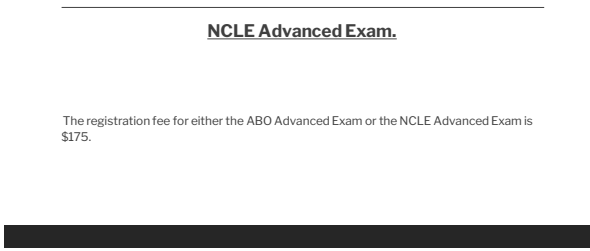




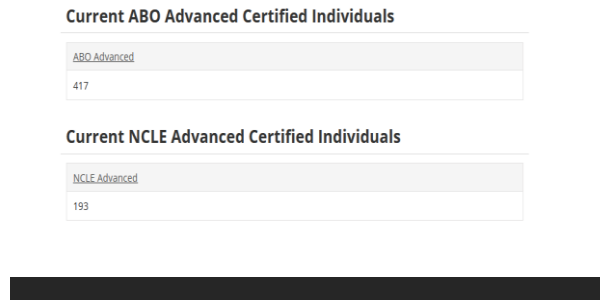
1



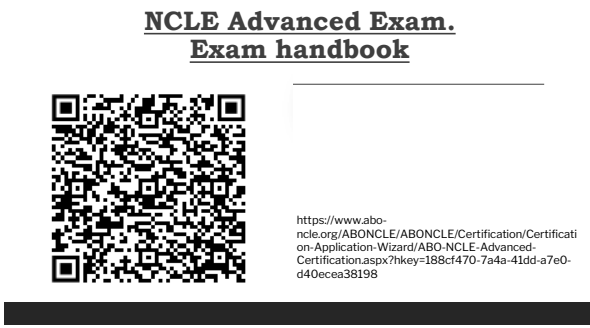
2



3



4



5

Domains and Tasks	Weights
1. Prefit, Preparation, and Evaluation (Including patients with complex conditions)	25%
2. Design, Fit and Dispense Standard and Specialty Lenses	30%
3. Patient Instruction and Delivery Procedures (Including those with specialty lenses)	15%
4. Routine and Emergency Follow-up Visits	25%
5. Administrative Procedures	5%

6

1st session Domain I

Domains and Tasks	Weights
1. Prefit, Preparation, and Evaluation (Including patients with complex conditions)	25%
1.1 Obtain and document the history of patients who have complex ocular conditions that require specialty lenses	6%
1.2 Assess the technical aspects of the patient's complex ocular status to determine contact lens options	7%
1.3 Discuss with the patient his or her needs, expectations, and limitations	6%
1.4 Analyze information and explain lens options to meet patient needs	6%

7

S.O.A.P.

Commonly used approach to healthcare decision making and documentation

- S Subjective
- O Objective
- A Assessment
- P Plan

8

Subjective:

What the patient is experiencing.

This is what the patient will report as their "complaint"...What problem are they having?

9

Subjective:

you must investigate what "subjective" concerns the patient has to help guide you.

"I can't see out of these glasses"
 "These Contacts don't work"
 "My Eyes Hurt"

Will need MUCH more description...but we'll get there

10

SOAP

OBJECTIVE

Objective data collection includes anything that is verifiable without the input of the patient.

11

SOAP

OBJECTIVE

In patient care for medical or optometric tests, this can include:

- keratometry
- Topography
- Autorefr/Retinoscopy
- OCT testing,
- slit lamp exam/observation
- Others

12

Assessment

questioned the patient (Subj)
gathered all relevant data (Obj)

use your professional interpretation of the data

determine what is the most likely cause of the patient's issue
ASSESS (identify) the issue

13

Plan

What is your recommended solution/treatment.

14

IF plan doesn't work, start over from
beginning and retry...

15

CONTACT LENS FITTING EVALUATION

Vertex if needed

1) Rx Spectacle Refraction

Statement for contact lenses from referring
Doctor (MD or OD)

"No Contraindications" or
"Ok to wear Contact Lenses"

Unexpired: Recommend Spec Rx < 6 months

16

Anatomy and Refractive Error

MYOPIA

HYPEROPIA/HYPERMETROPIA

ASTIGMATISM

PRESBYOPIA

17

Vertex revisited

QUICK...

You have a +4.00 Spec Rx
best CL pwr to order?

You have a -6.00 Spec Rx
best CL pwr to order?

18

13

14

15

16

17

18

CONTACT LENS FITTING EVALUATION

2) Patient Form

Name,
Address,
Phone
Email

Date of Birth
-If under 18 parents consent is needed.
-If 40 plus?
-If 65+?

19

19

CONTACT LENS FITTING EVALUATION

3) Ocular History

Any previous eye diseases, injury or surgery?

Date?

Who treated and what was the outcome?

