College of Optometry
UNIVERSITY OF HOUSTON

Spring Live Webinar

April 20-21, 2024

Sunday PowerPoint Lecture Handouts

College of Optometry
UNIVERSITY OF HOUSTON

Spring Live Webinar

Sunday, April 21, 2024			
7:45 am to 8:00 am	**AM Session: Virtual Conference Entry Period**		
Sun AM Session	**Practice Management – Moderated by Dr. Andrew Kemp**		
8:00 am to 8:05 am	Announcements & CE Credit Overview		
8:05 am to 8:55 am	**Making Specialty Contact Lens Billing Work** *Clarke Newman, OD FAAO*	1 GEN Hour	COPE ID # 89221-PM
8:55 am to 9:05 am	Break		
9:05 am to 10:45 am	**Is it Routine or Medical? The Key to Keeping Patients Happy and Running a Profitable Practice** *Christopher Wolfe, OD FAAO*	2 GEN Hours	COPE ID # 84824-PM
10:45 am to 10:55 am	Break		
10:55 am to 11:45 am	**Worried About Audits? You Should Be But Not For the Reasons You Are** *Christopher Wolfe, OD FAAO*	1 GEN Hour	COPE ID # 90865-PM
11:45 am to 11:50 am	Conclusion – AM Session		
11:50 am to 12:45 pm	Lunch Break		
12:45 pm to 1:00 pm	**PM Session: Virtual Conference Entry Period**		
Sun PM Session	**Imaging – Moderated by Dr. Marcus Gonzales**		
1:00 pm to 1:05 pm	Announcements & CE Credit Overview		
1:05 pm to 2:45 pm	**Alternative OCT Diagnostics** *Marcus Gonzales, OD, FAAO & Andrew Kemp, OD, FAAO*	2 D/T Hours	COPE ID # 90849-TD
2:45 pm to 2:55 pm	Break		
2:55 pm to 4:45 pm	**Using Retinal Location to Aid the Diagnosis** *Marcus Gonzales, OD, FAAO*	2 D/T Hours	COPE ID # 90850-TD
4:45 pm to 4:50 pm	Conclusion – PM Session		

MAKING SPECIALTY CONTACT LENS BILLING WORK

CLARKE D. NEWMAN, OD, FAAO, FBCLA, FSLS, FNAP

APRIL 21, 2024

UHCO SPRING LIVE WEBINAR

FINANCIAL DISCLOSURES

- PAID CONSULTANT
  - GPLI
  - REVIEW OF OPTOMETRY
  - PERCEPT
  - TARSUS
- CONTRIBUTING EDITOR: *CONTACT LENS SPECTRUM*
- STUDY CONTRIBUTOR: UHCO
- NO PROPRIETARY INTEREST IN ANY SUBJECTS DISCUSSED
- FDA "OFF-LABEL" USES WILL BE DISCUSSED

All Relevant Financial Relationships have been mitigated.

COURSE OBJECTIVES

- THE OBJECTIVE OF THIS COURSE IS TO DISCUSS METHODS FOR CODING AND BILLING FOR MEDICALLY NECESSARY CONTACT LENSES AND FOR INCORPORATING ICD-10-CM INTO MEDICALLY NECESSARY CONTACT LENS PRESCRIBING.

LEARNING OBJECTIVES

- ATTENDEES OF THIS COURSE WILL LEARN:
  - EFFECTIVE CODING AND BILLING STRATEGIES FOR MEDICALLY NECESSARY CONTACT LENSES (MNCL)

BIG-TIME DISCLAIMER!!!!!!

This meeting is a gathering of competitors, which is one of the two criteria for violating the Sherman Anti-Trust Act. The other criterion for a *per se* violation is to agree to, or appear to agree to, do something, like set fees, or boycott a supplier, or another competitor. This lecture includes a discussion of fees. HOWEVER, THIS LECTURE IS NOT INTENDED IN ANY WAY TO BE CONSTRUED AS A DISCUSSION OF FEE SETTING. THE EXAMPLES GIVEN ARE INSTRUCTIONAL, AND ARE NOT INTENDED IN ANY WAY TO ENCOURAGE ANYONE TO SET ANY FEE AT ANY AMOUNT. QUESTIONS ABOUT FEES WILL NOT BE ANSWERED, AND DISCUSSION ABOUT FEES AMONG THE ATTENDEES OF THIS LECTURE, DURING THIS LECTURE, WILL NOT BE PERMITTED, AND IS <u>STRONGLY</u> DISCOURAGED AT ANY TIME AFTER THIS LECTURE!

Do you understand?

¿Entiende usted?

Comprenez vous?

Verstehst du?

האם אתה מבין?

Ты понимаешь?

The Ethics of This Stuff

I believe that it is a moral failure to possess a skill or a body of knowledge that can end human suffering, and then fail to use that skill or knowledge because you do not charge enough to make that service a viable part of your practice.

Most doctors fail in medically necessary prescribing not because they lack the skill, but because they lose interest and motivation when they start to lose money.

When you charge enough so that you don't lose money, then you stay motivated enough to solve these complicated cases. I submit to you, that that is ethical!

“CLARKE, EVERYTHING THAT HAPPENS IN YOUR PRACTICE IS YOUR FAULT”

-IRV BORISH

WHAT WE SAY DOESN'T MATTER (SORTA)

There is no escaping the fact that YOU have to do your homework to be successful at billing for medical services. There are enough contractual differences between carriers and between regions, that you have to determine what the payment policies and fees are for each type of service and for each carrier. If you practice in more than one locale, you have to do this legwork for each locale—PERIOD!

INTRODUCTION

- BASIC CONCEPTS
  - WHAT IS THE CONSUMER / PROVIDER / PAYOR / PURCHASER RELATIONSHIP?
  - WHAT IS THE DEFINITION OF “MEDICALLY NECESSARY?”
  - WHAT IS THE DIAGNOSIS / SERVICE / PAYMENT RELATIONSHIP?
  - WHAT ARE “COVERED” AND NON-COVERED” SERVICES?
- BILLING THE VISION CARE PLANS (VCP’S)
- Q & A

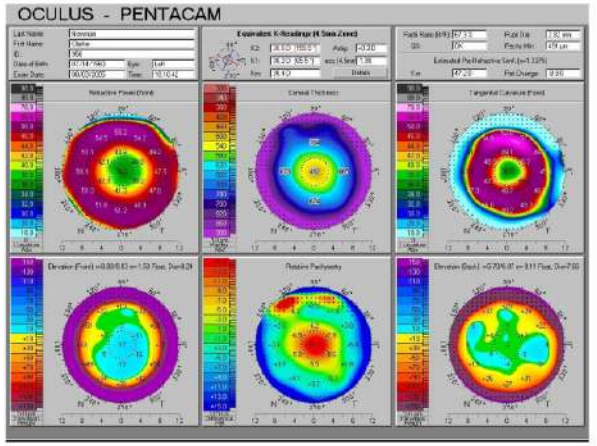
COVERED *VS.* NON-COVERED

- THIS CONCEPT IS IMPORTANT TO MEDICALLY NECESSARY CONTACT LENS PRESCRIBING
- NON-COVERED SERVICES ARE LISTED BY EXCLUSIONS IN THE NEGOTIATED COVERAGE PRODUCT ("INSURANCE PLAN") AS DETAILED IN THE "SUMMARY PLAN DESCRIPTION" (SPD)
- NON-COVERED SERVICE EXCLUSIONS DO NOT DECIDE WHAT CARE YOU PROVIDE, JUST WHO PAYS FOR THE CARE YOU PROVIDE
  - INDEPENDENT CLINICAL JUDGMENT
  - NON-COVERED SERVICES ARE PAID BY THE CONSUMER DIRECTLY TO THE PROVIDER

ESTABLISHING MEDICAL NECESSITY FOR A COVERED SERVICE

- A CHIEF COMPLAINT RATIONAL TO A COVERED SERVICE SUCH AS AN INJURY, ILLNESS, OR DISEASE
- PROVIDING A COVERED SERVICE MUST BE INDICATED BY THE CHIEF COMPLAINT AND MUST BE ORDERED
- IF THE COVERED SERVICE IS A DIAGNOSTIC TEST, THEN THE DIAGNOSTIC TEST MUST BE INTERPRETED AND IT MUST AFFECT YOUR CLINICAL DECISION MAKING

MORE ON DOCUMENTATION FOR MEDICAL NECESSITY



92025 Corneal Topography Ordered and Reviewed by Clarke D Newman, OD, FAAO: _____

Indication:

- ☐ Diagnose a Decrease in Vision thought to be Due to a Corneal Disease, Degeneration, Deformity, or Injury
- ☐ Monitor a Previously Diagnosed Corneal Disease, Degeneration, Deformity, or Injury
- ☐ Pre-Operative Evaluation of the Cornea to Rule Out Corneal Disease, Degeneration, Deformity, or Injury as a Contraindication to Surgery
- ☒ Post-Operative Evaluation of the Cornea to Rule Out Corneal Disease, Degeneration, Deformity, or Injury Resulting From the Surgery

Interpretation:

- ☐ No Detectable Defect
- ☐ (367.21) Regular Astigmatism
- ☐ (367.22) Irregular Astigmatism
- ☐ (368.10) Subjective Visual Disturbance, Unspecified
- ☐ (368.15) Other Visual Distortions
- ☐ (371.03) Central Opacity of Cornea
- ☐ (370.31) Phlyctenular Keratoconjunctivitis
- ☐ (371.31) Folds and Rupture of Bowman's Membrane
- ☐ (371.46) Nodular Degeneration of Cornea (Salzman's)
- ☐ (371.48) Peripheral Degenerations of Cornea (Terrien's)
- ☐ (371.57) Endothelial Corneal Dystrophy (Fuchs')
- ☐ (371.61) Keratoconus, Stable Condition
  - ☐ KSS 0 ☐ KSS 1 ☐ KSS 2 ☐ KSS 3 ☐ KSS 4 ☐ KSS 5
- ☐ (371.62) Keratoconus, Acute Hydrops
- ☐ (371.70) Corneal Deformity, Unspecified
- ☐ (371.70) Keratoglobus
- ☐ (371.16) Pellucid Marginal Degeneration
- ☐ (371.43) Bank-Shaped Keratopathy
- ☐ (371.46) Nodular Corneal Degeneration
- ☐ (372.41) Peripheral Pterygium, Stationary
- ☐ (372.42) Peripheral Pterygium, Progressive
- ☒ (743.41) Anomalies of Corneal Size and Shape

Plan:

- ☐ Monitor
- ☒ Prescribe Medically Necessary Contact Lenses
- ☐ Refer for Surgical Consultation
- ☐ Initiate Medical Therapy

MORE ON DOCUMENTATION FOR MEDICAL NECESSITY

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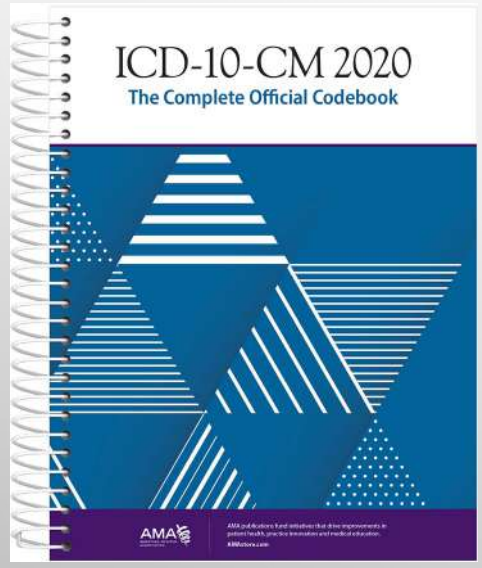
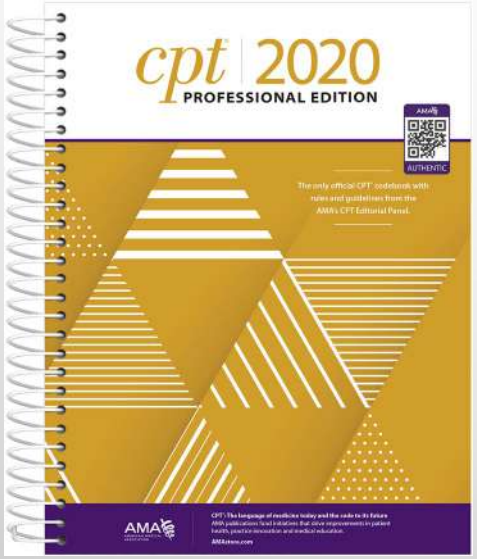
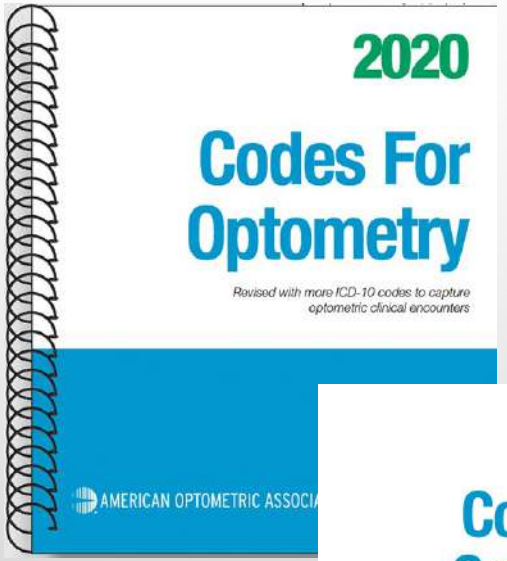
GUIDANCE MATERIALS

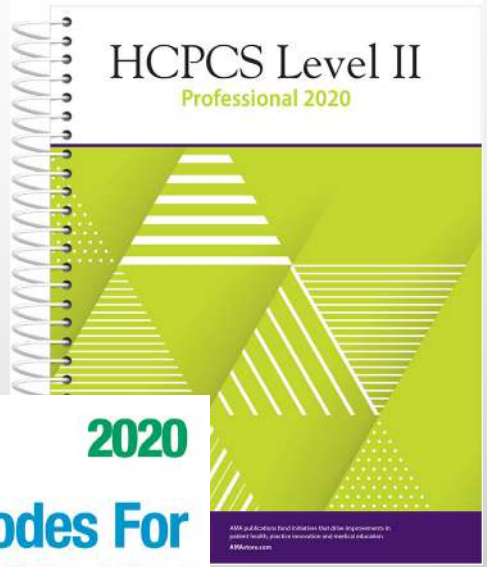
- WEBSITES
  - CMS WWW.CMS.GOV
  - FISCAL INTERMEDIARY
    - FIND YOUR JURISDICTION
  - PRIVATE CARRIERS
- REFERENCE BOOKS
  - 2023 ICD-9-CM
  - 2023 CPT
  - 2023 HCPCS
  - 2023 ICD-10-CM
- MEETINGS & JOURNALS

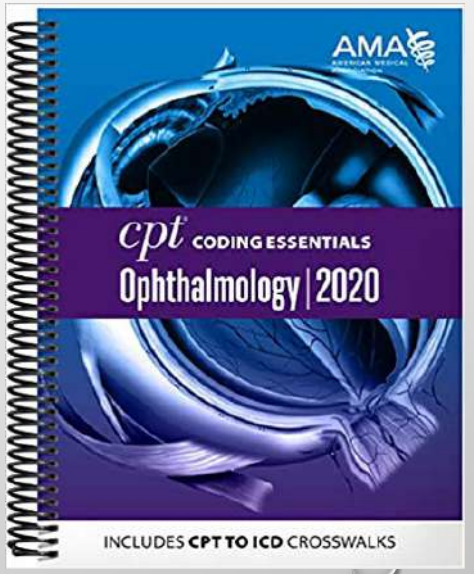
REFERENCE BOOKS

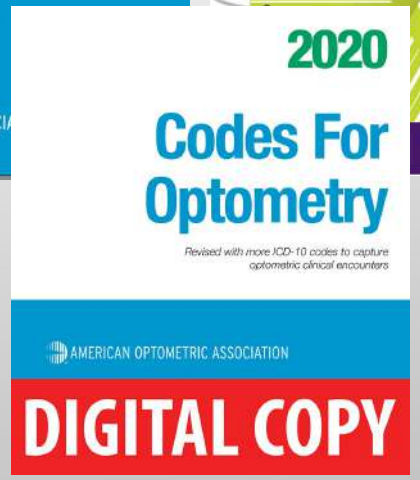












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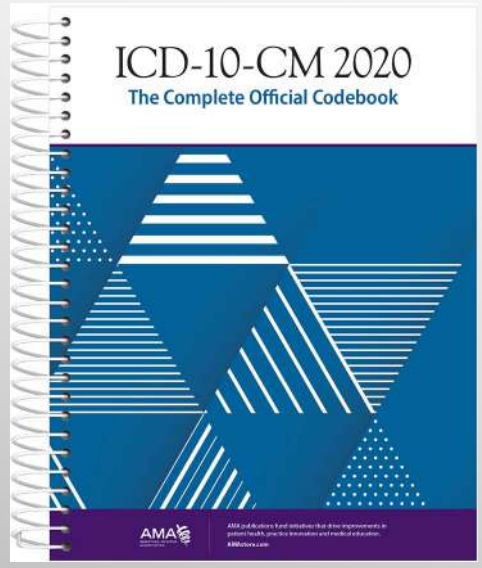

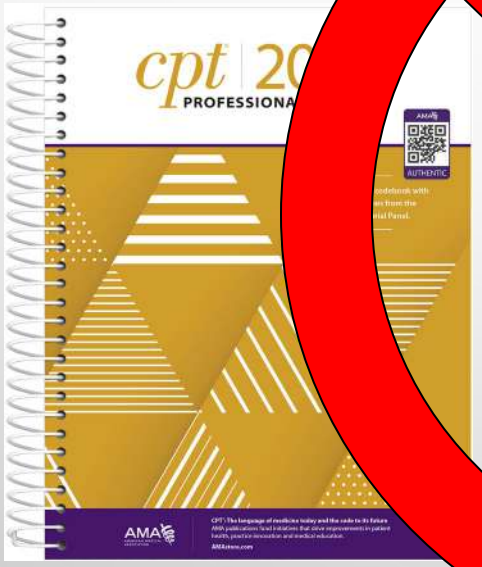

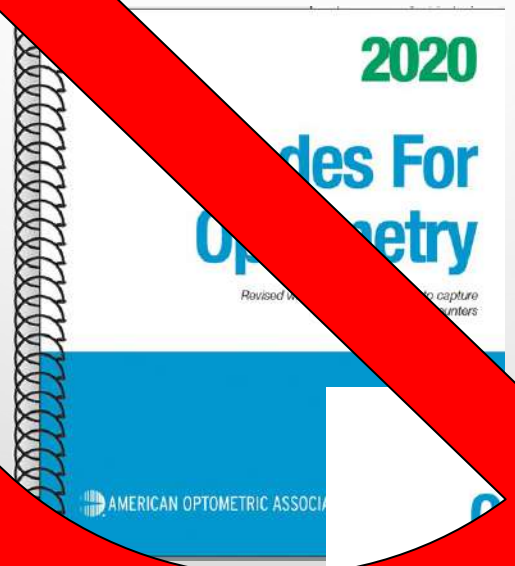

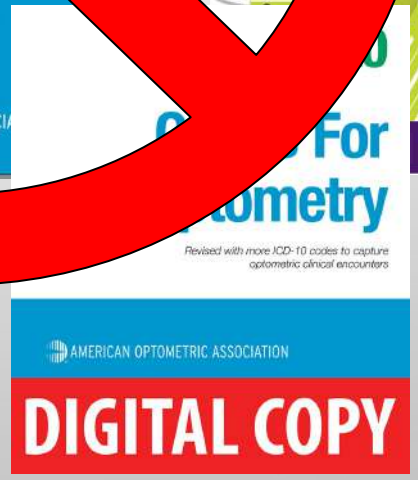

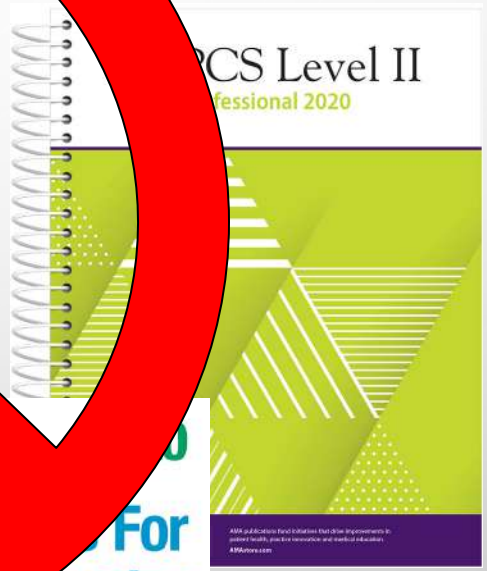

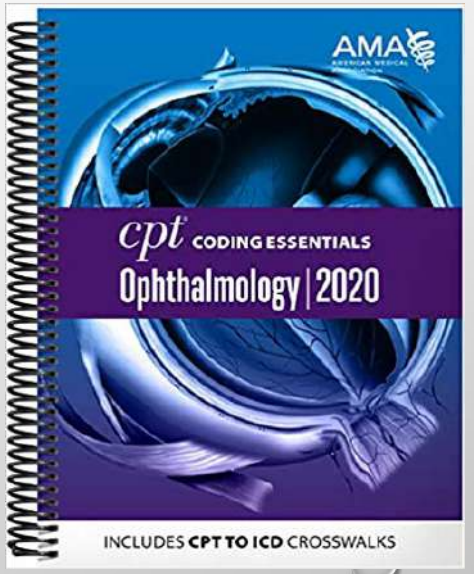

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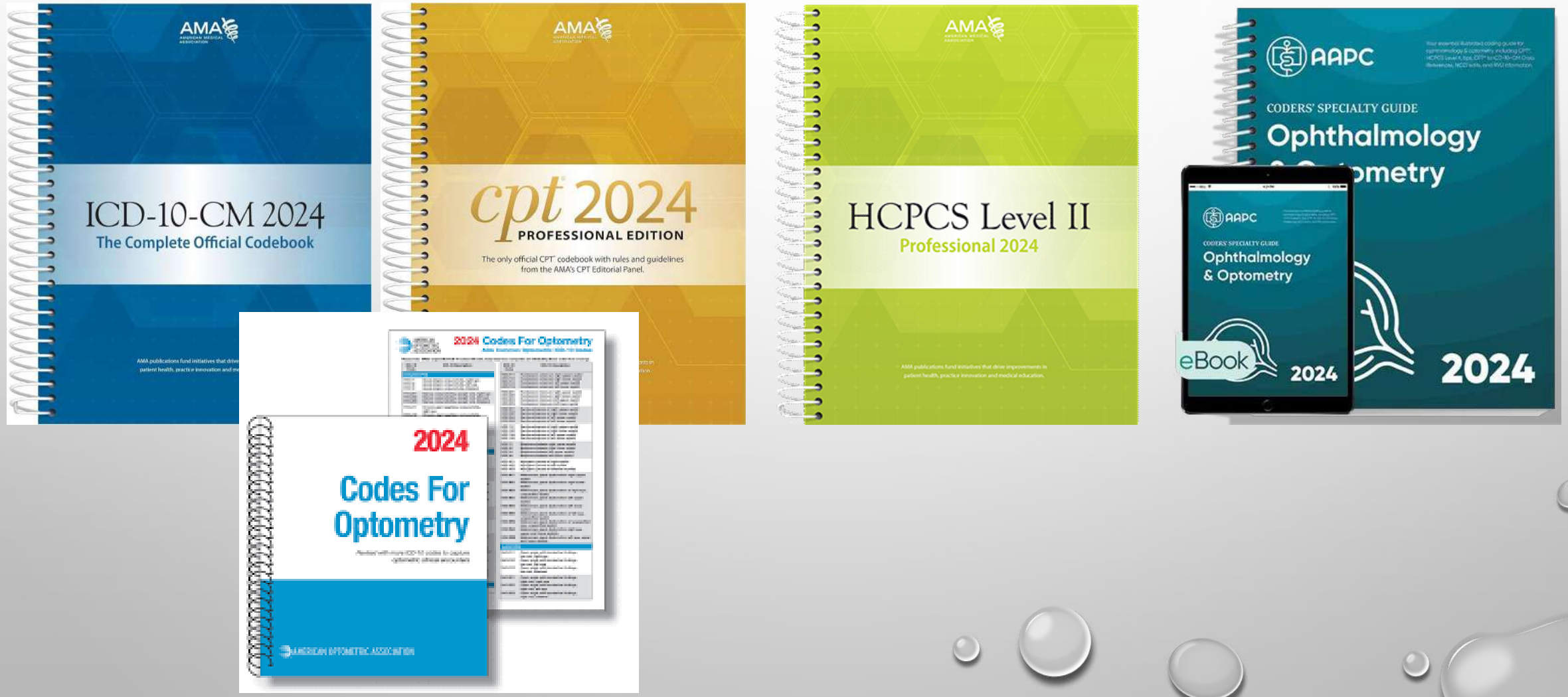

WEB BASED GUIDANCE

- OPTOMETRIC BILLING SOLUTIONS, INC.
  - DRS. JOE DELOACH AND PETER CASS, AND BJ AVERY AND SANDY YANKEE
  - HTTP://OPTOMETRICBILLING.COM/
- AOA EXCEL
  - HTTP://WWW.AOA.ORG/AOAEXCEL
- PRACTICE MANAGEMENT RESOURCES, INC.
  - DR. JOHN RUMPAKIS
  - HTTP://WWW.PRMI.COM/

ESTABLISHING THE DIAGNOSTIC CODE SET

- DIAGNOSIS CODES
  - ICD-10-CM, USED SINCE OCTOBER 1, 2015—IF YOU ARE STILL USING ICD-9, WTF?
  - CPT LEVEL I CODES (CREATED BY THE AMA CPT EDITORIAL PANEL)
  - HCPCS (CPT LEVEL II)
- CARRIER DETERMINATION POLICIES
  - NATIONAL CARRIER DETERMINATIONS (NCD) FOR EYES NCD 80
    - HTTP://WWW.CMS.GOV/REGULATIONS-AND-GUIDANCE/GUIDANCE/MANUALS/DOWNLOADS/NCD103C1_PART1.PDF
  - LOCAL CARRIER DETERMINATIONS (LCD)

VERY IMPORTANT CONCEPT: A TAUTOLOGY

It Is Not What You Get Paid!!!!

It Is What You Get to Keep at Audit!!!!

UNDERSTANDING CPT CODES

- CODE TEXT
  - PLAIN LANGUAGE RULES, UNLESS SPECIFICALLY SUPERSEDED BY OTHER INSTRUCTIONS
- CODE SUB-TEXT
  - OFTEN, THESE OTHER INSTRUCTIONS ARE CONTAINED IN SUB-TEXT COMMENTS
- CODE PRE-TEXT / PREAMBLE
  - A PREAMBLE CAN CONTAIN INFORMATION THAT SHAPES A CODE OR A GROUP OF CODES
    - E/M CODES HAVE A PREAMBLE AND CODE SUBTEXTS
    - 9231X CODES HAVE A PREAMBLE
- CPT ASSISTANT
- CPT CHANGES
- CMS PUB-100 GUIDANCE
  - NCD'S ARE PROMULGATED HERE

ADVANCED BENEFICIARY NOTIFICATION (ABN) MODIFIERS

- GA—WAIVER OF LIABILITY STATEMENT ISSUED, AS REQUIRED BY PAYER POLICY
- GX—NOTICE OF LIABILITY ISSUED, VOLUNTARY UNDER PAYER POLICY
- GY—ITEM OR SERVICE STATUTORILY EXCLUDED, DOES NOT MEET THE DEFINITION OF ANY MEDICARE BENEFIT
- GZ—ITEM OR SERVICE EXPECTED TO BE DENIED AS NOT REASONABLE AND NECESSARY

HTTPS://WWW.NOVITAS-SOLUTIONS.COM/WEBCENTER/PORTAL/MEDICAREJH/PAGEBYID?CONTENTID=00144508&_AFRLOOP=476331289924 58#!%40%40%3F_AFRLOOP%3D476331289924 58%26CONTENTID%3D00144508%26_ADF.CTRL-STATE%3DMG5VJGXVT_33

THE PRESCRIBING CODES

GET THIS STUFF RIGHT IF YOU WANT TO GET PAID

CPT PREAMBLE FOR THE 9231X CODES

The prescription of contact lenses includes specification of optical and physical characteristics (such as power, size, curvature, flexibility, gas-permeability). It is NOT a part of the general ophthalmological services.

The fitting of a contact lens includes instruction and training of the wearer and incidental revision of the lens during the training period.

Follow-Up of successfully fitted extended wear lenses is reported as part of a general ophthalmological service. (92012 *et seq*)

The supply of contact lenses may be reported as part of the fitting. It may also be reported separately by using the appropriate supply code."

CONTACT LENS SERVICES

- 92310(4)—PRESCRIPTION OF OPTICAL AND PHYSICAL CHARACTERISTICS OF AND FITTING OF CONTACT LENS, WITH MEDICAL SUPERVISION OF ADAPTATION; CORNEAL LENS, BOTH EYES, EXCEPT FOR APHAKIA
- 92311(5)—CORNEAL LENS FOR APHAKIA, ONE EYE
- 92312(6)—CORNEAL LENS FOR APHAKIA, BOTH EYES
- 92313(7)—CORNEOSCLERAL LENS
- 92325—MODIFICATION OF CONTACT LENS (SEPARATE PROCEDURE), WITH MEDICAL SUPERVISION OF ADAPTATION
- 92326—REPLACEMENT OF CONTACT LENS
- 92499—UNLISTED OPHTHALMOLOGICAL SERVICE OR PROCEDURE

CONTACT LENS SERVICES: IMPORTANT CONCEPTS

- CHARGE ANOTHER CONTACT LENS SERVICE FEE IF YOU CHANGE THE LENS DESIGN "SUBSTANTIALLY"
  - THAT IS, A CHANGE THAT IS NOT AN "INCIDENTAL REVISION"
- FOLLOW UP VISITS ARE NOT PART OF THE 9231X CODES. THE "SUPERVISION OF ADAPTATION" REQUIREMENT IS MET AT THE FIRST FOLLOW-UP VISIT IF THEY HAVE REACHED THE PRESCRIBED WEARING TIME
- SUBSEQUENT FOLLOW-UP VISITS ARE A PART OF A GENERAL OPHTHALMOLOGICAL SERVICE—YOU ARE MEDICALLY EVALUATING THE EFFECT OF THE PRESENCE OF THE CONTACT LENS ON THE OCULAR TISSUE

CONTACT LENS SERVICES—BANDAGE LENS

- 92070—BANDAGE CONTACT LENS CODE—NO LONGER IN USE!!!! IT WAS DELETED IN 2012. (I STILL GET QUESTIONS ON THIS)
- 92071—FITTING OF CONTACT LENS FOR TREATMENT OF OCULAR SURFACE DISEASE
  - DO NOT REPORT 92071 IN CONJUNCTION WITH 92072
  - REPORT SUPPLY OF LENS SEPARATELY WITH 99070 OR APPROPRIATE SUPPLY CODE

CONTACT LENS SERVICES—KERATOCONUS

- 92072—FITTING OF CONTACT LENS FOR MANAGEMENT OF KERATOCONUS, INITIAL FITTING
  - FOR SUBSEQUENT FITTINGS, REPORT USING EVALUATION AND MANAGEMENT SERVICES OR GENERAL OPHTHALMOLOGICAL SERVICES
  - DO NOT REPORT 92072 IN CONJUNCTION WITH 92071
  - REPORT SUPPLY OF LENS SEPARATELY WITH 99070 OR APPROPRIATE SUPPLY CODE

GUIDANCE ON THE 92072 CODE: “INITIAL FITTING”

ACCORDING TO THE CPT ASSISTANT, CODE 92072, FITTING OF CONTACT LENS FOR MANAGEMENT OF KERATOCONUS, INITIAL FITTING, IS REPORTED FOR INITIAL FITTINGS ONLY. THE DESCRIPTION OF WORK FOR INITIAL FITTINGS INCLUDES THE RESULTS OF DIAGNOSTIC TESTS DONE PRIOR TO CONTACT LENS FITTING TO ASSESS THE CORNEAL ECTASIA, WHICH ARE USED IN CONCERT WITH SLIT LAMP EXAMINATION TO ASSESS CORNEAL SHAPE AND DETERMINE INITIAL CONTACT LENS PARAMETERS (E.G., DIAMETER, BASE CURVE AND SECONDARY CURVES). LENS DESIGNS CAN INCLUDE CORNEAL, SCLERAL, HYBRID, OR PIGGYBACK SYSTEMS. KERATOMETRY, LID ANATOMY, TEAR FILM AND REFRACTION ARE ALSO PERFORMED AND/OR RECHECKED. IF THE LENS NEEDS TO BE CHANGED BECAUSE IT NO LONGER FITS THE PATIENT'S NEEDS, THE FITTING OF A NEW LENS IS CONSIDERED AN INITIAL FITTING AND SHOULD INCLUDE ALL OF THE SERVICES NOTED ABOVE.

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HCPCS MATERIAL CODES

- V2510—CONTACT LENS, GP, SPHERICAL, PER LENS
- V2511—CONTACT LENS, GP, TORIC, PER LENS
- V2512—CONTACT LENS, GP, BIFOCAL, PER LENS
- V2513—CONTACT LENS, GP, EXTENDED WEAR, PER LENS
- V2520—CONTACT LENS, HYDROPHILIC, SPHERICAL, PER LENS
- V2521—CONTACT LENS, HYDROPHILIC, TORIC, PER LENS
- V2522—CONTACT LENS, HYDROPHILIC, BIFOCAL, PER LENS
- V2523—CONTACT LENS, HYDROPHILIC, EXTENDED WEAR, PER LENS
- V2530—CONTACT LENS, IP, SCLERAL, PER LENS
- V2531—CONTACT LENS, GP, SCLERAL, PER LENS
- V2627—SCLERAL COVER SHELL
- V2599—CONTACT LENS, OTHER TYPE

USING THE UNLISTED CODES

- USE THE "UNLISTED CODES" (92499 & V2599) FOR SERVICES AND MATERIALS THAT ARE BEYOND THE SCOPE OF THE OTHER CONTACT LENS PRESCRIBING CODES
- MEDICALLY NECESSARY LENSES IN THIS CATEGORY
  - HYBRID LENSES
  - HAND PAINTED PROSTHETIC LENSES
  - LENSES MADE FROM OCULAR SURFACE MOLDING
  - MYOPIA MANAGEMENT
- NEED TO DESCRIBE IN BOX 19
- NEED LETTERS OF MEDICAL NECESSITY

DOCUMENTATION

- REMEMBER, ALL DOCUMENTATION SHOULD SUPPORT YOUR DIAGNOSIS AND TREATMENT PLAN
- EACH TEST MUST BE RATIONAL TO THE DIFFERENTIAL DIAGNOSIS AS GUIDED BY THE CHIEF COMPLAINT
- FAILURE TO DOCUMENT FULLY THE CHIEF COMPLAINT, THE ASSOCIATED HPI, THE OBJECTIVE TESTING (INCLUDING THE ORDER, THE INTERPRETATION, AND CLINICAL DECISION MAKING), THE CL DIAGNOSTIC EVALUATION AND RESULTS MAY RESULT IN A FAILED AUDIT

CODING AND BILLING FOR THE CROSSLINKING PATIENT

- CPT LEVEL I TEMPORARY CODE 0402T COLLAGEN CROSS-LINKING OF CORNEA (INCLUDING REMOVAL OR THE CORNEAL EPITHELIUM AND INTRAOPERATIVE PACHYMETRY WHEN PERFORMED).
- J2787 – RIBOFLAVIN 5'- PHOSPHATE, OPHTHALMIC SOLUTION, UP TO 3ML
- THESE TEMPORARY CODES DO NOT HAVE ANY GLOBAL PERIOD
- ALL POST-OPERATIVE CARE DELIVERED FOR THE CROSSLINKING PATIENT IS BILLED IN THE USUAL MANNER FOR GENERAL OPHTHALMOLOGICAL CODES OR EVALUATION & MANAGEMENT CODES
- THIS CODE EXPIRES AT THE END OF 2024, WHICH MEANS A 60000 CATEGORY I SURGICAL CODE WILL LIKELY BE PROMULGATED THIS YEAR, WHICH MAY HAVE A GLOBAL PERIOD GREATER THAN ZERO.

VISION CARE PLAN MNCL BENEFITS

KNOW THESE PROCEDURES OR PAY THE PRICE

VISION CARE PLANS (VCP'S)

- VISION SERVICE PLAN® (VSP)
- EYEMED®
- UNITED HEALTHCARE® / SPECTERA®
- VERSANT HEALTH™ (SUPERIOR VISION™ & DAVIS VISION™)
- VISION BENEFITS OF AMERICA (VBA)

THE LIMITED DATA SET

- PAYORS WILL SOMETIMES LIMIT THE DIAGNOSES THAT ARE CONSIDERED TO BE *PER SE* MEDICALLY NECESSARY TO A LIST
- THESE DATA SETS ARE PROMULGATED IN "CARRIER DETERMINATIONS"

VSP® : VISUALLY NECESSARY CONTACT LENSES

- LOOK IN THE 2024 MANUAL
  - GO WWW.EYEFINITY.COM, AND LOG IN
  - CLICK “VSPONLINE” DOWN THE RIGHT-HAND SIDE
  - CLICK “MANUALS” DOWN THE LEFT-HAND SIDE
  - CLICK “VSP®”
  - UNDER “PLANS AND COVERAGE,” CLICK “CONTACT LENS BENEFITS”
  - SCROLL DOWN TO “VISUALLY NECESSARY CONTACT LENSES”
  - PRINT THE PDF VERSION AND KEEP IT AVAILABLE TO ANSWER QUESTIONS

VSP® : QUALIFIED DIAGNOSES

- APHAKIA
- NYSTAGMUS
- KERATOCONUS
- ANIRIDIA
- CORNEA TRANSPLANT
- HEREDITARY CORNEAL DYSTROPHIES
- ANISOMETROPIA ≥ 3.00 D IN ANY MERIDIAN
- AMMETROPIA ≥ 10.00D IN ANY MERIDIAN
- IRREGULAR ASTIGMATISM

VSP® : QUALIFIED DIAGNOSES

- ACHROMATOPSIA
- ALBINISM
- POLYCHORIA, ANISOCORIA (CONGENITAL)
- PUPILLARY ABNORMALITIES

VSP® : EXCLUSIONS

- CORNEAL REFRACTIVE THERAPY, ORTHOKERATOLOGY, AND CONTACT LENSES FOR MYOPIA MANAGEMENT ARE NOT COVERED UNDER NECESSARY CONTACTS, COVERED CONTACT LENSES, OR THE VSP ELEMENTS PLAN.
  - PATIENTS CAN USE THEIR ELECTIVE CONTACT LENSES ALLOWANCE TOWARDS THE COST OF CORNEAL REFRACTIVE THERAPY, ORTHOKERATOLOGY, OR MYOPIA MANAGEMENT CONTACT LENS MATERIALS ONLY. THE CONTACT LENS FITTING AND EVALUATION PORTION OF THE TREATMENT IS A PRIVATE TRANSACTION BETWEEN YOU AND THE PATIENT.
- OTHER THINGS

VSP® VISUALLY NECESSARY CONTACT LENSES

- VISUALLY NECESSARY CONTACT LENSES AREN'T TYPICALLY COVERED FOR PATIENTS WHO HAVE RECEIVED ANY ELECTIVE COSMETIC EYE SURGERY (E.G., LASIK, PRK, OR RK). HOWEVER, PROCEDURES RESULTING WITH CONCERNS SUCH AS ECTASIA, SCARRING OR IRREGULAR CORNEAS CAUSING VISION PROBLEMS THAT REQUIRE CONTACT LENSES TO PROVIDE FUNCTIONAL VISION, ARE COVERED UNDER THE NCL BENEFIT, SO LONG AS PATIENTS MEET THE NCL CRITERIA.
- IRREGULAR ASTIGMATISM BILLED IN THE PRIMARY POSITION AS THE CHIEF MEDICAL COMPLAINT DOES NOT MEET NCL COVERAGE CRITERIA. IRREGULAR ASTIGMATISM IS A CONDITION CAUSED BY OTHER UNDERLYING DISORDERS.
- FEES BILLED TO VSP FOR ALL CONTACT LENS PLAN BENEFITS MUST BE CONSISTENT WITH YOUR U&C CHARGES, REGARDLESS OF THE PATIENT'S COVERAGE OR ALLOWANCES.

VSP® VISUALLY NECESSARY CONTACT LENSES

- TO SUBSTANTIATE BILLING FOR KERATOCONUS, BE SURE YOUR RECORDS INCLUDE: PATIENT HISTORY; K READINGS; BCVA WITH REFRACTION; SLIT LAMP EXAMINATION OF THE CORNEA; CORNEAL TOPOGRAPHY OR ANTERIOR OCT OF THE CORNEA.
- ENSURE THAT YOUR MEDICAL RECORDS ACCURATELY SUPPORT THE DIAGNOSIS SUBMITTED ON THE CLAIM WHEN BILLING FOR VISUALLY NECESSARY CONTACT LENSES. BY DOING SO YOUR PAYMENT WILL NOT BE DENIED IF THE DIAGNOSIS BILLED IS SUBSTANTIATED BY THE CLINICAL FINDINGS DOCUMENTED IN THE PATIENT'S RECORD.
- FAILURE TO RECORD YOUR CONTACT LENS EVALUATIONS, FITTINGS AND FOLLOW-UPS MAY RESULT IN THE DENIAL OF PAYMENT FOR SERVICES.
- DO NOT BALANCE BILL YOUR PATIENT THE DIFFERENCE BETWEEN VSP'S ALLOWED AMOUNTS AND YOUR U&C FEES FOR MATERIALS. EXAM AND MATERIAL (SPECTACLE LENSES AND FRAME) COPAYS APPLY UNLESS OTHERWISE SPECIFIED. ANY FITTING FEES INCURRED AFTER THE INITIAL 90 DAY PERIOD ARE CONSIDERED A PRIVATE MATTER BETWEEN YOU AND THE PATIENT.

