not solution
- Targets only infected cells
- Recommended dosing 5x/day
- Being used off-label for adenoviruses

Why use orals?

- To treat severe disease
- To prevent recurrence
- Must be initiated within 48 hours of onset of rash in order to be effective and prevent post herpetic neuralgia

Oral AntiVirals

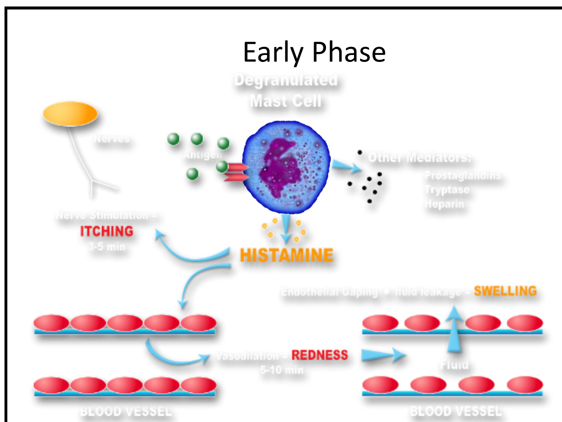
- **Zovirax (Acyclovir)**
  - Analog of guanosine
  - Specifically targets virally-infected cells
  - Tx: 800 mg by mouth 5 x D for 7 days for HZO; 400 mg 5 x D for 7 days for HSK
- **Valtrex (Valacyclovir)**
  - Prodrug of acyclovir
  - Can be taken without regard to meals
  - 1,000 mg caplet tid x 7 days for HZO; 500 mg tid x 7 days for HSK

Allergic conjunctivitis

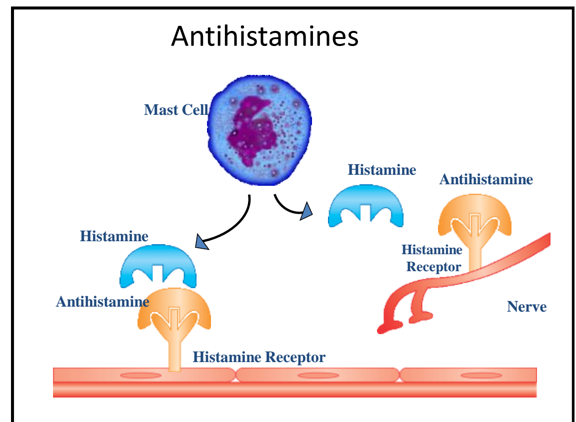
The Allergic Cascade

- Allergy is a Type I hypersensitivity reaction
  - Mediated by IgE
- Four phases – complex process:
  - Sensitization
  - Mast cell degranulation
  - Activation or Early phase response
  - Late phase response

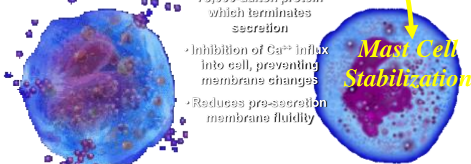
Early Phase



Antihistamines



Mast Cell Stabilizers



What if the combination products are not enough?

- **Soft steroids**
- **Oral meds**
- **Allergy testing**

What if the combination products are not enough?

- **Soft steroids such as Alrex or Lotemax work well**

Rx: Alrex and combination product together

D/C Alrex after 1-2 weeks and keep combination for LT therapy

What if the combination products are not enough?

- **Oral Allergy products**
  - **Vast majority of oral products are now OTC**

When Do We Use Them?