20

20

CONTACT LENS FITTING EVALUATION

4) Gen Health/PMHX

Medications/ Systemic Conditions?

allergies?
DM
Thyroid
Endocrine? (Meno, Oral Cont, Preg)
Htn

21

21

CONTACT LENS FITTING EVALUATION

4) Gen Health/PMHX (cont)

Seasonal Allergies/antihistamines

- Possible fluctuations in Blood Glucose may = fluctuating vision

Diabetics:

- Possible fluctuations in Blood Glucose may = fluctuating vision
- Impaired healing
- Decreased corneal Sensitivity

Thyroid

- Exposure/graves/ Exophthalmos/Proptosis
- dryness

Hypertension

- Diuretics for Meds

Acne/Skin Conditions

- Accutane Dryness

22

22

CONTACT LENS FITTING EVALUATION

5) Occupation/Hobbies

(aka Vocation/Avocation)

Work

- Safety considerations?
- dry/dusty environment?

Hobbies

- Detail at near?
- Safety (sports, other)
 - Esp teens
 - face/eye/head protection?

23

23

CONTACT LENS FITTING EVALUATION

6) Difficulty with Spec Correction?

- Anisometropia (anisetkonia)
- Distortion?
- Reduced BCVA for K-conus or other irreg?
- Medically necessary Vision Care plans

24

24

Side Note: Medically nec CL

Eyeland
4400 Lunatica Place
Cincinnati, OH 45240
Visit us online at www.eyemed.com
Fax claim form to 866-293-7373

**Medically Necessary Contact Lens
Claim Form**
Provider Reimbursement

**eye
Med**

Medically Necessary Codes (includes Contact Lens Evaluation/fit and Follow and Materials) - **JUSTIFY AS PRIMARY**
Check ALL CODES that apply to final Rx, as published in the EyeMed Professional Provider Manual

<input type="checkbox"/> Anisometropia 92310AM Select this if Rx is 2D in meridians powers. Check this box and the box below. Reimburses up to \$700 for services and materials. ICD-9 Code 387.31 UAC \$	<input type="checkbox"/> High Anisotropia 92310MA Select this if Rx exceeds -1.0D or +1.0D in meridians powers in either eye. Reimburses up to \$700 for services and materials. UAC \$	<input type="checkbox"/> Keratoconus 92972 Select this if diagnosis is Keratoconus. Check this box and the one below. Reimburses up to \$200 for services and materials. ICD-9 Code 371.80 UAC \$	<input type="checkbox"/> Vision Improvement 92310V Keratoconus is absent. Select this for members whose vision can be corrected by two lines on the visual acuity chart. Reimburses up to \$2500 for services and materials. UAC \$
--	--	--	--

Complete Information Below for Members Covered by Pediatric Vision Benefits - CALIFORNIA ONLY

<input type="checkbox"/> Pediatric Aniridia 92310AI (CA only) Reimburses up to \$3730 for services and materials. ICD-9 Code 743.45 UAC \$	<input type="checkbox"/> Pediatric Aphakia 92310AP (CA only) Reimburses up to \$5800 for services and materials. ICD-9 Code 378.31 UAC \$
--	---

25

CONTACT LENS
FITTING
EVALUATION

7) Allergies or hypersensitivities?

Meds (antibiotics? Solutions?)

Seasonal?
Fall/Spring/Both/Other?

26

CONTACT LENS
FITTING
EVALUATION

8) Reason for CL

Possibly most important question!

- Motivation?
- Expected Vision?
- Expected Wearing time? (social or everyday)
- Flexible vs. Extended

27

CONTACT LENS
FITTING
EVALUATION

ALREADY START to stress personal hygiene and review care instructions not just at end of exam/fitting.

9) Prev CL Wear?

- Lens type and brand
- Lens solutions
- Replacement sched
- Overnight wear?
- Dryness, comfort, etc?

28

CONTACT LENS
FITTING
EVALUATION

9) Prev CL Wear?

- PRO TIP
- Ask OPEN ENDED and SPECIFIC QUESTIONS

"Do you properly disinfect ?"

Vs

"describe to me and show me how you clean/disinfect/Store your lenses nightly"

29

CONTACT LENS
FITTING
EVALUATION

10)Take VA

- SC
- OD
 - OS
 - OU

- CC
- OD
 - OS
 - OU

- CCL
- OD
 - OS
 - OU

30

CONTACT LENS FITTING EVALUATION

1) Take K Readings

Review

- WTR (with the rule)
- ATR (Against the Rule)
- OBL (Oblique)

31

CONTACT LENS FITTING EVALUATION

12) Slit lamp (biomicroscope) eval


Slit lamp = MOST IMPORTANT DEVICE FOR CL

OK for Contacts
Evaluate contacts
Follow up

32

Review of Instrumentation

Biomicroscope/Slit Lamp




33

Review of Instrumentation

Measuring Keratometry

Manual keratometer



Auto-ref/ Auto K



Topographer



34

Manual Keratometry

Normally 36-45 Diopters


+1.25 (> 52D)

-1.00 (<36)


35

Review of Instrumentation

V gauge
Or
Slot Gauge




Thickness gauge




36

Review of Instrumentation

Distometer



Magnifying loupe



https://www.eyecare.com/Research-Series/Researcher/02/2014/ https://www.eyecare.com/Research-Series/Researcher/02/2014/