VSP® VISUALLY NECESSARY CONTACT LENSES

- FILE ON E-CLAIM
- FOR ANISOMETROPIA AND HIGH AMMETROPIA, PROVIDE THE SPECTACLE RX
- FOR SCLERAL LENSES, USE HCPCS V2531
  - DO NOT USE THE V2530; ONLY USE THE V2531
- BILL HYBRID LENSES WITH HCPCS V2599
- FOR SCLERAL AND HYBRID LENSES, PROVIDE THE BRAND AND TYPE IN BOX 19
  - STATE WHETHER OR NOT THE LENS IS A “SCLERAL” OR HYBRID”
  - PROVIDE THE MANUFACTURER AND THE BRAND
- USE THE V2599 FOR LENSES THAT DO NOT HAVE A HCPCS CODE
  - HAND PAINTED LENSES, ETC.

VSP® VISUALLY NECESSARY CONTACT LENSES

- PIGGYBACK BENEFIT IS AVAILABLE FOR A PATIENT WHO MEETS THE PREVIOUSLY DISCUSSED CRITERIA, AND WHO IS INTOLERANT OF GP LENSES
  - PROVIDE INFORMATION ON PIGGYBACK LENS IN BOX 19
- SPECTACLE LENSES TO WEAR OVER CONTACTS BENEFIT
  - APHAKIA
  - HIGH AMMETROPIA ≥ 10.00D
  - PRESBYOPIA
  - ACCOMMODATIVE DISORDER
  - BINOCULAR FUNCTION DISORDER
  - DIFFERENT PRISM REQUIREMENTS FOR DISTANCE AND NEAR
  - PRESCRIPTION REQUIRED
  - CALL VSP® (800-615-1883) FOR CLAIM NUMBER
  - 30 DAY TIME LIMIT
- 85% OF USUAL AND CUSTOMARY CHARGES FOR “CONTACT LENS EXAM SERVICES (FITTING AND EVALUATION)”

VSP®: VISUALLY NECESSARY CONTACT LENSES

- THE BASIC EXAMINATION IS BILLED AND PAYABLE PER THE TERMS OF THE PLAN
- VSP REIMBURSES 85% OF USUAL AND CUSTOMARY CHARGES FOR "CONTACT LENS EXAM SERVICES (FITTING AND EVALUATION)"
- VSP REIMBURSES USUAL AND CUSTOMARY FEES FOR MATERIALS UP TO THE PLAN LIMITS
  - TWO SCHEDULES ON PLAN LIMITS
    - COVERED AND BASE VISUALLY NECESSARY CL MAXIMUMS
    - VISUALLY NECESSARY CL SPECIALTY MAXIMUMS
      - SERVICE DRIVEN OR DIAGNOSIS DRIVEN (SEE CHART)
      - MUST BILL 92072, 92311, OR 92312 OR ONE OF THE DIAGNOSES
- THE PATIENT IS RESPONSIBLE FOR EXAM AND MATERIAL COPAYMENTS

VSP® VISUALLY NECESSARY CONTACT LENSES

Covered and Base Visually Necessary Contact Lens Maximums			
HCPCS	Annual Replacement[1]	Planned Replacement[1]	Daily Replacement[1]
V2500*	$251	—	—
V2501*	$251	—	—
V2502*	$385	—	—
V2503*	$491	—	—
V2510*	$405	—	—
V2511*	$450	—	—
V2512*	$650	—	—
V2513*	$750	—	—
V2520	$500	—	—
V2521	$375	$525	$750
V2522	$525	$650	$810
V2523	$537	$650	$1000
V2530*	$475	$600	$625
V2531*	$499	—	—
V2599**	$987	—	—
Piggyback	$1,150	$1,500	—

VSP® VISUALLY NECESSARY CONTACT LENSES

Visually Necessary Contact Lens Specialty Maximums			
HCPCS	Annual Replacement[1]	Planned Replacement[1]	Daily Replacement[1]
V2500*	$451	—	—
V2501*	$585	—	—
V2502*	$691	—	—
V2503*	$605	—	—
V2510*	$657	—	—
V2511*	$800	—	—
V2512*	$900	—	—
V2513*	$825	—	—
V2520	$500	$650	—
V2521	$679	$804	—
V2522	$750	$863	—
V2523	$650	$775	$800
V2530*	$700	—	—
V2531*	$2,300	—	—
V2599**	$1,300	$1,650	—
Piggyback	$1,300	$1,650	—

VSP® VISUALLY NECESSARY CONTACT LENSES

[1]Annual Replacement is 1-2 units. Planned Replacement is 3-360 units. Daily Replacement is 361+ units.

*These services shouldn't be billed for more than 2 units. If billed with higher unit counts, we'll pay up to the Annual Replacement lens maximum.

**These services shouldn't be billed for more than 360 units. If billed with higher unit counts, we'll pay up to the Planned Replacement lens maximum.

***Effective 2/6/2012, maximum reimbursement increased to $2,300. For dates of service between 10/1/2011 and 2/5/2012 maximum reimbursement is $1,300.

****As of 7/16/2012, V2520, V2521, and V2522 with units of 361+ are not covered under the Specialty Maximums. For dates of service between 10/1/2011 to 7/15/2012 maximum reimbursement is: V2520= $698; V2521= $833; V2522= $950.

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

- CLICK HTTPS://EYEMED.COM/EN-US/PROVIDER LOG INTO SITE
- CLICK ON “PROVIDER SIGN IN”
- CLICK ON “PROVIDER MANUAL”
- GO TO PAGE 19

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

- ANISOMETROPIA ≥ 3.00D
- HIGH AMETROPIA ≥ +/- 10.00D
- KERATOCONUS
- VISION IMPROVEMENT OTHER THAN KERATOCONUS FOR MEMBERS WHOSE VISION CAN BE CORRECTED BY TWO LINES ON THE VISUAL ACUITY CHART WHEN COMPARED TO THE BEST CORRECTED STANDARD SPECTACLE LENSES.
- PEDIATRIC ANIRIDIA (CA ONLY)
- PEDIATRIC APHAKIA (CA ONLY)
- PEDIATRIC CORNEAL DISORDER OR POST-TRAUMATIC DISORDER (CA HEALTH NET)
- PEDIATRIC PATHOLOGICAL MYOPIA (CA HEALTH NET)

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

- KERATOCONUS
  - **EMERGING/MILD:** CONTACT LENSES IN THIS TIER ARE ANTICIPATED TO INCLUDE, HOWEVER NOT BE LIMITED TO, SCLERAL, SEMI-SCLERAL AND HYBRID DESIGNS/MATERIALS. THE BELOW SEVERITY SCALE APPLIES: MULTIPLE SPECTACLE REMAKES
  - UNSTABLE TOPOGRAPHY
  - LIGHT SENSITIVITY/GLARE ISSUES
  - SIGNS INCLUDING FLEISCHER RING, VOGT'S STRIAE AND SCISSOR REFLEX WITH RETINOSCOPY
  - NO SCARRING
  - TOPOGRAPHY (STEEP K <53D)
  - CORNEAL THICKNESS >475 MICRONS

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

- KERATOCONUS
  - **MODERATE/SEVERE**: PATIENTS WHO BEGIN IN THE EMERGING OR MILD CATEGORIES AND ARE NOT SUCCESSFUL WITH CONTACT LENS MATERIALS AND KERATOCONUS DESIGNS MAY BE ELEVATED INTO THIS MODERATE/SEVERE TIER. CONTACT LENSES IN THIS TIER ARE ANTICIPATED TO INCLUDE HOWEVER NOT BE LIMITED TO SCLERAL, SEMI-SCLERAL AND HYBRID DESIGNS/MATERIALS. PATIENTS WHO QUALIFY AS MODERATE/SEVERE WILL HAVE ALL OF THE EMERGING/MILD SYMPTOMS, PLUS MILD TO NO SCARRING OR SOME SCARRING
  - TOPOGRAPHY (STEEP K OF 53D OR HIGHER)
  - CORNEAL THICKNESS UP TO 475 MICRONS
  - REFRACTION NOT MEASURABLE

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

- ONE BENEFIT PER CALENDAR YEAR
- CALL 888-581-3648 FOR AUTHORIZATION
- REPORT ON A EYEMED NECESSARY CONTACT LENS FORM (DOWNLOAD) AND FAX TO 866-293-7373

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

Qualifying Criteria	Contracted Provider Reimbursement
Anisometropia	95% of U&C up to $700
High Ammetropia	95% of U&C up to $700
Keratoconus	95% of U&C up to $1,200 (Mild/Moderate) 95% of U&C up to $2,500 (Advanced/Ectasia)
Vision Improvement	95% of U&C up to $2,500

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

Qualifying Criteria (Only in CA for Pediatric Plan)	Contracted Provider Reimbursement
Pediatric Aniridia	95% of U&C up to $3,730
Pediatric Aphakia	95% of U&C up to $5,800
Pediatric Corneal & Post-Trauma Disorder (Billed as Visual Improvement)	95% of U&C up to $2,500
Pediatric Pathological Myopia	95% of U&C up to $700

EYEMED™ MEDICALLY NECESSARY CONTACT LENS BENEFIT

Qualifying Criteria	Non-Standard Medically Necessary Contact Lens Codes*
Anisometropia	92310AN
High Ametropia	92310HA
Keratoconus	92072
Vision Improvement	92310VI
Pediatric Aniridia	92310AI
Pediatric Aphakia	92310AP
Pediatric Corneal Post-Trauma Disorder	92310VI
Pediatric Pathological Myopia	92310PM

EYEMED™ MEDICALLY NECESSARY CONTACT LENS CLAIM FORM

First American Administrators, Inc.
A wholly owned subsidiary of EyeMed Vision Care, LLC.
Medically Necessary Contact Lens
In-network Claim Form

Instructions: Complete this form and fax it to 866.293.7373, or mail to EyeMed Vision Care, P.O. Box 8504, Cincinnati, OH 45040. All fields required unless noted.

Patient Information			
Last Name	**First Name**		**Middle Initial**
Street Address	**City**	**State**	**Zip Code**
Birth Date (*MM/DD/YYYY*)	**Telephone Number with area code**		
Relationship to subscriber (check one) ☐ Self ☐ Spouse ☐ Child ☐ Other			
Date of Service (*MM/DD/YYYY*)			
Group Name	**Group Number**		
Patient Member ID # (*if applicable*)			
Subscriber Information (if information differs from patient)			
Last Name	**First Name**		**Middle Initial**
Street Address	**City**	**State**	**Zip Code**
Birth Date (*MM/DD/YYYY*)	**Telephone Number with area code**		
Provider Information			
Provider Attestation: By signing below, I attest that the patient meets the requirements to receive medically necessary contact lenses per the criteria on this form, and that the patient is unable to achieve adequate functional vision without contact lenses.			
Servicing location name and address			
Provider Tax ID Number	**Date submitted**		
Servicing Provider Name (printed)	**Provider Signature**		

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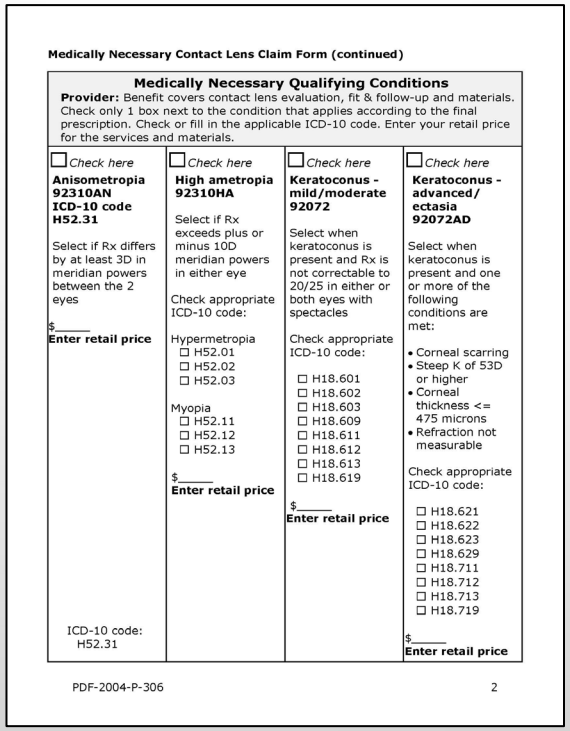

Medically Necessary Contact Lens Claim Form (continued)

Medically Necessary Qualifying Conditions

Provider: Benefit covers contact lens evaluation, fit & follow-up and materials. Check only 1 box next to the condition that applies according to the final prescription. Check or fill in the applicable ICD-10 code. Enter your retail price for the services and materials.

☐ *Check here*	☐ *Check here*	☐ *Check here*	☐ *Check here*
Anisometropia **92310AN** **ICD-10 code** **H52.31** Select if Rx differs by at least 3D in meridian powers between the 2 eyes $_____ **Enter retail price** ICD-10 code: H52.31	**High ametropia** **92310HA** Select if Rx exceeds plus or minus 10D meridian powers in either eye Check appropriate ICD-10 code: Hypermetropia ☐ H52.01 ☐ H52.02 ☐ H52.03 Myopia ☐ H52.11 ☐ H52.12 ☐ H52.13 $_____ **Enter retail price**	**Keratoconus - mild/moderate** **92072** Select when keratoconus is present and Rx is not correctable to 20/25 in either or both eyes with spectacles Check appropriate ICD-10 code: ☐ H18.601 ☐ H18.602 ☐ H18.603 ☐ H18.609 ☐ H18.611 ☐ H18.612 ☐ H18.613 ☐ H18.619 $_____ **Enter retail price**	**Keratoconus - advanced/ ectasia** **92072AD** Select when keratoconus is present and one or more of the following conditions are met: • Corneal scarring • Steep K of 53D or higher • Corneal thickness <= 475 microns • Refraction not measurable Check appropriate ICD-10 code: ☐ H18.621 ☐ H18.622 ☐ H18.623 ☐ H18.629 ☐ H18.711 ☐ H18.712 ☐ H18.713 ☐ H18.719 $_____ **Enter retail price**

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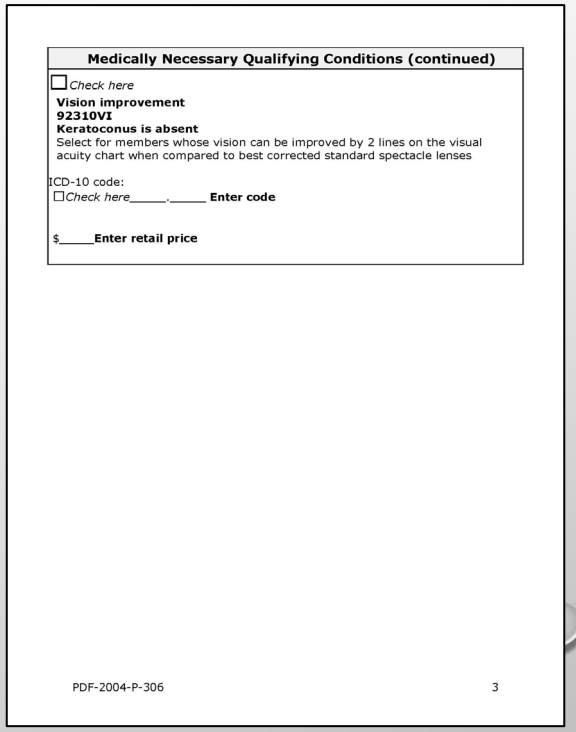

Medically Necessary Qualifying Conditions (continued)

☐ *Check here*
Vision improvement
92310VI
Keratoconus is absent
Select for members whose vision can be improved by 2 lines on the visual acuity chart when compared to best corrected standard spectacle lenses

ICD-10 code:
☐*Check here*_____._____ **Enter code**

$_____**Enter retail price**

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EYEMED™ MEDICALLY NECESSARY CONTACT LENS CLAIM FORM

First American Administrators, Inc.
A wholly owned subsidiary of EyeMed Vision Care, LLC.
Medically Necessary Contact Lens
In-network Claim Form

Instructions: Complete this form and fax it to 866.293.7373, or mail to EyeMed Vision Care, P.O. Box 8504, Cincinnati, OH 45040. All fields required unless noted.

Patient Information			
Last Name	**First Name**		**Middle Initial**
Street Address	**City**	**State**	**Zip Code**
Birth Date (*MM/DD/YYYY*)	**Telephone Number with area code**		
Relationship to subscriber (check one) ☐ Self ☐ Spouse ☐ Child ☐ Other			
Date of Service (*MM/DD/YYYY*)			
Group Name	**Group Number**		
Patient Member ID # (*if applicable*)			
Subscriber Information (if information differs from patient)			
Last Name	**First Name**		**Middle Initial**
Street Address	**City**	**State**	**Zip Code**
Birth Date (*MM/DD/YYYY*)	**Telephone Number with area code**		

Provider Information	
Provider Attestation: By signing below, I attest that the patient meets the requirements to receive medically necessary contact lenses per the criteria on this form, and that the patient is unable to achieve adequate functional vision without contact lenses.	
Servicing location name and address	
Provider Tax ID Number	**Date submitted**
Servicing Provider Name (printed)	**Provider Signature**

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EYEMED™ MEDICALLY NECESSARY CONTACT LENS CLAIM FORM

Medically Necessary Contact Lens Claim Form (continued)

Medically Necessary Qualifying Conditions

Provider: Benefit covers contact lens evaluation, fit & follow-up and materials. Check only 1 box next to the condition that applies according to the final prescription. Check or fill in the applicable ICD-10 code. Enter your retail price for the services and materials.

☐ *Check here*	☐ *Check here*	☐ *Check here*	☐ *Check here*
Anisometropia **92310AN** **ICD-10 code** **H52.31** Select if Rx differs by at least 3D in meridian powers between the 2 eyes $_____ **Enter retail price** ICD-10 code: H52.31	**High ametropia** **92310HA** Select if Rx exceeds plus or minus 10D meridian powers in either eye Check appropriate ICD-10 code: Hypermetropia ☐ H52.01 ☐ H52.02 ☐ H52.03 Myopia ☐ H52.11 ☐ H52.12 ☐ H52.13 $_____ **Enter retail price**	**Keratoconus - mild/moderate** **92072** Select when keratoconus is present and Rx is not correctable to 20/25 in either or both eyes with spectacles Check appropriate ICD-10 code: ☐ H18.601 ☐ H18.602 ☐ H18.603 ☐ H18.609 ☐ H18.611 ☐ H18.612 ☐ H18.613 ☐ H18.619 $_____ **Enter retail price**	**Keratoconus - advanced/ ectasia** **92072AD** Select when keratoconus is present and one or more of the following conditions are met: • Corneal scarring • Steep K of 53D or higher • Corneal thickness <= 475 microns • Refraction not measurable Check appropriate ICD-10 code: ☐ H18.621 ☐ H18.622 ☐ H18.623 ☐ H18.629 ☐ H18.711 ☐ H18.712 ☐ H18.713 ☐ H18.719 $_____ **Enter retail price**

EYEMED™ MEDICALLY NECESSARY CONTACT LENS CLAIM FORM

Medically Necessary Qualifying Conditions (continued)
☐ *Check here* **Vision improvement** **92310VI** **Keratoconus is absent** Select for members whose vision can be improved by 2 lines on the visual acuity chart when compared to best corrected standard spectacle lenses ICD-10 code: ☐*Check here*_____._____ **Enter code** $_____**Enter retail price**

SPECTERA® NECESSARY CONTACT LENSES BENEFIT

- GO TO WWW.SPECTERA.COM/
- LOG IN
- SELECT “PLAN RESOURCES”
- SELECT “NETWORK ADMINISTRATION MANUAL”
- GO TO PAGE 9, READ THROUGH THIS PARAGRAPH, AND SELECT “BILLING GUIDE”
- BILLING GUIDE FOR NECESSARY CONTACT LENSES IS ON PAGE 43

SPECTERA® NECESSARY CONTACT LENS BENEFIT POLICY

NECESSARY CONTACTS ARE COVERED IN FULL FOR MEMBERS AFTER ANY APPLICABLE COPAY. CLAIMS FOR NECESSARY CONTACTS MUST BE SUBMITTED PER THE INSTRUCTIONS IN OUR BILLING GUIDE. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENS FITTING AND EVALUATION SERVICES ARE CAPPED AT $500. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENSES ARE CAPPED AT $1,500. IF YOUR COSTS EXCEED THE CONTRACTED REIMBURSEMENT AMOUNT, COMPLETE THE SUPPORTING DOCUMENTATION FORM– NECESSARY CONTACT LENSES AND SERVICES AND INCLUDE DOCUMENTATION OF YOUR ACTUAL ACQUISITION COST. AN INVOICE OR ORDER FORM RECEIPT IS ACCEPTABLE DOCUMENTATION. TOTAL PAYMENT WILL NOT EXCEED 125% OF ACQUISITION COST OF THE NECESSARY CONTACT LENSES, LESS ANY MEMBER EXPENSES. APPROVALS WILL BE BASED ON REVIEW OF THE COMPLETED FORM AND THE ORIGINAL CLAIM.

SPECTERA® NECESSARY CONTACT LENS BENEFIT POLICY

NECESSARY CONTACTS ARE COVERED IN FULL FOR MEMBERS AFTER ANY APPLICABLE COPAY. CLAIMS FOR NECESSARY CONTACTS MUST BE SUBMITTED PER THE INSTRUCTIONS IN OUR BILLING GUIDE. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENS FITTING AND EVALUATION SERVICES ARE CAPPED AT $500. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENSES ARE CAPPED AT $1,500. IF YOUR COSTS EXCEED THE CONTRACTED REIMBURSEMENT AMOUNT, COMPLETE THE SUPPORTING DOCUMENTATION FORM– NECESSARY CONTACT LENSES AND SERVICES AND INCLUDE DOCUMENTATION OF YOUR ACTUAL ACQUISITION COST. AN INVOICE OR ORDER FORM RECEIPT IS ACCEPTABLE DOCUMENTATION. TOTAL PAYMENT WILL NOT EXCEED 125% OF ACQUISITION COST OF THE NECESSARY CONTACT LENSES, LESS ANY MEMBER EXPENSES. APPROVALS WILL BE BASED ON REVIEW OF THE COMPLETED FORM AND THE ORIGINAL CLAIM.

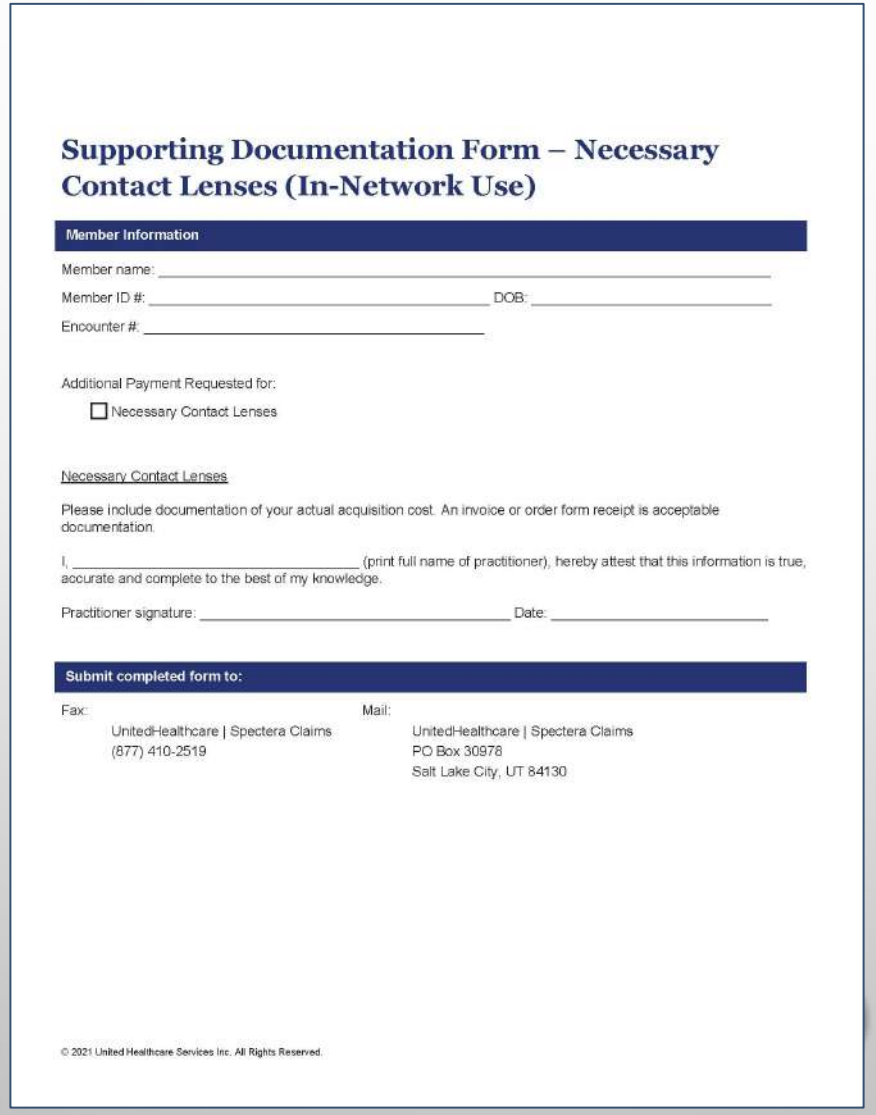
SPECTERA® NECESSARY CONTACT LENS BENEFIT POLICY

NECESSARY CONTACTS ARE COVERED IN FULL FOR MEMBERS AFTER ANY APPLICABLE COPAY. CLAIMS FOR NECESSARY CONTACTS MUST BE SUBMITTED PER THE INSTRUCTIONS IN OUR BILLING GUIDE. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENS FITTING AND EVALUATION SERVICES ARE CAPPED AT $500. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENSES ARE CAPPED AT $1,500. IF YOUR COSTS EXCEED THE CONTRACTED REIMBURSEMENT AMOUNT, COMPLETE THE SUPPORTING DOCUMENTATION FORM– NECESSARY CONTACT LENSES AND SERVICES AND INCLUDE DOCUMENTATION OF YOUR ACTUAL ACQUISITION COST. AN INVOICE OR ORDER FORM RECEIPT IS ACCEPTABLE DOCUMENTATION. TOTAL PAYMENT WILL NOT EXCEED 125% OF ACQUISITION COST OF THE NECESSARY CONTACT LENSES, LESS ANY MEMBER EXPENSES. APPROVALS WILL BE BASED ON REVIEW OF THE COMPLETED FORM AND THE ORIGINAL CLAIM.

SPECTERA® NECESSARY CONTACT LENS BENEFIT POLICY

NECESSARY CONTACTS ARE COVERED IN FULL FOR MEMBERS AFTER ANY APPLICABLE COPAY. CLAIMS FOR NECESSARY CONTACTS MUST BE SUBMITTED PER THE INSTRUCTIONS IN OUR BILLING GUIDE. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENS FITTING AND EVALUATION SERVICES ARE CAPPED AT $500. REIMBURSEMENT RATES FOR NECESSARY CONTACT LENSES ARE CAPPED AT $1,500. IF YOUR COSTS EXCEED THE CONTRACTED REIMBURSEMENT AMOUNT, COMPLETE THE SUPPORTING DOCUMENTATION FORM– NECESSARY CONTACT LENSES AND SERVICES AND INCLUDE DOCUMENTATION OF YOUR ACTUAL ACQUISITION COST. AN INVOICE OR ORDER FORM RECEIPT IS ACCEPTABLE DOCUMENTATION. TOTAL PAYMENT WILL NOT EXCEED 125% OF ACQUISITION COST OF THE NECESSARY CONTACT LENSES, LESS ANY MEMBER EXPENSES. APPROVALS WILL BE BASED ON REVIEW OF THE COMPLETED FORM AND THE ORIGINAL CLAIM.

UNITED HEALTHCARE™ / SPECTERA® MEDICALLY NECESSARY CONTACT LENS CLAIM FORM



Supporting Documentation Form – Necessary Contact Lenses (In-Network Use)

Member Information

Member name: _____

Member ID #: _____ DOB: _____

Encounter #: _____

Additional Payment Requested for:

☐ Necessary Contact Lenses

Necessary Contact Lenses

Please include documentation of your actual acquisition cost. An invoice or order form receipt is acceptable documentation.

I, _____ (print full name of practitioner), hereby attest that this information is true, accurate and complete to the best of my knowledge.

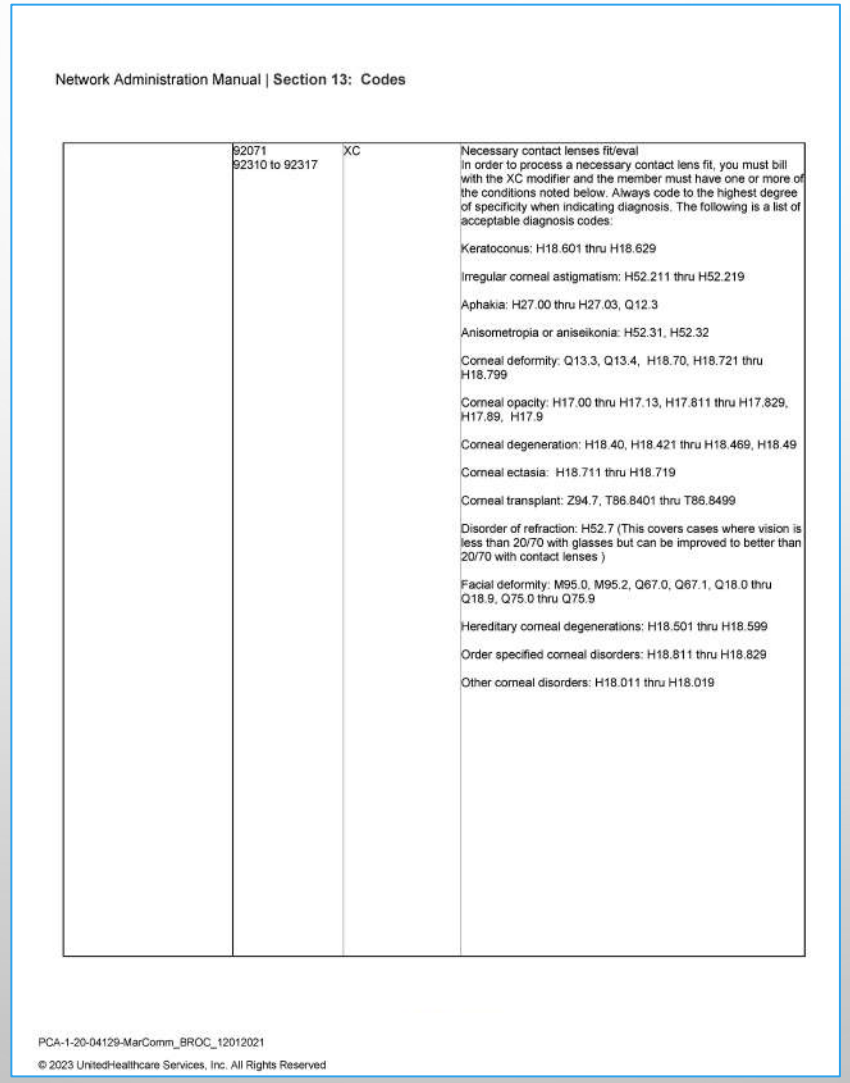
Practitioner signature: _____ Date: _____

Submit completed form to:

Fax:
UnitedHealthcare | Spectera Claims
(877) 410-2519

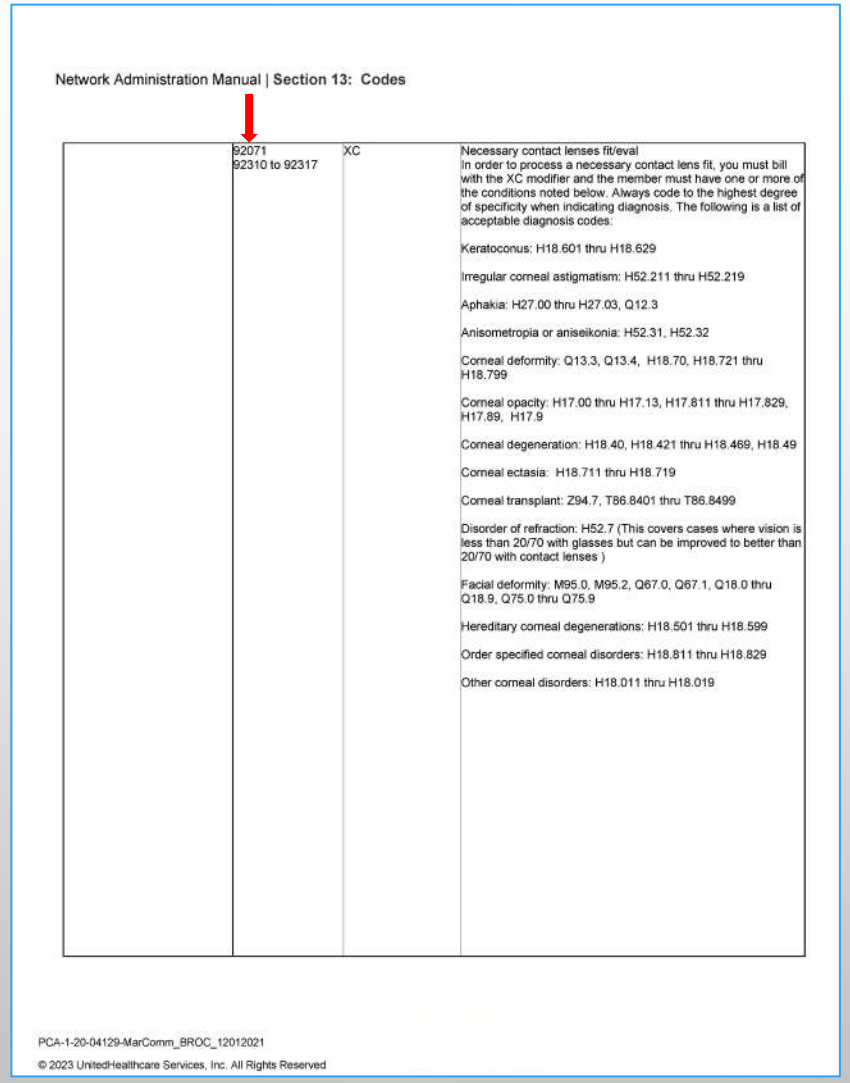
Mail:
UnitedHealthcare | Spectera Claims
PO Box 30978
Salt Lake City, UT 84130

SPECTERA® MANUAL, PAGE 43



	92071 92310 to 92317	XC	Necessary contact lenses fit/eval In order to process a necessary contact lens fit, you must bill with the XC modifier and the member must have one or more of the conditions noted below. Always code to the highest degree of specificity when indicating diagnosis. The following is a list of acceptable diagnosis codes: Keratoconus: H18.601 thru H18.629 Irregular corneal astigmatism: H52.211 thru H52.219 Aphakia: H27.00 thru H27.03, Q12.3 Anisometropia or aniseikonia: H52.31, H52.32 Corneal deformity: Q13.3, Q13.4, H18.70, H18.721 thru H18.799 Corneal opacity: H17.00 thru H17.13, H17.811 thru H17.829, H17.89, H17.9 Corneal degeneration: H18.40, H18.421 thru H18.469, H18.49 Corneal ectasia: H18.711 thru H18.719 Corneal transplant: Z94.7, T86.8401 thru T86.8499 Disorder of refraction: H52.7 (This covers cases where vision is less than 20/70 with glasses but can be improved to better than 20/70 with contact lenses) Facial deformity: M95.0, M95.2, Q67.0, Q67.1, Q18.0 thru Q18.9, Q75.0 thru Q75.9 Hereditary corneal degenerations: H18.501 thru H18.599 Order specified corneal disorders: H18.811 thru H18.829 Other corneal disorders: H18.011 thru H18.019

SPECTERA® MANUAL, PAGE 43



Network Administration Manual | **Section 13: Codes**

	92071 92310 to 92317	XC	Necessary contact lenses fit/eval In order to process a necessary contact lens fit, you must bill with the XC modifier and the member must have one or more of the conditions noted below. Always code to the highest degree of specificity when indicating diagnosis. The following is a list of acceptable diagnosis codes: Keratoconus: H18.601 thru H18.629 Irregular corneal astigmatism: H52.211 thru H52.219 Aphakia: H27.00 thru H27.03, Q12.3 Anisometropia or aniseikonia: H52.31, H52.32 Corneal deformity: Q13.3, Q13.4, H18.70, H18.721 thru H18.799 Corneal opacity: H17.00 thru H17.13, H17.811 thru H17.829, H17.89, H17.9 Corneal degeneration: H18.40, H18.421 thru H18.469, H18.49 Corneal ectasia: H18.711 thru H18.719 Corneal transplant: Z94.7, T86.8401 thru T86.8499 Disorder of refraction: H52.7 (This covers cases where vision is less than 20/70 with glasses but can be improved to better than 20/70 with contact lenses) Facial deformity: M95.0, M95.2, Q67.0, Q67.1, Q18.0 thru Q18.9, Q75.0 thru Q75.9 Hereditary corneal degenerations: H18.501 thru H18.599 Order specified corneal disorders: H18.811 thru H18.829 Other corneal disorders: H18.011 thru H18.019

PCA-1-20-04129-MarComm_BROC_12012021

92071 AND 92072 ON SPECTERA®

- THE MANUAL, AT PAGE 43, ONLY STATES THAT THE CPT CODE, 92071: (FITTING OF CONTACT LENS FOR THE TREATMENT OF OCULAR SURFACE DISEASE) AS THE ONLY APPROVED 9207X CODE. THIS NOTATION IS AN ERROR
- THE CPT CODE, 92072: (FITTING OF CONTACT LENS FOR MANAGEMENT OF KERATOCONUS, INITIAL FITTING) IS APPROVED BY SPECTERA®
- IT IS ALSO NECESSARY TO UNDERSTAND THAT SPECTERA® ALSO COVERS THE CPT 92071: (FITTING OF CONTACT LENS FOR THE TREATMENT OF OCULAR SURFACE DISEASE)

SPECTERA® LIMITED DATA SET

- KERATOCONUS: H18.601 THROUGH H18.629
- IRREGULAR CORNEAL ASTIGMATISM: H52.211 THROUGH H52.219
- APHAKIA: H27.00 THROUGH H27.03, Q12.3
- ANISOMETROPIA OR ANISEIKONIA: H52.31, H52.32
- CORNEAL DEFORMITY: Q13.3, Q13.4, H18.70, H18.721 THROUGH H18.799
- CORNEAL OPACITY: H17.00 THROUGH H17.13, H17.811 THROUGH H17.829, H17.89, H17.9

SPECTERA® LIMITED DATA SET

- CORNEAL DEGENERATION: H18.40, H18.421 THROUGH H18.469, H18.49
- CORNEAL ECTASIA: H18.711 THROUGH H18.719
- CORNEAL TRANSPLANT: Z94.7, T86.8401 THROUGH T86.8499
- DISORDER OF REFRACTION: H52.7 (THIS COVERS CASES WHERE VISION IS LESS THAN 20/70 WITH GLASSES BUT CAN BE IMPROVED TO BETTER THAN 20/70 WITH CONTACT LENSES.)
- FACIAL DEFORMITY: M95.0, M95.2, Q67.0, Q67.1, Q18.0 THROUGH Q18.9, Q75.0 THROUGH Q75.9
- HEREDITARY CORNEAL DEGENERATIONS: H18.501 THROUGH H18.599
- OTHER-SPECIFIED CORNEAL DISORDERS: H18.811 THROUGH H18.829
- OTHER CORNEAL DISORDERS: H18.011 THROUGH H18.019

SPECTERA® NECESSARY CONTACT LENS MODIFIERS

- SPECTERA® REQUIRES THE APPLICATION OF THE "–XC" MODIFIER BE APPENDED TO BOTH THE SERVICES AND THE MATERIALS TO QUALIFY AS PART OF THE NECESSARY CONTACT LENS BENEFIT
- FOR ROUTINE CONTACT LENS SERVICES, ONE SHOULD USE:
  - "–CM" (COVERED SELECTION MONTHLY PLANNED REPLACEMENT [FORMULARY])
  - "–CD" (COVERED SELECTION DISPOSABLE CONTACTS/BI-WEEKLY AND DAILY WEAR [FORMULARY])
  - "–ND" (NON-SELECTION DISPOSABLE CONTACTS [NON-FORMULARY])

SUPERIOR VISION™ NON ELECTIVE/MEDICALLY NECESSARY CONTACT LENS BENEFIT

- GO TO WWW.SUPERIORVISION.COM
- CLICK “EYE CARE PROFESSIONAL LOG IN”
- LOG IN WITH USER NAME AND PASSWORD
- CLICK “PROVIDER RESOURCES” DOWN THE LEFT HAND SIDE
- CLICK “EMPLOYER GROUP”
- CLICK “FORMS AND PUBLICATIONS”
- CLICK ON “MEDICALLY NECESSARY CONTACT LENS CLAIM REIMBURSEMENT AUTHORIZATION FORM”

SUPERIOR VISION™ NON ELECTIVE/MEDICALLY NECESSARY CONTACT LENS BENEFIT

- EFFECTIVE JANUARY 1, 2023
- ONLY APPLIES TO THE SUPERIOR VISION COMMERCIAL LINE OF BUSINESS
- DOES NOT AFFECT THE DAVIS VISION LINE OF BUSINESS
- SUBJECT TO AUDIT

SUPERIOR VISION™ NON ELECTIVE/MEDICALLY NECESSARY CONTACT LENS BENEFIT

Condition	Max Allowable charge
Dry eye syndrome	Up to $1,200
Keratitis	Up to $700
Keratoconus (Unstable)	Up to $2,500
Keratoconus (Stable)	Up to $1,200
Pediatric Corneal Disorder & Post Traumatic Disorder	Up to $700
Erosion	Up to $700
Pediatric Aphakia	Up to $700
Pediatric Pathological Myopia	Up to $700

SUPERIOR VISION™ NON ELECTIVE/MEDICALLY NECESSARY CONTACT LENS BENEFIT

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Dry eye syndrome	Up to $1,200
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Pediatric Corneal Disorder & Post Traumatic Disorder	Up to $700
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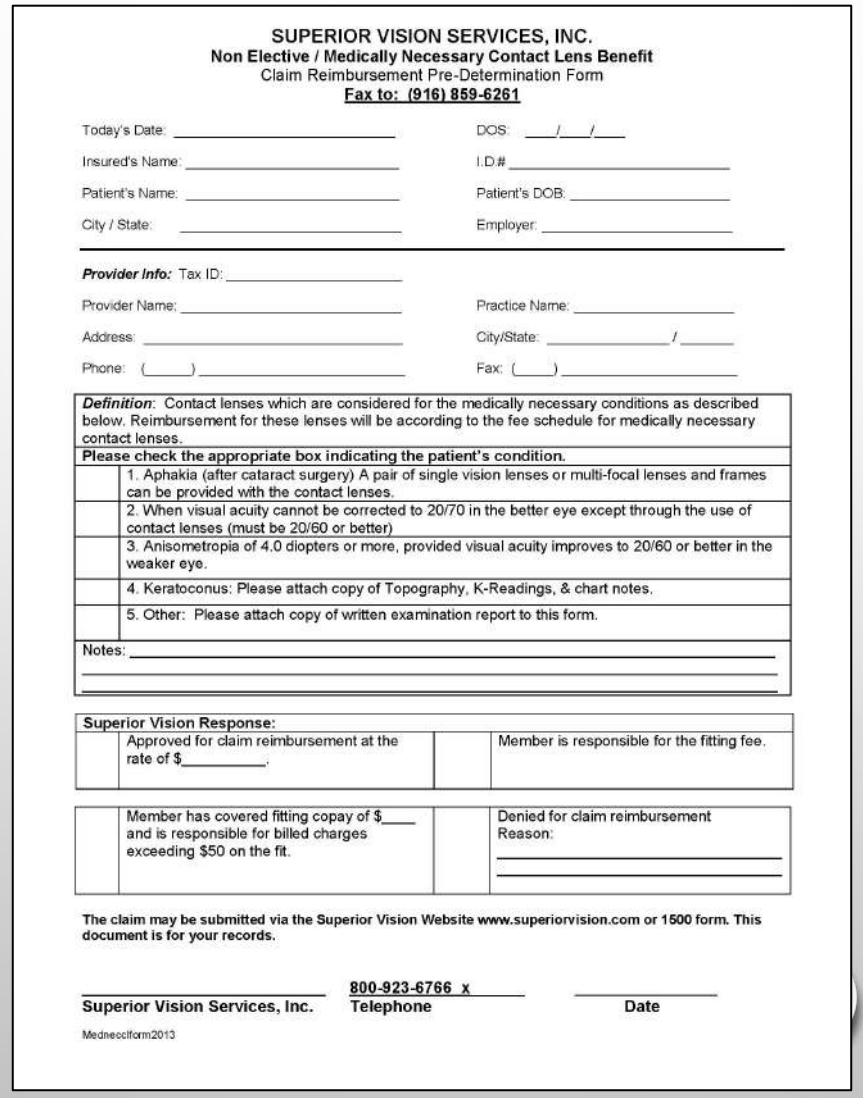
Pediatric Aphakia	Up to $700
Pediatric Pathological Myopia	Up to $700

SUPERIOR VISION™ NON ELECTIVE/MEDICALLY NECESSARY CONTACT LENS BENEFIT

Condition	Max Allowable charge
High Ametropia	Up to $700
Hypermetropia	Up to $700
Myopia	Up to $700
Irregular Astigmatism	Up to $1,000
Anisometropia	Up to $700
Sjögren syndrome	Up to $700
Vision Improvement	N/A
Congenital malformations of anterior segment of eye	Up to $700
Pediatric Aniridia	Up to $3,700
Injury of conjunctiva and corneal abrasion w/out foreign body	Up to $700
Foreign body in cornea	Up to $700

SUPERIOR VISION NON ELECTIVE/MEDICALLY NECESSARY CONTACT LENS BENEFIT



SUPERIOR VISION SERVICES, INC.
Non Elective / Medically Necessary Contact Lens Benefit
Claim Reimbursement Pre-Determination Form
Fax to: (916) 859-6261

Today's Date: _____ DOS: ___/___/___

Insured's Name: _____ I.D.# _____

Patient's Name: _____ Patient's DOB: _____

City / State: _____ Employer: _____

Provider Info: Tax ID: _____

Provider Name: _____ Practice Name: _____

Address: _____ City/State: _____/_____

Phone: (_____) _____ Fax: (____) _____

Definition: Contact lenses which are considered for the medically necessary conditions as described below. Reimbursement for these lenses will be according to the fee schedule for medically necessary contact lenses.