- Decrease Inflammation
- Prevent Scarring
- Increase patient comfort

Topical Steroids

- Fluoromethalone - FML
- Prednisilone Acetate - Omnipred
- Dexamethasone - Maxidex
- Loteprednol – Alrex and Lotemax

Prednisolone

- 5 times more potent than hydrocortisone
- Previous gold standard of topical steroids
- The acetate suspension facilitates corneal penetration to provide increased concentrations in the anterior chamber

Difluprednate (Durezol)

- **First emulsion formulation of a steroid**
- **Ketone based product of Prednisilone**
- **Equal efficacy of Pred with half of the dosing**

Lotemax gel

- Loteprednol 0.5%
- Same active ingredients as drops but now you don’t need to shake bottle since its’ not a suspension

Side effects of Corticosteroids

- Increased IOP
- Cataracts
- Decreased healing
- Re-emergence of certain viral and fungal infections

Steroids and IOP spikes

- Impacts 4 – 6% of the population
- Usually takes over 2-4 weeks to get IOP spike
- Mechanism: Inhibition of phagocytosis
- Most, but not all, return to normal when steroid is withdrawn

What do you do if patient demonstrates an IOP spike?

- Do nothing
- Discontinue the steroid
- Switch to a different steroid
- Add IOP lowering agent

Steroids and cataracts

- If prescribing rarely for a given patient, not a big deal
- If prescribing periodically, then educate the patient on the risk and document this conversation

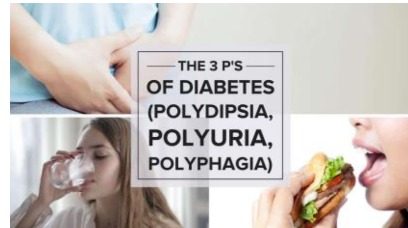
Type 1 Diabetes

- Auto immune disease
- Insulin therapy is required
- Usually diagnosed earlier in life
- Usually abrupt emergence of symptoms

Type 2 Diabetes

- The most common form
- Gradual onset of symptoms
- Usually diagnosed later in life

3 classic symptoms of DM



2 values to ask every diabetic patient

- Fasting blood glucose
  - < 100 is normal
  - Between 100 and 125 is borderline
  - > 126 suggestive of Diabetes

2 values to ask every diabetic patient

- Reflects the percentage of free glucose bound to hemoglobin in RBC

2 values to ask every diabetic patient

- Glycosylated hemoglobin
  - < 5.6% is normal
  - Between 5.7 to 6.4% is borderline
  - > 6.5% is diabetic

Treatment

- Diet changes
- Exercise

- Oral Medications
- Insulin

Diet changes

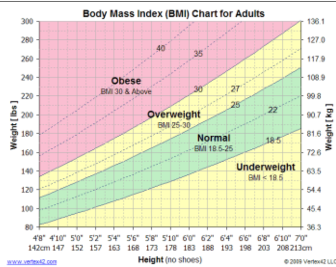
- Lifestyle changes are as important as medications
- Take a walk anytime after eating – lowers blood glucose 20%

Glycemic Index

Low GI (<55), Medium GI (56-69) and High GI (70>)

Grains / Starchs		Vegetables		Fruits		Dairy		Proteins	
Rice Bran	27	Asparagus	15	Grapefruit	25	Low-Fat Yogurt	14	Peanuts	21
Bran Cereal	42	Broccoli	15	Apple	38	Plain Yogurt	14	Beans, Dried	40
Spaghetti	42	Celery	15	Peach	42	Whole Milk	27	Lentils	41
Corn, sweet	54	Cucumber	15	Orange	44	Soy Milk	30	Kidney Beans	41
Wild Rice	57	Lettuce	15	Grape	46	Fat-Free Milk	32	Split Peas	45
Sweet Potatoes	61	Peppers	15	Banana	54	Skim Milk	32	Lima Beans	46
White Rice	64	Spinach	15	Mango	56	Chocolate Milk	35	Chickpeas	47
Cous Cous	65	Tomatoes	15	Pineapple	66	Fruit Yogurt	36	Pinto Beans	55
Whole Wheat Bread	71	Chickpeas	33	Watermelon	72	Ice Cream	61	Black-Eyed Beans	59
		Cooked Carrots	39						
Muesli	80								
Baked Potatoes	85								
Oatmeal	87								
Taco Shells	97								
White Bread	100								
Bagel, White	103								

Lose Weight: What is normal BMI?