37

Review of Instrumentation

Vertometer, Focimeter
Lensmeter, Lensometer



https://www.eyecare.com/Research-Series/Researcher/02/2014/ https://www.eyecare.com/Research-Series/Researcher/02/2014/

38

CONTACT LENS FITTING EVALUATION

12) CL lens type

- GP Corneal
- Soft CL
- Specialty
 - Scleral
 - Hybrid
 - Piggyback

39

39

CONTACT LENS FITTING EVALUATION

Trial Lens fitting vs Empirical

If trial lens (OR/SCOR)

40

40

• OPTICAL CONSIDERATIONS FOR CONTACT LENSES

Change in Prism from Glasses to CL

Base In = less need to converge
= easier for near

41

41

• OPTICAL CONSIDERATIONS FOR CONTACT LENSES

Change in Prism from Glasses to CL

• MYOPE
NO prism at dist
BUT
converge, = Base In with Glasses at near
(easier with glasses at near)

• Contact Lens = NO Base In @ near
(early/emerg presbyope HARDER WITH CONTACT LENSES)

42

42

Image size for Glasses vs CL

High Hyperope _ HIGHER Magnification with Specs

High Myope ____ More MINIFICATION with Specs

Contact Lenses = closer to normal image size

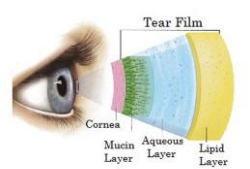
43

Importance of Tear Film

44

Where are the 3 layers created?

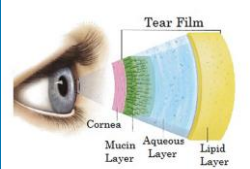
- Mucin Layer = GOBLET CELLS in the CONJUNCTIVA
- Aqueous layer = 1) Lacrimal Gland, and
 • 2) the Accessory Lacrimal glands (Wolfring and Krause)
- The Lipid later is created by the MEIBOMIAN GLANDS'



45

Three Layers of Tear Film

- Mucin (allows adhesion to cornea)
- Aqueous (liquid portion...nutrients, lubrication, antimicrobial, hydration, oxygenation)
- Lipid (prevents evaporation)



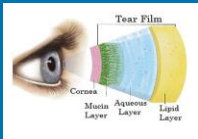
46

Three Layers of Tear Film

Mucin = Goblet cells (Conjunctiva)

Aqueous = 1) Lacrimal Gland, and
 2) the Accessory Lacrimal glands (Wolfring and Krause)

Lipid = MEIBOMIAN GLANDS'

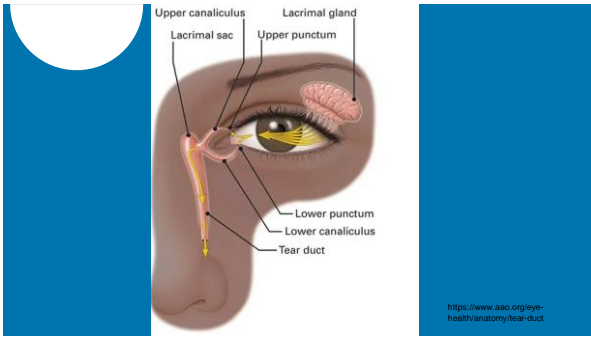


47

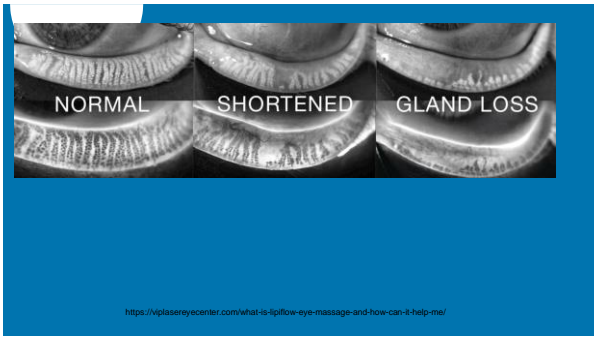
<p>Mucous Layer</p> <ul style="list-style-type: none"> • Mucopolysaccharide • glycoproteins • N-Ac-glucosamines • sialic acid • fucose • mannose • Galactose 	<p>Aqueous Layer</p> <ul style="list-style-type: none"> • water 98% • solids 2% Inorganics <ul style="list-style-type: none"> • cations • Anions Organics <ul style="list-style-type: none"> • glucose • urea • amino acids Proteins <ul style="list-style-type: none"> • albumin • tear prealbumin • globulins • lysozyme • B-lysin • lactoferrin 	<p>Lipid Layer</p> <ul style="list-style-type: none"> • waxes • fatty acids • cholesterol • cholesterol esters • lecithin • triglycerides 	
--	--	--	--

48

Tear Film Components



49



50

- Meib Glands Palpebral Conjunctiva (upper and lower tarsal plates)
- lipid layer normally =clear and free flowing
- *Poor quantity or quality of Lipid layer = evaporative Dry Eye*
- <https://dryeyedirectory.com/meibomian-gland-expression/>