Please check the appropriate box indicating the patient's condition.

	1. Aphakia (after cataract surgery) A pair of single vision lenses or multi-focal lenses and frames can be provided with the contact lenses.
	2. When visual acuity cannot be corrected to 20/70 in the better eye except through the use of contact lenses (must be 20/60 or better)
	3. Anisometropia of 4.0 diopters or more, provided visual acuity improves to 20/60 or better in the weaker eye.
	4. Keratoconus: Please attach copy of Topography, K-Readings, & chart notes.
	5. Other: Please attach copy of written examination report to this form.

Notes: _____

Superior Vision Response:

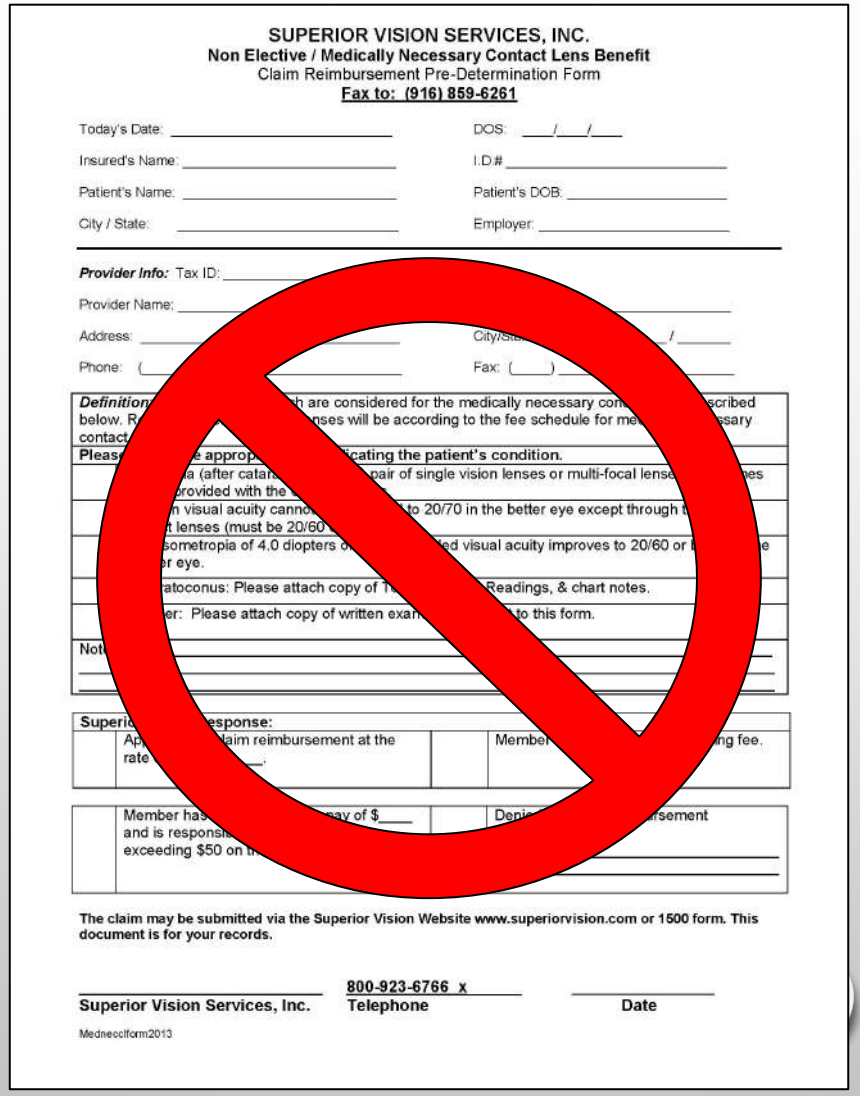
	Approved for claim reimbursement at the rate of $_____.		Member is responsible for the fitting fee.
	Member has covered fitting copay of $____ and is responsible for billed charges exceeding $50 on the fit.		Denied for claim reimbursement Reason: _____ _____

The claim may be submitted via the Superior Vision Website www.superiorvision.com or 1500 form. This document is for your records.

_____ **800-923-6766 x** _____ _____
Superior Vision Services, Inc. **Telephone** **Date**

Medneedform2013

SUPERIOR VISION NON ELECTIVE/MEDICALLY NECESSARY CONTACT LENS BENEFIT



SUPERIOR VISION SERVICES, INC.
Non Elective / Medically Necessary Contact Lens Benefit
Claim Reimbursement Pre-Determination Form
Fax to: (916) 859-6261

Today's Date: _____ DOS: ___/___/___

Insured's Name: _____ I.D.# _____

Patient's Name: _____ Patient's DOB: _____

City / State: _____ Employer: _____

Provider Info: Tax ID: _____

Provider Name: _____

Address: _____ City/St_____ /_____

Phone: (_____) _____ Fax: (_____) _____

Definition h are considered for the medically necessary con scribed below. R nses will be according to the fee schedule for me ssary contact

Pleas e appro icating the patient's condition.

a (after catar pair of single vision lenses or multi-focal lens es provided with the

n visual acuity canno to 20/70 in the better eye except through t t lenses (must be 20/60

sometropia of 4.0 diopters o ed visual acuity improves to 20/60 or l e r eye.

atoconus: Please attach copy of T Readings, & chart notes.

er: Please attach copy of written exam to this form.

Not

Superi esponse:

Ap laim reimbursement at the rate ___.

Member ng fee.

Member ha ay of $____ and is responsi exceeding $50 on t Deni rsement

The claim may be submitted via the Superior Vision Website www.superiorvision.com or 1500 form. This document is for your records.

_____ **Superior Vision Services, Inc.**

800-923-6766 x _____ **Telephone**

_____ **Date**

Medneedform2013

Claims are now made on their portal and you must append the "-KX" modifier to all items in the claim.

OTHER BILLING CONSIDERATIONS

- KNOW YOUR CHAIR COSTS (NOV, 2008 *SPECTRUM)*
- KNOW HOW MUCH TIME IT TAKES TO PRESCRIBE, ORDER, RECEIVE, DISPENSE, INSTRUCT, AND FOLLOW THROUGH ADAPTION EACH TYPE OF SPECIALTY LENS
- ADD YOUR PROFIT FOR A RATIONAL AND DEFENSIBLE INITIAL DISPENSING FEE
- CHARGE FOR FOLLOW UP VISITS AFTER THAT
- KNOW THE LENS COST, NUMBER OF LENSES PER EYE IT TAKES TO ACHIEVE SUCCESS, THE RETURN POLICY, AND THE DELIVERY COST OF EACH LENS
- ADD YOUR PROFIT FOR A RATIONAL AND DEFENSIBLE LENS FEE

FINAL THOUGHT

- THE GROSS PER PATIENT VISIT FOR PRESCRIBING SPECIALTY CONTACT LENSES, ESPECIALLY MEDICALLY NECESSARY LENSES, IS NEARLY TWICE THE NATIONAL AVERAGE FOR ALL OTHER TYPES OF EYE CARE
- THESE PATIENTS NEED GLASSES ALSO
- THESE PATIENTS HAVE OTHER MEDICAL CONDITIONS ALSO
  - GLAUCOMA
  - DRY EYE DISEASE
  - MACULAR DEGENERATION

CONCLUSIONS

- KNOW WHAT THE CONTRACTS SAY FOR EACH CONTRACT FOR EACH CODE THAT YOU USE IN YOUR OFFICE
- USE THE CORRECT CODES AND MODIFIERS TO MAXIMIZE THE REIMBURSEMENT FOR THE SERVICES RENDERED
- BILL APPROPRIATELY FOR ALL OF YOUR SERVICES—FORGET ABOUT "FITTING FEES"
- MAKE SURE THAT YOUR FEES ARE IN LINE WITH THE CONTRACTS THAT YOU HAVE SIGNED, BUT HIGH ENOUGH TO BE COMMENSURATE WITH THE COMPLEXITY, TIME, AND LIABILITY INVOLVED
- LEARN TO CONSULT WITH YOUR COLLEAGUES—IT WON'T HURT ONE BIT
- LEARN TO PROMOTE THIS ASPECT OF YOUR PRACTICE

CONCLUSIONS

- BE CONSISTENT
- HAVING THE RIGHT TOOLS—KNOW WHERE TO FIND THE INFORMATION, I.E., CODE BOOKS, CONTRACTS, ETC.
- DON'T BE A SLAVE TO THIRD PARTY PAYERS—YOU DECIDE WHAT TESTS AND PROCEDURES NEED TO BE DONE; THEY DECIDE WHAT THEY WILL PAY FOR
- COMMUNICATE WITH YOUR PATIENTS
- DON'T BE AFRAID TO APPEAL REJECTIONS OR SEND THIRD PARTY PAYERS TO COLLECTION (BE CAREFUL ABOUT THE ARBITRATION AGREEMENTS IN YOUR CONTRACTS)

THANK YOU!

ANY QUESTIONS?

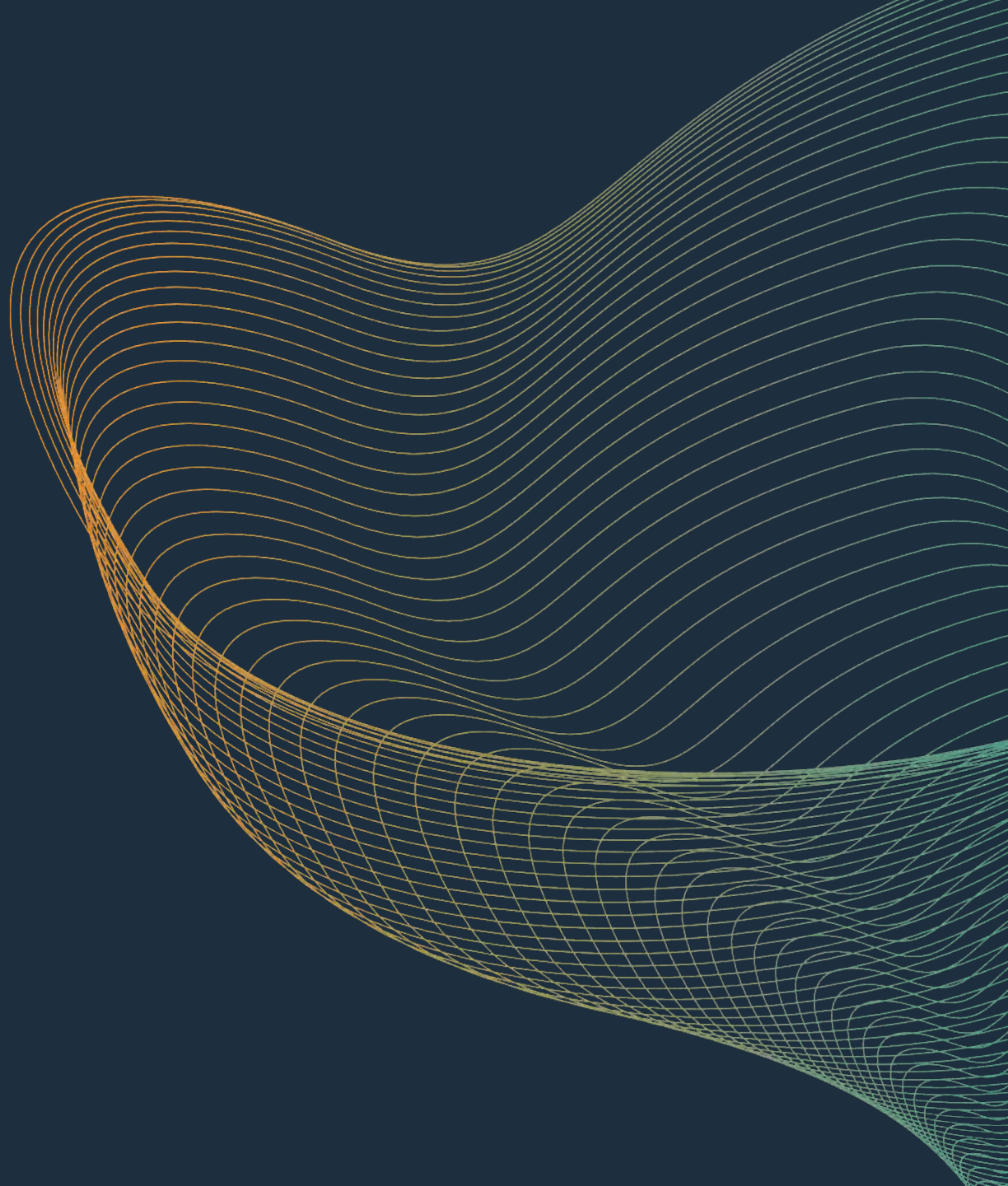
DRNEWMAN@DRNEWMAN.COM

IS IT ROUTINE OR MEDICAL?
THE KEY TO KEEPING PATIENTS HAPPY AND RUNNING A PROFITABLE PRACTICE.

CHRISTOPHER WOLFE, OD, FAAO, DIPL. ABO


BRADY
SOLDIER
SKUTT CATHOLIC
SKYHAWKS
342

WHY IS THIS IMPORTANT TO OPTOMETRISTS?



WHY IS THIS IMPORTANT? COMMON UNDERSTANDING

Step #1

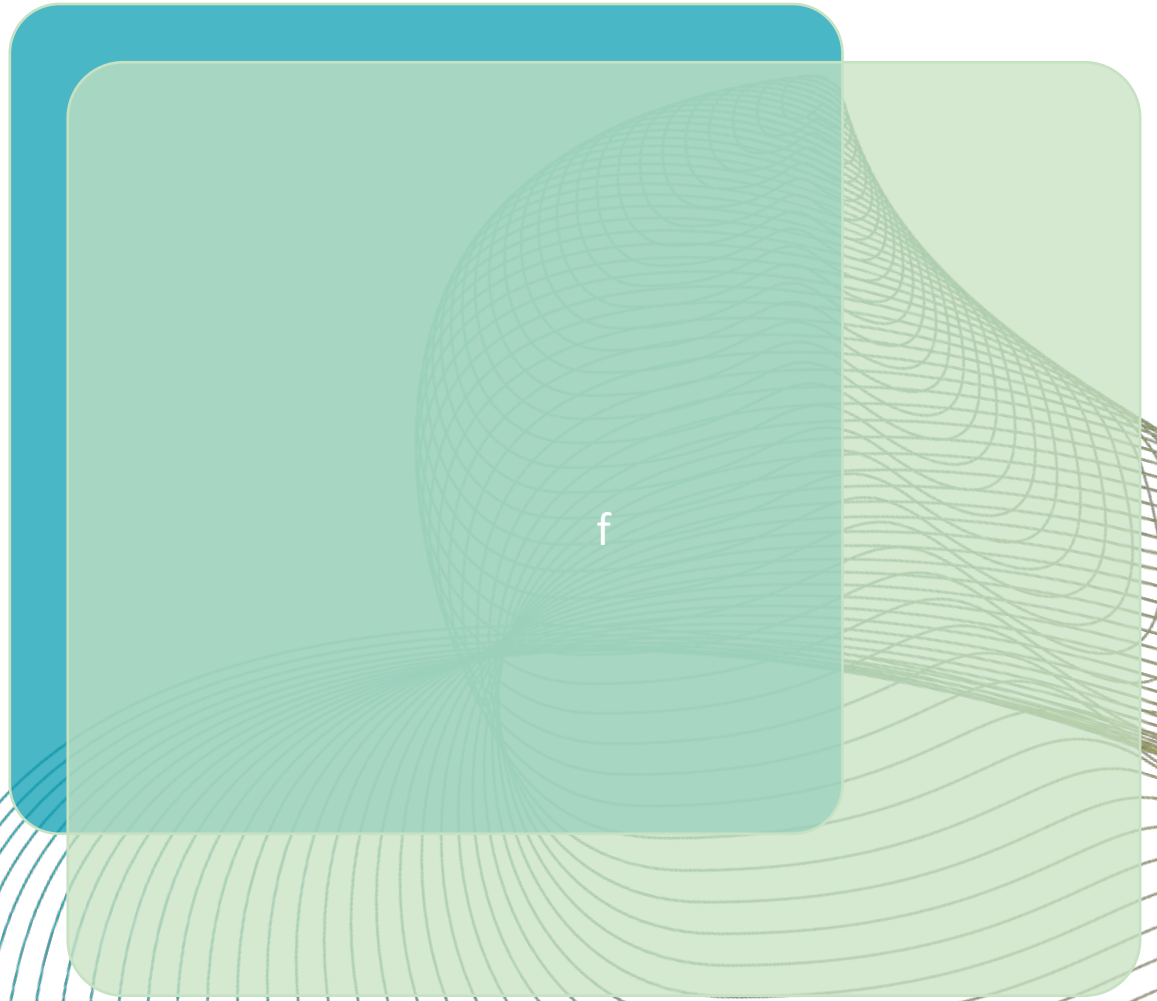
- Billing and Coding

Step #2

- Is it Routine or Medical?

Step #3

- Dropping Vision Plans



WHY IS THIS IMPORTANT? EFFECTIVE SYSTEMS

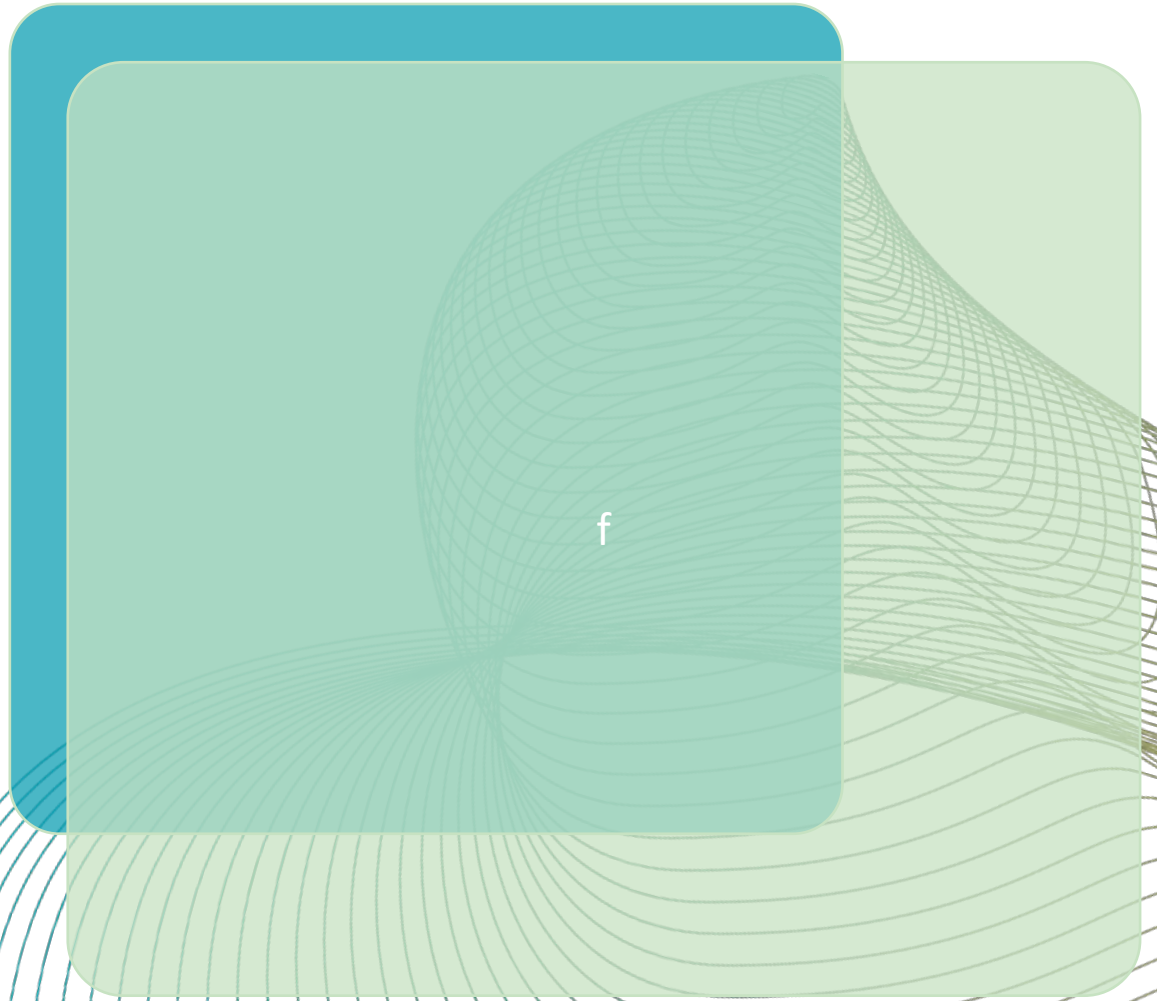
Step #1
- Analyze Your Data

Step #2
- Master Billing and Coding

Step #3
- Know Your Protocols

Step #4
- Integrate Protocols with Total Patient Care

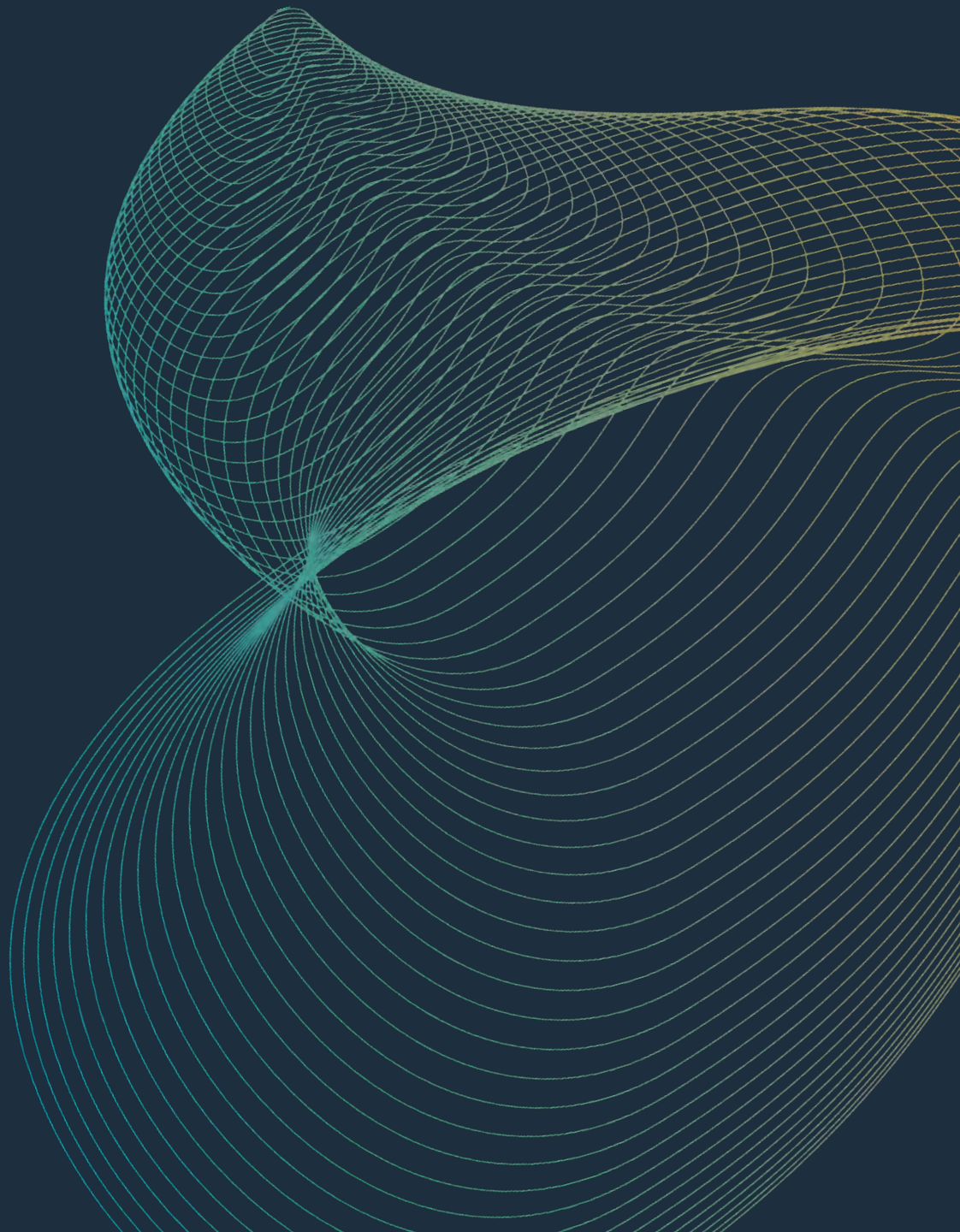
Mastermind Groups



UNCERTAINTY

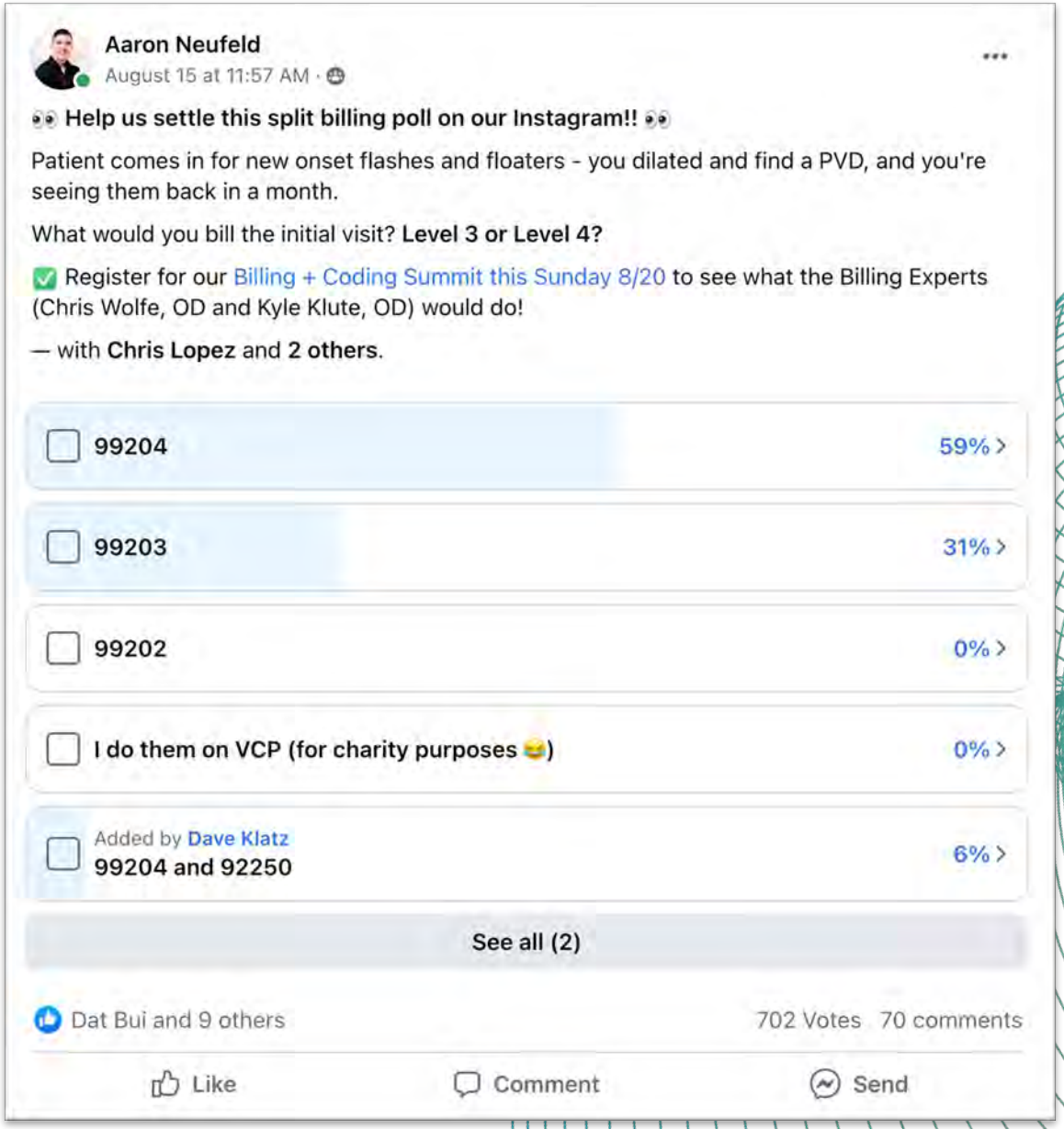
HELPING ODS MAXIMIZE PATIENT CARE BY UNDERSTANDING DATA

CHRISTOPHER WOLFE, OD, FAAO, DIPL. ABO



WHY IS THIS IMPORTANT

HOW DO YOU KNOW WHO IS CORRECT?



WHY IS THIS IMPORTANT

Flashes and floaters are moderate to high risk due to potential for acute vision loss. You're looking carefully for a tear at the AC (tobacco dust) and retina. 99 vs 92 would depend on what else is going on with the patient. If they have multiple other issues such as history of diabetes or glaucoma, level 4 is easier to justify.

Let's not under code for fear of audits. We have always passed out audits and have 2-3 per year due to heavy medical billing deemed "above average ".

WHY IS THIS IMPORTANT

I would do lvl 4 anytime we deal with posterior segment

WHY IS THIS IMPORTANT

Statistically around 15% of these are associated with a retinal break and an additional 2% will have a retinal break sometime 4-6 weeks afterward initial presentation of symptoms. To me that is an "undiagnosed new problem with uncertain prognosis" so I bill 99204. At follow-up visit it is now a "stable chronic illness" so it's billed as 99213.

WHAT DO THE GUIDELINES SAY?

Undiagnosed new problem with uncertain prognosis

“A problem in the differential diagnosis that represents a condition likely to result in a high risk of morbidity without treatment. An example may be a lump in the breast.”

WHY IS THIS IMPORTANT

it's an acute PVD (like happened today or just a few days ago) and there's flashes, I'll usually do a 99204.

"Moderate Risk of morbidity" because a retinal tear is certainly possible in those first few weeks after the tear and I recently had one with a large flap tear at the 3 week follow up.

Now if the symptoms started like 3 weeks ago, or if the patient isn't seeing flashes or it just doesn't sound as bad of a PVD, it gets relegated to a 99203, which pays you less than a 92004 so at that point you do that.

I even sent an email to AOA coding experts like 2 years ago and they agreed with 99204 if it's a scenario like I described

WHY IS THIS IMPORTANT

According to newest Evaluation and Management Billing guidelines...

Problem listing - 3. Acute uncomplicated illness

Data- 2

Treatment plan and risk - 3. Did not prescribe meds, no surgical consult, no social determinant of health.

3-2-3

Bill - 99213 or 99203

WHY IS THIS IMPORTANT

Acute, uncomplicated illness or injury

"A recent or new short-term problem with low risk of morbidity for which treatment is considered. There is little to no risk of mortality with treatment, and full recovery without functional impairment is expected. A problem that is normally self-limited or minor, but is not resolving consistent with a definite and prescribed course is an acute uncomplicated illness. Examples may include cystitis, allergic rhinitis, or a simple sprain."

WHY IS THIS IMPORTANT

Chronic Illness

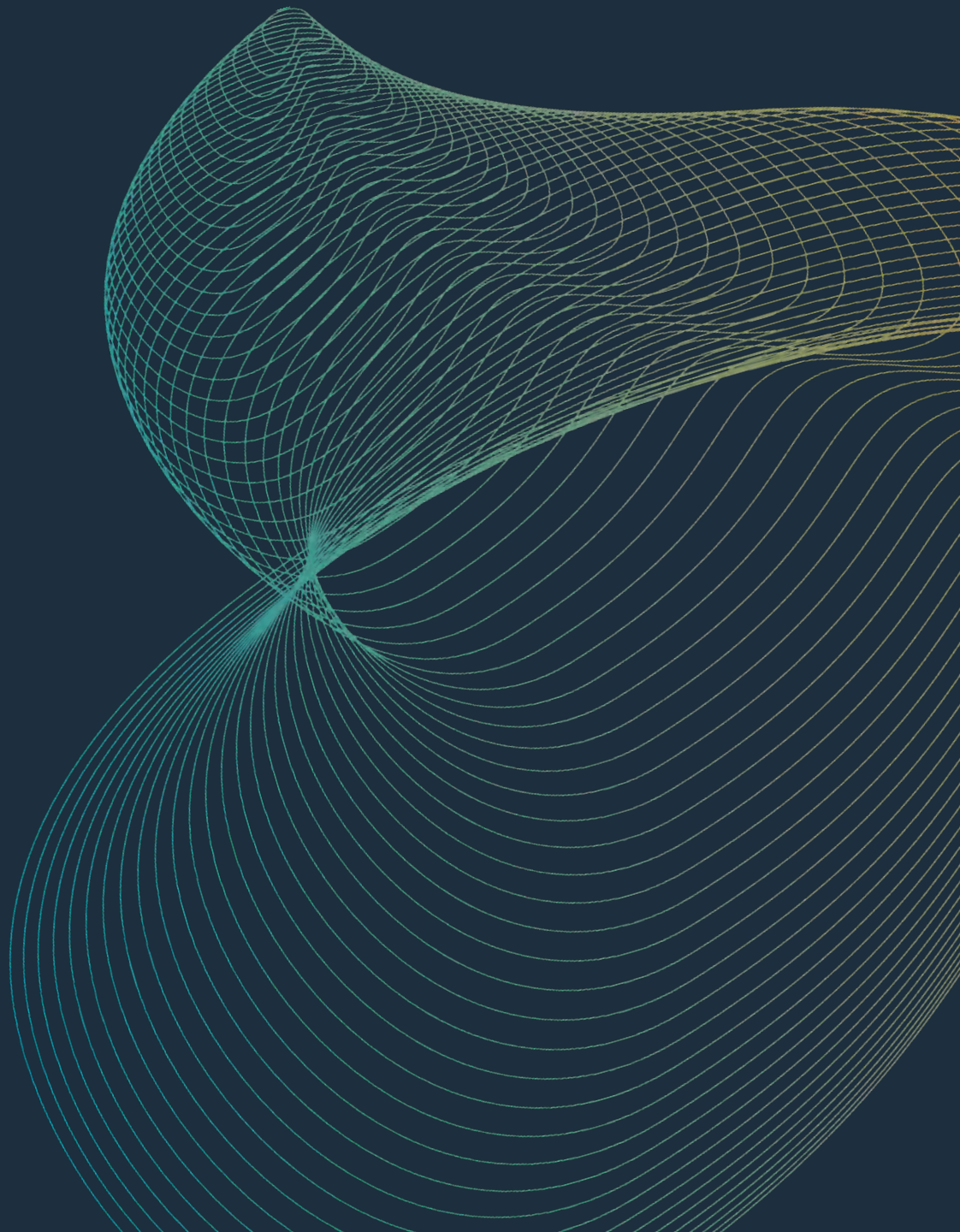
“A problem with an expected duration of at least a year or until the death of the patient. For the purpose of defining chronicity, conditions are treated as chronic whether or not stage or severity changes (eg, uncontrolled diabetes and controlled diabetes are a single chronic condition).

	99202/99212	99203/99213	99204/99214	99205/99215
Problems	**Minimal** •1 Self-limited or minor problem	**Low** •2 or more self-limited or minor problems; or •1 stable chronic illness; or •1 acute, uncomplicated illness or injury	**Moderate** •1 or more chronic illnesses with exacerbation, progression, or side effects of treatment; or •2 or more stable chronic illnesses; or •1 undiagnosed new problem with uncertain prognosis; or •1 acute illness with systemic symptoms; or •1 acute complicated injury	**High** •1 or more chronic illnesses with severe exacerbation, progression, or side effects of treatment; or •1 acute or chronic illness or injury that poses a threat to life or bodily function
Data	**Minimal** •< 2 orders, tests, or additional documents analyzed	**Limited** •2 orders, tests, or additional documents analyzed	**Moderate** **Any 1 of the following:** •3 orders, tests, or additional documents analyzed •Independent interpretation of a test performed by another physician •Discussion of management or test interpretation with external physician	**Extensive** **Any 2 of the following:** •3 orders, tests, or additional documents analyzed •Independent interpretation of a test performed by another physician •Discussion of management or test interpretation with external physician
Risk	**Minimal** Minimal risk of morbidity from additional diagnostic testing or treatment	**Low** Low risk of morbidity from additional diagnostic testing or treatment. Example: •**OTC med**	**Moderate** Moderate risk of morbidity from additional diagnostic testing or treatment. Examples: •**Prescription med** •Decision for **minor surgery** with identified patient or procedure risk factors •Decision for **major surgery** without identified patient or procedure risk factors •Diagnosis or treatment significantly limited by social determinants of health	**High** High risk of morbidity from additional diagnostic testing or treatment. Examples: •Drug therapy requiring intensive monitoring for toxicity •Decision for elective **major surgery** with identified patient or procedure risk factors •Decision for **emergency major surgery** •Decision regarding **hospitalization** •Decision **not to resuscitate** or to deescalate care because of poor prognosis

WHAT DO WE SEE IN TX?