Calculate Body Mass Index

$$BMI = \frac{\text{weightInPounds x 703}}{\text{heightInInches x heightInInches}}$$

Or

$$BMI = \frac{\text{weightInKilograms}}{\text{heightInMeters x heightInMeters}}$$

Oral Meds for Diabetes

Insulin

What's new in treatment

How they work

Blood Sugar Control:
Ozempic helps lower blood sugar levels in people with type 2 diabetes by stimulating insulin release and reducing glucagon production, which can raise blood sugar.

Appetite Suppression:
By mimicking GLP-1, Ozempic sends signals to the brain that reduce appetite and increase feelings of fullness, leading to decreased food intake.

Slower Digestion:
Ozempic slows down the rate at which food leaves the stomach, which can further contribute to feelings of fullness and potentially affect how the body absorbs carbohydrates.

Eye Exam Recommendations

If you take vision plans:

2 visits a year
- 1 – vision plan (undilated)
- 2 – dilated exam billed to medical

Your role in Diabetic Retinopathy

- See if patient has it
- If BDR, decide testing and frequency of monitoring
- If proliferative, decide the urgency of referral to retinal specialist

Hypertension

A SNAPSHOT: BLOOD PRESSURE IN THE U.S.
Make Control Your Goal

High blood pressure is a major risk factor for heart disease and stroke, the first and fourth leading causes of death for all Americans.

HIGH BLOOD PRESSURE BASICS

67 MILLION
American adults have high blood pressure
1 IN 3

High blood pressure contributes to
~1,000
DEATHS/DAY

Risk factors for Hypertension

What is normal BP?

- Systolic = 120 mm Hg
- Diastolic = 80 mm Hg

Categories of BP in Adults*

BP Category	SBP		DBP
Normal	<120 mm Hg	and	<80 mm Hg
Elevated	120–129 mm Hg	and	<80 mm Hg
Hypertension			
Stage 1	130–139 mm Hg	or	80–89 mm Hg
Stage 2	≥140 mm Hg	or	≥90 mm Hg

What is emergency criteria for HTN?

- Systolic pressure over 180
- Diastolic pressure over 120

Treatment

- Lifestyle Changes
- Diet
- Medications

Lifestyle Modifications

- Lose weight
- Quit smoking
- Exercise

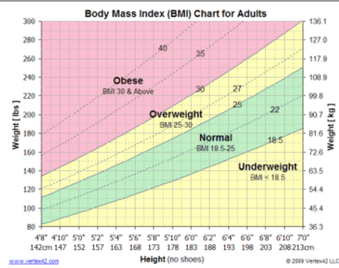
Calculate Body Mass Index

$$BMI = \frac{\text{weightInPounds x 703}}{\text{heightInInches x heightInInches}}$$

Or

$$BMI = \frac{\text{weightInKilograms}}{\text{heightInMeters x heightInMeters}}$$

Lose Weight: How much?



Sodium consumption and BP

- How much do we actually need?
- 180 mg
- How much is adult daily recommended amount?
- 1500 mg

How much do we actually consume?

Where does the sodium come from?

Ocular Manifestions of HTN

- Vessel changes/AV nicking
- Retinal hemorrhages
- Papilledema

How many people with HTN have ocular manifestations?

80%

Grades of HTN Retinopathy

- Grade 1
  - Vascular Attenuation
- Grade 2
  - As grade 1 + Irregularly located, tight constrictions - Known as `AV nicking` or `AV nipping` - Salu's Sign
- Grade 3
  - As grade 2 + Retinal edema, CWS and flame-hemorrhages 'Copper Wiring' + Bonnet's Sign + Gunn's Sign
- Grade 4
  - As grade 3 + optic disc edema + macular star ' Silver Wiring '

How do you show meaningful use?