51

- TBUT
- SCHIRMER strip
- Rose Bengal
- Lissamine Green

https://eyewiki.aaopt.org/Dyes_in_Ophthalmology

52

- TBUT
- <https://www.youtube.com/watch?v=qYx1IDUB6YU>


53

Vital Stain Characteristics			
Vital Stain	Color	Tissue	Slit Lamp Set-Up
Sodium Fluorescein	Yellow	Cornea	Wratten #12 filter Cobalt light High illumination
Rose Bengal	Red	Conjunctiva	White light High illumination
Lissamine Green	Green	Conjunctiva	White light Low illumination

<https://www.reviewofcontactlenses.com/article/vital-stains-what-you-really-need-to-know>

54

•Schirmer



<https://ophthalmologybreakingnews.com/schimers-test-and-its-implications>

55

Schirmer test:

TIME = 5 Minutes
Measure = 10mm more

- 0 to 5 mm: extremely dry eyes
- 5 to 10 mm: moderately dry eyes
- 10 to 15 mm: possible dry eyes
- Longer than 15 mm: normal tear function



<https://www.ncbi.nlm.nih.gov/books/NBK559159/>

https://webeye.ophth.uiowa.edu/eyeforum/Atlas/pages/The_Schirmer_test.html#sc11b1d

56

-Keratoconjunctivitis Sicca

Generally aqueous deficient Dry Eye

[Real Creative | Click & Learn more](#)

57

Sjogren's Syndrome – auto-immune disorder
lacrimal and salivary gland Deficiency

-Stevens-Johnson Syndrome - affects the skin and
mucous membrane of the conjunctiva

58

Dry Eye Treatments

- Artificial Tears (pref Preservative Free/PF)
-
-
-
-
-
-



<https://www.aaio.org/education/annual-meeting-video/step-by-step-management-of-dry-eye-disease-punctal>

59

Dry Eye Treatments

- Artificial Tears (pref Preservative Free/PF)
- Punctal occlusion
-
-
-
-
-



<https://www.aaio.org/education/annual-meeting-video/step-by-step-management-of-dry-eye-disease-punctal>

60

Dry Eye Treatments

- Artificial Tears (pref Preservative Free/PF)
- Punctal occlusion
- Prescription gtt's (Restasis/Xiidra/etc)
- Mechanical (lipiflow)
-
-
-

<https://www.aao.org/education/annual-meeting-video/step-by-step-management-of-dry-eye-disease-punctal>

61

Dry Eye Treatments

- Artificial Tears
- Punctal occlusion
- Prescription gtt's
- Mechanical (lipiflow)
-
-
-

<https://www.aao.org/education/annual-meeting-video/step-by-step-management-of-dry-eye-disease-punctal>

62

Dry Eye Treatments

- Artificial Tears
- Punctal occlusion
- Prescription gtt's
- Mechanical
- Intense Pulsed Light
- Autologous Serum
-
- SCLERAL GP LENSES

<https://www.aao.org/education/annual-meeting-video/step-by-step-management-of-dry-eye-disease-punctal>

63

Biomicroscope/slit lamp

Slit Lamp

Evaluating Gas Permeable Contact Lens

Instill NaFL with GP lens

- Use Cobalt Blue Filter over Light (makes light look blue)
- Wrattan (Yellow Filter) (look through, not over light)

64

Without yellow filter
Pattern observed without the use of yellow filter over observation system

With yellow filter
Identical pattern with the addition of yellow filter; notice greater fluorescence

65

1D steeper than "k"
Mild peripheral sealoff

2D steeper than "k"
Excessive peripheral sealoff

<https://gdi.info/fluorescein-40-guide/>

66

2D flatter than "K"
Excessive apical bearing,
excessive inferior edge
standoff

1D flatter than "K"
Excessive apical bearing,
excessive inferior edge
standoff

<https://gpi.info/fluorescein-id-guide/>

67

2D flatter than "K"
Excessive apical bearing,
excessive inferior edge
standoff

1D flatter than "K"
Excessive apical bearing,
excessive inferior edge
standoff

<https://gpi.info/fluorescein-id-guide/>

68

**Spherical BC on 3D WTR
astigmatic cornea**
Horizontal bearing and
excessive vertical pooling is
observed

69

Revisit Vertexing

-4.25
+4.00

-6.00
+6.50

70

Ocular Conditions

71

Dry Eye

DED – Dry Eye Disease
KCS – Keratoconjunctivitis Sicca
OSD – Ocular Surface Disease

72


Keratoconjunctivitis Sicca

- Rose Bengal
- Filaments
- Conj staining



<https://www.sciencedirect.com/topics/biochemistry/genetics-and-molecular-biology/rose-bengal>

73



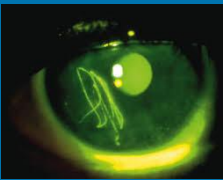
<https://www.reviewofoptometry.com/article/vital-dyes-for-ophthalmology>