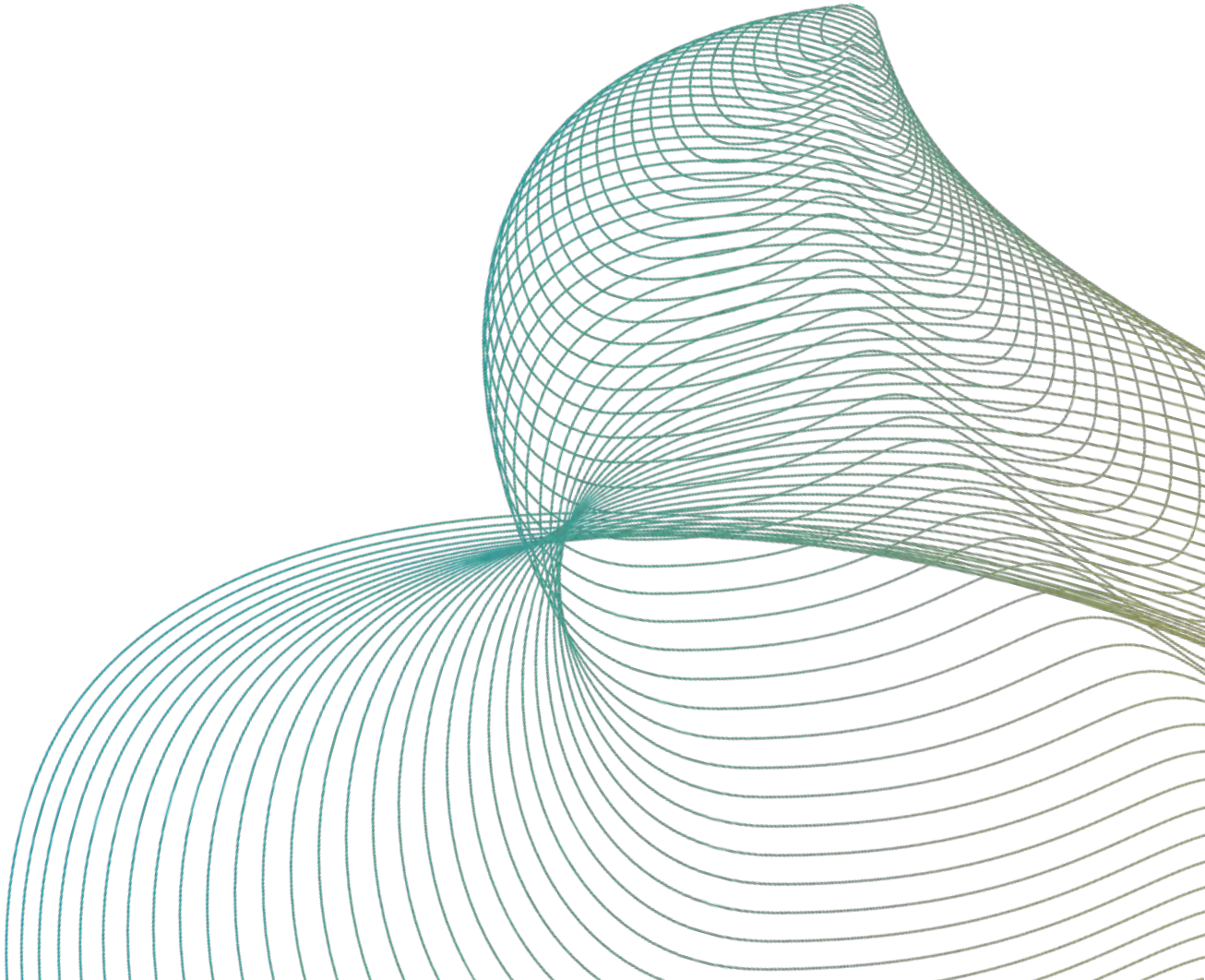
HELPING ODS MAXIMIZE PATIENT CARE BY UNDERSTANDING DATA

CHRISTOPHER WOLFE, OD, FAAO, DIPL. ABO



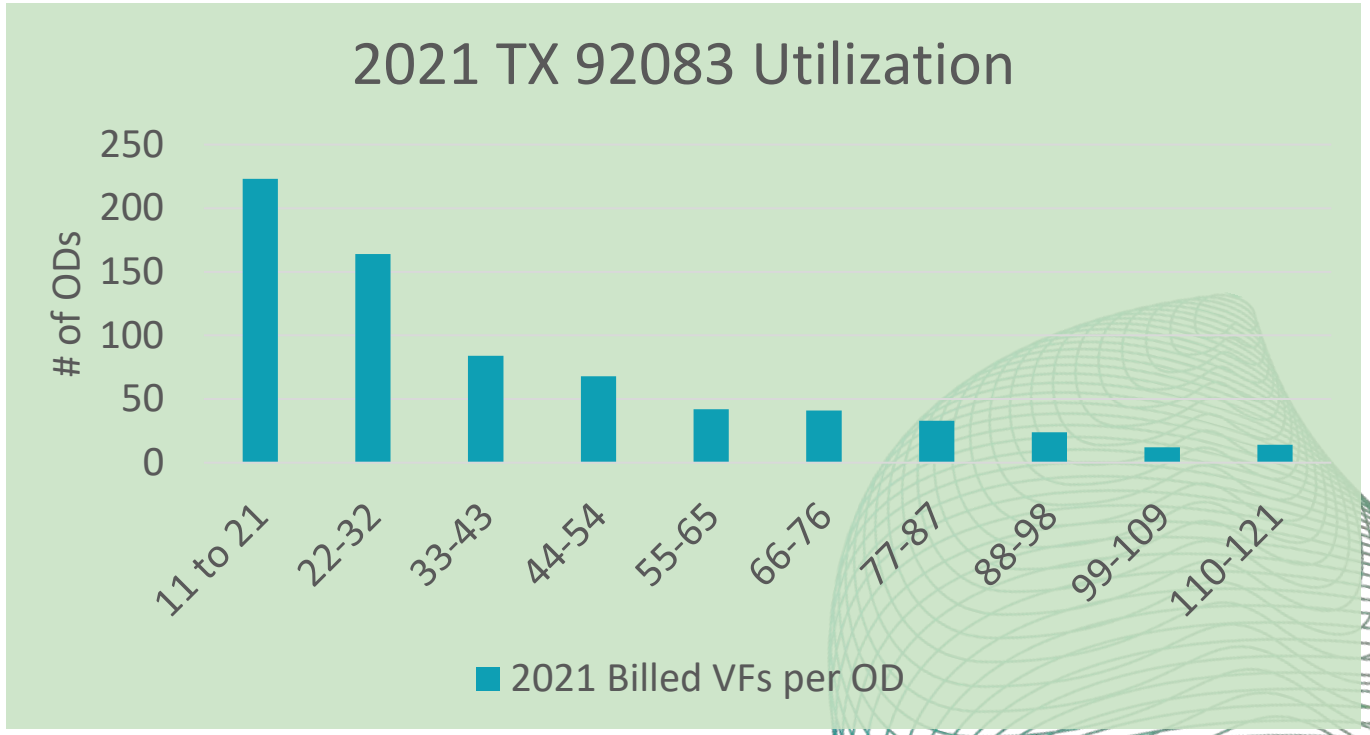
PROBLEMS FOR THE PROFESSION & PROBLEMS FOR PATIENTS

CMS Data Analysis



Problems for the Profession & Problems for Patients

CMS Data Analysis



All TX	Descriptive Statistic	Mean	Median	Standard Deviation	Min	Max	Range	Number of Classes
4318		55	33	73	11	1,147	1136	10
	Bottom 90%	Mean	Median	Standard Deviation	Min	Max	Range	Number of Classes
		39	30	26	11	116	105	10
	Frequency Distribution	Class Width	Class Lower	Class Upper Limit	Midpoint	Frequency	Felative Frequency	Cumulative Frequency
	11 to 21	11	11	21	16	223	32%	223
	22-32		22	32	27	164	23%	387
	33-43		33	43	38	84	12%	471
	44-54		44	54	49	68	10%	539
	55-65		55	65	60	42	6%	581
	66-76		66	76	71	41	6%	622
	77-87		77	87	82	33	5%	655
	88-98		88	98	93	24	3%	679
	99-109		99	109	104	12	2%	691
	110-121		110	121	115.5	14	2%	705
						705	1	

PROBLEMS FOR THE PROFESSION & PROBLEMS FOR PATIENTS

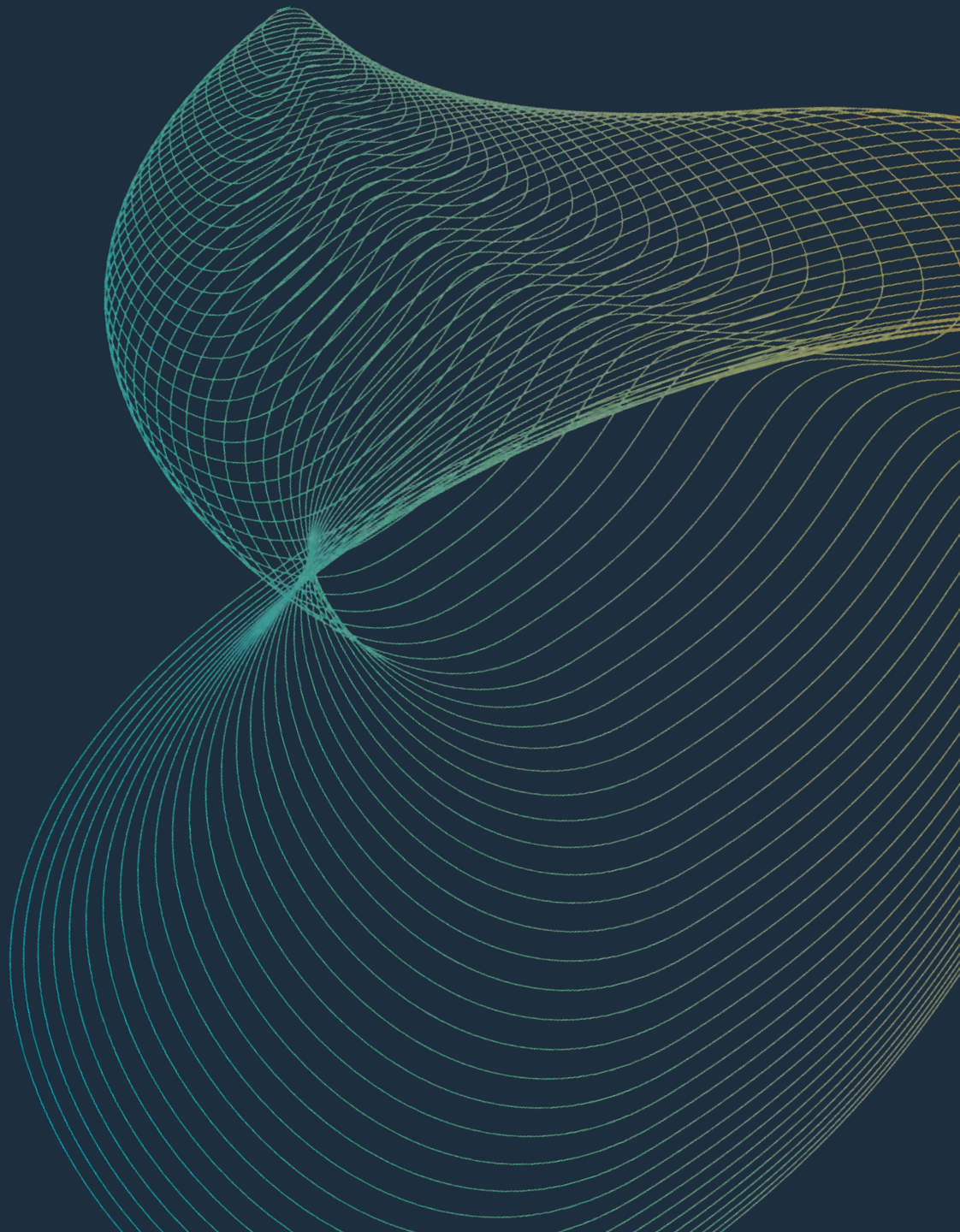
CMS Data Analysis

% of TX ODs Billing Less Than 11 VF in 1 Year	78%
% of TX ODs Billing Less Than 32 VF in 1 Year	93%

SOLVE UNCERTAINTY WITH PRACTICE CLARITY

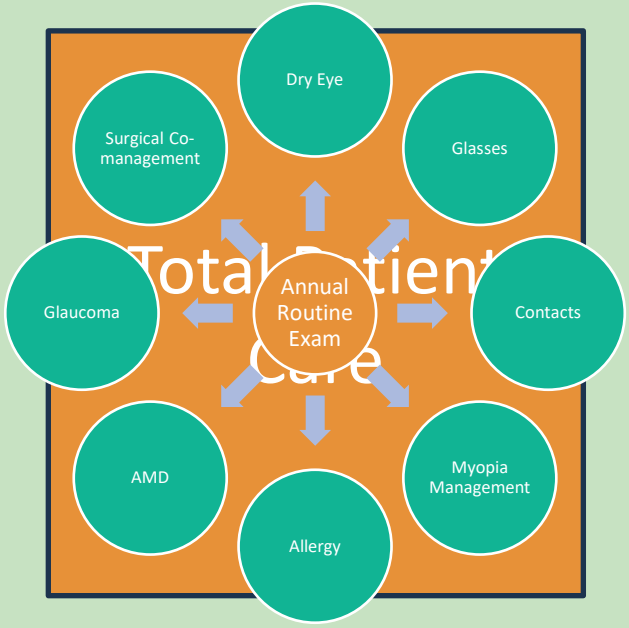
HELPING ODS MAXIMIZE PATIENT CARE BY UNDERSTANDING DATA

CHRISTOPHER WOLFE, OD, FAAO, DIPL. ABO



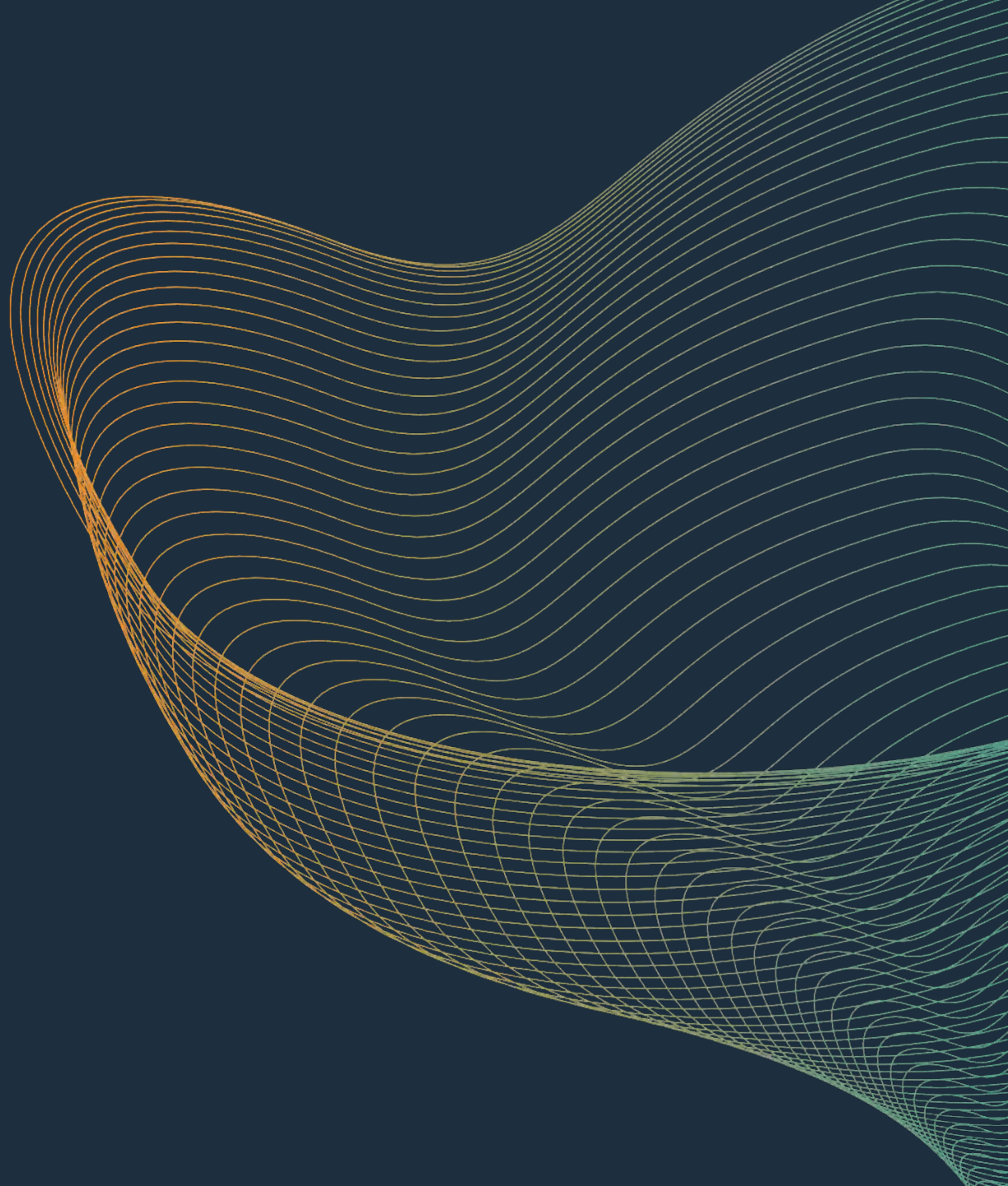
COMMON PHILOSOPHIES

Do It All At Once

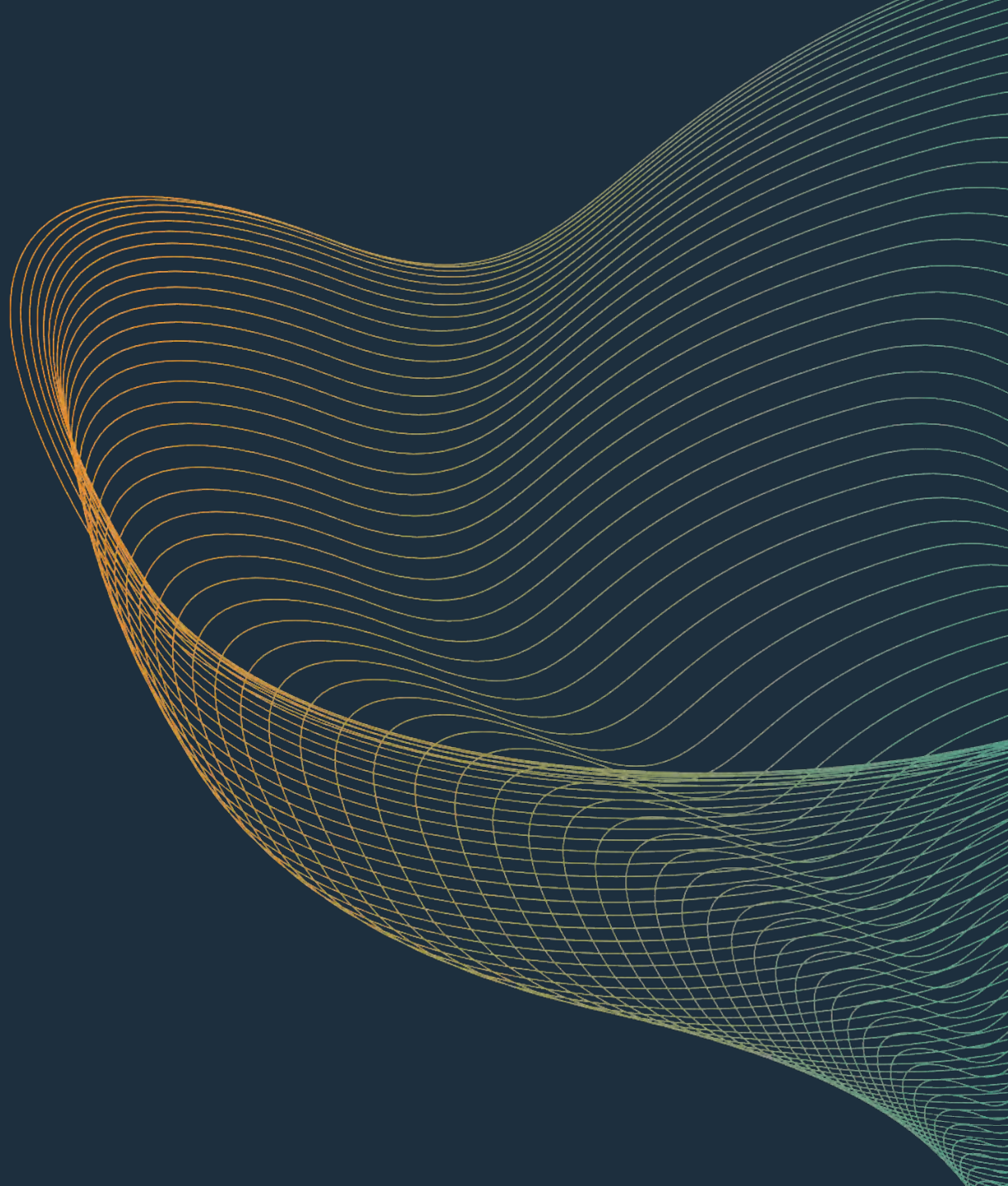


Transition to Medical

COMPREHENSIVE EXAMINATION OVERVIEW



COMPREHENSIVE EXAMINATION OVERVIEW



WHAT IS A COMPREHENSIVE EXAMINATION?

Let’s look at the following sources:

- **American Optometric Association**
- **One Managed Vision Care Plan**
- **CPT**

COMPREHENSIVE EXAMINATION - AOA

AMERICAN OPTOMETRIC ASSOCIATION

AOA DEFINITION

Provides the means to evaluate the **structure, function, and health of the eyes and visual system**.

AOA DEFINITION

During the examination, information is obtained to explain symptoms reported by the patient and **diagnose** the cause of signs noted by the eye doctor. It also provides the means to **identify the presence of other ocular or systemic conditions** that may exist without symptoms.

AMERICAN OPTOMETRIC ASSOCIATION

AOA DEFINITION

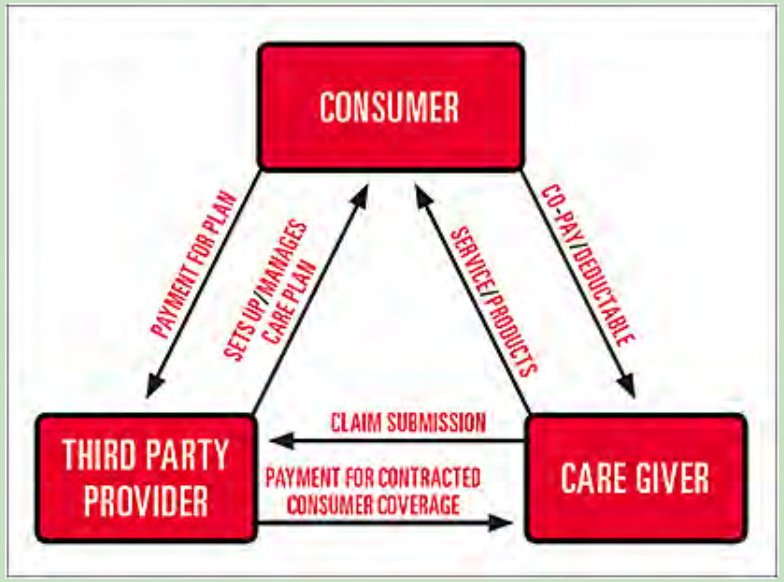
The examination is a dynamic and interactive process. It involves collecting **subjective** data directly from the patient and obtaining **objective** data by **observation, examination, and testing**.

AOA DEFINITION

1. **Evaluate** the functional status of the eyes and visual system, considering special vision demands and needs
2. **Assess** ocular health and related systemic health conditions
3. **Establish a diagnosis** (or diagnoses)
4. Formulate a **treatment and management plan**
5. Counsel and educate the patient regarding his/her visual, ocular, and related systemic health care status, including **recommendations for prevention, treatment, management, or future care**.

AMERICAN OPTOMETRIC ASSOCIATION

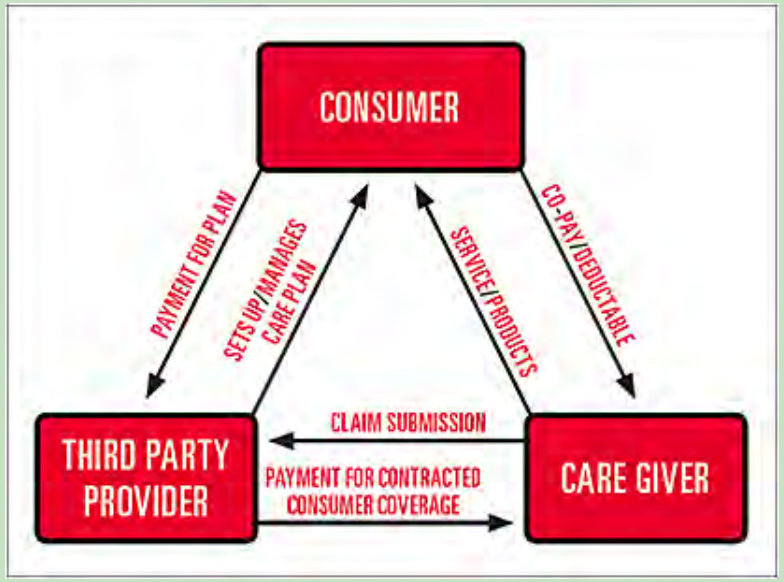
COMPREHENSIVE EXAMINATION – MANAGED VISION CARE



MANAGED VISION CARE DEFINITION

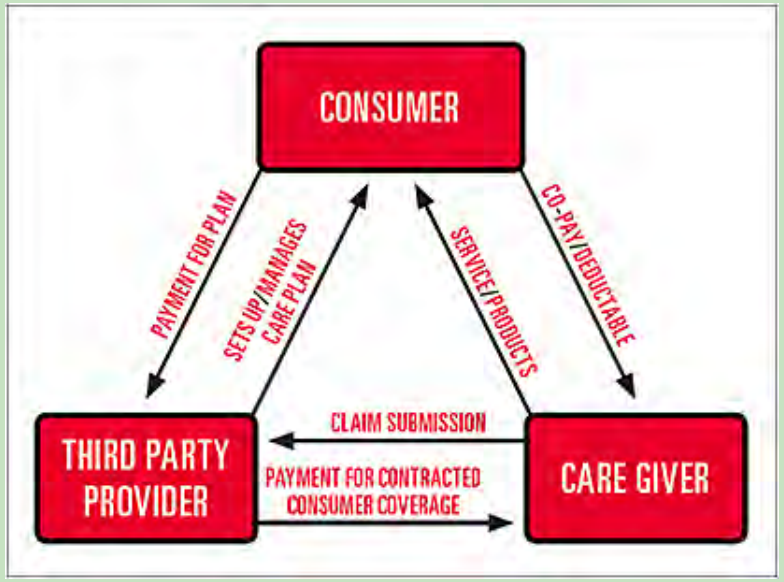
Identifies the need for corrective eyewear or vision therapy

Ensures the **earliest possible intervention** for ocular and systemic disease



MANAGED VISION CARE DEFINITION

	Purpose	Importance
Case history	• Identify patient's reason for visit • Obtain past visual/health history • Review medications • Discuss any symptoms	• Determines visual areas needing assistance and helps confirm the final diagnosis
Visual system health status evaluation	External exam using a biomicroscope for the following assessments: • Cornea observation • Lens observation • Iris observation • Conjunctiva observation • Lids observation • Lashes observation Internal exam, including direct and/or indirect ophthalmoscopy[3]: • View the retina, including the macula, optic nerve head, and blood vessels • Perform a visual fields screening test and tonometry test	• Assesses the external tissues of the eye to help determine the presence of any ocular or systemic disease • Evaluates internal eye health and checks for the presence of systemic disease, such as diabetes or hypertension • Evaluates the ability of the patient to see peripherally and aid in the detection and diagnosis of glaucoma by measuring pressure on the eye
Neurological integrity assessment	• Extraocular muscle assessment • Analyzes pupillary reflexes	• Assesses neurologic integrity of the eye to help determine the presence of any ocular or systemic conditions
Refractive status evaluation	• Visual acuity at 20 feet and 40 cm • Objective refraction with retinoscopy, auto refraction or keratometry • Subjective refraction • Accommodation testing	• Identifies visual problems, the best prescription for clear vision and the eyes' ability to adjust focus
Binocular function assessment	• Binocular function testing	• Determines ability of the eyes to work together at near and far distances and also assesses eye alignment
Diagnosis and treatment plan	• The diagnosis includes the doctor's assessment of the patient's visual and eye health status. • For suspected systemic health conditions, the doctor uses the patient's health plan referral guidelines for further evaluation and treatment.	• Identifies the need for corrective eyewear or vision therapy • Ensures the earliest possible intervention for ocular and systemic disease



MANAGED VISION CARE DEFINITION

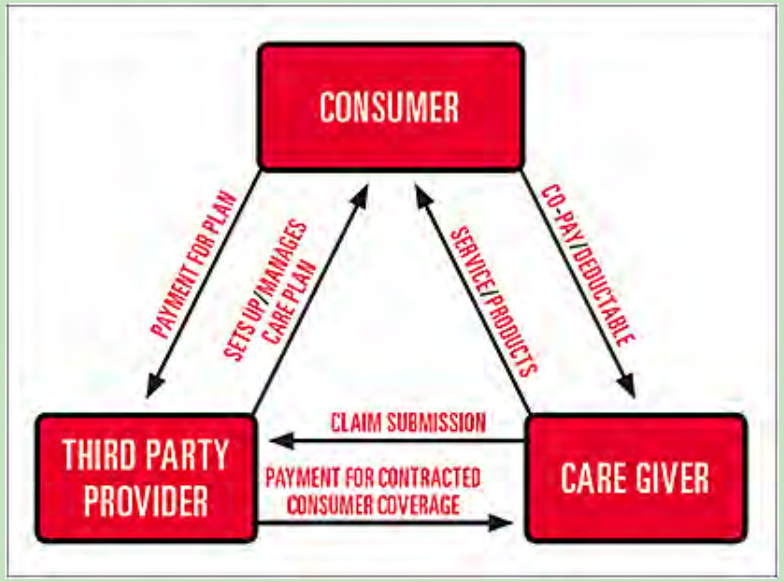
A. Case history
B. Health status of the visual system evaluation
This must include:
1. External and internal examination - to include direct and/or indirect ophthalmoscopy
2. Neurological integrity - pupillary reflexes and extraocular muscle assessment (versions)
3. Biomicroscopy
4. Gross visual fields
5. Tonometry

C. Refractive status evaluation
This must include:
1. Visual acuity - entering visual acuity with habitual Rx or unaided acuity (as indicated) and best corrected acuity
2. Subjective refraction and accommodative function
3. At least one of the following two optional tests:
   a. objective refraction by retinoscopy or autorefractor b. keratometry

D. Binocular function
This must include recorded data from at least one of the following:

1. Cover testing	4. Stereopsis	7. Fixation disparity
2. NPC	5. Vergence testing	8. Prism reflex test
3. Phorias	6. Grade of fusion	9. Hirschberg corneal reflexes

E. Diagnosis/treatment plan
(Use of ICD-10-CM diagnosis code is suggested.)

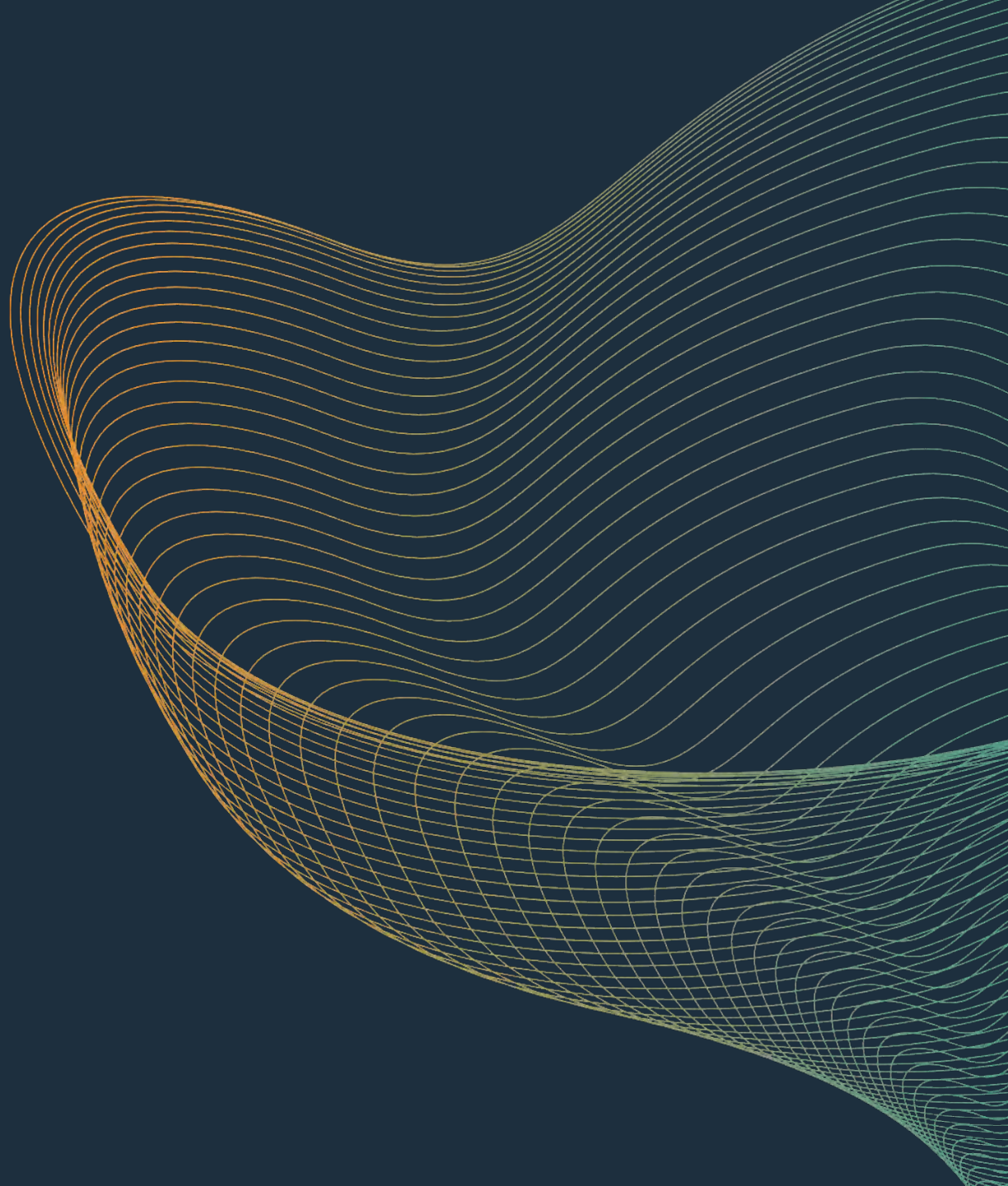


COMPREHENSIVE EXAMINATION – CPT

CPT DEFINITION

History
Orientation and Mood & Affect
Slit Lamp Exam and Adnexal Exam
Ophthalmoscopic Exam
Finger Count VF
EOM, Alignment, Accommodation
Initiation of Dx/Tx program

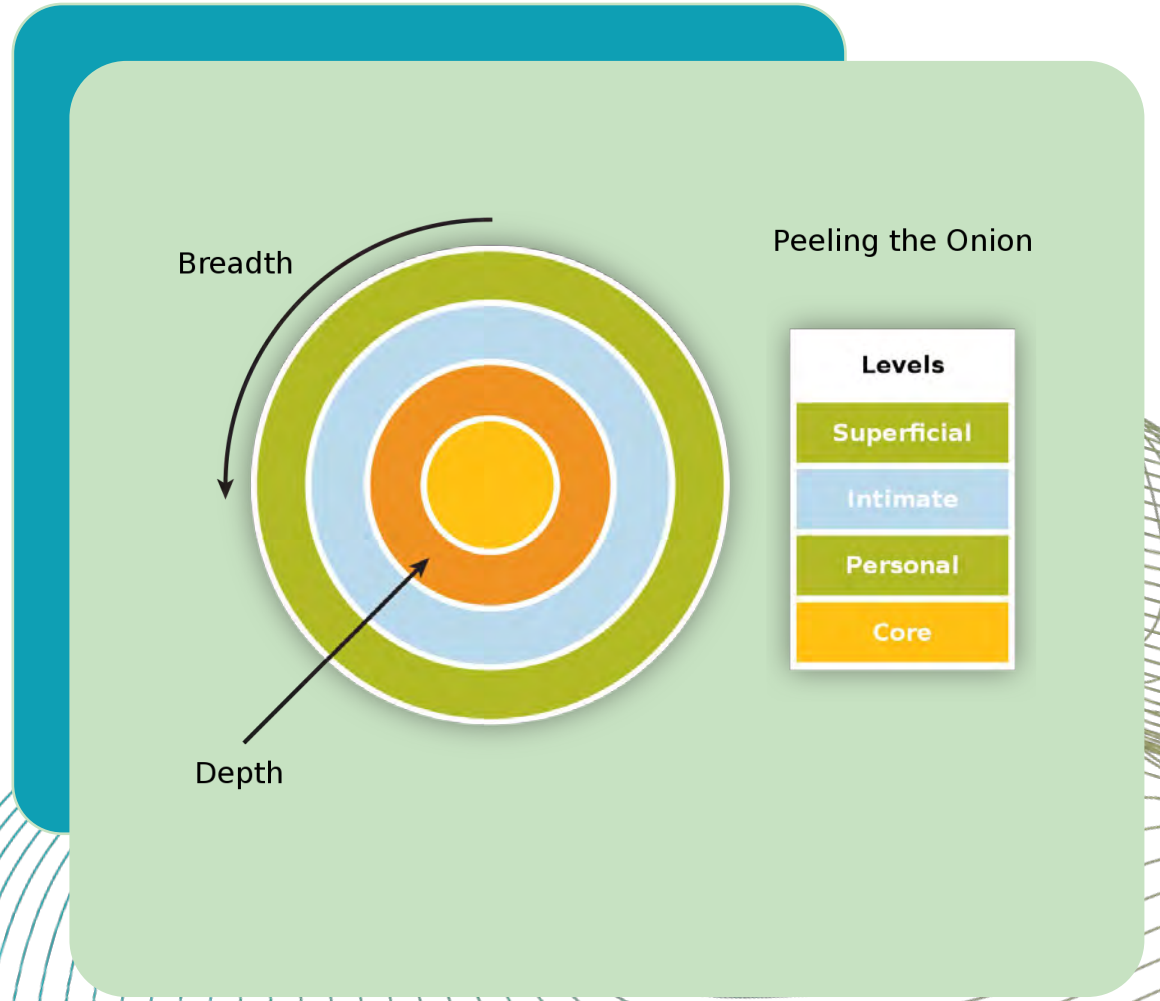
COMPREHENSIVE EXAMINATION – PRACTICAL APPLICATION



COMPREHENSIVE EXAMS PRACTICAL APPLICATION

Consider:

- Breadth
- Depth
- Follow-up



COMPREHENSIVE EXAMS - BREADTH

A. Case history
B. Health status of the visual system evaluation
This must include:
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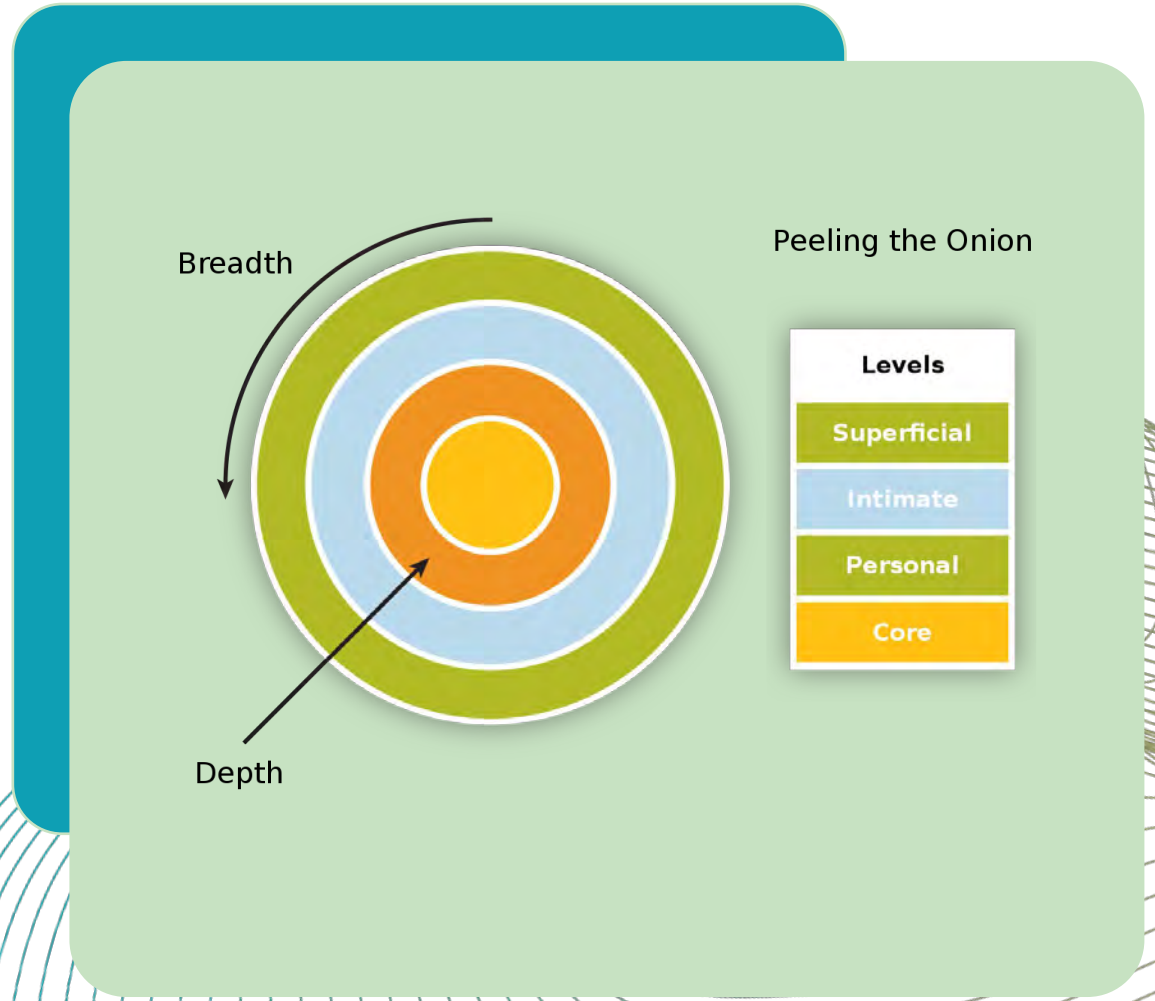
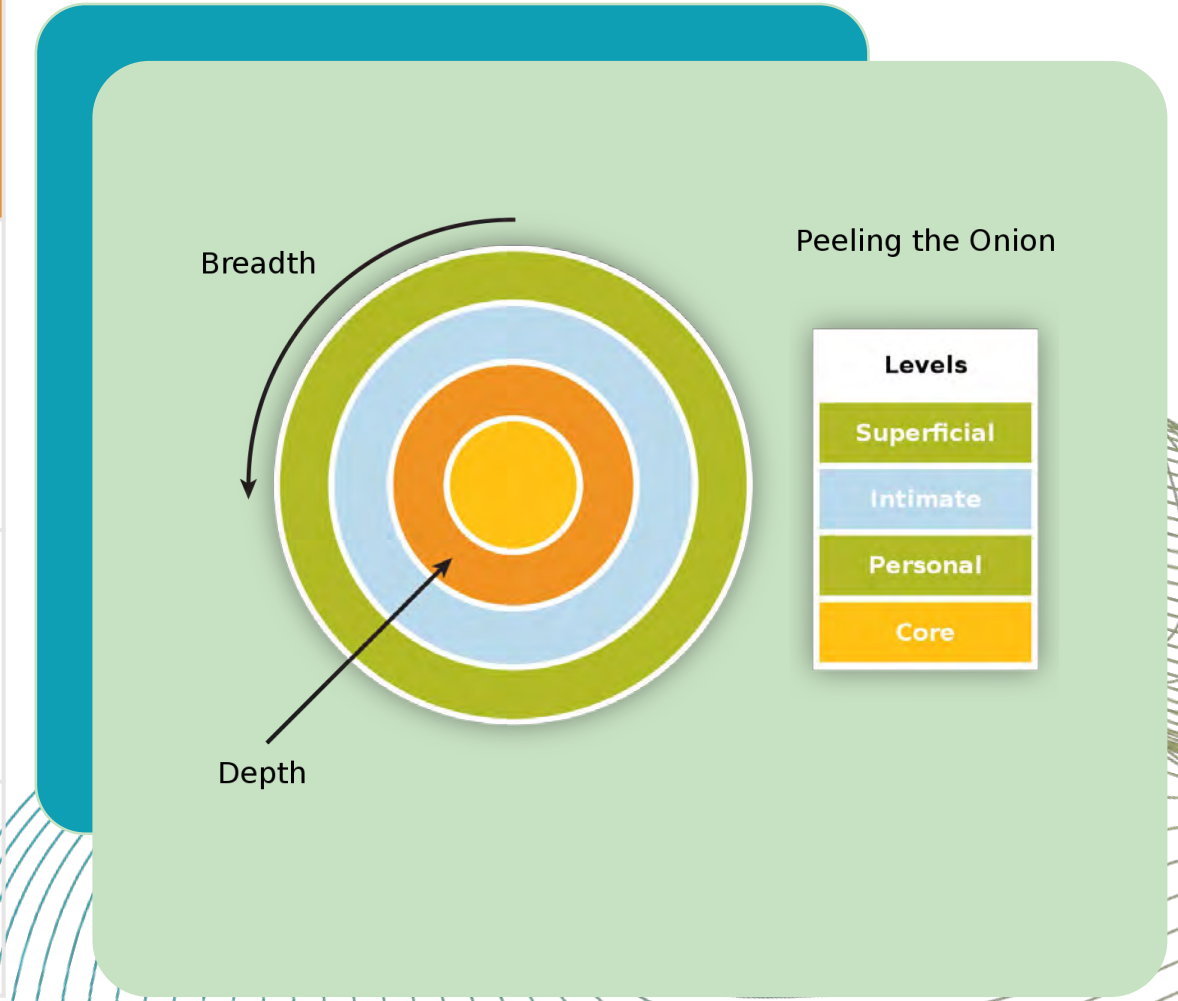