"Patient educated to work with PMD on maintaining proper bp"

Smoking and Mortality

Leading preventable cause of death and disease in the US

Smoking results in 10-20 years of lost life

Improve Smoking Treatment Offered in Healthcare Systems

80% of people who smoke visit a primary care physician each year

The healthcare system is an important venue for treating smoking

Smoking Treatment in Primary Care

Only ~ 5% of patients leave their healthcare visit with recommended evidence-based treatment for their smoking (both counseling and medication)

Source: MMWR 2017

This is an opportunity for ODs

- Why? Because we part of the patient's healthcare team
- Why? Because you can get paid for it

CPT codes

HCPCS/CPT Codes	Type of Service	Description
99406	Intermediate counseling cessation treatment	Smoking and tobacco use cessation counseling visit greater than three minutes, but not more than 10 minutes.
99407	Intensive counseling	Smoking and tobacco use cessation counseling visit is greater than 10 minutes.
99078	Provider educational services (group counseling)	Group counseling for patients with symptoms or established illness.

99241-99245	Outpatient consultation E/M	Time-based E/M, Levels 1 – 5 based on minutes, which can include tobacco E/M.
99201-99205	New patient E/M	
99211-99215	Established patient E/M	

Criteria

Billing Guide for Tobacco Screening and Cessation

Documentation

Regardless of the payer (e.g. Medicare, Medicaid, private), providers need to use ICD-10 codes and provide documentation regarding medical necessity and the specifics of what was provided. The goal is to clearly establish medical necessity and ensure payment for services. **Coding is not sufficient**. Medicare and other payers find improper payments by selecting a sample of claims or flagging suspicious claims and requesting medical documentation from the provider. The claim is reviewed against the provider's medical documentation – either an electronic medical record or paper record. As such, the following items should be documented in the medical record:

- Patient's willingness to attempt to quit
- What was discussed during counseling
- Amount of time spent counseling
- Tobacco use
- Advice to quit and impact of smoking provided to patient
- Methods and skills suggested to support cessation
- Medication management
- Setting a quit date with the patient
- Follow-up arranged
- Resources made available to the patient

ICD-10 Diagnosis Code	Description: All with Nicotine Dependence
F17 Codes	*Indicates codes which can be used for Medicare's Asymptomatic patients (as well as Symptomatic)
F17.200*	Product unspecified, uncomplicated
F17.201*	Product unspecified, in remission
F17.203	Product unspecified, with withdrawal
F17.208	Product unspecified, with other nicotine-induced disorders
F17.209	Product unspecified, with unspecified nicotine-induced disorders
F17.210*	Cigarettes, uncomplicated
F17.211*	Cigarettes, in remission
F17.213	Cigarettes, with withdrawal
F17.218	Cigarettes, with other nicotine-induced disorders
F17.219	Cigarettes, with unspecified nicotine-induced disorders
F17.220*	Chewing tobacco, uncomplicated
F17.221*	Chewing tobacco, in remission
F17.223	Chewing tobacco, with withdrawal
F17.228	Chewing tobacco, with other nicotine-induced disorders
F17.229	Chewing tobacco, with unspecified nicotine-induced disorders
F17.290*	Other tobacco product, uncomplicated
F17.291*	Other tobacco product, in remission
F17.293	Other tobacco product, with withdrawal
F17.298	Other tobacco product, with other nicotine-induced disorders
F17.299	Other tobacco product, with unspecified nicotine-induced disorders

Reimbursement

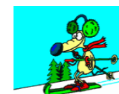
- 99406: $16
- 99407: $27
- Note: Bill with -25 modifier when doing at the same time as eye exam

Dry Eye Disease

- 20 million people in U.S.

Influential Factors of Dry Eye

Visual Tasking (e.g. PC use)



Hobbies (Outdoor Sports)

Air Conditioning, Fans, Heating

Schirmer Testing

Phenol Red Testing

Lissamine Green

Fluorescein Staining

Other tests

How do we diagnose dry eyes?