<https://webeye.cphth.uiowa.edu/eyeforum/atlas/pages/LG-staining/index.html#gsc.tab=0>

74

Corneal Epithelium

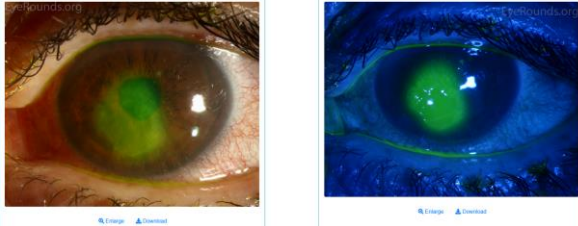
Abrasion



<https://www.sciencedirect.com/science/article/abs/pii/S0780702094270000386>

75

Corneal Epithelium

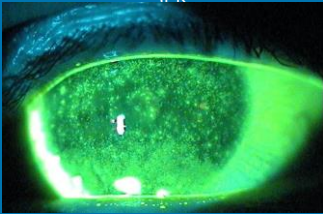


<https://webeye.cphth.uiowa.edu/eyeforum/atlas/pages/corneal-abrasion/index.html#gsc.tab=0>

76

Corneal Epithelium

SPK

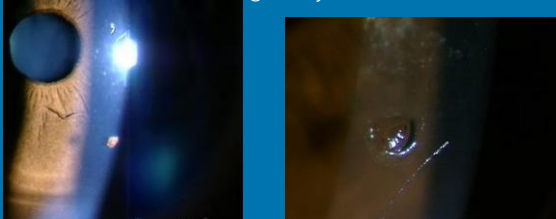


<https://www.allaboutvision.com/conditions/cornea/punctate-keratitis/>

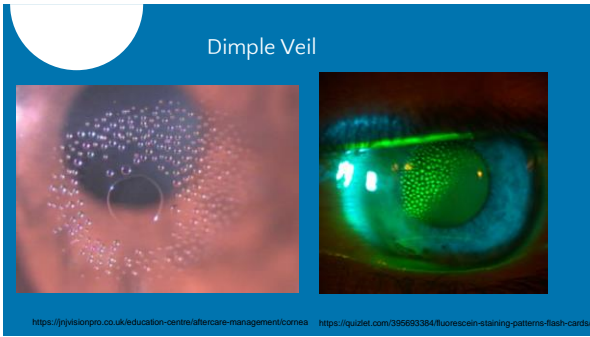
77

Corneal Epithelium

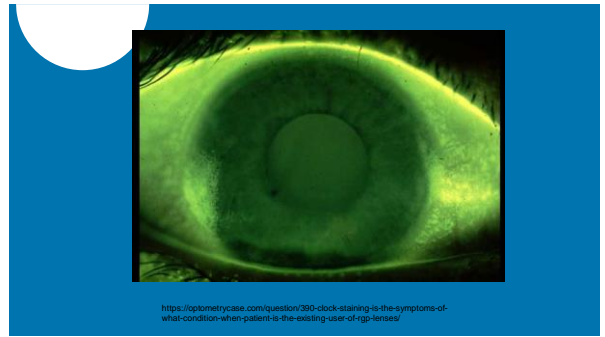
Foreign Body



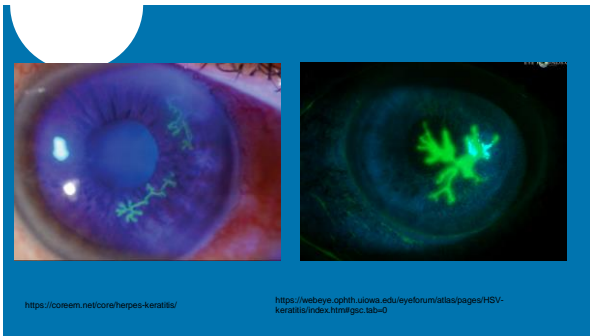
78



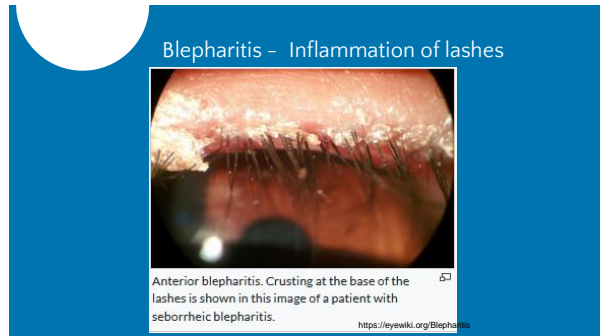
79



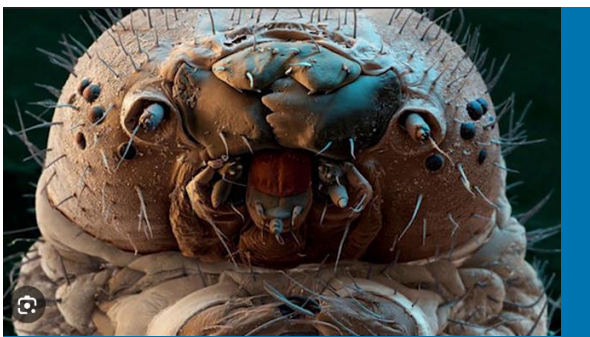
80



81



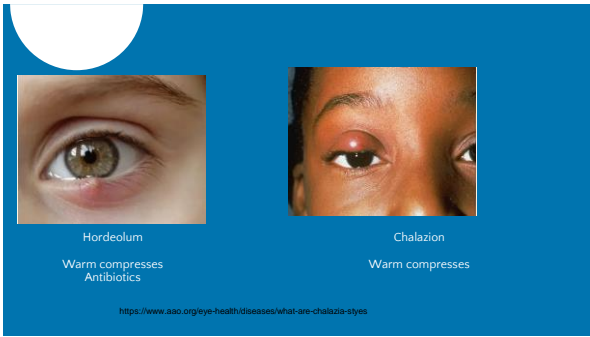
82



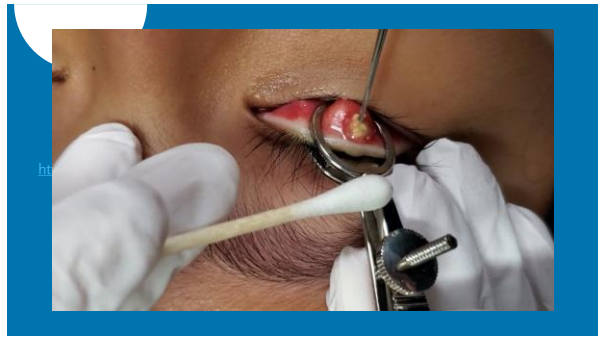
83



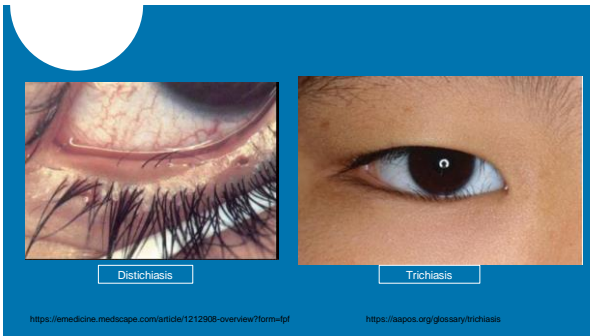