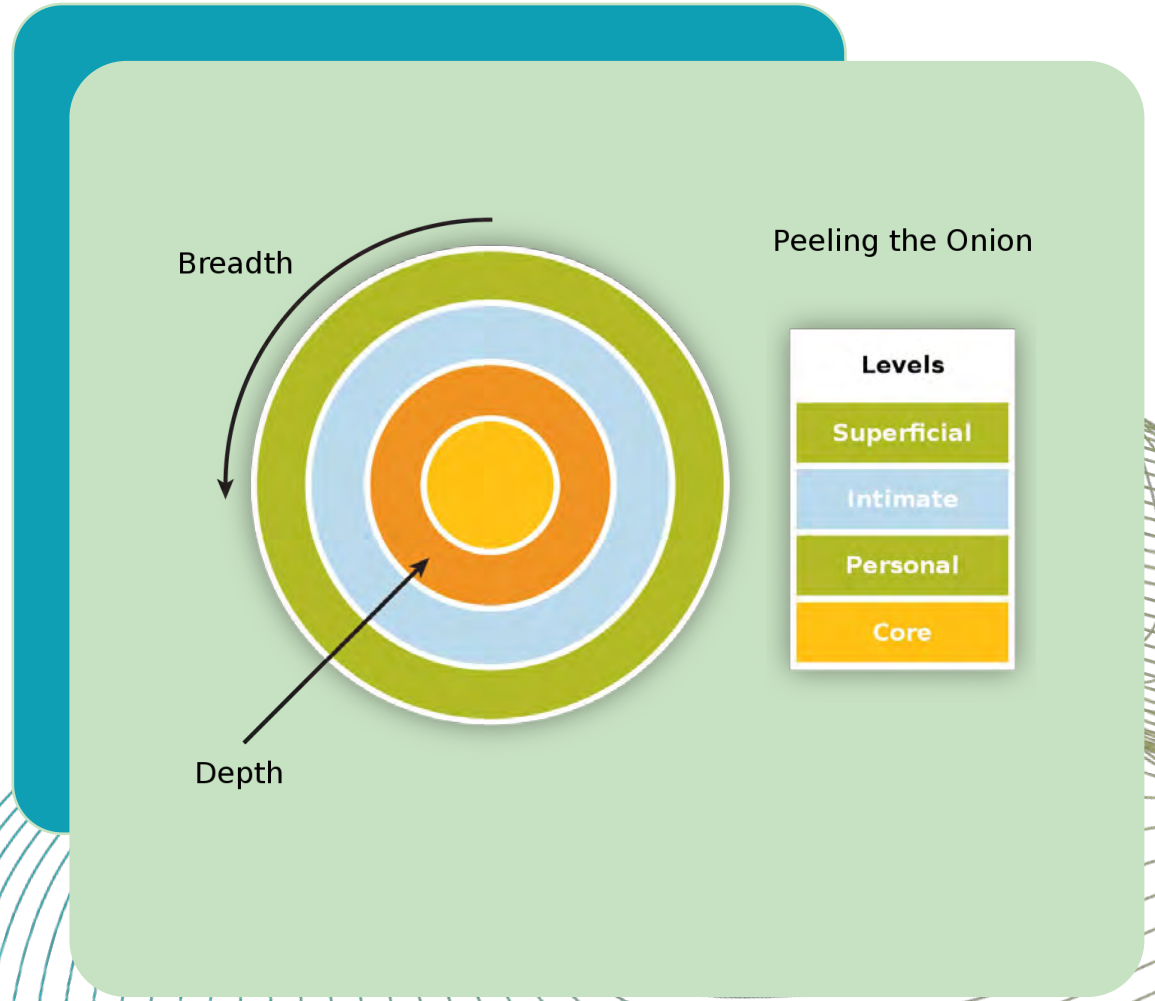
COMPREHENSIVE EXAMS - DEPTH

Corneal Condition	Prevalence	F/U Symptoms & Signs	Comprehensive Tx
ABMD	2.5%	Monocular diplopia/RCE symptoms	Muro ung QHS
Keratoconus	0.5%	diplopia, changes in rx, atopic dz, etc	Order topo and monitor
Fuch's	4.0%	Hazy vision, worse in the AM	Muro ung OU QHS



COMPREHENSIVE EXAMS – FOLLOW UP

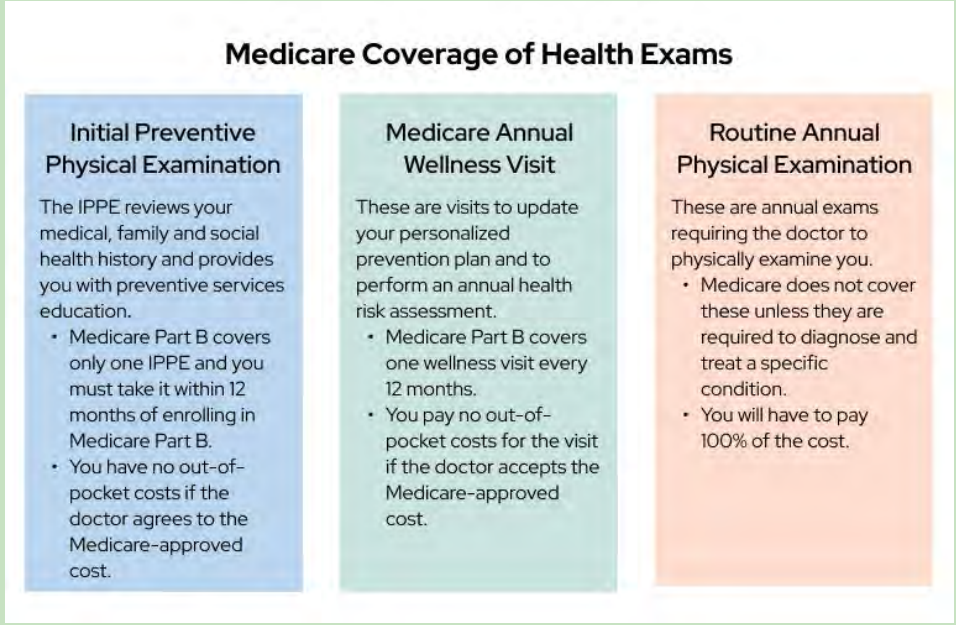
Corneal Condition	Follow up (est)	Additional Tx	Revenue Range
ABMD	1 month	Med Cocktail BCL Debridment w membrane	~$100 - $2,500
Keratoconus	3 months	specialty CLs	~$130 - $3,000
Fuch's	6 months	surgical co-management	~$100



INTRODUCTION TO MANAGED VISION CARE, MEDICAL INSURANCE AND PRIVATE PAY

The Challenge:

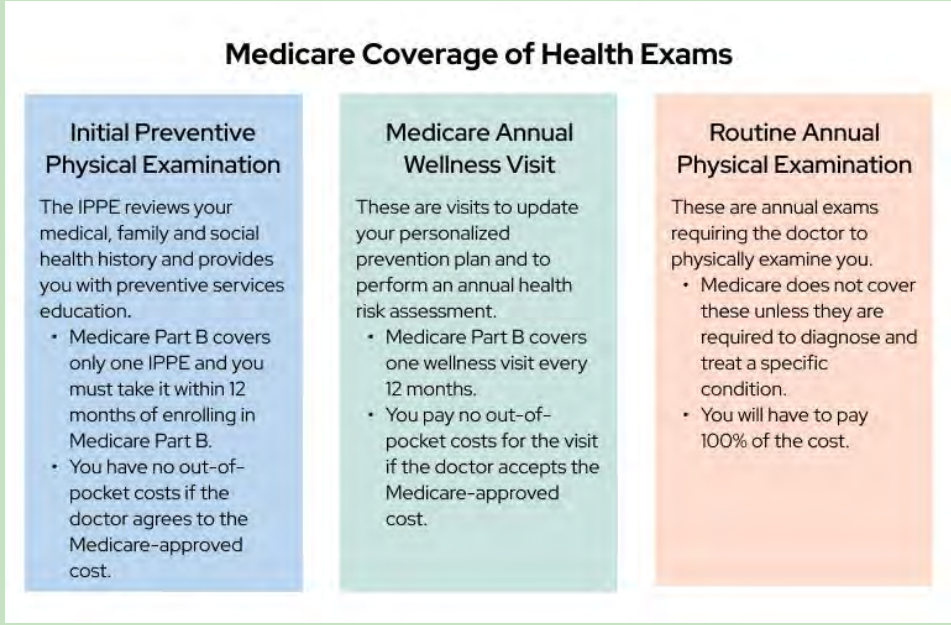
Who pays for the visit?



INTRODUCTION TO MANAGED VISION CARE, MEDICAL INSURANCE AND PRIVATE PAY

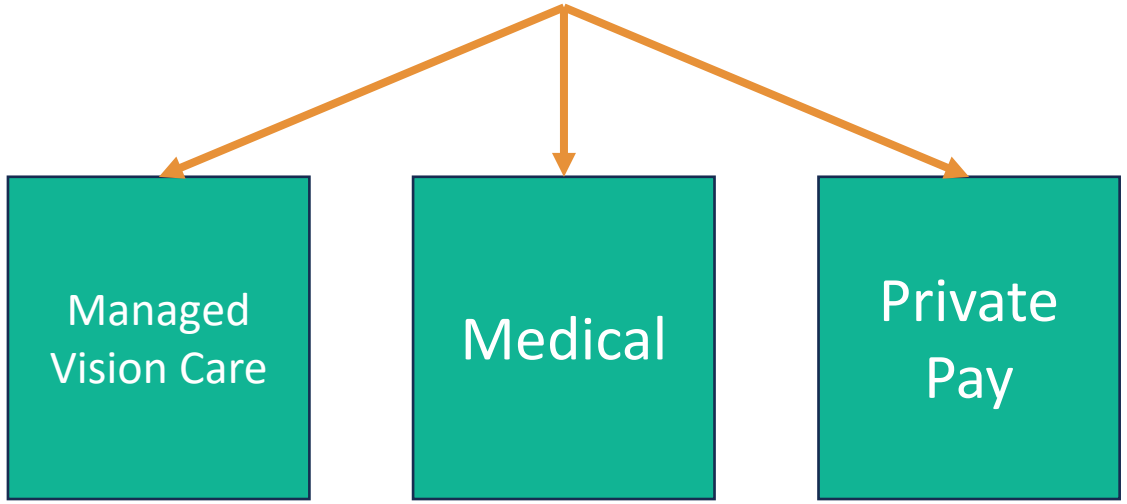
The Answer:

Chief Complaint



INTRODUCTION TO MANAGED VISION CARE, MEDICAL INSURANCE AND PRIVATE PAY

Chief Complaint



Medicare Coverage of Health Exams

Initial Preventive Physical Examination

The IPPE reviews your medical, family and social health history and provides you with preventive services education.

- Medicare Part B covers only one IPPE and you must take it within 12 months of enrolling in Medicare Part B.
- You have no out-of-pocket costs if the doctor agrees to the Medicare-approved cost.

Medicare Annual Wellness Visit

These are visits to update your personalized prevention plan and to perform an annual health risk assessment.

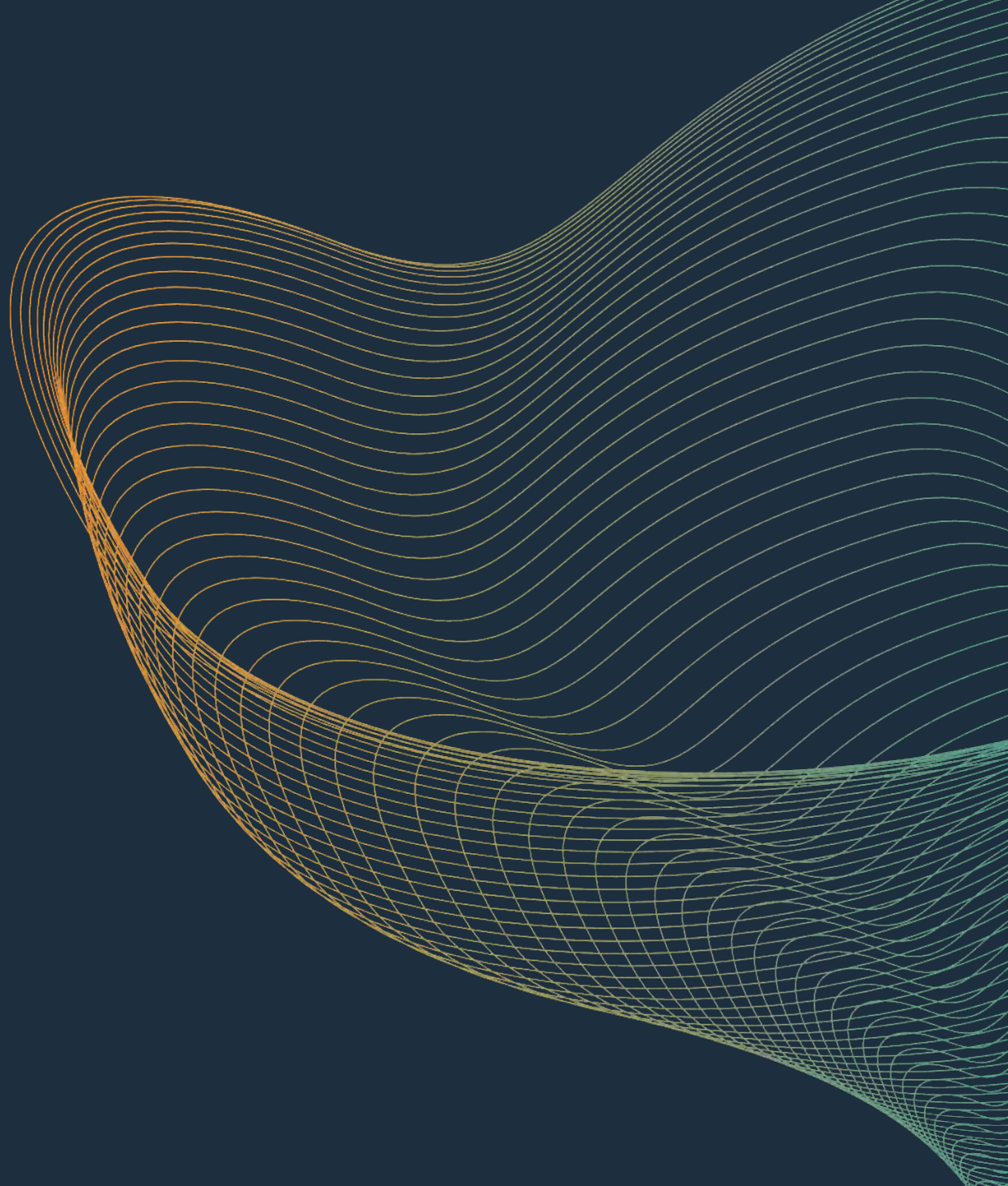
- Medicare Part B covers one wellness visit every 12 months.
- You pay no out-of-pocket costs for the visit if the doctor accepts the Medicare-approved cost.

Routine Annual Physical Examination

These are annual exams requiring the doctor to physically examine you.

- Medicare does not cover these unless they are required to diagnose and treat a specific condition.
- You will have to pay 100% of the cost.

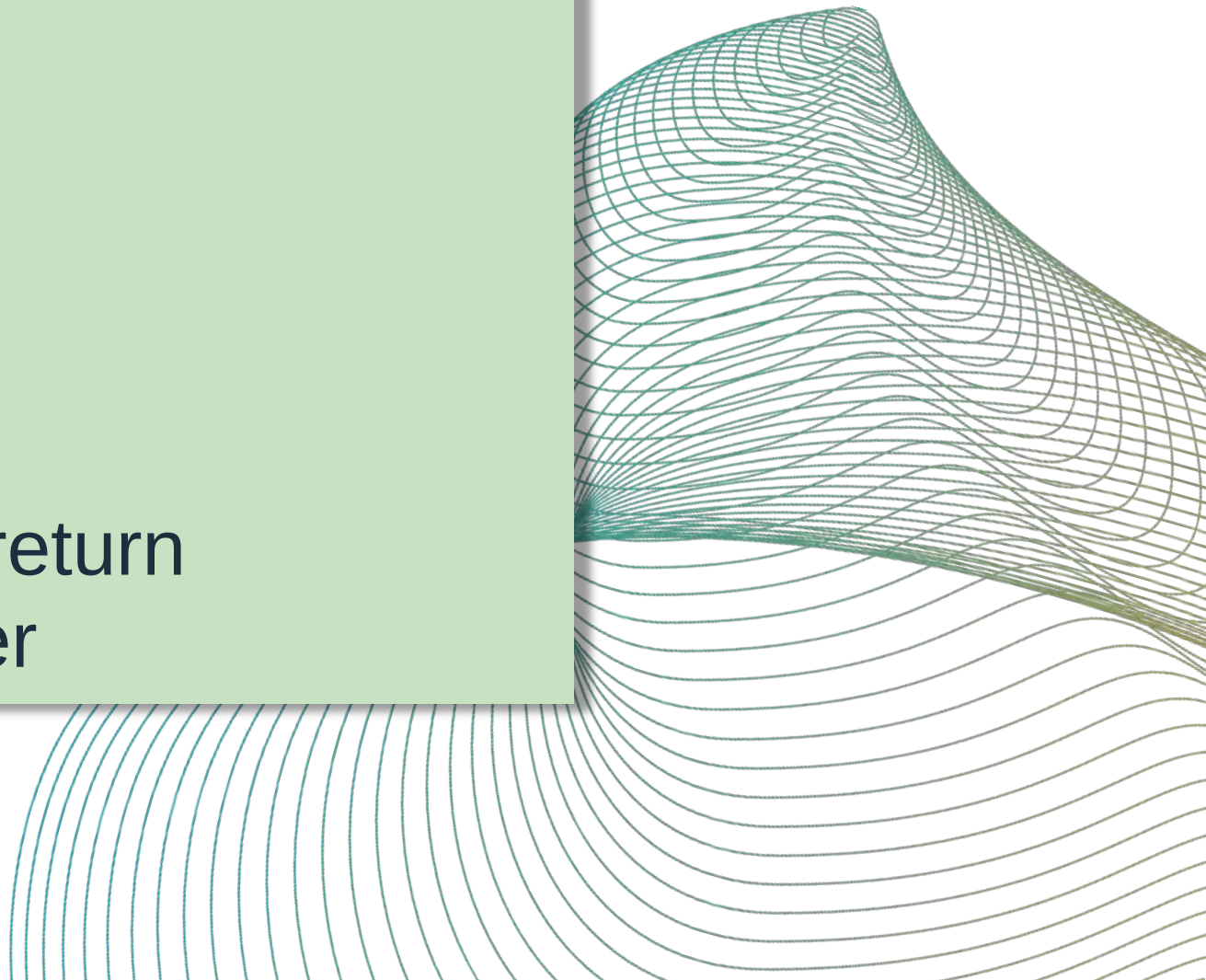
CHIEF COMPLAINT



CHIEF COMPLAINT

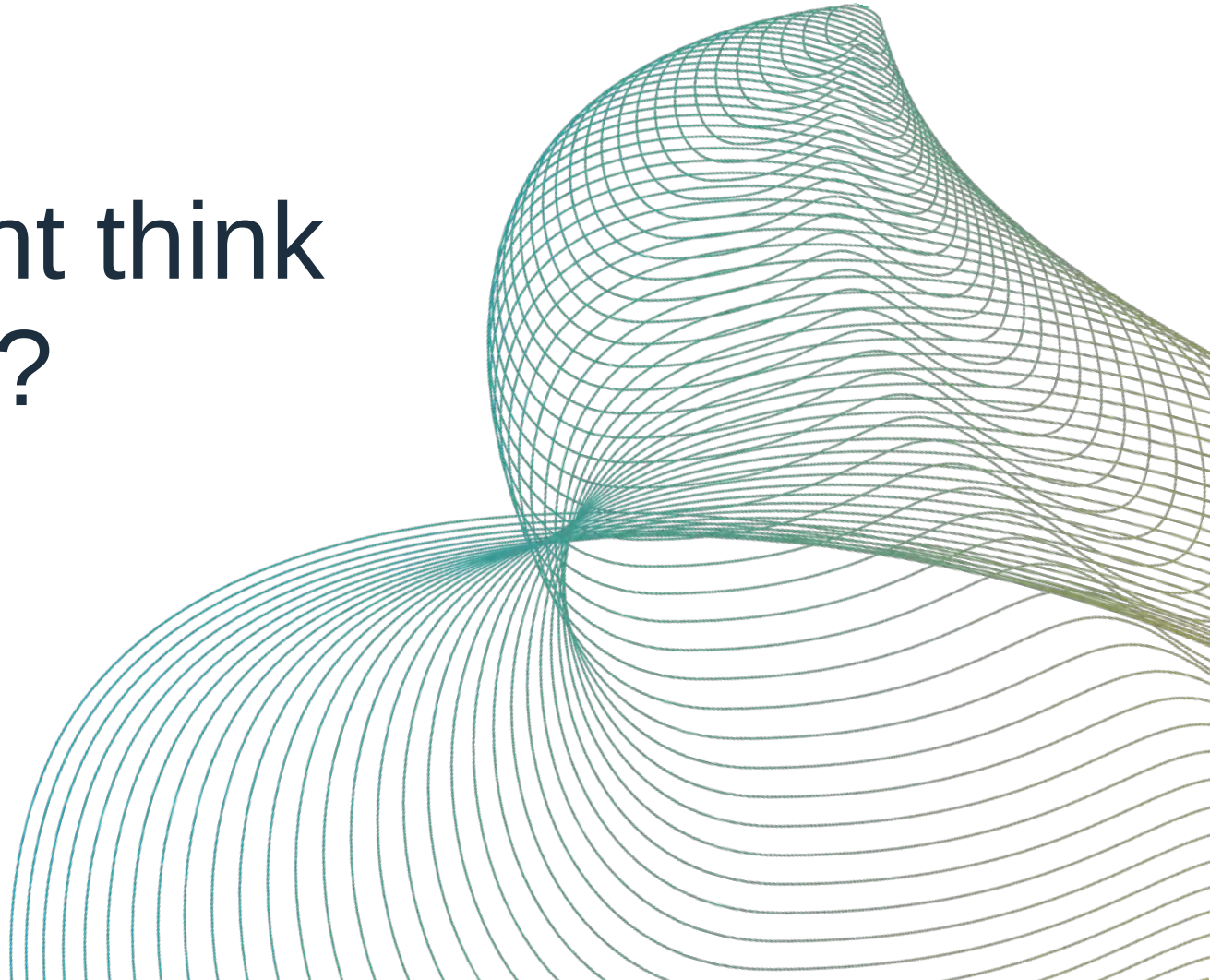
The chief complaint is a concise statement describing:

1. Symptom
2. Problem
3. Condition
4. Diagnosis
5. Physician-recommended return
6. Other reason for encounter

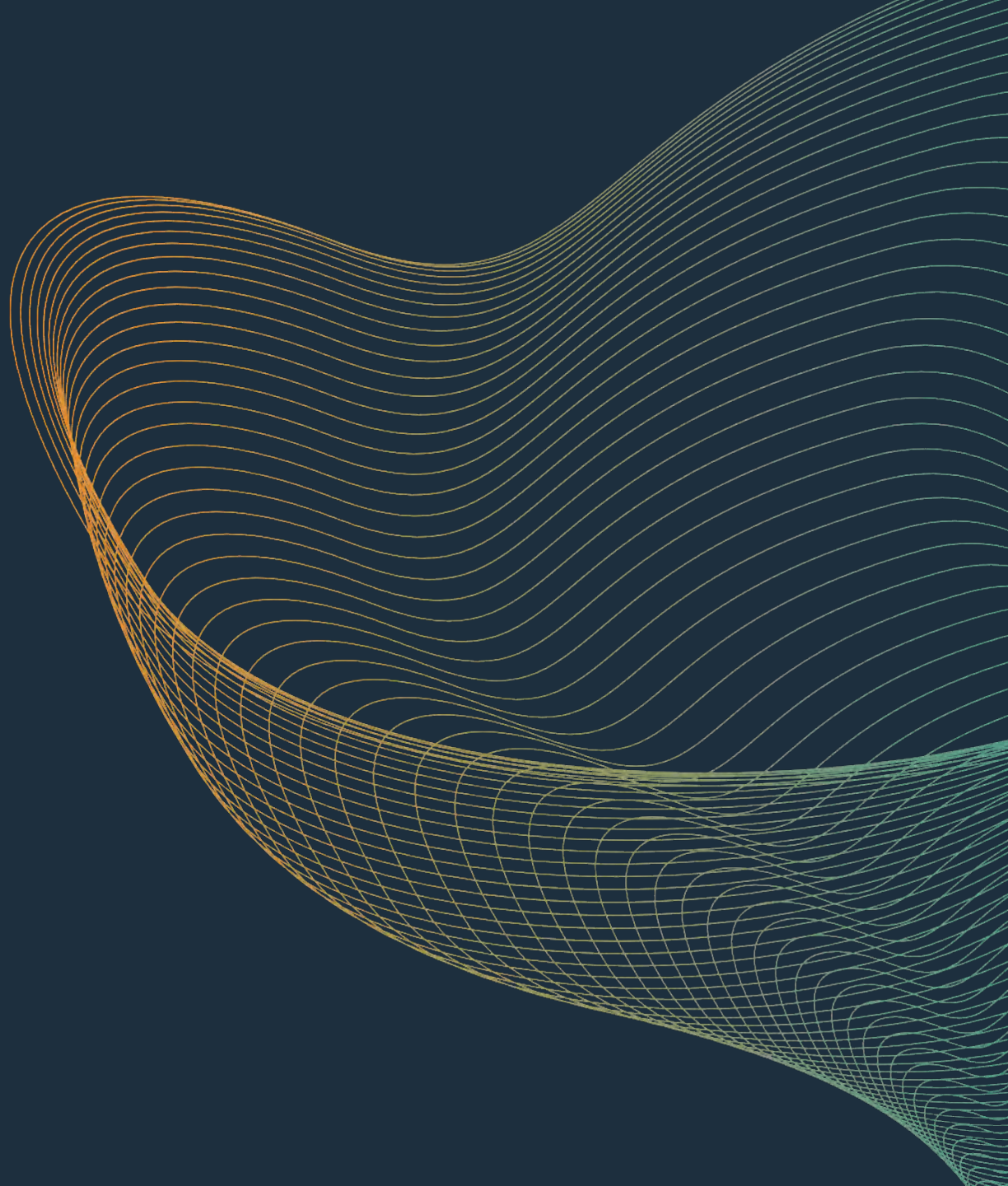


CHIEF COMPLAINT

Why does the patient think they are seeing you?



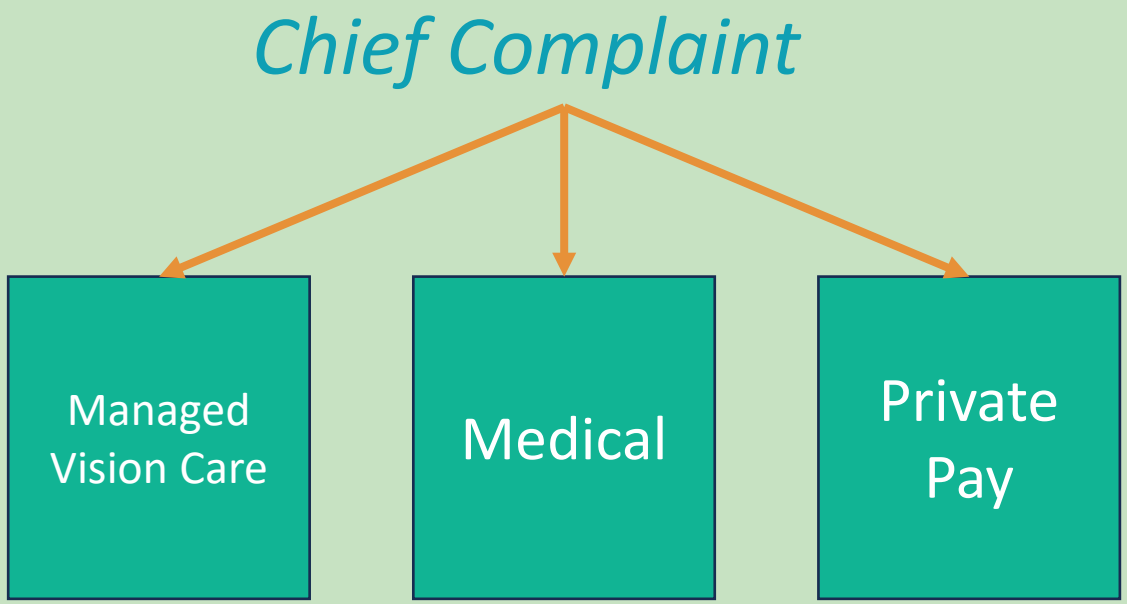
CHIEF COMPLAINT - EXAMPLES



CHIEF COMPLAINT - EXAMPLES

"I am here for my annual exam."

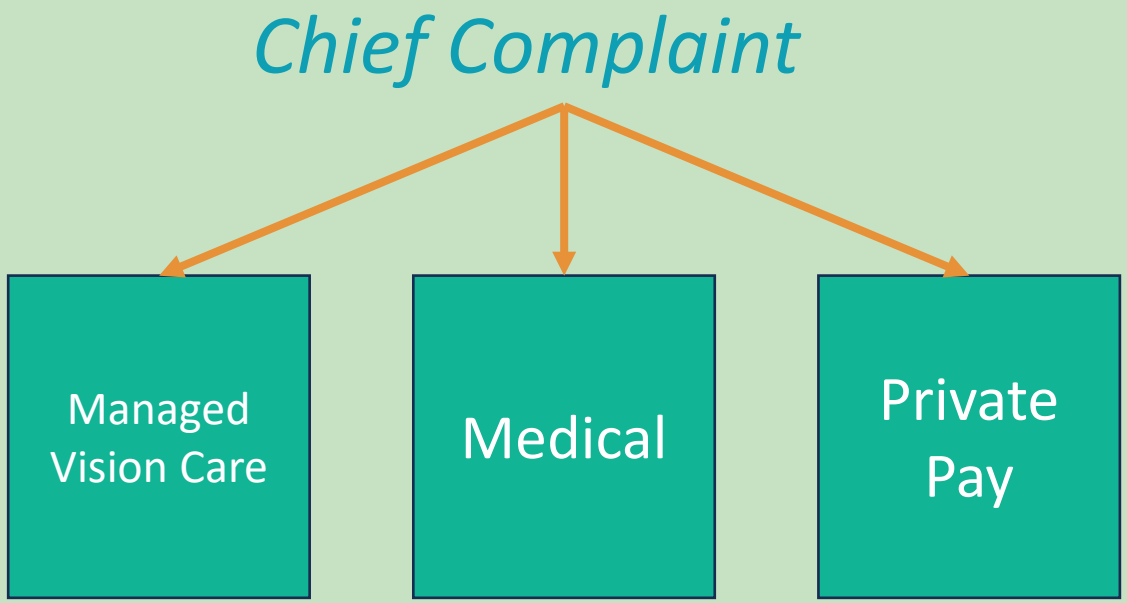
DIAGNOSIS: MYOPIA



CHIEF COMPLAINT - EXAMPLES

"My vision is blurry."

DIAGNOSIS: MYOPIA

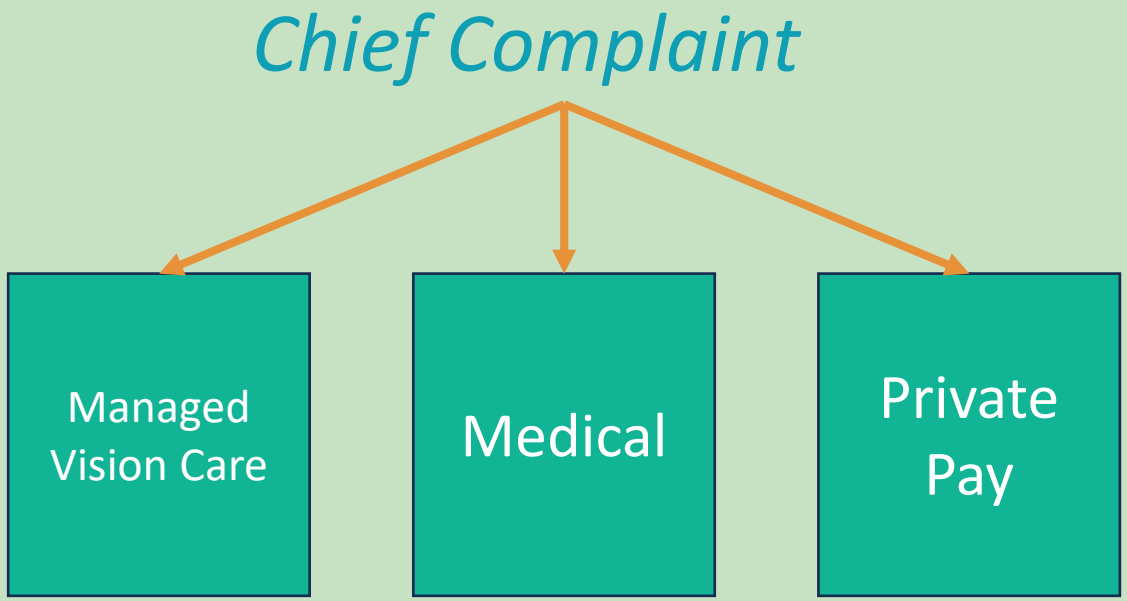


CHIEF COMPLAINT - EXAMPLES

"My vision is blurry."

DIAGNOSIS: ABMD

EXPLAIN TO YOUR PATIENT…

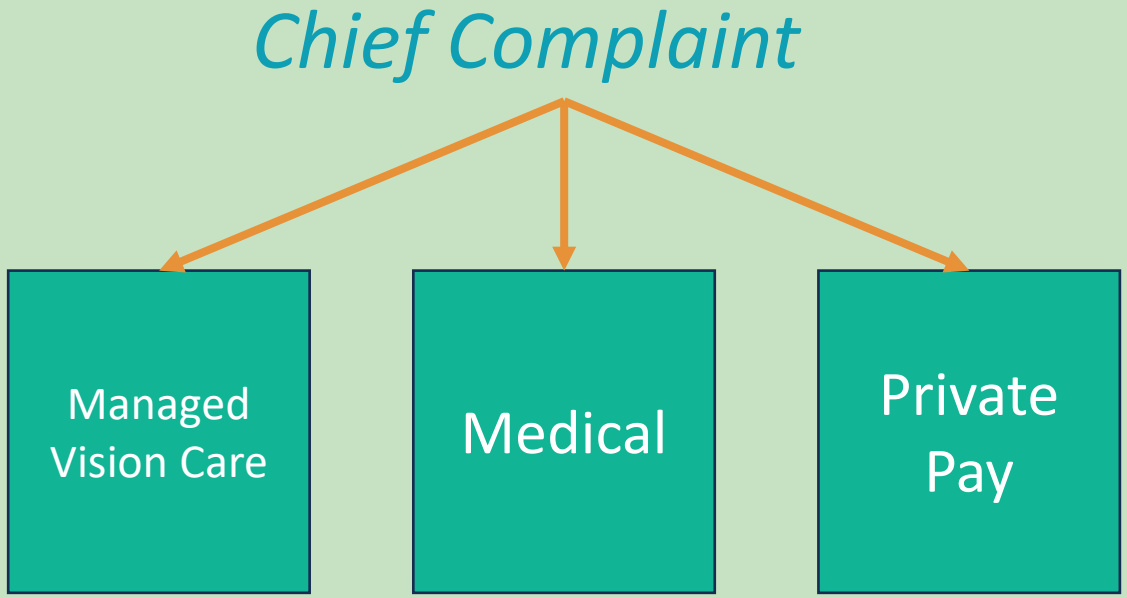


CHIEF COMPLAINT - EXAMPLES

"My eyes are burning and red."

DIAGNOSIS: MYOPIA

WHAT IF THEY INSIST THAT IT GOES TO ROUTINE?

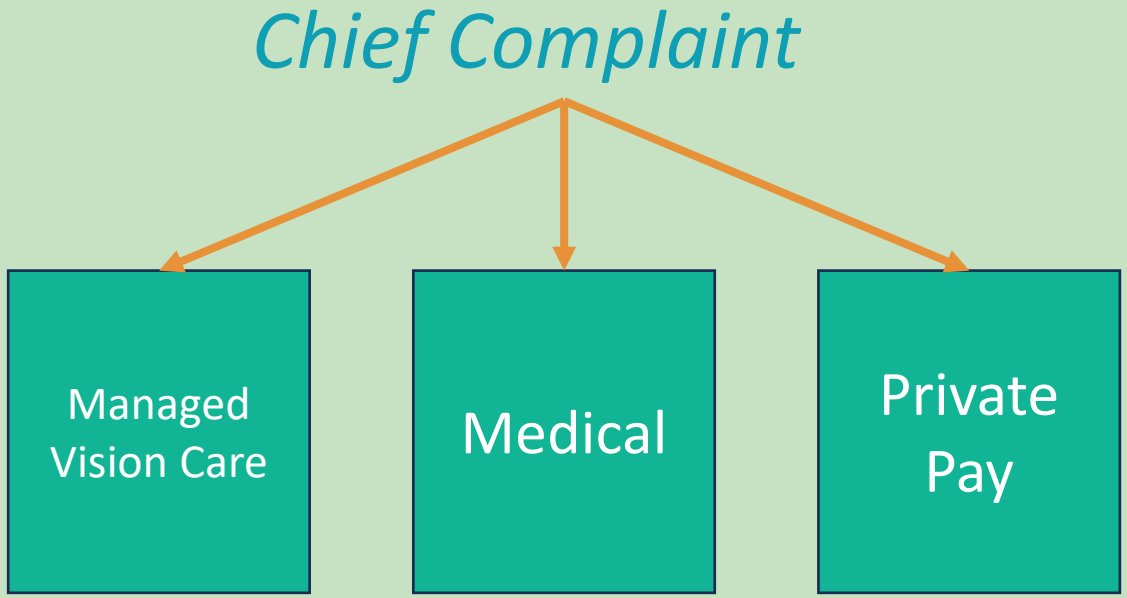


CHIEF COMPLAINT - EXAMPLES

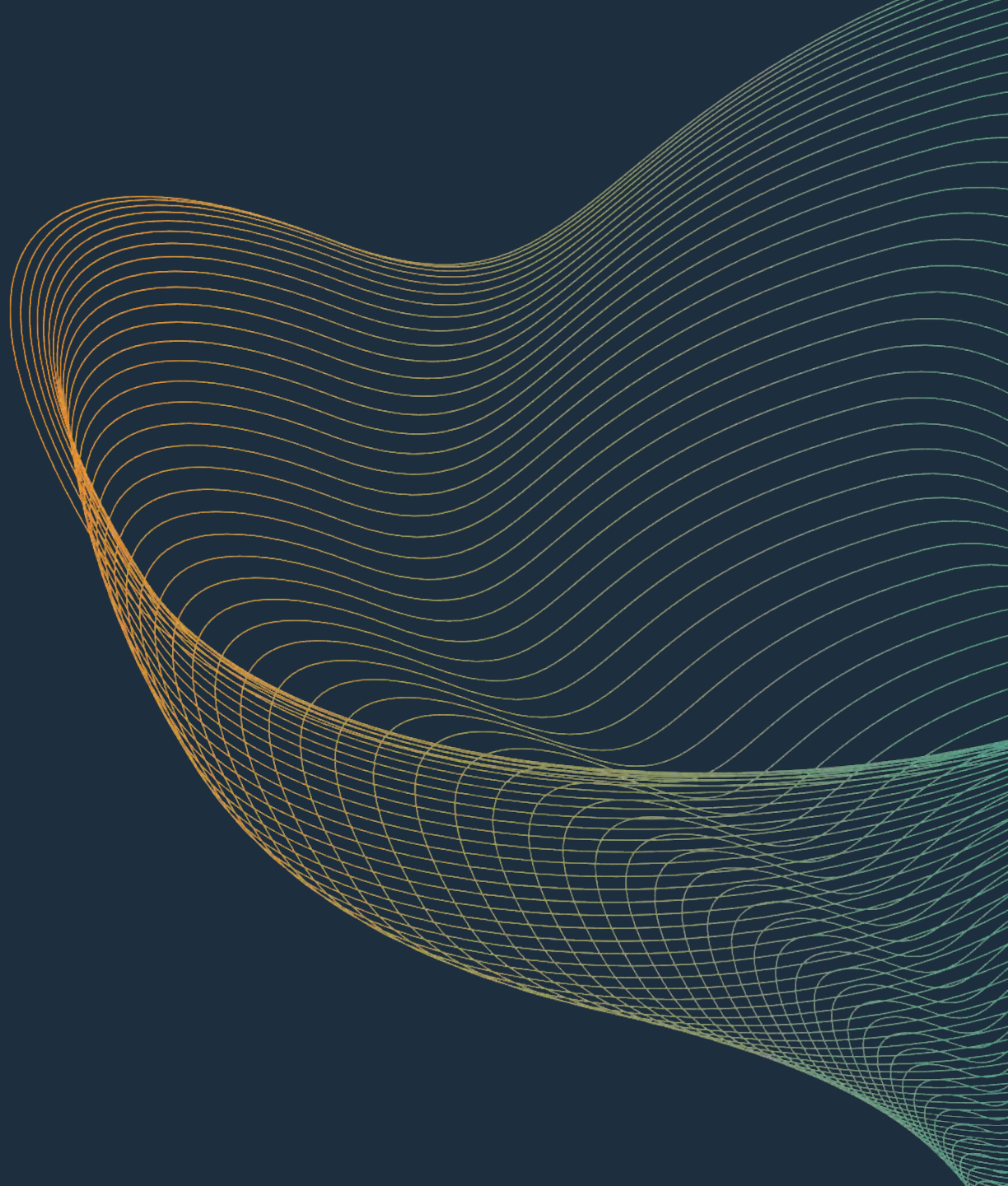
Patient says:

”I need new glasses.”