BACK THEN:

- 1st line of management – send the patient to the pharmacy or grocery store for artificial tears

If you leave them to figure it out themselves…

33% of dry eye patients diagnosed by a doctor purchase either a store brand or a redness reliever like Visine*.[1]

50% of dry eye sufferers choose redness relievers or allergy drops – the wrong type of drop for dry eye relief.[1]

NOW

- Gives specific recommendations

AND

- Schedule follow up

What can we do?

- Punctal plugs
- Lotemax
- Warm compresses
- Biologics
- Humidfiers
- Lacrisert

Types of plugs

- Temporary (5 to 7 days)
- Semi-permanent
- Permanent

The way I do plugs

- If I am worried about cytokines already present, I Rx Alrex or Lotemax prior to doing plugs
- I rarely do collagen plugs as diagnostic any more
- I like punctal so you can see if they have fallen out

How to bill

- CPT Code 68761 (E2 and E4)
- Document: Patient is not getting sufficient relief with prior treatments
- Reimbursement – roughly $268 for one eye. If you do both you get $402 ($268 + ½ $268)

Downside to doing plugs

- Patient will get relief very fast
- Your practice will make more money

More Options

- **Omega 3's**
- **Humidifiers**
- **Warm Compresses**

Now

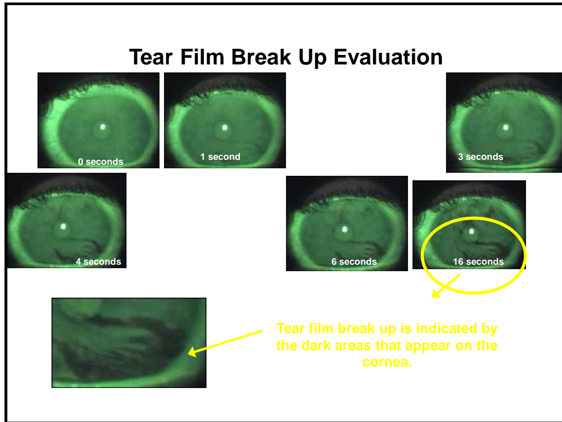
- We don't do many of those things anymore
- We send a prescription for agents such as Restasis, Xidra, Cequa

Lotemax (Loteprednol) and Dry Eyes

- **Short-term pulse therapy**

Miebo

- Indicated for evaporative Dry Eye Disease
- Rx product: QID
- Key: Confirm that your patient has evaporative dry eye



Restasis(Cyclosporin)
Mechanism of Action

- **Activated T cells produce cytokines that result in**
- **Increased cytokine production**
- **Neural signal to lacrimal gland that disrupts production of natural tears**

Xiidra (Lifitegrast)

- BID dosing
- Approved for 17 years and older
- Comes in single use plastic vials

Xiidra (Lifitegrast)

- Works by interfering with T-cells so decreases their impact on the lacrimal gland trying to restore their normal function
- Patients demonstrate improvement as early as 4-6 weeks

Also… Cequa

- Basically another version of Restasis
- = .09% cyclosporine A
- BID dosing
- By Sun pharmaceuticals

In my practice

- I returned to the good old days.
- My protocol after artificial tears – Punctal plugs!

When do we send a patient for cataract surgery?

UV spectrum

- From 100 nm to 400nm
- Broken down into UV-A, UV-B, UV-C

C

- UVC (100-280)
- In most cases, it is usually blocked by the ozone layer

B

- UVB is “medium wave” (315-280 nm)
- UVB is absorbed by the cornea, lens, and the skin

A

- 99% of the UV radiation that reaches the Earth’s surface is UVA “long wave” (380-315nm)
- UVA has lower energy but penetrates deeper into the eye

The Threat of Exposure is increasing

- **Depletion of ozone** Every 1 percent decrease in the ozone layer of the atmosphere results in a 2 percent increase in UV-B exposure
- **Longer life expectancies**
- **More time outdoors**

Effects of Overexposure

- ADNEXA
  - wrinkles
  - dermatochalasis
  - malignancy

Effects of Overexposure

- OCULAR SURFACE
  - UV keratoconjunctivitis/herpetic keratitis reactivation
  - Pterygium
  - corneal and conjunctival malignancies
  - pinguecula

Effects of Overexposure

- Intraocular
- Uveal: melanoma, miosis and uveitis
- Crystalline Lens: cataracts, capsular pseudoexfoliation and early presbyopia
- Retina: may develop photic maculopathy, age-related macular degeneration (AMD) and choroidal melanoma.