84



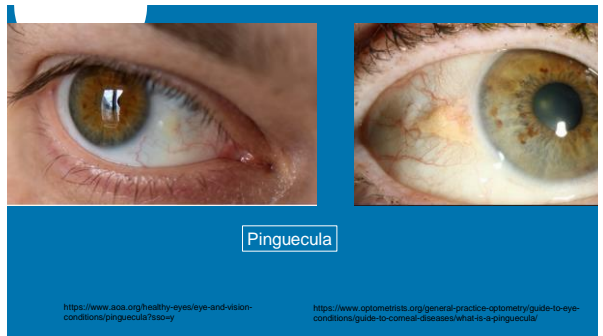
85



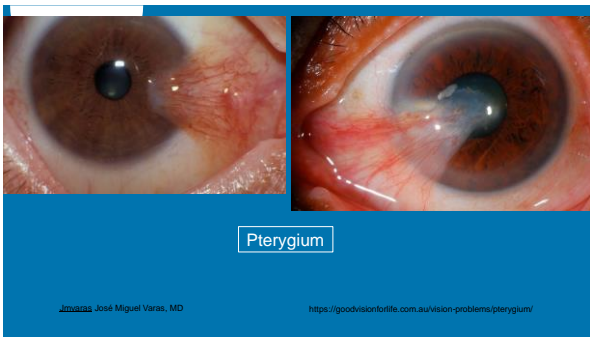
86



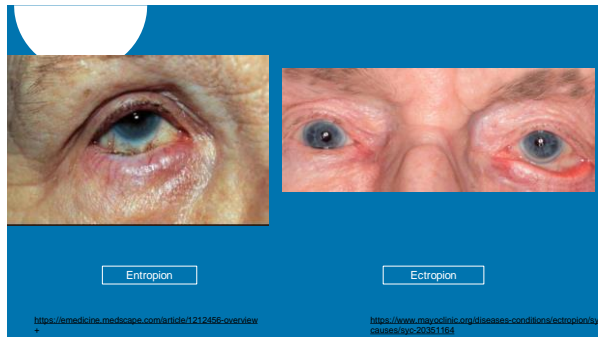
87



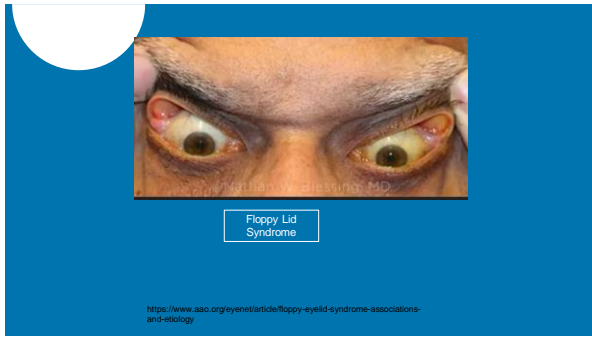
88



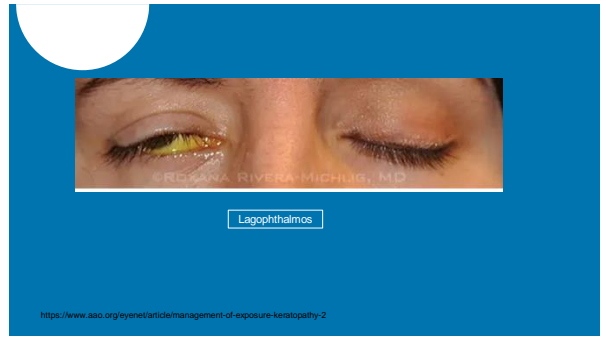
89



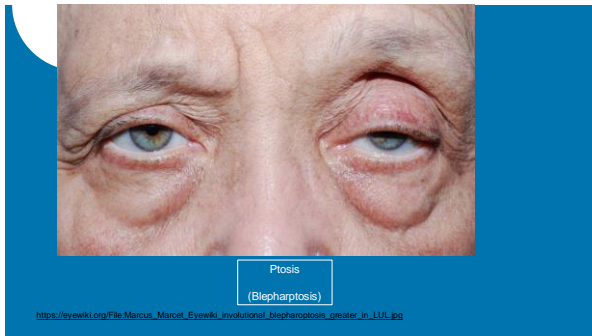
90



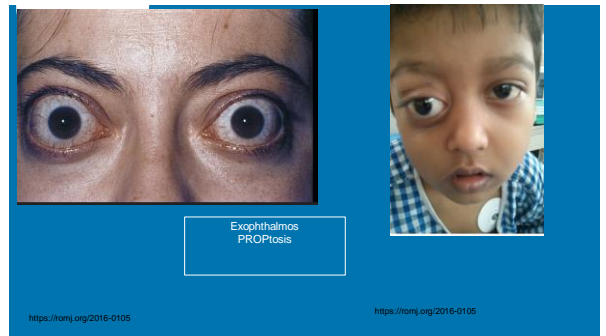
91



92



93

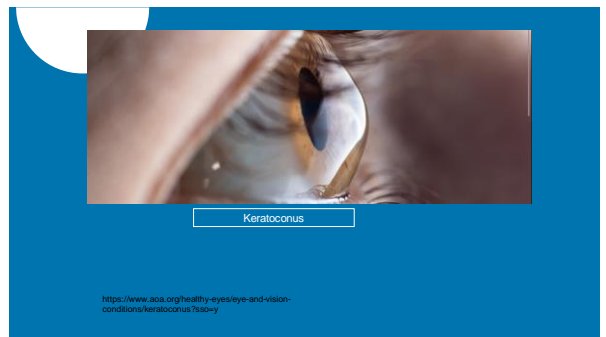


94

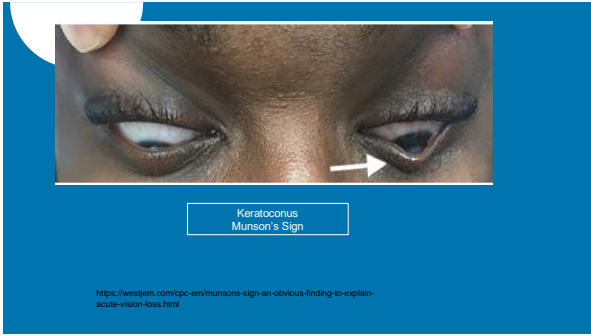
Keratoconus

- Non-inflammatory
- Multifactorial
- Thinning mechanism
- Irregular astigmatism

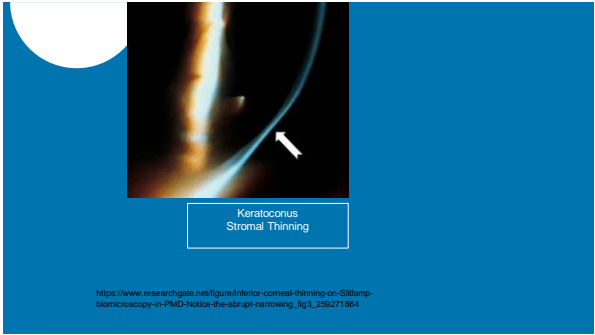
95



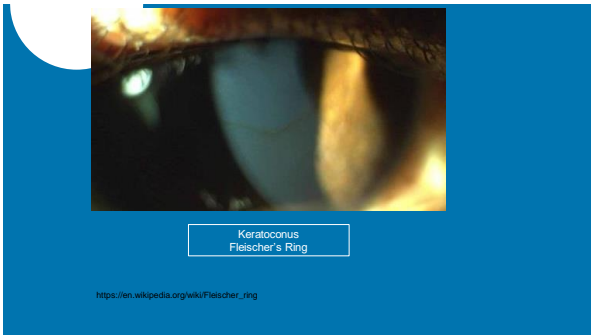
96



97



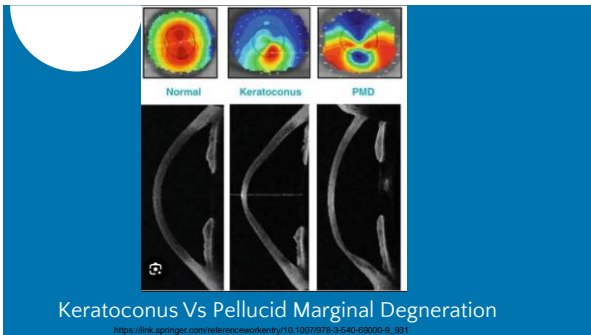
98



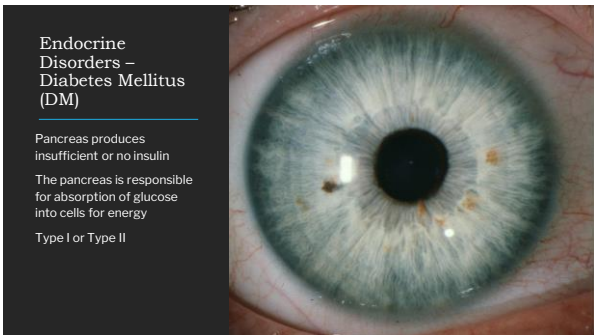
99



100



101



102

Endocrine Disorders - DM

- Diabetic retinopathy
- Cataracts
- Rubeosis/Iris Neovasc
- Corneal changes

Normal Retina Diabetic Retina

103

Endocrine Disorders - Grave's Disease

- Lid retraction
- Infrequent/incomplete blink