Previous note in chart says: “RTC 1 year for a glaucoma evaluation”



SECONDARY COMPLAINTS



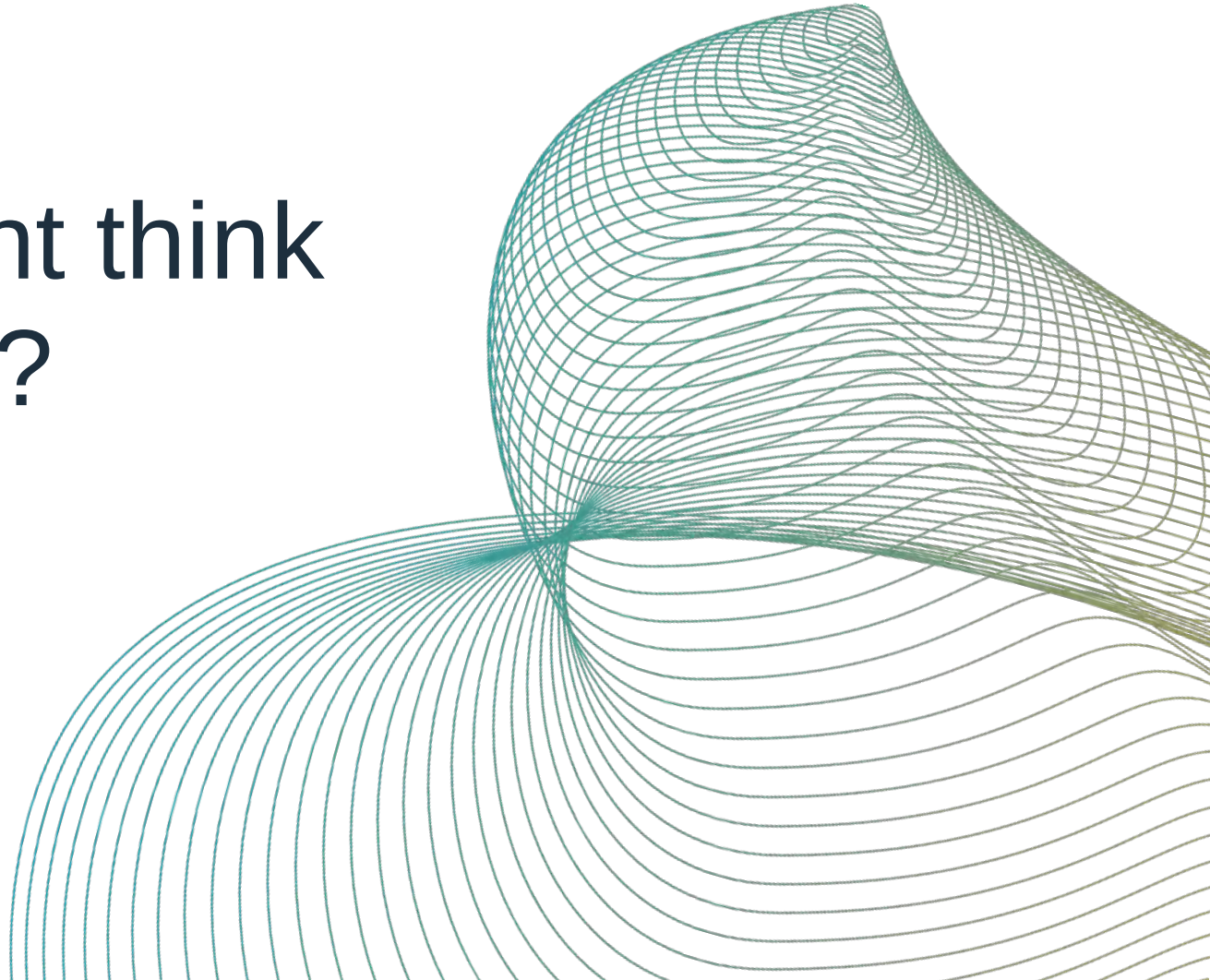
SECONDARY COMPLAINTS

Any additional complaints beyond the chief complaint.

The clinical and billing challenge is identifying which reason is the most important to the patient at that time… this means that you need to talk to the patient!

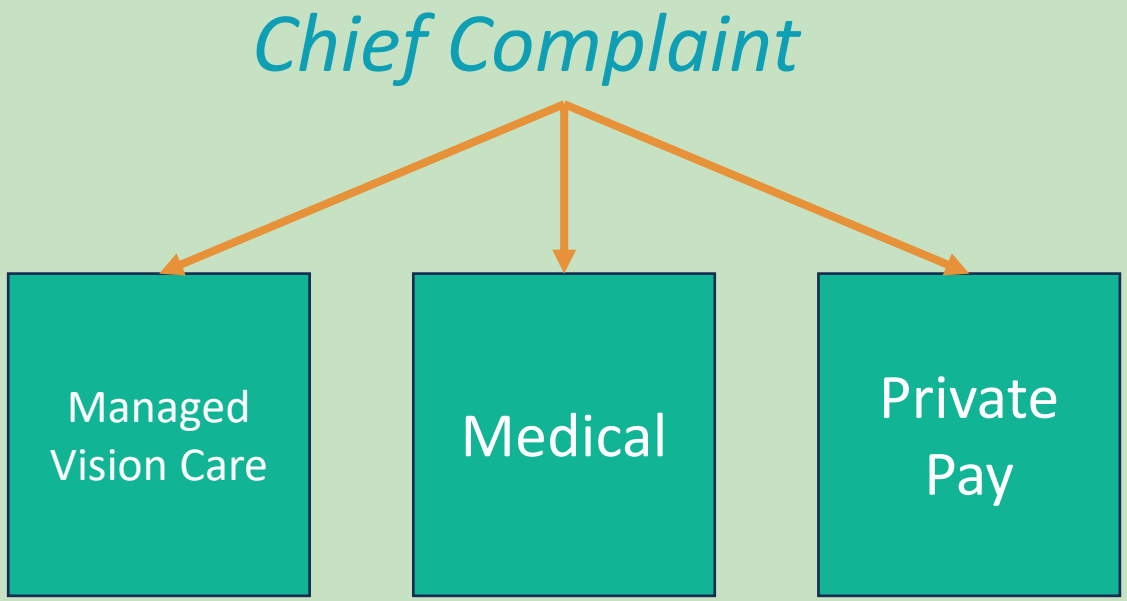
SECONDARY COMPLAINT

Why does the patient think they are seeing you?



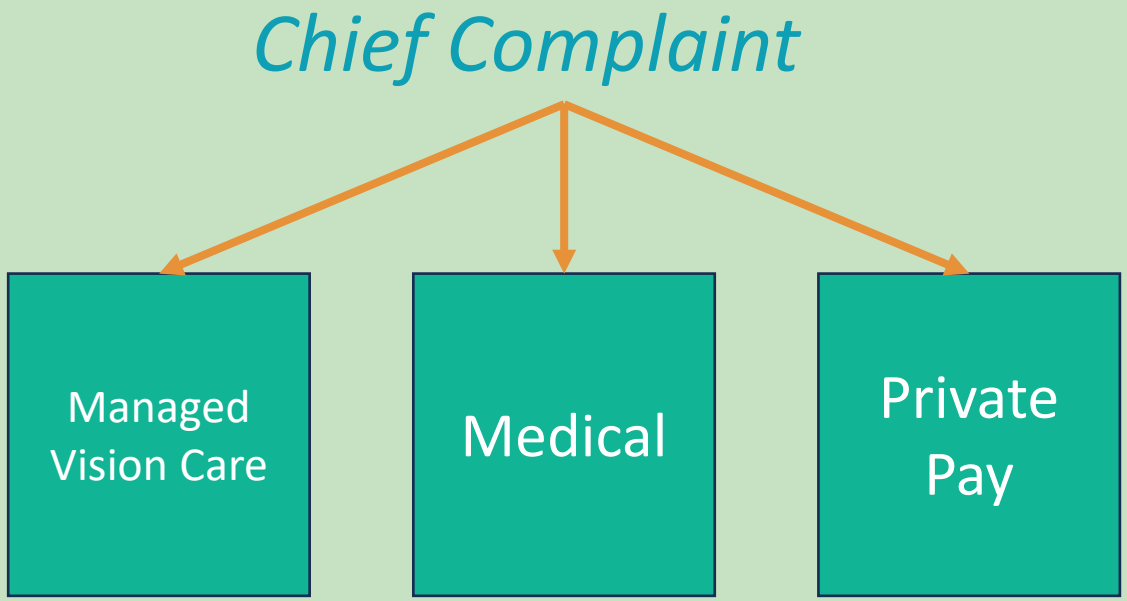
SECONDARY COMPLAINT - EXAMPLES

”I need new glasses and my eyes get itchy during allergy season.”



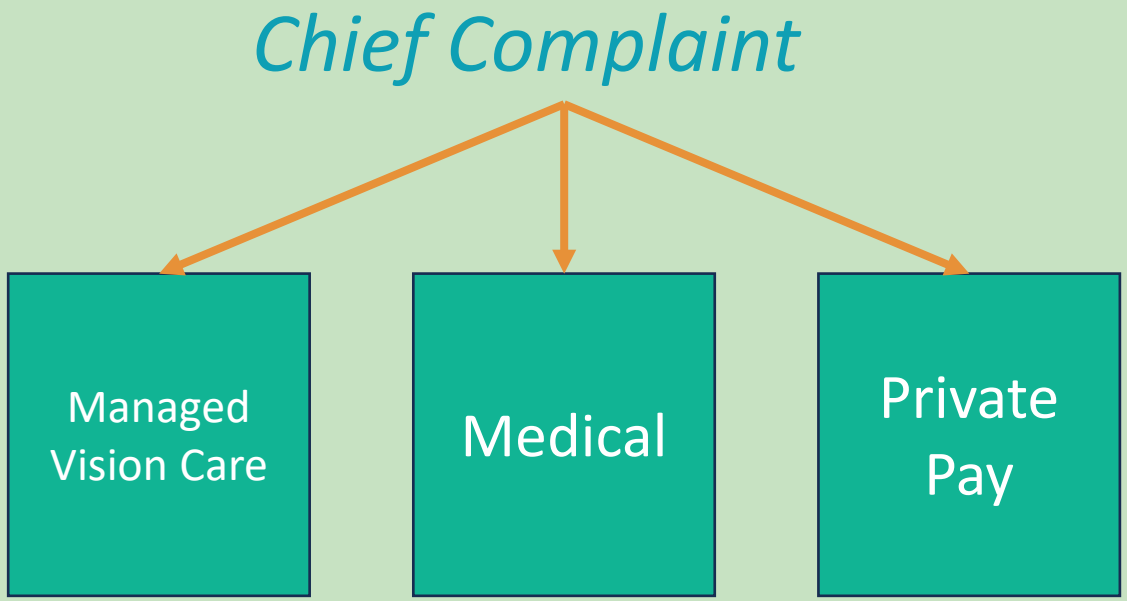
SECONDARY COMPLAINT - EXAMPLES

”I need new glasses and started noticing a few more floaters this morning.”

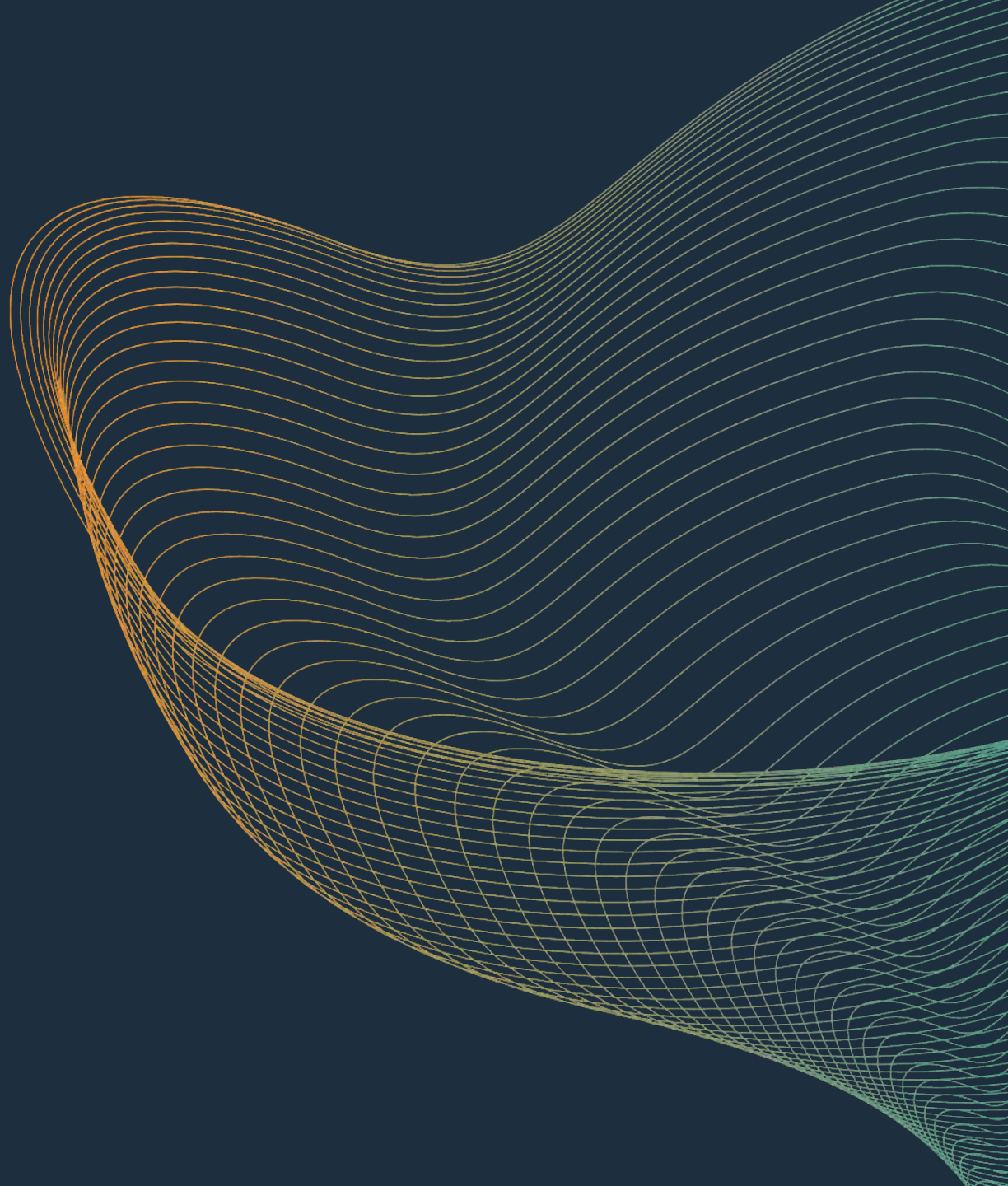


SECONDARY COMPLAINT - EXAMPLES

”I am here for a routine examination and my mother has glaucoma and that concerns me.”



IS IT ROUTINE OR MEDICAL?

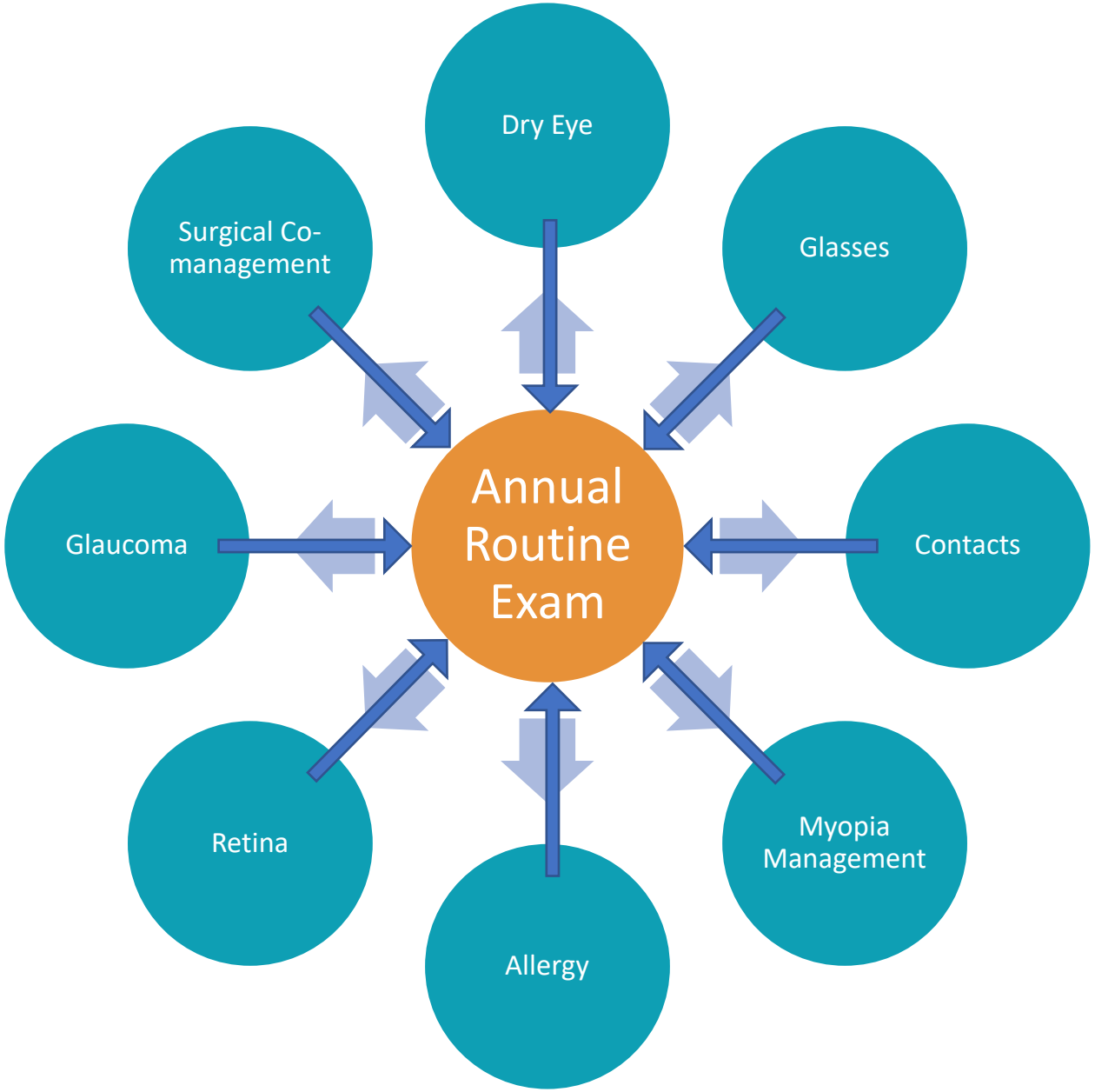


WHERE WE START

IDENTITY (beliefs)

You MUST ACCEPT:

- **MVCP =**
  - **Prescribing glasses**
  - **Screening for diseases**
  - **Can have add-ons like contact lenses**



WHERE WE START

<u>IDENTITY (beliefs)</u>

You MUST ACCEPT:

- **MVCP =**
  - **Prescribing glasses**
  - **Screening for diseases**
  - **Can have add-ons like contact lenses**

MVC PROVIDER MANUAL

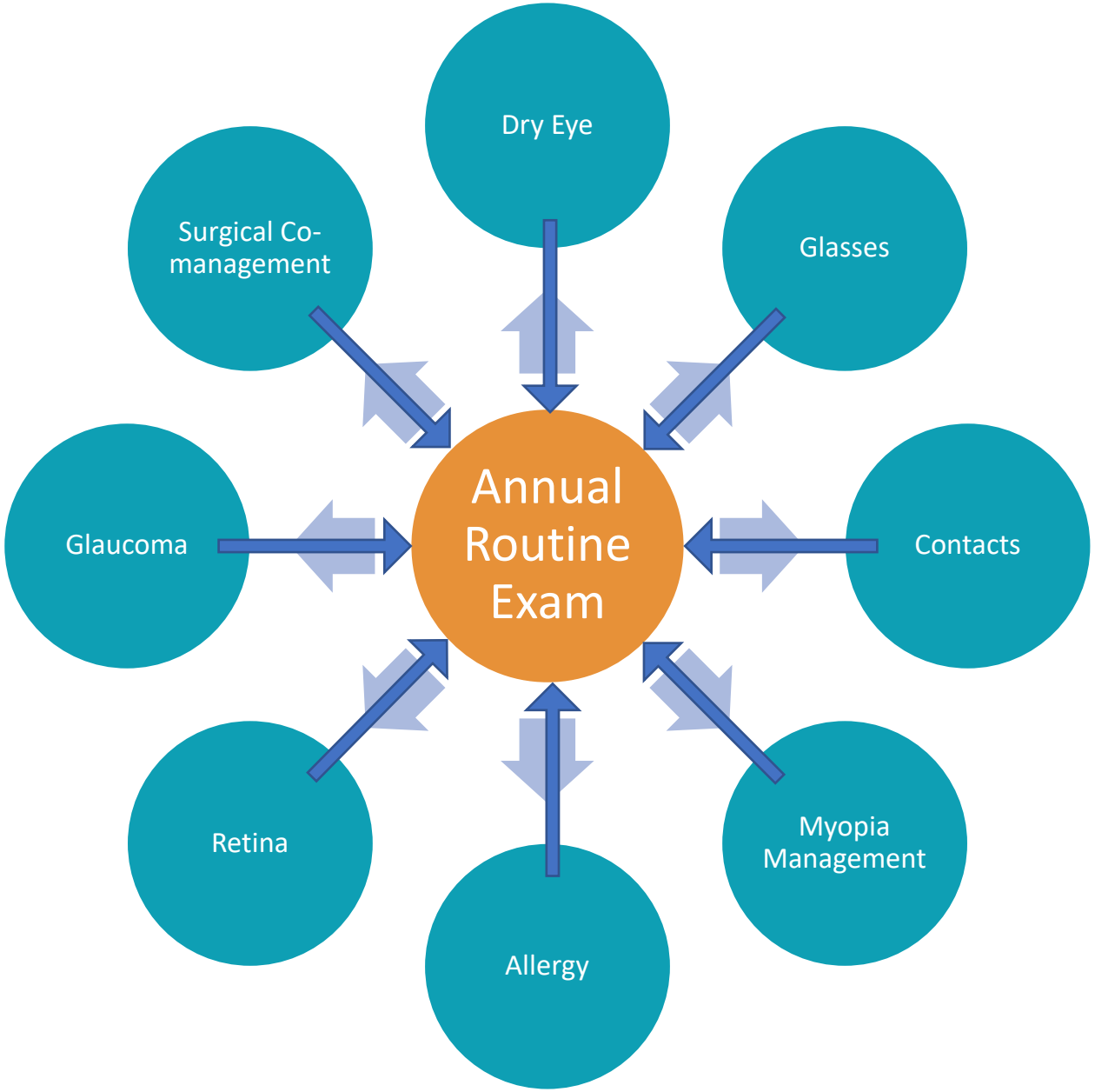
"Your patient's chief complaint or reason for an exam (note: the chief complaint should also be the primary diagnosis on the claim and should determine whether to bill XXX for a routine exam or bill for a medical exam)"

WHERE WE START

<u>IDENTITY (beliefs)</u>

You MUST ACCEPT:

- **Each QUESTION you ask on your intake form during a MVCP is intended to UNCOVER an underlying disease or disorder that will be MANAGED at a SEPARATE visit.**

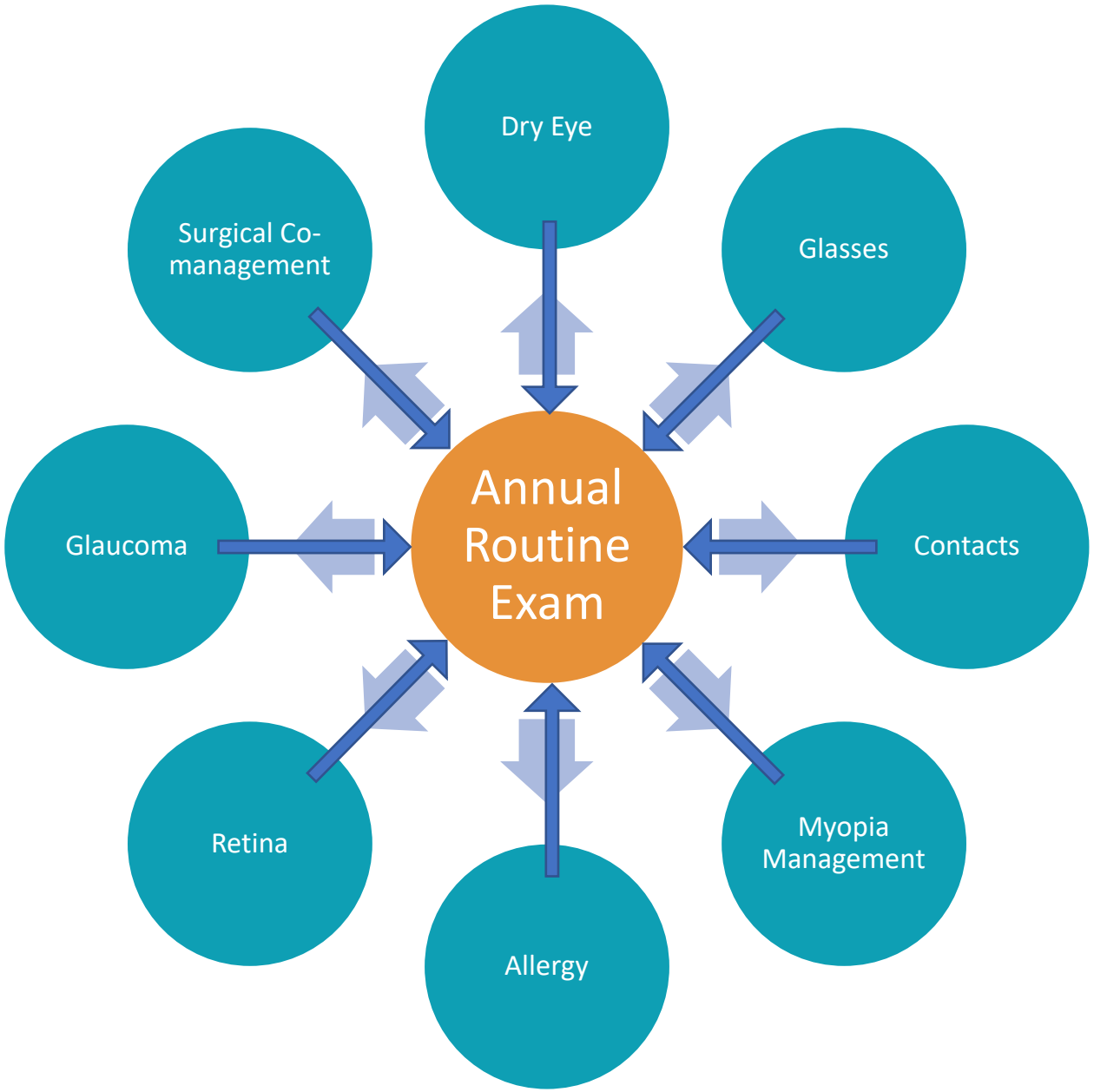


WHERE WE START

IDENTITY (beliefs)

You MUST ACCEPT:

- **Each Test you perform under a MVCP is intended to UNCOVER an underlying disease or disorder that will be MANAGED at a SEPARATE visit**



WHERE WE START

IDENTITY (beliefs)

You MUST ACCEPT:

- **Each Test you perform under a MVCP is intended to UNCOVER an underlying disease or disorder that will be MANAGED at a SEPARATE visit**

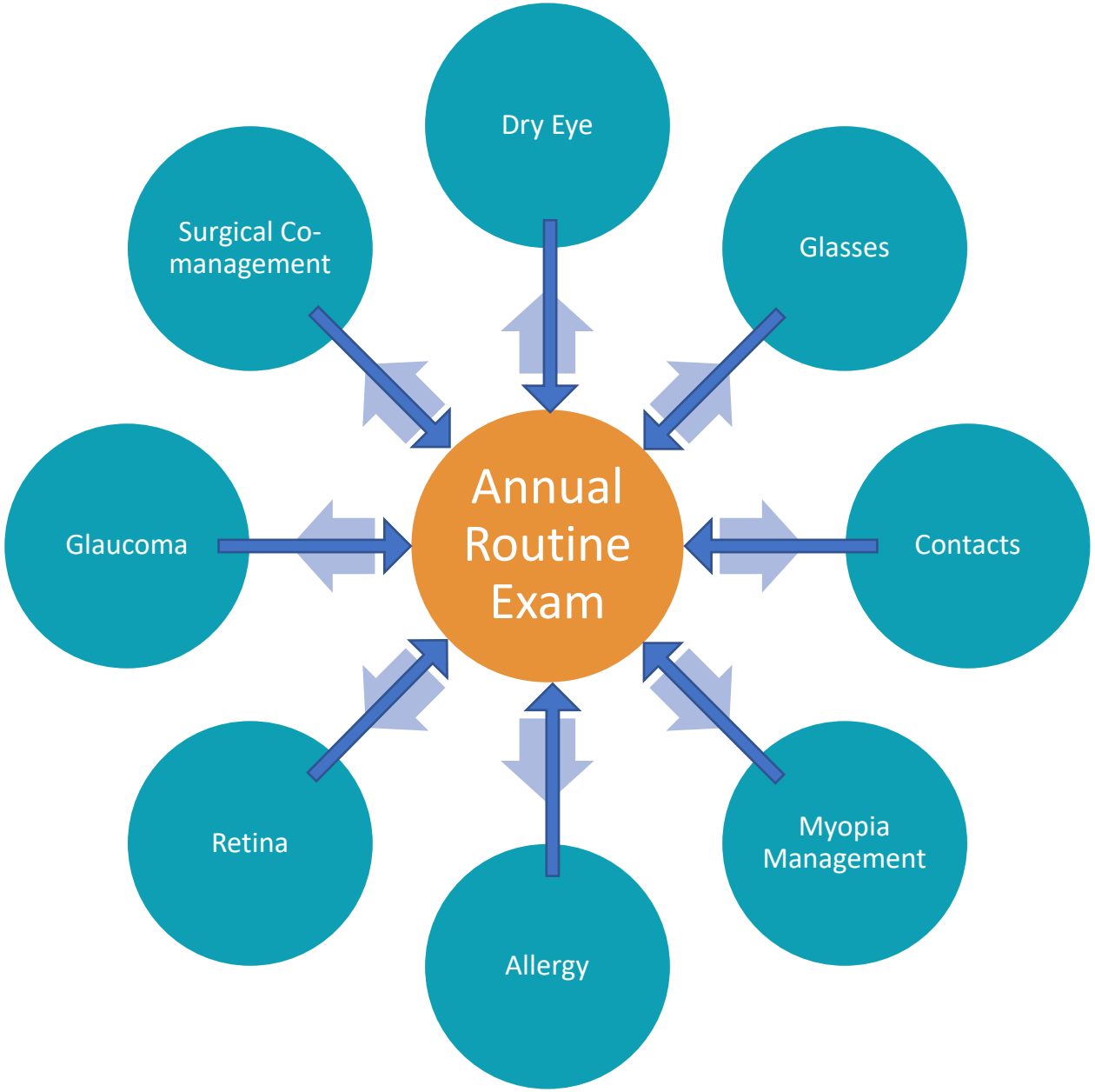
This will make you uncomfortable. Consider…

WHERE WE START

IDENTITY (beliefs)

You MUST ACCEPT:

- **That you will need to CAPTURE the patient**



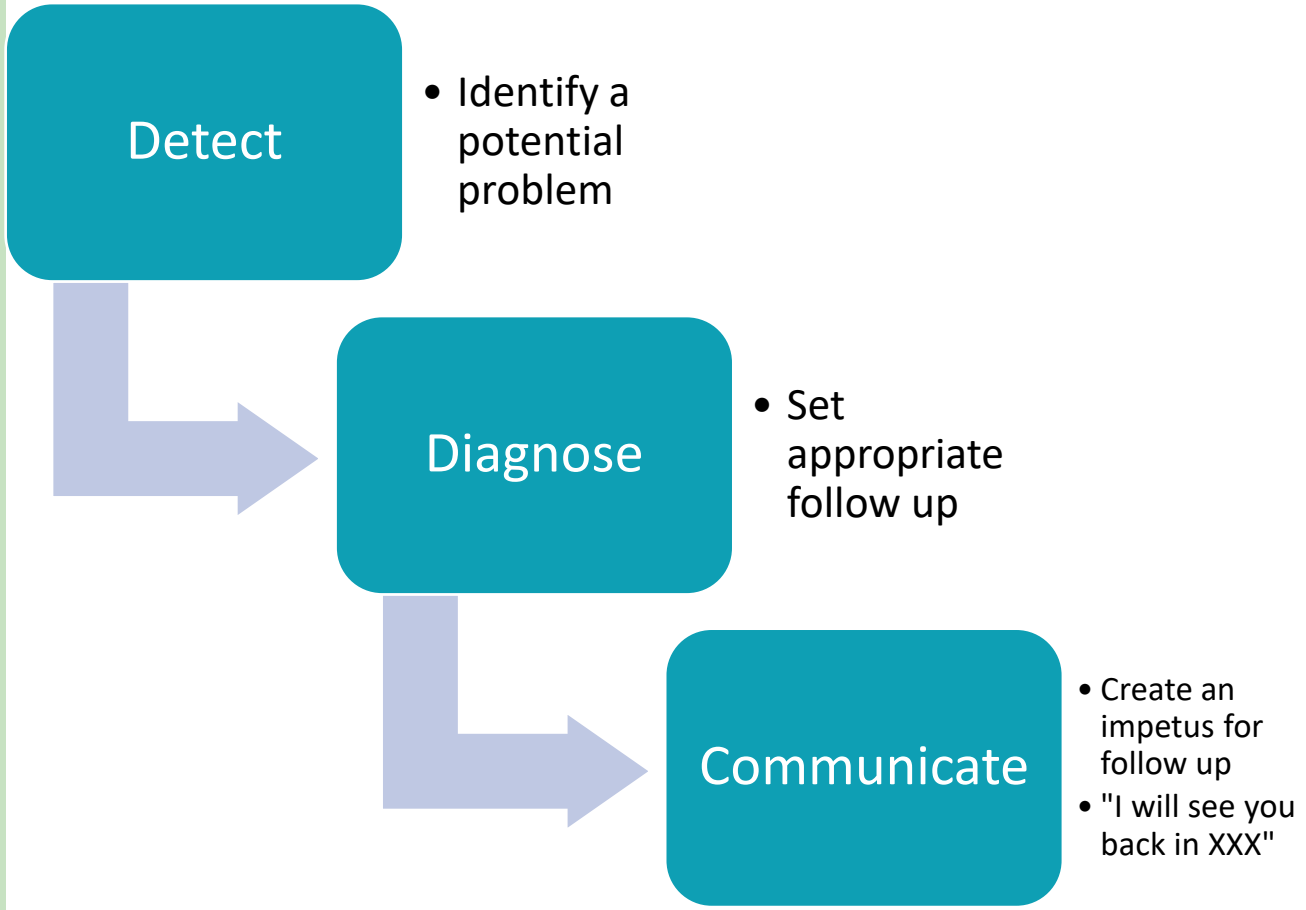
WHERE WE START

<u>IDENTITY (beliefs)</u>

You MUST ACCEPT:

- **That you will need to CAPTURE the patient**

What do we mean by "CAPTURE"

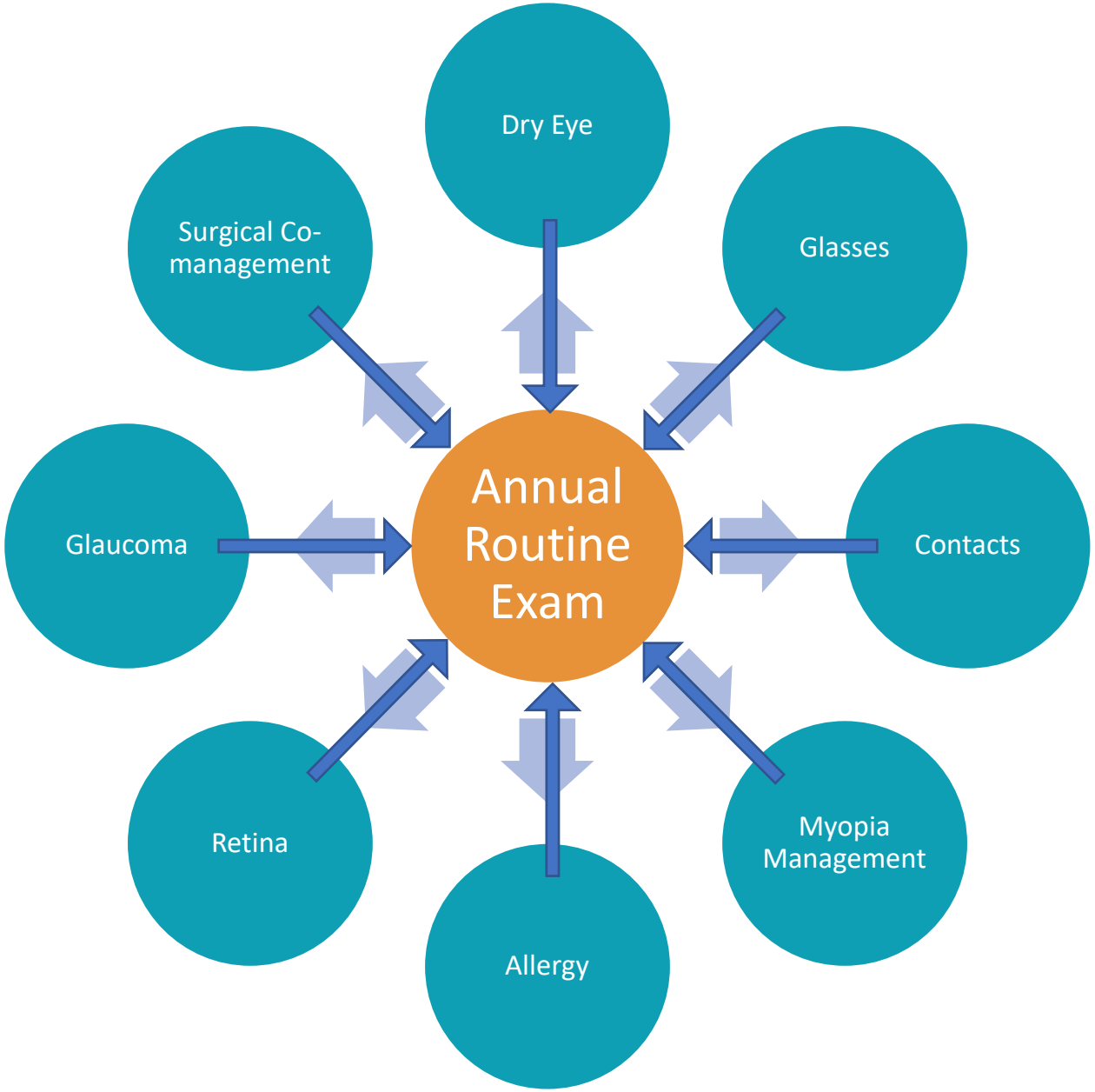


WHERE WE START

<u>IDENTITY (beliefs)</u>

You MUST ACCEPT:

- **That you will need to CREATE a process**

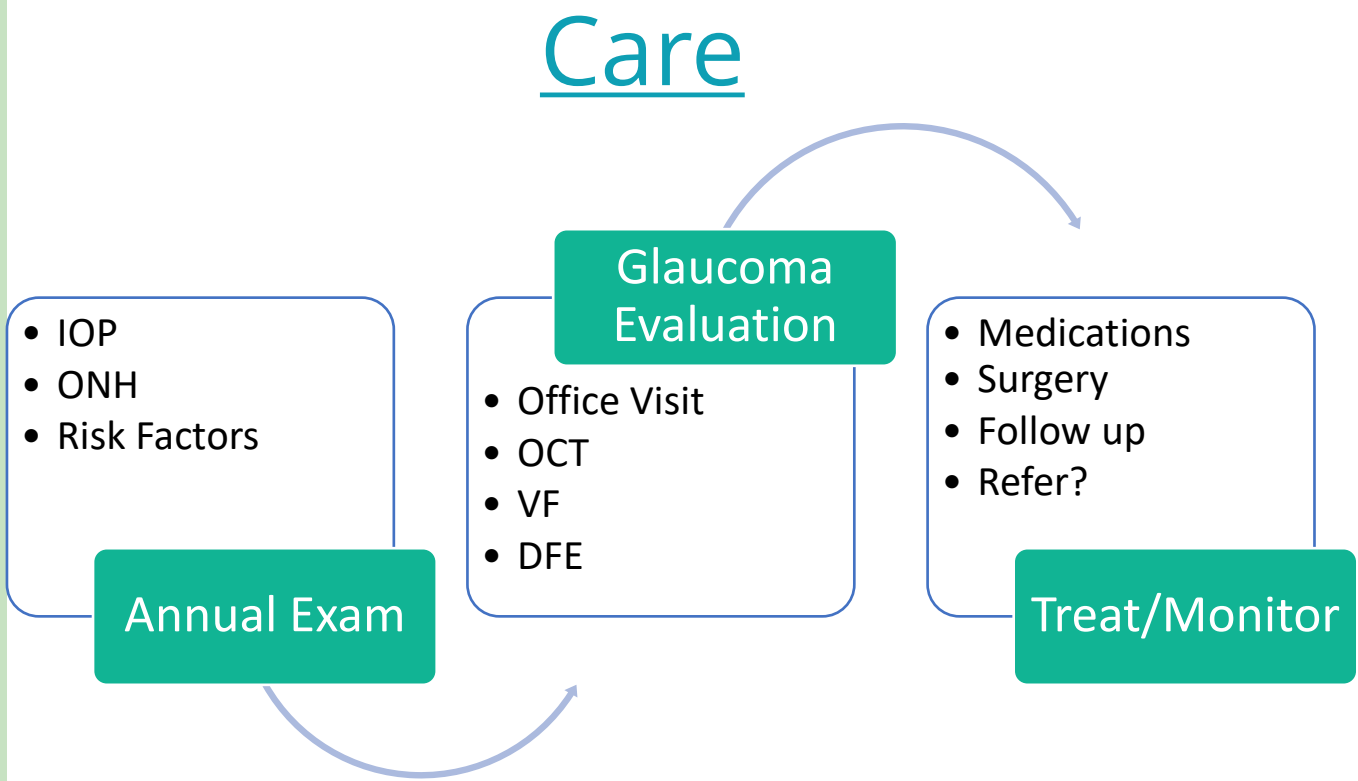


WHERE WE START

IDENTITY (beliefs)

You MUST ACCEPT:

- **That you will need to CREATE a process**



RTC based on risk

Afraid of Audits? You Should Be, but Not for the Reasons You Think.