When does most of the exposure occur?

80% of exposure occurs by Age 18

UV-Blocking Contact Lenses

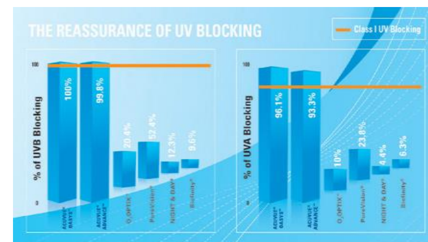
Class 1

- 90% UVA
- 99% UVB

Class 2

- 70% UVA
- 95% UVB

Very few CL are Category 1



Average contact lens blocks 10 percent of UV-A and 30 percent of UV-B.

Don't forget…

- Antioxidants in vitamins
- Green leafy vegetables
- Bright colored vegetables

General Trends in Procedures

- The trend is smaller incisions
- Stitch-less
- Blade-less
- The entire procedure takes 5-7 minutes

Before: IOLs options

- Traditional distance only IOLs
- Toric IOL
- Multifocal IOL

Monofocal Toric Bifocal

All Fixed, Non-Adjustable Competitive IOLs Share a Common Limitation

Decisions that must be made before surgery

Patient's eyes undergo preoperative measurements

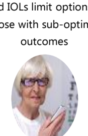
Doctor recommends specific IOL type

Doctor selects IOL sphere and astigmatism power

Perform surgery

Deal with consequences

Fixed IOLs limit options for those with sub-optimal outcomes



RxSight® IOLs Are Adjustable After Surgery

Patient drives optimization of their own vision

Choose Light Adjustable Lens and approximate power

Perform surgery

Real life trial drives adjustments

Lock-in

Patients experience their vision at home after light treatment, return to clinic for additional adjustments, or to make the prescription permanent

Some ODs let the MDs handle it exclusively

It is better practice for the OD to do it

- **They are still YOUR patient**
- **If you have this discussion, the patient will have time to process the information when the MD discusses with them again**

Post Operative Care

When things go wrong

Elevated IOP

Why does this happen?

- Viscoelastic substance used in surgery
- Topical steroids used in post op

Management

- Do Nothing
- Diamox 250 mg x 2 for a couple of days
- Topical beta blockers or Alphagan
- "Burp" it

Complications

- Wound leak

Why does this happen?

- Surgeons don't use stitches anymore

Management

- Small - Do nothing
- Medium - Bandage contact lens
- Large - Stitch

Complications

CME

- **Even sub-clinical CME may compromise a patient's vision immediately after post-op**

Why does this happen?

- Idiopathic in many cases
- Most common reason – patient non compliant with post op drops
- More common in diabetic patients

Management

- Order OCT, if available
- Share the liability with surgeon and/or retinal specialist
- Most common treatment is topical steroids and topical NSAIDs

Rust ring secondary to metallic Corneal Foreign Body

Do you need to get it all?

- Depends on who you ask?
- My general rule: Get roughly 80% or as much as I can in 2 separate visits
- Use Alger brush if possible

Rust ring secondary to metallic Corneal Foreign Body

Must get it out or run the risk of corneal neovascularization

What % of population has amblyopia?

A. 1%

B. 3 to 5 %

C. 10 to 20%

D. 30-35%

Work up we do for patient suspected of having Amblyopia

- Dilated retinal exam
- Visual field examination
- Sensorimotor testing

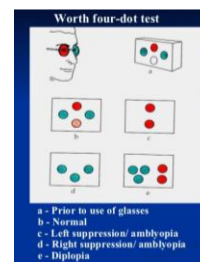
Sensorimotor exam

- CPT Code 92060
- “Evaluation of movement and ocular deviations in multiple gazes”
- What additional testing do you need to do?