- Lagophthalmos
- Motility restrictions
- Binocular diplopia
- Optic nerve damage

104

Environmental Factors - Air Quality

- Humidity
- Wind
- Dust
- Smoke
- Air travel
- Allergens

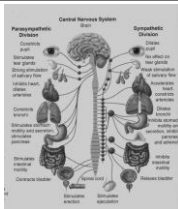
105

Systemic Medications

106

Autonomic Nervous System

Parasympathetic
- "rest and digest"
- cholinergic

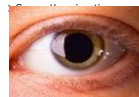


Sympathetic
- "fight or flight"
- adrenergic

107

Autonomic Nervous System

Sympathetic - epinephrine/norepinephrine
> Pupils dilate
> Secretions decrease
> Sympatholytic



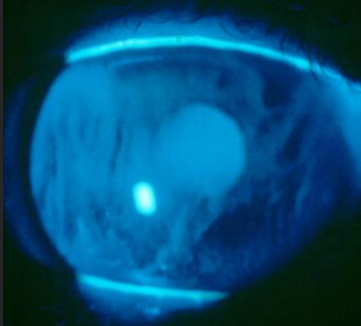
Parasympathetic - acetylcholine
> Pupils constrict
> Secretions increase
> Parasympatholytic
> parasympathomimetic



108

Medications


- Decreased lacrimation
- Lipid secretion changes
 - > Tetracycline
 - > Accutane



109

Medications


- Decreased lacrimation
- Lipid secretion changes
- Blink rate changes
 - > Antihistamines
 - > Muscle relaxants