Christopher Wolfe, OD, FAAO, Dipl. ABO

Introduction

In this course we will cover:

- **Comprehensive Error Rate Testing (CERT)**
- How we can use CERT to **help guide our documentation habits**
- The difference between **fraud and abuse**
- What are **common provider mistakes** with CERT
- What **steps** should we take to prevent errors

What is CERT?

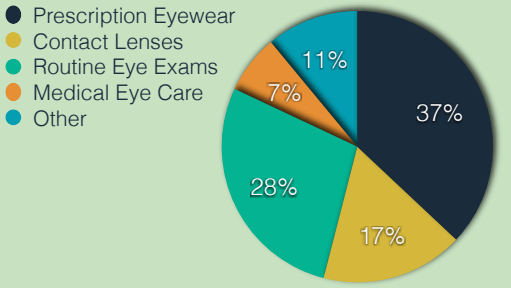
Christopher Wolfe, OD, FAAO, Dipl. ABO

Under Manage

Average MBA Revenue Sources

Glasses and CL Sales account for **54% of revenue** for the average OD practice!

Glasses, CL Sales and Routine Eye Exams account for **82% of revenue** for the average OD practice!



Comprehensive Error Rate Testing

History

- The Medicare FFS improper payment rate was **first measured in 1996**.
- HHS-OIG was responsible for **estimating the national Medicare FFS improper payment** rate from 1996 through 2002.
- The OIG designed its sampling method to estimate a national Medicare FFS paid claims improper payment rate only.
  - OIG's **small sample size** of approximately 6,000 claims, the OIG was unable to produce improper payment rates by contractor, contractor type, service type, or provider type.
- Following recommendations from the OIG, the **sample size was increased** when CMS began producing the Medicare FFS improper payment rate in **2003**.

Comprehensive Error Rate Testing

Current Program

- **Measure improper payments** in the Medicare Fee-for-Service (FFS) program
- Selects a stratified random sample of approximately **50,000 claims** submitted to Part A/B MACs and DME MACs
  - Allows CMS to **calculate a national improper payment rate** and contractor- and service-specific improper payment rates.
  - Ensures a statistically valid random sample; therefore, the improper payment rate calculated from this sample is **considered to reflect all claims processed** by the Medicare FFS program during the report period.

Comprehensive Error Rate Testing

Current Program

Review

The sample of Medicare FFS claims is reviewed by an **independent medical review contractor** to determine if they were paid properly under Medicare coverage, coding, and billing rules.

Improper Claims

If these criteria are not met or the provider fails to submit medical records to support the claim billed, the **claim is counted as either a total or partial improper payment** and the improper payment may be recouped (for overpayments) or reimbursed (for underpayments).

Improper Payment

The last step in the process is the calculation of the **annual Medicare FFS improper payment rate**, which is published in the HHS Agency Financial Report

7

Do I Have to Worry About Fraud?

Christopher Wolfe, OD, FAAO, Dipl. ABO

What is Fraud?

Medicare **fraud** typically includes any of the following:

- Knowingly submitting, or causing to be submitted, false claims or making misrepresentations of fact to obtain a Federal health care payment for which no entitlement would otherwise exist
- Knowingly soliciting, receiving, offering, or paying remuneration (e.g., kickbacks, bribes, or rebates) to induce or reward referrals for items or services reimbursed by Federal health care programs
- Making prohibited referrals for certain designated health

Examples of Fraud

- Knowingly billing for services at a level of complexity higher than services actually provided or documented in the medical records
- Knowingly billing for services not furnished, supplies not provided, or both, including falsifying records to show delivery of such items
- Knowingly ordering medically unnecessary items or services for patients
- Paying for referrals of Federal health care program beneficiaries
- Billing Medicare for appointments patients fail to keep

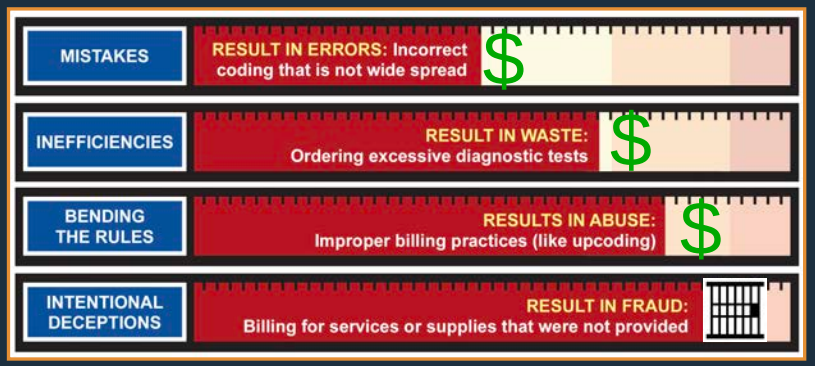
What is Abuse?

Abuse describes practices that may directly or indirectly result in unnecessary costs to the Medicare Program. Abuse includes any practice that does not provide patients with medically necessary services or meet professionally recognized standards of care.

Examples of Abuse

- Billing for unnecessary medical services
- Charging excessively for services or supplies
- Misusing codes on a claim, such as upcoding or unbundling codes. Upcoding is when a provider assigns an inaccurate billing code to a medical procedure or treatment to increase reimbursement.

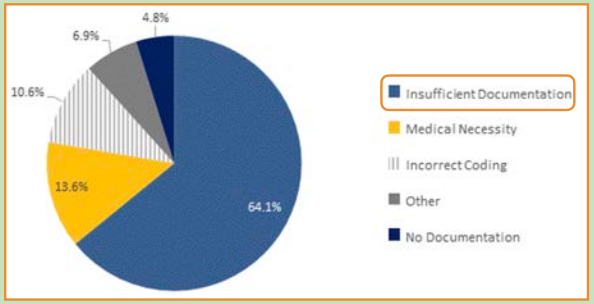
What is the Difference?



What does the Data Show Us?

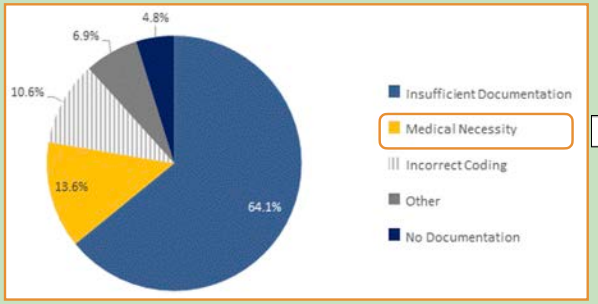
Christopher Wolfe, OD, FAAO, Dipl. ABO

Common Causes of Improper Payment



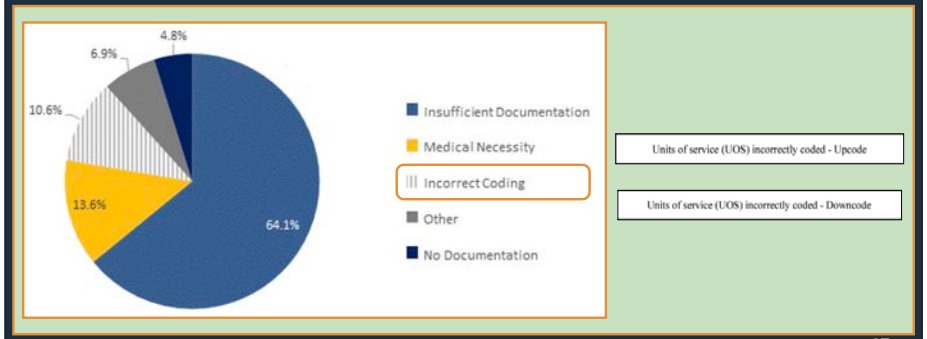
Root Cause Description
Provider's intent to order (for certain services) - Missing
Order - Missing
Order - Inadequate
Documentation to support medical necessity - Missing
Documentation for the associated diagnostic lab test(s) - Inadequate
Documentation for the billed date of service- Missing
Physical/Occupational/Speech Therapy - Certification/Recertification - Missing
Documentation to support the services were provided or other documentation required for payment of the code - Missing
NCD requirement(s), other documentation required for payment - Missing

Common Causes of Improper Payment



Documentation does not support medical necessity for the service or item billed

Common Causes of Improper Payment



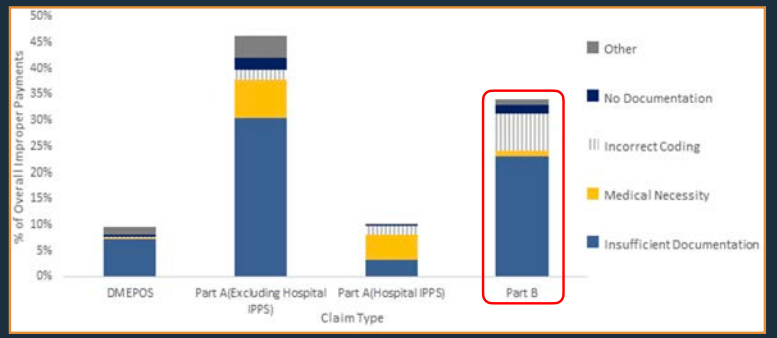
What is the Impact?

Christopher Wolfe, OD, FAAO, Dipl. ABO

How Much Does This Cost (Billions)?

Claim Type	Claims Sampled	Claims Reviewed	Total Payments	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Percent of Overall Improper Payments
Part A (Total)	28,079	18,508	$291.4	$14.2	4.9%	4.3% - 5.5%	56.5%
Part A (Excluding Hospital IPPS)	8,309	7,180	$183.5	$11.6	6.3%	5.4% - 7.3%	46.3%
Part A (Hospital IPPS)	19,770	11,328	$107.9	$2.6	2.4%	2.1% - 2.7%	10.3%
Part B	14,678	14,267	$100.1	$8.5	8.5%	7.8% - 9.2%	33.9%
DMEPOS	9,646	9,235	$8.3	$2.4	28.6%	26.4% - 30.8%	9.5%
Total	**52,403**	**42,010**	**$399.8**	**$25.0**	**6.3%**	**5.8% - 6.7%**	**100.0%**

How Bad is Part B?



What Services are Most Likely to Fail?

Part B Services (BETOS Codes)	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Percentage of Service Type Improper Payments by Type of Error					Percent of Overall Improper Payments
				No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Lab tests - other (non-Medicare fee schedule)	$817,653,571	24.8%	19.6% - 30.1%	0.7%	88.8%	8.8%	0.0%	1.6%	3.2%
Minor procedures - other (Medicare fee schedule)	$760,818,528	15.0%	9.0% - 20.9%	2.6%	90.0%	0.4%	1.8%	5.3%	3.0%
Office visits - established	$722,802,851	4.9%	3.7% - 6.1%	11.0%	38.7%	0.0%	48.5%	1.8%	2.8%
Hospital visit - subsequent	$498,391,826	9.2%	6.9% - 11.4%	8.7%	45.8%	0.0%	44.5%	1.0%	1.9%
Hospital visit - initial	$463,933,943	17.2%	14.6% - 19.8%	3.8%	24.5%	0.0%	71.1%	0.7%	1.8%
Specialist - other	$442,270,133	25.5%	17.7% - 33.2%	3.4%	92.3%	0.0%	4.4%	0.0%	1.7%
Ambulance	$405,165,149	7.9%	4.6% - 11.2%	5.4%	56.6%	31.3%	6.7%	0.0%	1.6%
Nursing home visit	$341,892,648	14.1%	11.0% - 17.2%	4.6%	37.1%	0.0%	54.9%	3.3%	1.3%
Specialist - psychiatry	$271,060,913	19.4%	12.9% - 25.8%	6.2%	87.5%	0.0%	0.7%	5.7%	1.1%
Office visits - new	$256,145,880	9.7%	6.9% - 12.4%	4.2%	6.6%	0.0%	64.0%	25.3%	1.0%

21

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What Can We Do?

Christopher Wolfe, OD, FAAO, Dipl. ABO

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To Do

Document

- **Maintain accurate and complete medical records** and documentation of the services you provide.
- Ensure your **documentation supports the claims you submit** for payment.
- Good documentation practices help to ensure your patients get appropriate care and allow other providers to rely on your records for patients' medical histories.

To Do

Document

- Understand Documentation Guidelines

To Do

Document

- Ensure there is a **chief complaint** documented
- List all **addressed problems** in assessment
- **Finish** your charts
- **Sign** your charts
- **Order** tests appropriately
- **Interpret** tests

Order

- **"Order: 30-2 threshold visual field OU to evaluate for glaucomatous field loss and monitor"**
- **"Order: macular OCT OU to evaluate for macular fluid associated with wet ARMD and monitor"**

Routine screening tests that are a "standing order" for all patients as part of their preliminary tests are NOT medically necessary and should NOT be billed to the insurance company.

Interpret

1. Test **date**
2. Test **reliability** (e.g., cloudy due to cataract)
3. Test **findings** (e.g., hemorrhage)
4. **Comparison** with prior tests (when applicable)
5. **Diagnosis** (if possible)
6. **Impact** on treatment and prognosis
7. **Signature** of the physician

Interpret

"Interpretation and report: Test 30-2 threshold visual field, shows inferior nasal step within 5° of fixation OD, no defects OS. Good reliability in each eye, appears stable based on comparison to prior testing. Continue Lumigan 0.01% and monitor in 4 months along with IOP, gonioscopy and dilated optic nerve evaluation."

ALTERNATIVE OCT DIAGNOSTICS

MARCUS GONZALES, OD, FAAO

ANDREW KEMP, OD, FAAO

1

FINANCIAL DISCLOSURES

- Marcus Gonzales OD, FAAO
- Clinical Associate Professor at the University of Houston College of Optometry
- No financial disclosures.

2

FINANCIAL DISCLOSURES

- Andrew Kemp OD, FAAO
- Clinical Assistant Professor at the University of Houston College of Optometry
- Metro-Optics
- Essilor Custom Contact Lenses
- *All relevant financial relationships have been mitigated*

3

ANTERIOR SEGMENT OCT IMAGING

- Lesions
- Specialty lens fittings
- Angle
- Pachymetry
- Other Uses

*Often not paid by insurance

4

LOCAL COVERAGE DETERMINATION (LCD)

WWW.CMS.GOV

- ***Anterior Segment Disorders***
  SCODI may be used to examine the structures in the anterior segment structures of the eye.
  However, it is still seen as experimental/investigational except in the following:
- *Narrow angle, suspected narrow angle, and mixed narrow and open angle glaucoma*
- *Determining the proper intraocular lens for a patient who has had prior refractive surgery and now requires cataract extraction*
- *Iris tumor*
- *Presence of corneal edema or opacity that precludes visualization or study of the anterior chamber*
- *Calculation of lens power for cataract patients who have undergone prior refractive surgery. Payment will only be made for the cataract codes as long as additional documentation is available in the patient record of their prior refractive procedure. Payment will not be made in addition to A-scan or IOL master*

5

DOCUMENTATION IS IMPORTANT!

- ***Limitations*** *The following are considered not medically reasonable and necessary:*

1. *SCODI is usually not medically reasonable and necessary when performed to provide additional confirmatory information regarding a diagnosis which has already been determined.* ***Documentation should support that the SCODI test result was used for establishing a diagnosis, establishing a baseline prior to treatment, or for monitoring purposes.***

6

NON-COVERAGE ≠ YOU DON'T GET REIMBURSED

- If your anterior segment OCT is denied, this fee can be passed on to the patient
- Consider billing 'screening' anterior segment OCTs and you can set your own fees

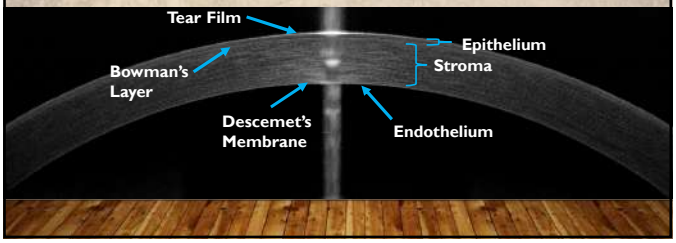
7

SCAN PATTERNS

- Corneal line scan (HD line)
  - 1 x 8mm scan with 1020 A-scans
  - Great for high definition scans
  - Limited information
  - Can rotate the line scan to any degree
  - Resolution close to 5-10um

8

CORNEAL HD LINE SCAN



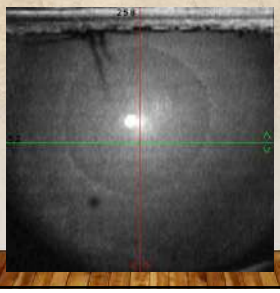
9

SCAN PATTERNS

- Cube scan
  - 101 x 8mm scans with 513 A-scans
  - More clinical data in one scan
  - Less definition – more clinically useful

10

CUBE SCAN



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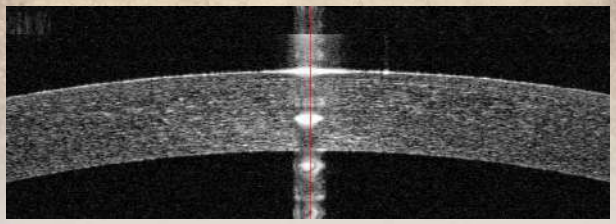
LINE SCAN FROM CUBE SCAN



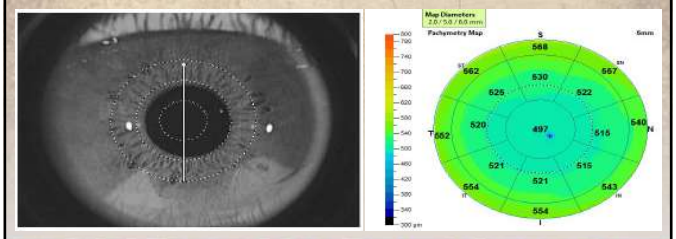
12

SCAN PATTERNS

- Pachymetry scan
  - 8 x 6mm radial lines with 1020 A-scans
  - 22.5° interval
  - Measures corneal thickness at 17 locations

13

PACHYMETRY SCAN



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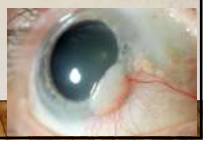
EVALUATING LESIONS

- Lesion type dictates the scan you choose
  - Certain lesions may require the high definition
- Can be used for viral, bacterial and fungal corneal infections
- Can help differentiate pterygium vs. ocular surface squamous neoplasia (OSSN)

15

OCULAR SURFACE SQUAMOUS NEOPLASIA

- Formally know as conjunctival intraepithelial neoplasia (CIN)
- Gelatinous, leukoplakic surface lesion typically arising from the limbus
- Older, lighter pigmented individuals living near the equator
- Possibly associated with HPV infection or HIV
  - Especially in younger individuals



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PTERYGIUM vs. OSSN ON OCT

Pterygium	OSSN
• Normal epithelium	• Epithelial thickening
• Underlying hyperreflective subepithelial tissue	• Sharp delineation between normal and abnormal/abrupt transitional zone

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OSSN

Sharp delineation

ONG SS,VORA GK, GUPTA PK. ANTERIOR SEGMENT IMAGING IN OCULAR SURFACE SQUAMOUS NEOPLASIA. *J OPHTHALMOL*. 2016;2016:5435092. DOI:10.1155/2016/5435092

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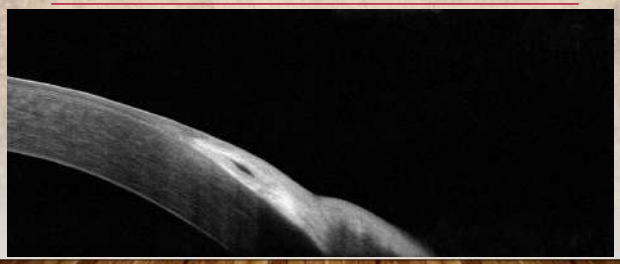
PTERYGIUM



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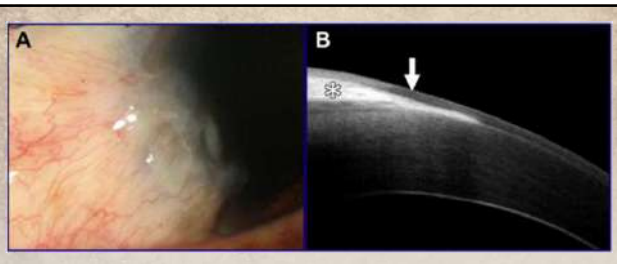
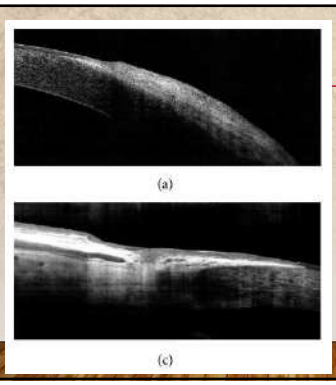


ULTRA HIGH-RESOLUTION ANTERIOR SEGMENT OPTICAL COHERENCE TOMOGRAPHY IN THE DIAGNOSIS AND MANAGEMENT OF OCULAR SURFACE SQUAMOUS NEOPLASIA

20



PTERYGIUM

- Lim SH. Clinical applications of anterior segment optical coherence tomography. *J Ophthalmol.* 2015;2015:605729. doi:10.1155/2015/605729

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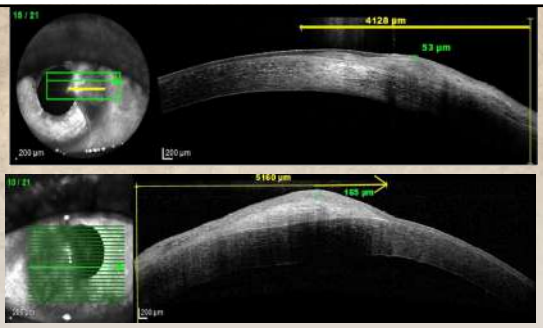
Pterygium

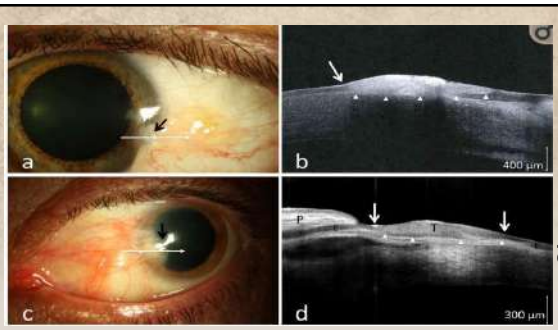


NSSO

Lozano García I, Romero Caballero MD, Seltes Navarro I. High resolution anterior segment optical coherence tomography for differential diagnosis between corneo-conjunctival intraepithelial neoplasia and pterygium. Tomografía de coherencia óptica de segmento anterior de alta resolución como método de diagnóstico diferencial entre neoplasia intraepitelial córneo-conjuntival y pterygium. *Arch Soc Esp Oftalmol.* 2020;95(3):108–13. doi:10.1016/j.oftal.2020.01.002

22

OSSN



OSSN and Pterygium

ATALLAH M, JOAG M, GALOR A, ET AL. ROLE OF HIGH RESOLUTION OPTICAL COHERENCE TOMOGRAPHY IN DIAGNOSING OCULAR SURFACE SQUAMOUS NEOPLASIA WITH COEXISTING OCULAR SURFACE DISEASES. *OCUL SURF.* 2017;15(4):688–695. DOI: 10.1016/j.JTOS.2017.09.003

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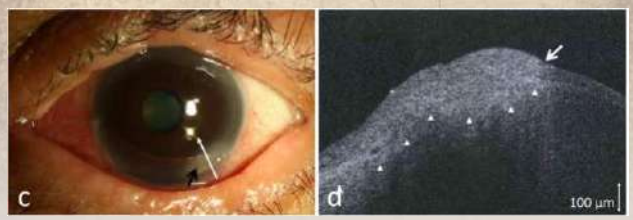
STRANGE CORNEAL OPACIFICATION



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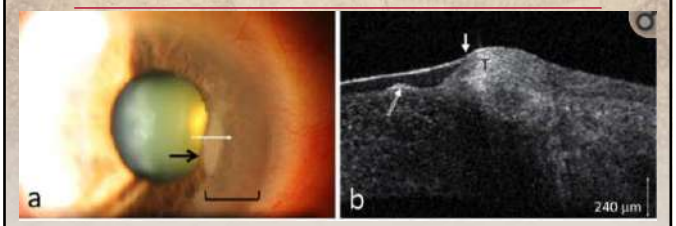
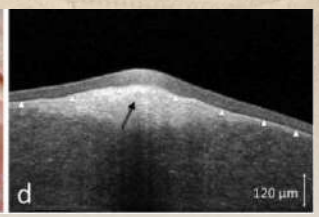
SALZMANN'S?



Perhaps not….

25

SALZMANN'S?



- Thin, dark/non-reflective epithelium
- Hyper-reflective subepithelial lesion

26

EVALUATION OF SCLERAL LENSES

- A great aid to fitting scleral lenses
- Great at evaluating clearance within the corneal chamber (cornea/limbus)
- Good at evaluating the landing zone but it can exaggerate things
- Work with or without fluorescein strips

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CENTRAL CLEARANCE

- Most practitioners are aiming for 200 – 250 um after 20 min
  - Assume another 100 um of settling throughout the day

Too much clearance

- Hypoxia
- Discomfort

Too little

- Potential to induce scarring (keratoconus)
- Discomfort/epithelial compromise

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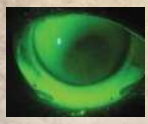
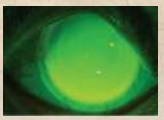
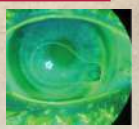
CENTRAL CLEARANCE



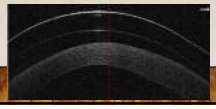
Vault too low – steepen central BC/increase sagittal

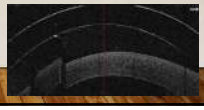


Good clearance



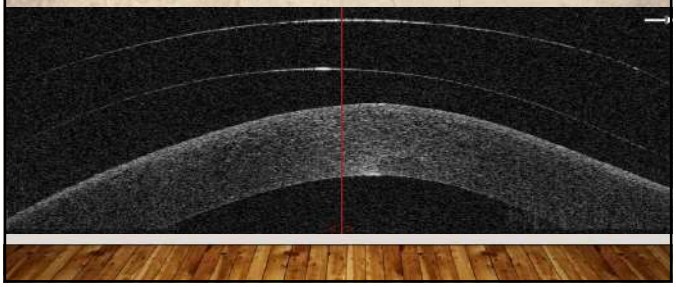
Central bubble
Excessive vault





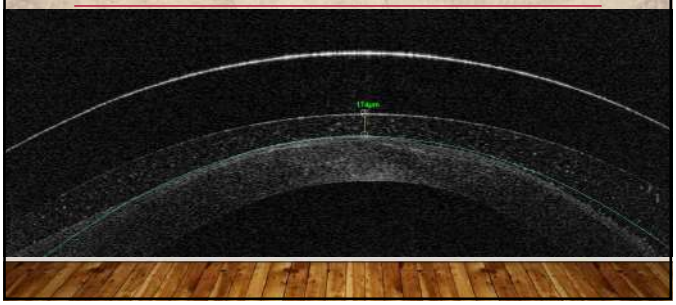
29

ADEQUATE CENTRAL CLEARANCE/EXCESSIVE MID?



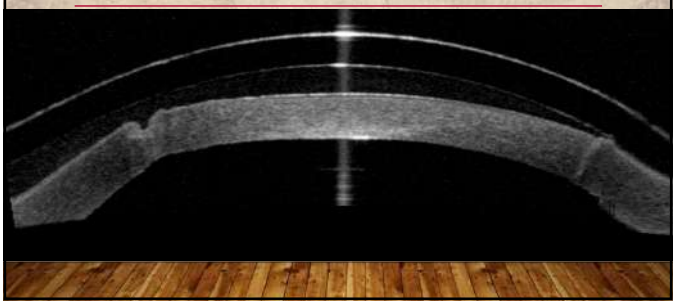
30

CENTRAL CLEARANCE OVER CENTRAL SCAR



31

INADEQUATE CLEARANCE OVER THE GRAFT



32

EXCESSIVE LIMBAL CLEARANCE

33

CONJUNCTIVAL PROLAPSE

34

LENS DECENTRATION

- All scleral lenses decenter inferior/temporal
- Limbal curve adjustments can aid in lens decentration
  - Also landing zone

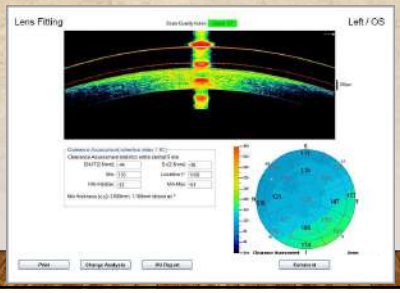
How to adjust

- Flatten the limbal curve
- Decrease corneal chamber size
  - Will lose central clearance!

Same BC but different Sag height!

35

MAYBE ONE DAY…



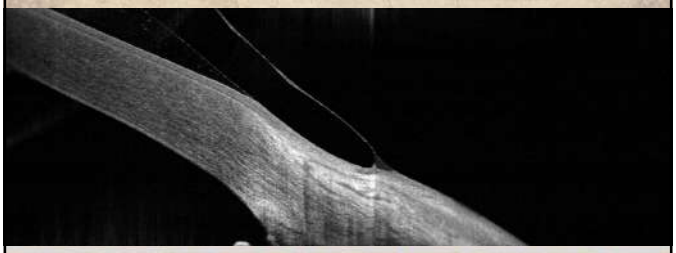
36

EVALUATE THE LANDING ZONE

- Adequate landing zone
  - Blood flows freely
  - No blanching of the conjunctiva
  - No rebound hyperemia upon removal

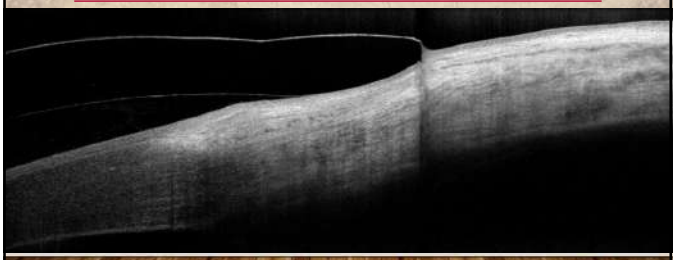
37

GOOD LANDING ZONE



38

GOOD LANDING ZONE



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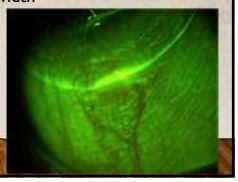
EVALUATE THE LANDING ZONE

- Steep/tight landing zone
  - Blanching of vessels/conj
  - Patient discomfort
- Fix by flattening the landing zone or increasing LZ width
  - Minimal change by 1mm in radius (approx. 5D)

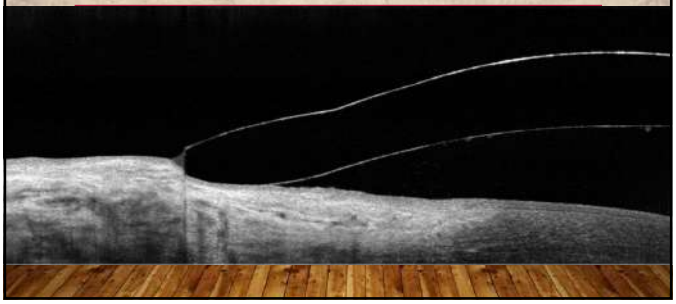


40

TOO STEEP – LIMBUS AND LANDING ZONE

41

TOO STEEP – LIMBUS AND LANDING ZONE



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STEEP LANDING/LIMBUS WITH "MID-DAY FOG"

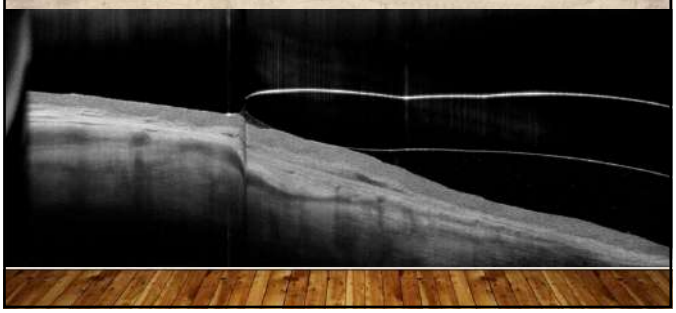
43

EVALUATE THE LANDING ZONE

- Too flat/loose fit
  - Excessive movement
  - Shadowing of the edge
  - Edge bubbles
  - **Lens awareness**
  - Decentration
- Steepen landing zone radius
  - Minimum 1mm change

44

TOO FLAT



45

BOTH? TO STEEP AND TOO FLAT?

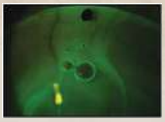
Horizontal Meridian

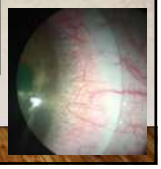
Vertical Meridian

46

EVALUATING THE LANDING ZONE

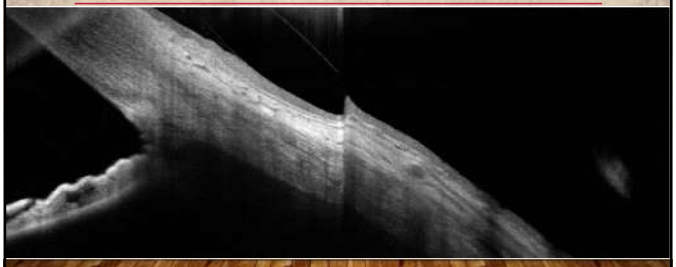
- What happens if you see compression nasal/temporal but you see edge shadowing inferior/superior?
  - Toric sclera!!
  - You can alter meridians differently
    - Min of 1mm change
    - Fitting lens radius = 15.00mm
      - 14.50/15.50
      - 14.00/15.00
      - 15.00/16.00
- Likely the cause of bubbles that need time to develop





47

NASAL/TEMPORAL OCT



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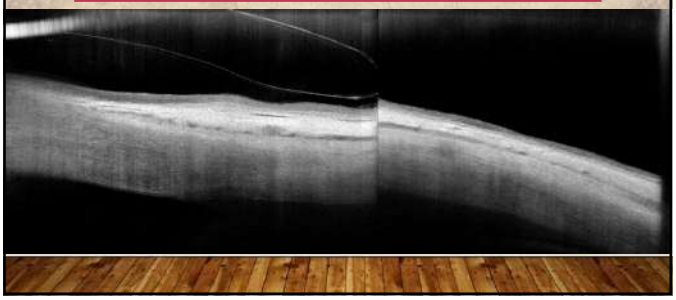
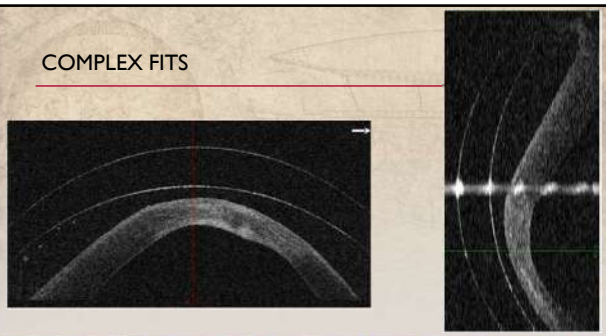
SUPERIOR/INFERIOR OCT



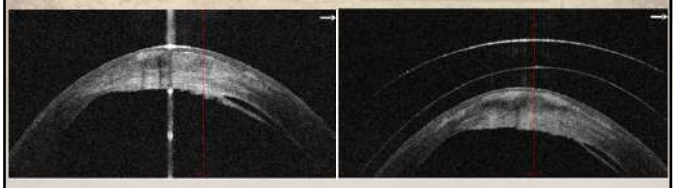
49

COMPLEX FITS



50

COMPLEX FITS



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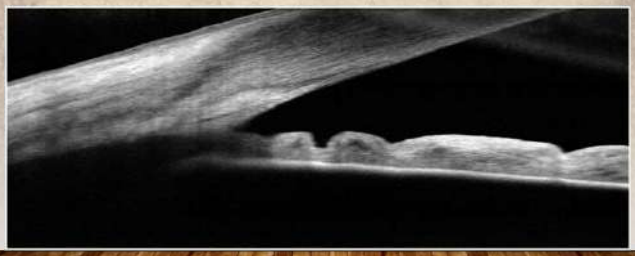
ANGLE EVALUATION



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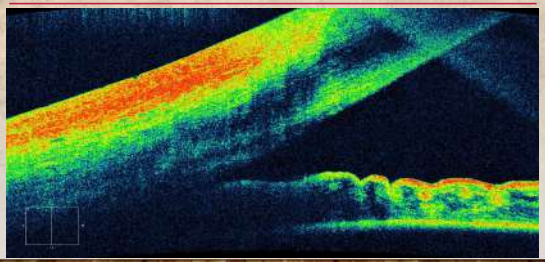
ANGLE EVALUATION – CIRRUS



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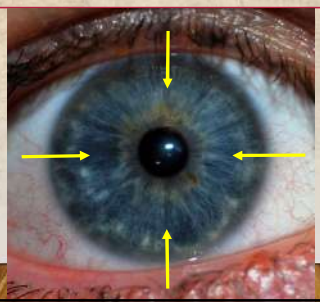
SCAN LOCATION



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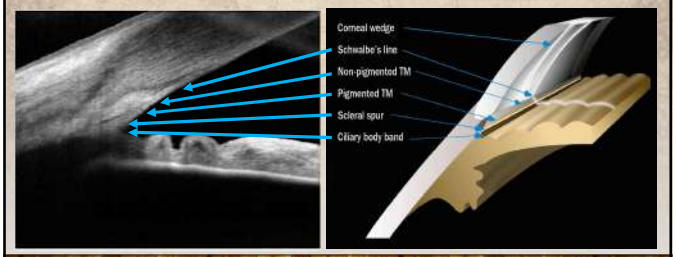
ANGLE EVALUATION



Philippin H, Peter Shah P, Burton, M. The next step: detailed assessment of an adult glaucoma patient. Comm Eye Health Vol. 25 No. 79 & 80 2012 pp 50-53.

55

ANGLE EVALUATION

Trabecular-Iris Angle (TIA)

Fernández-Vigo, J.I., García-Feijoo, J., Martínez-de-la-Casa, J.M. et al. Fourier domain optical coherence tomography to assess the iridocorneal angle and correlation study in a large Caucasian population. *BMC Ophthalmol* 16, 42 (2016).