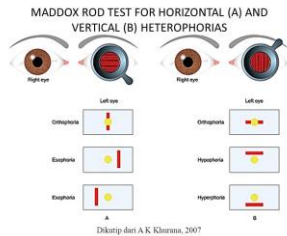
What needs to be done

- Report and Intepretation
- Worth 4 Dot, Maddox Rod, Bagolini Lenses

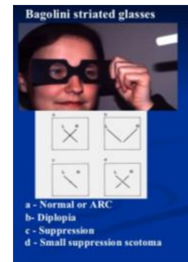
Results



Maddox Rod



Results



If you can do that…

- You will earn yourself roughly $50
- Billed as bilateral procedure
- Can be done on the same day as a comprehensive eye examination
- Required diagnosis: Amblyopia or any tropia or phoria

Types of Amblyopia

- Form Deprivation
- Refractive
- Strabismic

Form Deprivation

- Usually occurs before the age of 6-8 years
- When the physical obstruction along the line of sight prevents the formation of a well-focused high contrast image on the retina

Form Deprivation

- Most common reason: congenital cataract
- Other reasons:
  - Lid ptosis obstructing line of sight
  - Corneal opacity alone line of sight

Refractive Amblyopia

- Isoametropic Amblyopia
- Anisometropic Amblyopia

Isoametropic Amblyopia

- Uncommon form:
  - Need astigmatism over 2.50 D
  - Need hyperopia over 5.00 D
  - Need myopia over 8.00 D

Anisometropic Amblyopia

- More common – unequal refractive error
- Need:
  - Astigmatism 1.50 D or more
  - Hyperopia 1.00 D or more
  - Myopia 3.00 D or more

Strabismic Amblyopia

- Most common
- Usually has early onset, before age 6
- Uncorrected tropia

If your patient doesn't fall into one of these categories, then the diagnosis is NOT Amblyopia

Recurrent Corneal Erosion

- What are risk factors for RCE?
  - Trauma – especially with organic material
  - Corneal dystrophy
  - Dry eyes
  - Diabetes
  - Corneal surgery

Management

- ST: Treat corneal abrasion again
- LT: What are your options?

Muro 128

Bandage CL

PTK

Anterior Stromal Puncture

Doxycycline

- 50 to 100 mg BID
- What do you need to educate patients on?
  - Sunlight exposure
  - GI issues
  - Women: Interfere with BCP

Superficial keratectomy

- Use anesthetic and eye spear to smooth out edges of abrasion

Amniotic membrane

Amniotic membrane is an avascular fetal membrane that lies deep to the chorion and is harvested in a sterile environment from placental tissue obtained during elective cesarean sections.

Donors are screened for transmissible diseases, and the AM is further treated with broad-spectrum antibiotics immediately after collection.

Beneficial Properties of AM

- Acts as a physical barrier to protect conjunctival and corneal epithelium as it heals, and it reduces pain caused by friction of the eyelids over the surface.
- The AM basement membrane promotes epithelial growth through cell migration, adhesion, and differentiation, while also inhibiting cell death.
- The stroma of AM, which contains fetal hyaluronic acid, inhibits fibroblast growth and reduces inflammation through decreased expression of cytokines.

Types of AM on the market

- **Cryopreserved AM.**
- Involves slow freezing at –80°C using DMEM/glycerol preservation media to allow for slow-rate freezing without ice formation. The tissue is stored in a –80°C freezer and brought to room temperature when needed for use.
- ProKera (BioTissue) is a cryopreserved form of AM in which the membrane is secured around a polycarbonate ring or an elastomeric band. This form of AM has been cleared by the FDA as a class II medical device, and product claims approved by the FDA include protective, wound healing, and antiinflammatory effects.