 - > Sleep enhancers
 - > Anti-anxiety
 - > Anti-depressants



110

Medications


- Decreased lacrimation
- Lipid secretion changes
- Blink rate changes
- Mydriasis
 - > CNS Stimulants
 - > Amphetamines
 - > Decongestants
 - > CNS Depressants
 - > Phenobarbital



111

Medications

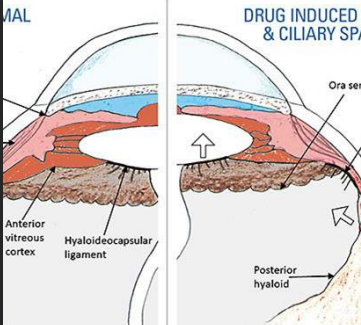
- Decreased lacrimation
- Lipid secretion changes
- Blink rate changes
- Mydriasis
- Soft lens discoloration
 - > Tetracycline
 - > Exlax



112

Medications

- Decreased lacrimation
- Lipid secretion changes
- Blink rate changes
- Mydriasis
- Soft lens discoloration
- Transient myopia
 - > Sulfonamides
 - > Diuretics
 - > Carbon Anhydrase Inhibitors




113

Medications – Vasoconstrictors (OTC)

Benzalkonium Chloride (BAK) Preservative


Increased risk of chemical toxicity with soft lenses



114

Topical Eye Medications

- Preservatives
- Discoloration
- Increased lens deposits
- Follicles



115

Thank You!

116