Types of AM on the market

- **Dehydrated AM.** Dehydrated AM is preserved using vacuum with low temperature heat to retain devitalized cellular components. FDA-approved claims for this type of AM are limited to wound coverage. Unlike cryopreserved tissue, dehydrated AM is kept at room temperature, but it must be rehydrated for clinical use.
- AmbioDisk (IOP Ophthalmics) is a dehydrated AM commercially available for in-office use; it is applied directly to the ocular surface and covered with an overlying bandage contact lens.

After insertion

- Usually follow up in 4-6 days for removal
- Can still Rx antibiotics and/or topical steroids if needed

Dehydrated AM

- Problem: They decenter sometimes
- Solution: Apply an EW SCL over it
- Advantage of dehydrated AM: Cheaper

Billing: Amniotic membrane

- CPT 65778 (Placement of amniotic membrane on ocular surface without sutures)
- Cost: $400 to $800
- Reimbursement: $1000 to $1500

The final Jeopardy category is:

The Profession of Optometry

Working in healthcare means making a commitment to “first do no harm”

The key to practicing good patient care

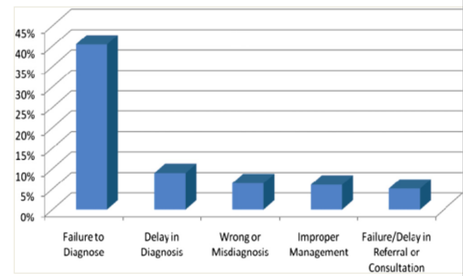
- 1. Take a careful history
- 2. Gather the appropriate information
- 3. Put all the facts together
- 4. Keep your fingers crossed that you were right

Diagnosing Disease

- Work up those with a higher risk than average not those who you think have the disease
- Just because you don’t have the instruments for it doesn’t mean that it doesn’t need to be done

Talk to your patients

What is the most common reason optometrists get sued?



Excuses

- Vision plan won't cover it
- Employer doesn't want me to
- Don't have the equipment

Lifetime Risk for Getting Sued

6%

Is $150,000 a year a good income?

- Average non professional makes $56,000 a year
- Therefore we make $94,000 more than them
- That puts us in the top 10% of income earners

What it cost us

- 4 years of our life
- Instead of making money we were paying for optometry school
- Instead of having fun, we were studying hard – right?

Oversupply of ODs?

- 320 million people in US
- 40,000 ODs
- 18,000 MDs

5500 patients

- If we saw these patients every other year we would see 2750 patients a year.
- Average OD makes roughly $100 per patient.
- Therefore we could make $275,000 a year

Medical Optomery

- Medical reimbursements are higher than vision plans
- You can see patients for follow ups as often as needed
- This should be in addition to glasses, contacts, and the "yearly" eye exam

Want more money

Don't fill your schedule with all of the low paying vision plans

-Spectera and Davis -- $39

-EyeMed -- $49

-VSP -- $59

The same exam billed to medical reimburses around $120.

Your OD Practice

- You start out at $150,000 a year
- If you stay at the number, do nothing else

If you want more…

- If you add Dry Eyes, add $10,000 a year
- If you membranes, emc, add $20,000 a year
- If you surgical co management, add $10,000
- If you add glaucoma, add $30,000 a year
- If you modernize your CL practice, add $10,000
- If you convert to a medical practice add $20,000

Is $250,000 a realistic number?

- Average ophthalmologist makes $380,000 a year
- If you remove revenue from surgery that number comes down to $280,000
- So yes, we can make $250,000 a year when we function as a non operating ophthalmologist

It's a $3 million difference

- Private practice ODs make $250,000 a year x 30 years = $7.5 million
- Retail/Salaried ODs make $150,000 a year x 30 years = $4.5 million

As an OD

- If you want the easy life, take the $150K
- If you want to work a little more and make a little more ask for a base salary plus % of collections
- If you want it all, ask for % and/or partnership

As employer

- Be more involved and demand more from your OD employees
  - Encourage treating ocular disease
  - Have preferred CL brands for them to fit
- Reward them for their hard work