56

SHAFFER ANGLE GRADING SCALE

Shaffer angle	Grade	Structures visible	Clinical interpretation
35–45°	4	Ciliary body	Closure impossible
25–35°	3	Scleral Spur	Closure impossible
20°	2	Pigmented TM	Closure possible but unlikely
10°	1	Non-Pigmented TM	Closure not inevitable but risk is high
0°	0	None	Closed

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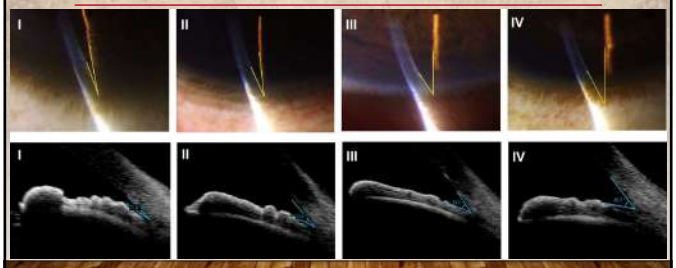
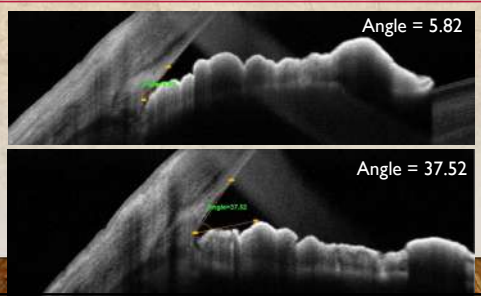
SHAFFER ANGLE GRADING SCALE



Sihota R, Kamble N, Sharma AK, et al'Van Herick Plus': a modified grading scheme for the assessment of peripheral anterior chamber depth and angle. British Journal of Ophthalmology 2019;103:960-965.

58

ANGLE S/P CATARACT SURGERY



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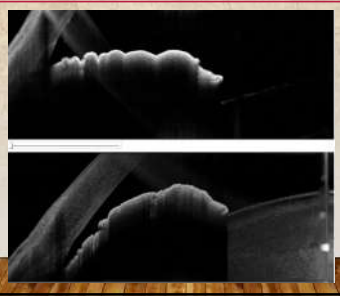
ANGLE S/P CATARACT SURGERY



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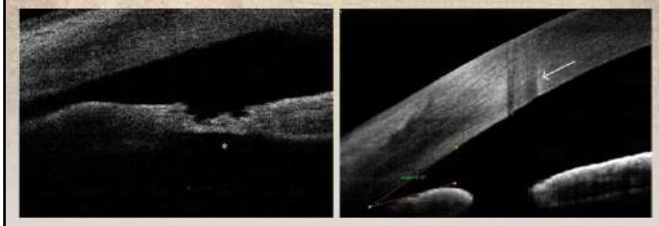
IRIS S/P LASER PERIPHERAL IRIDOTOMY



Lim SH. Clinical applications of anterior segment optical coherence tomography. *J Ophthalmol*. 2015;2015:605729. doi:10.1155/2015/605729

61

ANTERIOR SEGMENT - PACHYMETRY

- Refractive surgery pre-operative visits
  - approx. 15um/diopter
- Evaluate/diagnose corneal ectasias
- Evaluate glaucoma risk

Coding note: *Cannot* bill for pachymetry if done via OCT

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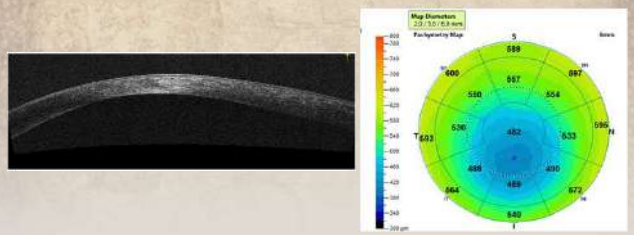
KERATOCONUS



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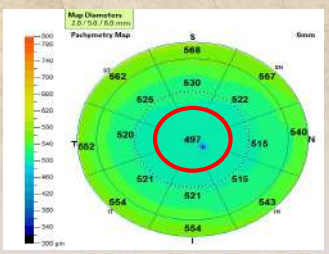
CENTRAL CORNEAL THICKNESS (CCT)



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GLAUCOMA RISK - CCT

- OHTS established as risk factor in developing glaucoma
  - Included patients IOP > 25
  - Avg corneal thickness per OHTS patients
    - 555-588um
    - 535-545um avg per total population
  - CCT < 555um = increased risk

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GLAUCOMA RISK - CCT

- No direct correlation between ocular rigidity and CCT
  - Cannot predict IOP adjustment based on CCT
- Only use CCT as a glaucoma risk factor in ocular hypertensives

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OTHER USES FOR THE ANTERIOR SEGMENT

REMEMBER!

Documentation should support that the SCODI test result was used for establishing a diagnosis, establishing a baseline prior to treatment, or for monitoring purposes.

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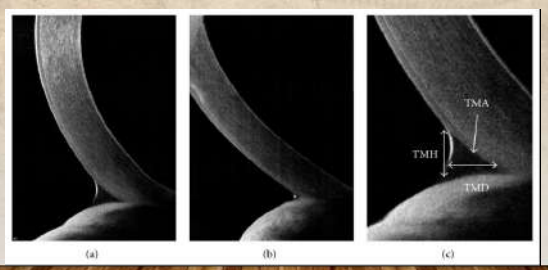
DRY EYE – TEAR MENISCUS



Lim SH. Clinical applications of anterior segment optical coherence tomography. *J Ophthalmol.* 2015;2015:605729. doi:10.1155/2015/605729

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MENISCOMETRY

- TMA – Tear meniscus area
- TMH – Tear meniscus height (233 um males/262 females)
  - Varies based on age as well (decreases over time)
- TMR – Tear meniscus curvature
- Can measure upper and lower

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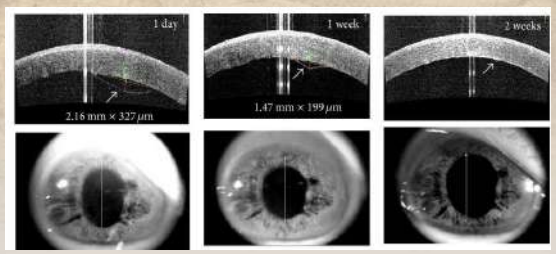
POST – OPERATIVE – UNKNOWN REASON FOR EDEMA



Lim SH. Clinical applications of anterior segment optical coherence tomography. *J Ophthalmol.* 2015;2015:605729. doi:10.1155/2015/605729

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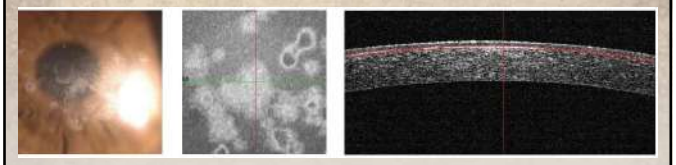
CORNEAL DYSTROPHIES



Lim SH. Clinical applications of anterior segment optical coherence tomography. *J Ophthalmol.* 2015;2015:605729. doi:10.1155/2015/605729

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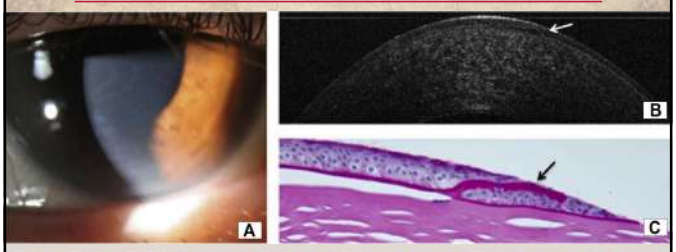
EPITHELIAL BASEMENT MEMBRANE DYSTROPHY



Siebelmann S, Scholz P, Sonnenschein S, et al. Anterior segment optical coherence tomography for the diagnosis of corneal dystrophies according to the IC3D

72

RECURRENT CORNEAL EROSION

Siebelmann S, Scholz P, Sonnenschein S, et al. Anterior segment optical coherence tomography for the diagnosis of corneal dystrophies according to the IC3D classification. *Surv Ophthalmol.* 2018;63(3):365–380. doi:10.1016/j.survophthal.2017.08.001

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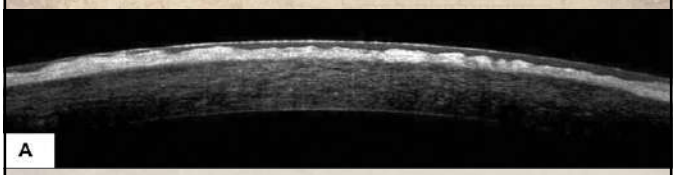
REIS-BUCKLERS



Siebelmann S, Scholz P, Sonnenschein S, et al. Anterior segment optical coherence tomography for the diagnosis of corneal dystrophies according to the IC3D classification. *Surv Ophthalmol.* 2018;63(3):365–380. doi:10.1016/j.survophthal.2017.08.001

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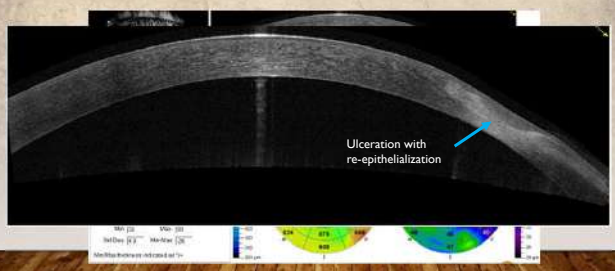
MARGINAL BLEPHARITIS/PERIPHERAL ULCERATION



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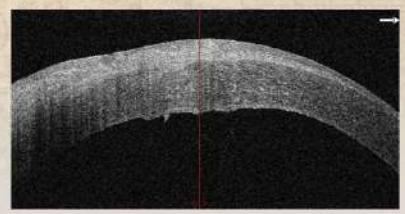
HSV KERATITIS



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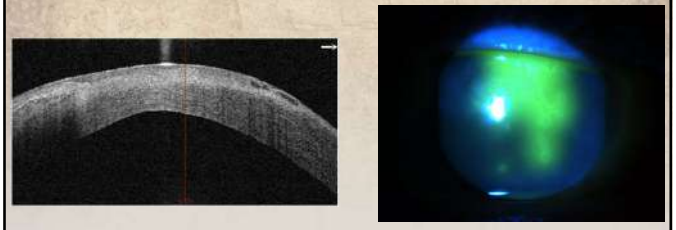
HERPES SIMPLEX EPITHELIAL KERATITIS



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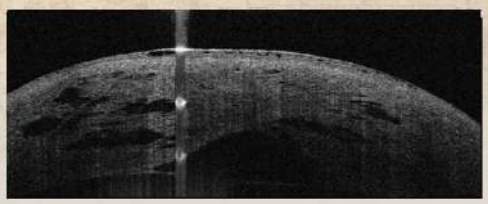
CORNEAL HYDROPS S/T KERATOCONUS



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OUTLINE

- Anterior Segment:
  - Lesions
  - Specialty lens fittings
  - Angle
  - Pachymetry
  - Other Uses
- Glaucoma Analysis:
  - When Abnormal **Is** Normal
- OCT-A Interpretation:
  - ONH/Macula
- Macula Analysis:
  - Foveal Development

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WHEN ABNORMAL **IS** NORMAL (GLAUCOMA ANALYSIS)

Who's in the Normative Database (NDB)

Abnormals compared to NDB

- Nerves that are different in size (large, small)
- Nerves that are different in orientation (tilted, oblique insertions)
- Nerves that have different toricity (rotated)
- Nerves that have different blood vessel positions

80

WHO'S IN THE NORMATIVE DATABASE?

Inclusion Criteria:

a) At least 18 years of age
b) Able and willing to provide consent
c) Able and willing to complete the required examinations and visits
d) Signature on the Informed Consent Form
e) Refractive error within +/- 8 diopters sphere and within +/- 2 diopters cylinder in each eye
f) Best corrected visual acuity of 20/30 or better in each eye

Table 7 Normative Database Breakdown by Age and Ethnicity with Refractive Error Range

Age Breakdown	100%
18-29	14.59%
30-39	13.10%
40-49	16.98%
50-59	25.43%
60-69	17.59%
70+	10.79%
Ethnicity Breakdown	**100%**
Caucasian	34%
Asian	22%
Hispanic	12%
African Descendant	15%
Indian/Middle East	12%
Pacific Islander	0%
Other	1%
Refraction Error Range	
Sphere (Mean ± SD)	-0.46 D ± 1.9 D
Range	[-7.75 D - +5.92 D]

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WHO'S IN THE NORMATIVE DATABASE?

Exclusion Criteria:

a) History of leukemia, AIDS, dementia, or multiple sclerosis
b) Concomitant use of hydroxychloroquine or chloroquine
c) Family history of glaucoma among first degree relatives
d) Intraocular pressure of 22 mm Hg or greater in either eye
e) A visual field test showing one or more of the following:
   - An unreliable visual field test result (>30% false negative responses or >30% false positives or >30% fixation losses)
   - Pattern Standard Deviation (PSD) of p<5% or worse
   - Glaucoma Hemifield Test (GHT) result of **Outside Normal Limits**
f) Active ocular disease including degenerative myopia (for example, AMD, DME)
g) Previously diagnosed with glaucoma or glaucoma suspect
h) Congenital ocular abnormalities
i) Previous intra-ocular surgery or laser treatment (other than refractive surgery or uncomplicated cataract surgery greater than 6 months previously)
k) Anatomical narrow angle

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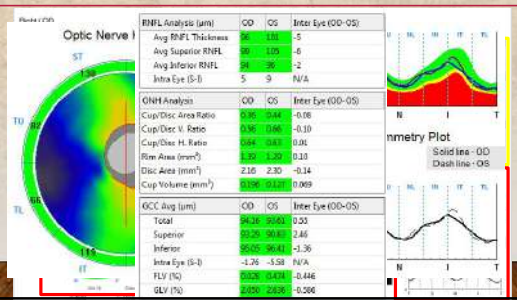
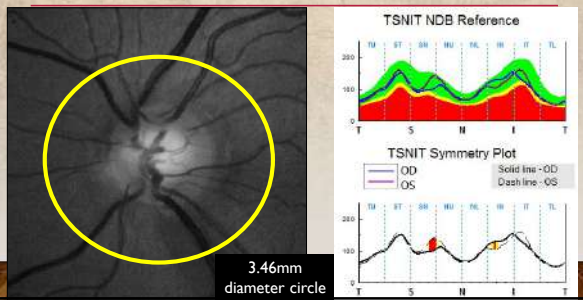
RNFL ANALYSIS - OPTOVUE



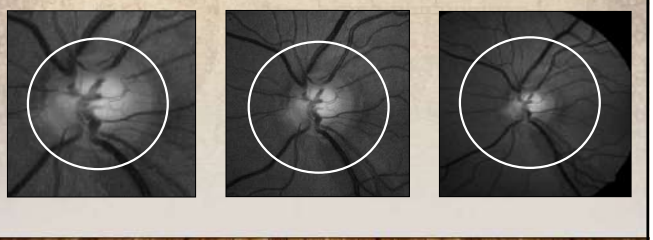
83

NDB USES FIXED CIRCLE



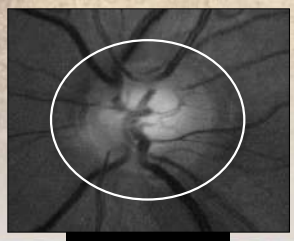
84

NERVES THAT ARE DIFFERENT IN SIZE



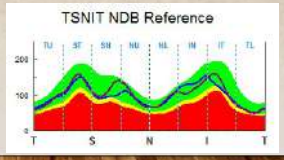
85

ABNORMAL COMPARED TO NDB



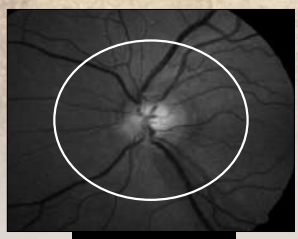
Large Optic Nerve

- **Thicker** NFL Measurements



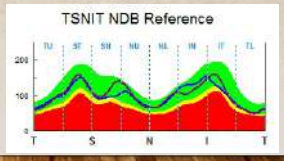
86

ABNORMAL COMPARED TO NDB



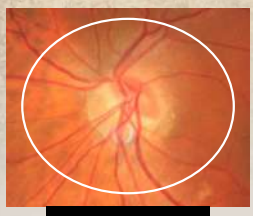
Small Optic Nerve

- **Thinner** NFL Measurements



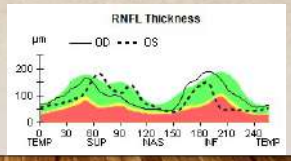
87

NERVES THAT ARE DIFFERENT IN ORIENTATION



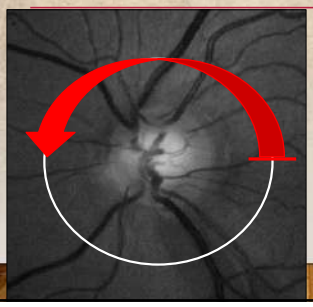
Tilted Optic Nerve

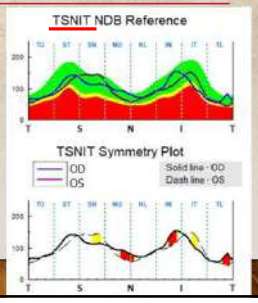
- **Thinner Inferior** NFL Measurements



88

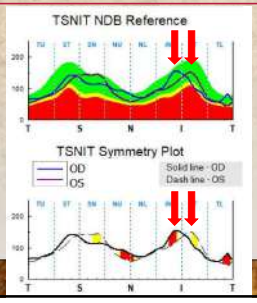
NDB USES TSNIT PATTERN





89

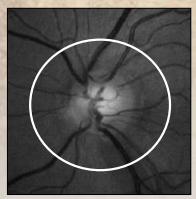
NERVES THAT ARE DIFFERENT IN TORICITY



- Compare **Volumes** of the Peaks
- Will be **flagged** on Asymmetry Plot

90

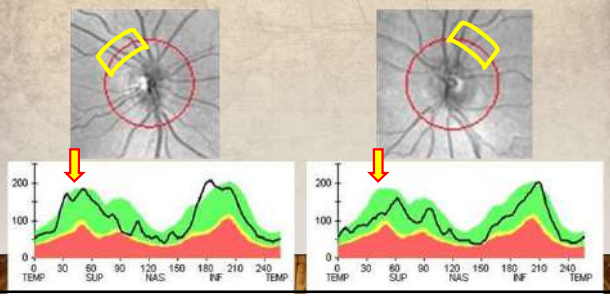
SCAN LIMITATIONS



NFL + BLOOD VESSELS

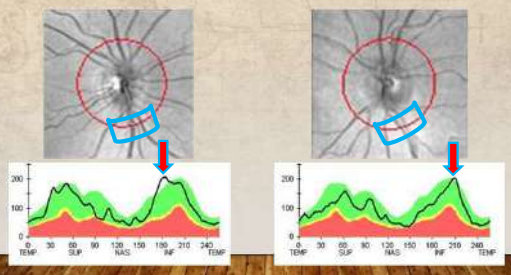
91

NERVES THAT HAVE DIFFERENT BLOOD VESSELS



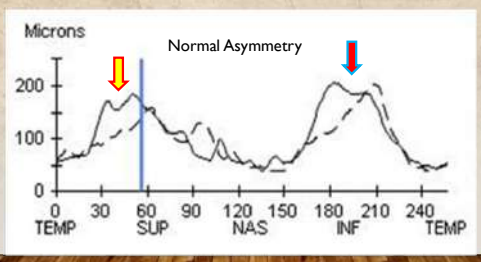
92

NERVES THAT HAVE DIFFERENT BLOOD VESSELS



93

NERVES THAT HAVE DIFFERENT BLOOD VESSELS



94

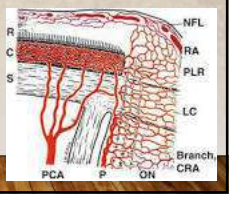
OCULAR BLOOD FLOW BASICS

- Inner retinal layers receive blood via retinal circulation
- Outer retinal layers and RPE receive nutrients via diffusion from choroidal circulation
- Inner retinal layers are tighter making it more resistant to edema than outer retinal layers
- Foveal Avascular Zone (FAZ) receives nutrients via diffusion from choroidal circulation

95

OCULAR BLOOD FLOW BASICS

- Optic nerve is supplied by the central retinal artery and the posterior ciliary arteries
- The nerve fiber layer is supplied by the central retinal artery



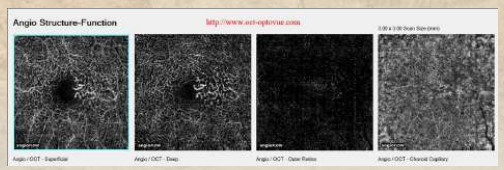
96

OCT ANGIOGRAPHY BASICS

- Uses motion contrast to generate high resolution images of retinal vasculature
  - Tracks motion of red blood cells (RBCs) relative to surrounding inert tissue
- Non-invasive
- Takes a few seconds to generate image
- Will scan multiple layers of the retina and choroid and adjust for patient movement

97

OCT Angiography Basics



Superficial Capillary Plexus | Deep Capillary Plexus | Outer Retina = AVASCULAR (Should not show vasculature) | Choriocapillaris

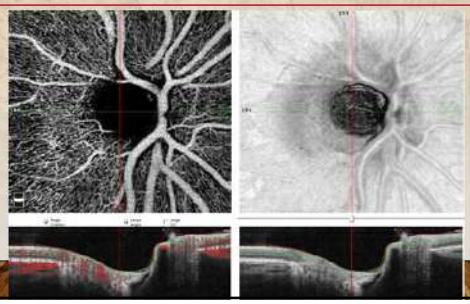
http://www.oct-optovue.com/oct-retina/oct-angiography.html

98

OCT - ANGIOGRAPGHY

99

WHAT DOES NORMAL LOOK LIKE? – OPTIC NERVE



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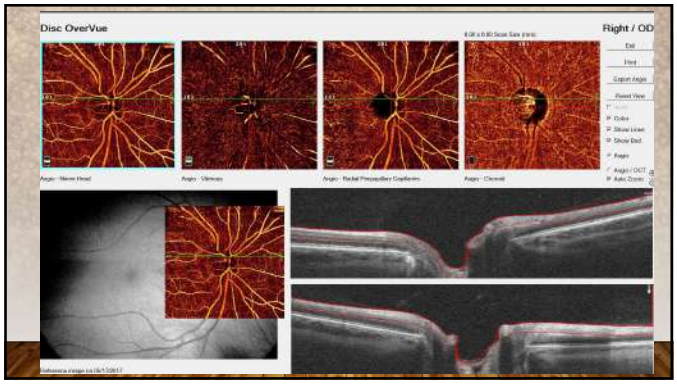


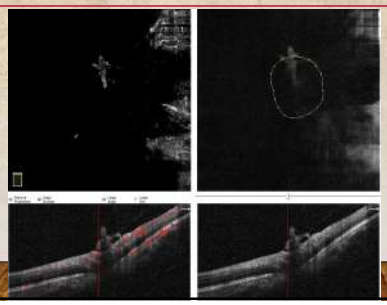
101

OCT- A AT THE OPTIC NERVE

- Monitor vascular perfusion of the optic nerve
  - NAION
  - Glaucoma
  - Diabetes
  - Vein/artery occlusions
  - Optic nerve lesions
- Subjective assessment with eventual objective measurements
- No separate CPT code

102

SUSPICIOUS VESSELS AT THE OPTIC NERVE?



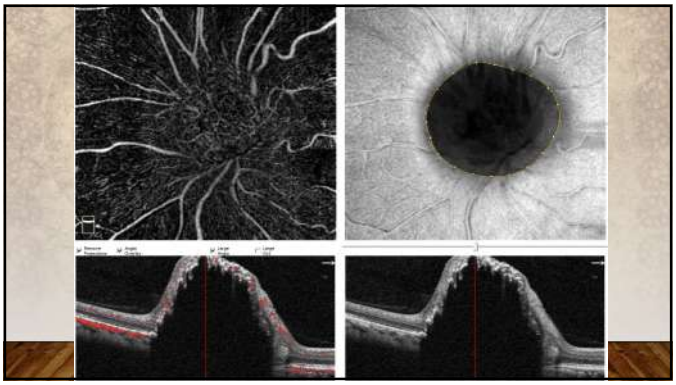
103

DISC NEOVASCULARIZATION

104

NEVUS? MELANOMA? MELANOCYTOMA

105

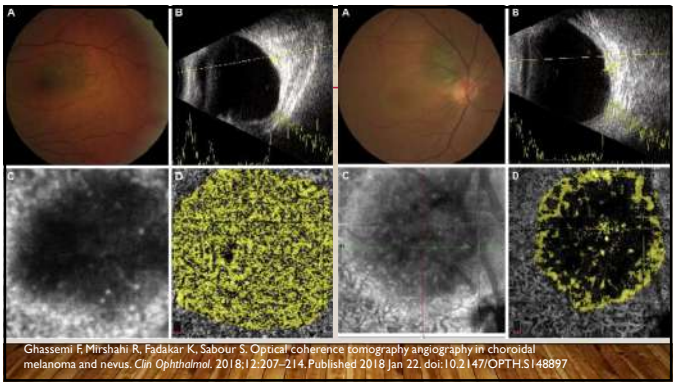


106

NEVUS OF MELANOMA – OCT-A

- Microvascular flow rate over a nevus is very similar to adjacent unaffected choroid and significantly less in a melanoma
- More axial or peripheral feeding vessels in a choroidal melanoma than a nevus

107



Ghassemi F, Mirshahi R, Fadakar K, Sabour S. Optical coherence tomography angiography in choroidal melanoma and nevus. *Clin Ophthalmol.* 2018;12:207–214. Published 2018 Jan 22. doi:10.2147/OPTH.S148897

108

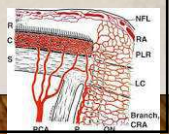
OCT-A IN GLAUCOMA

- Vascular (hemodynamic) theory of glaucoma
  - Hayreh, 1970 "glaucoma is a disease wherein the normal balance between the IOP and blood pressure in the choroidal, supplying the optic disc and retrolaminar part of the nerve is disturbed. This results in vascular insufficiency…"
  - Decreased perfusion could lead to ischemia and ultimately apoptosis
  - Associated with disautoregulation

109

WHERE TO LOOK IN GLAUCOMA?

- OCT-A will divide the scan (Choroid/Peripapillary capillaries/Vitreous)
- In glaucoma, we care about peripapillary capillaries
  - Inner RNFL, run parallel to axons, few anastomoses
- Like OCT/RNFL – asymmetry is important



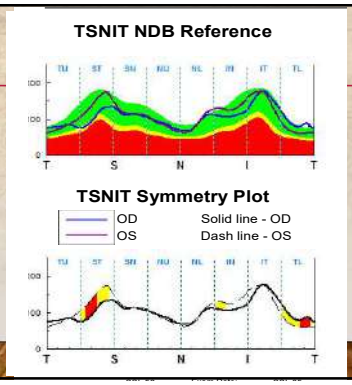
110

OCT-A GLAUCOMA SUSPECT

- 67 AAF
- POH: paternal grandfather had glaucoma
- PMH: diabetes, high cholesterol, hypertension
- BCVA: 20/20 OU mild myope
- IOP: 19 mmHg and 20 mmHg
- SLE: unremarkable, angles open

111

112



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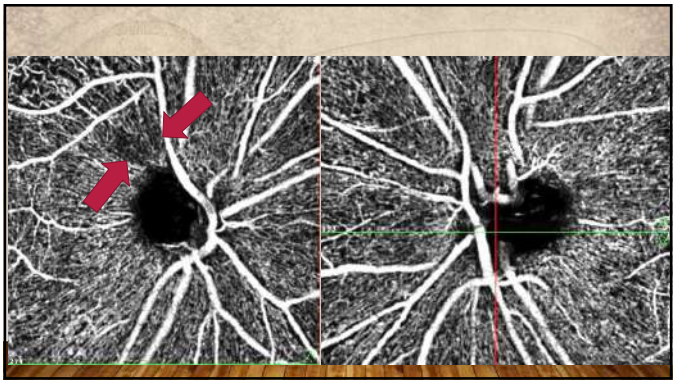

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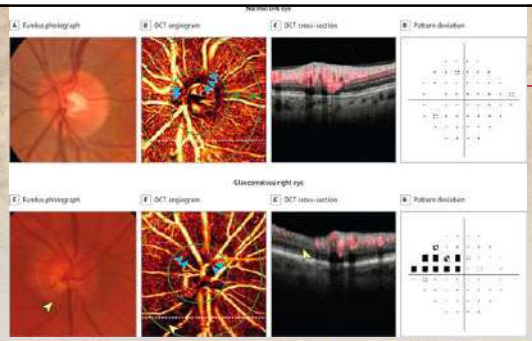
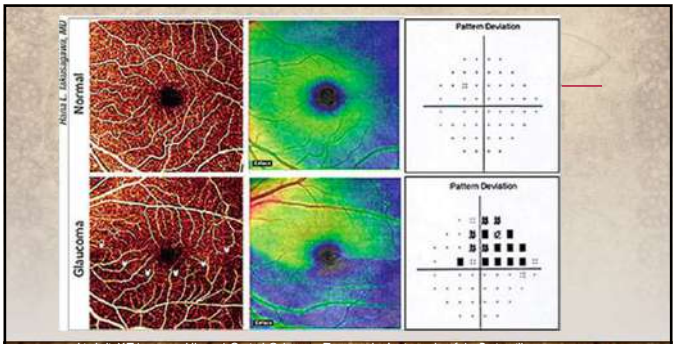


Liu L, Jia Y, Takusagawa HL, et al. Optical Coherence Tomography Angiography of the Peripapillary Retina in Glaucoma. *JAMA Ophthalmol.* 2015;133(9):1045–1052. doi:10.1001/jamaophthalmol.2015.2225

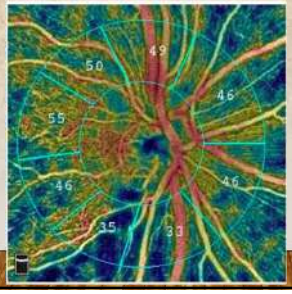
115



Liu L, Jia Y, Takusagawa HL, et al. Optical Coherence Tomography Angiography of the Peripapillary Retina in Glaucoma. *JAMA Ophthalmol.* 2015;133(9):1045–1052. doi:10.1001/jamaophthalmol.2015.2225

116

VESSEL DENSITY (A NEW TSNIT?)



117

HOW DOES THIS CHANGE MY MANAGEMENT?

- As of now…not much
- There is good correlation between findings of OCT-A and the extent of loss on OCT and visual fields
- Vessel density is less in patient with glaucoma and more asymmetric (macular and optic nerve)

118

LIMITATIONS

- Data is still variable/no established normative
- Scan reliability is questionable
- Which came first? Loss of VD or RNFL?

119

OCT- A AT THE MACULA

- Age-related macular degeneration
- Diabetic retinopathy
- Vein/artery occlusions
- Glaucoma
- Toxic maculopathies
- No separate CPT code

120

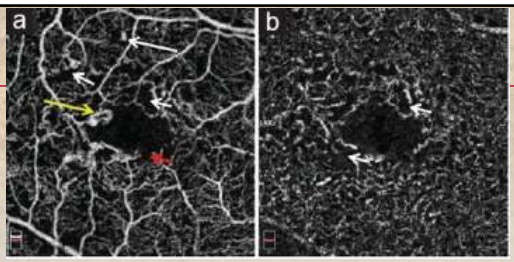
OCT-A IN DIABETIC RETINOPATHY

- May be able to detect changes earlier with OCT than fundus exam.
- Detect early neovascular changes
- Predict progression of DR and DME

Findings

- Vessel density loss/capillary non-perfusion
- Microaneurysms
- Deformation of the foveal avascular zone

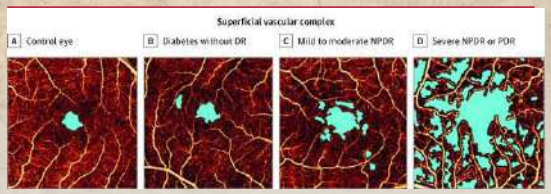
121



KHADAMY J, ABRI AGHDAM K, FALAVARJANI KG. AN UPDATE ON OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY IN DIABETIC RETINOPATHY. *J OPHTHALMIC VIS RES*. 2018;13(4):487–497. DOI:10.4103/JOVR.JOVR_57_18

122

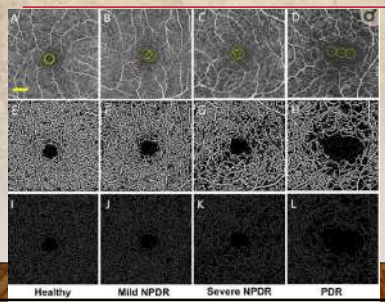
NON-PERFUSION



Hwang TS, Hagag AM, Wang J, et al. Automated Quantification of Nonperfusion Areas in 3 Vascular Plexuses With Optical Coherence Tomography Angiography in Eyes of Patients With Diabetes. *JAMA Ophthalmol*. 2018;136(8):929–936. doi:10.1001/jamaophthalmol.2018.2257

123

ENLARGEMENT OF THE FOVEAL AVASCULAR ZONE



- Kim AY, Chu Z, Shahidzadeh A, Wang RK, Puliafito CA, Kashani AH. Quantifying Microvascular Density and Morphology in Diabetic Retinopathy Using Spectral-Domain Optical Coherence Tomography Angiography. *Invest Ophthalmol Vis Sci*. 2016;57(9):OCT362–OCT370. doi:10.1167/iovs.15-18904

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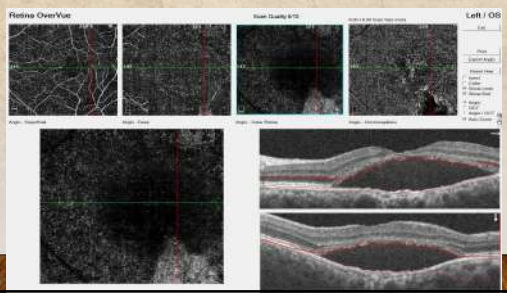
CENTRAL SEROUS



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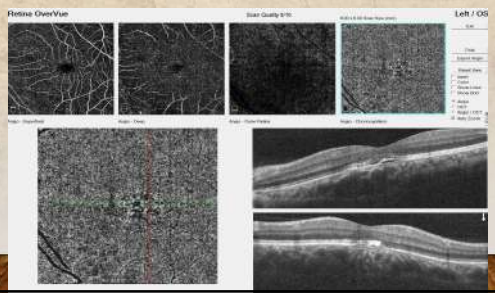
CENTRAL SEROUS OR SOMETHING ELSE?

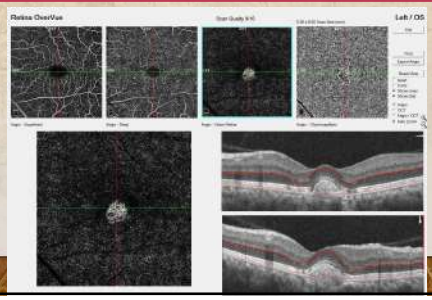


126

AMD?

127

AGE-RELATED EXUDATIVE MACULAR DEGENERATION



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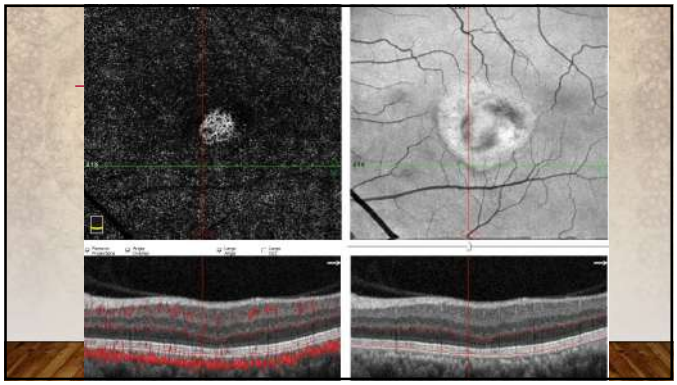
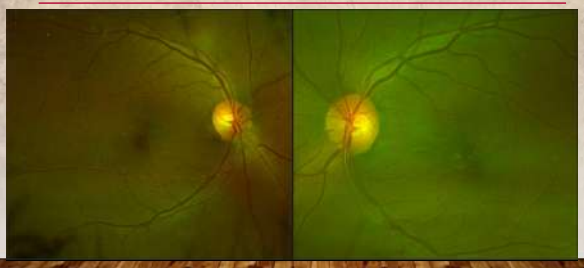


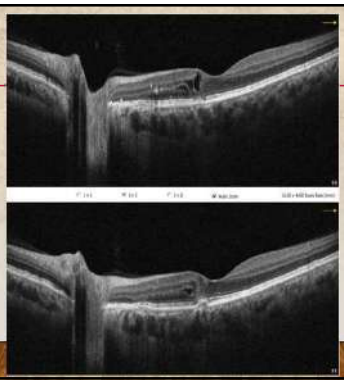
129

WEIRD MACULAR THINGS



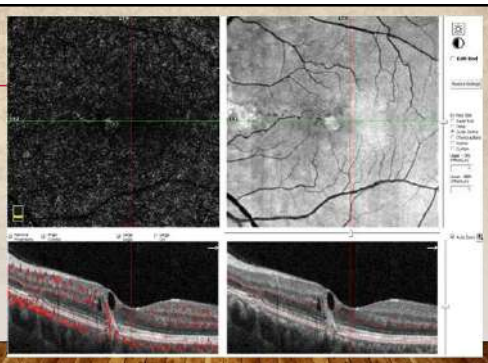
130

SUS?



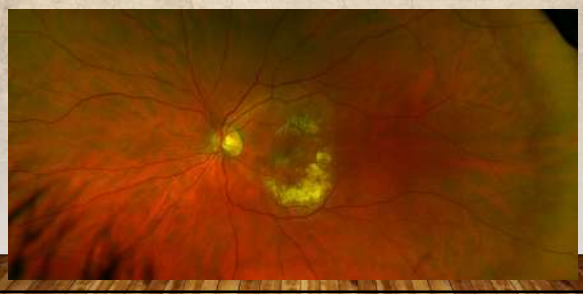
131

YEP!



132

DID I REALLY NEED THE OCT-A?



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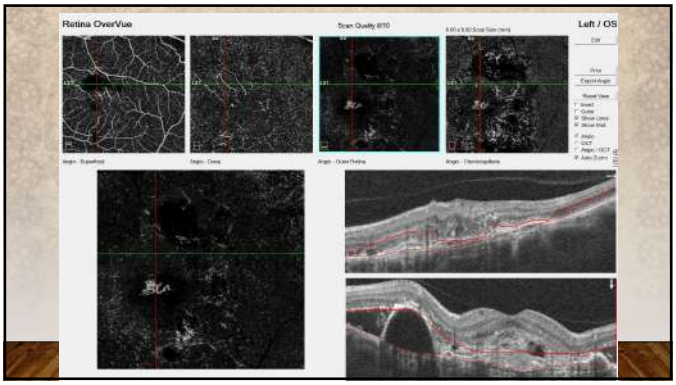
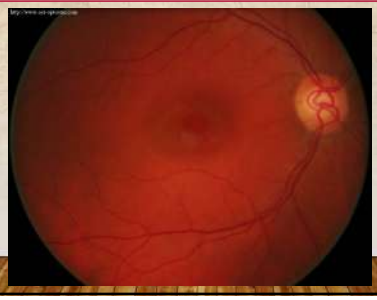


134

ANGIOVIEW – CHLOROQUINE TOXICITY



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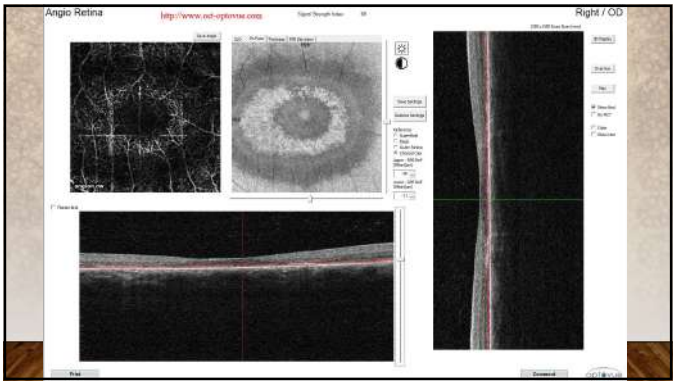
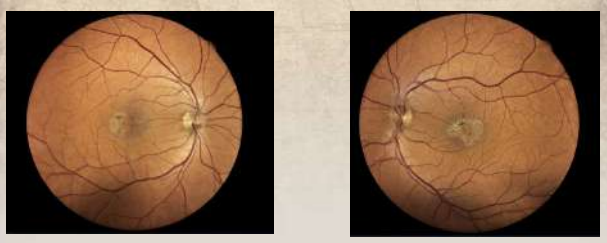


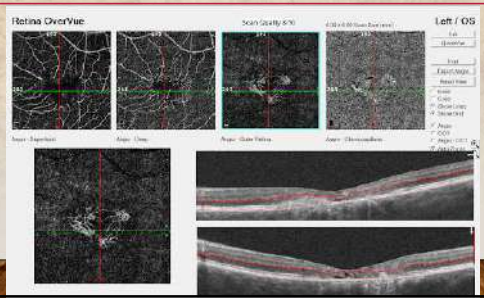
136

MAC TEL TYPE 2



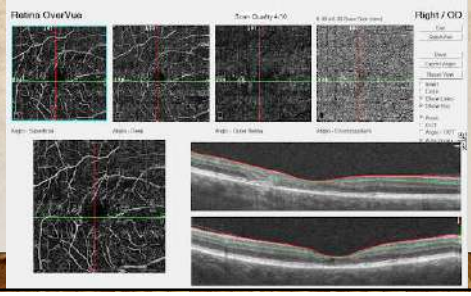
137

MAC TEL OCT – A OS



138

MAC TEL OCT – A OD



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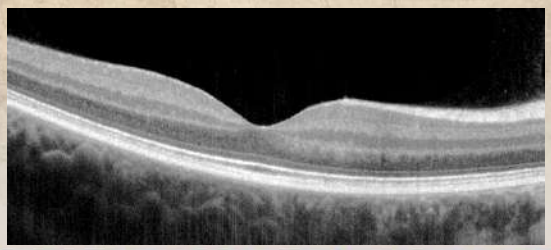
OUTLINE

- Anterior Segment:
  - Lesions
  - Specialty lens fittings
  - Angle
  - Pachymetry
  - Other Uses
- Glaucoma Analysis:
  - When Abnormal **Is** Normal
- OCT-A Interpretation:
  - ONH
  - Macula
- Macula Analysis:
  - Foveal Development
  - Macula Post Treatment

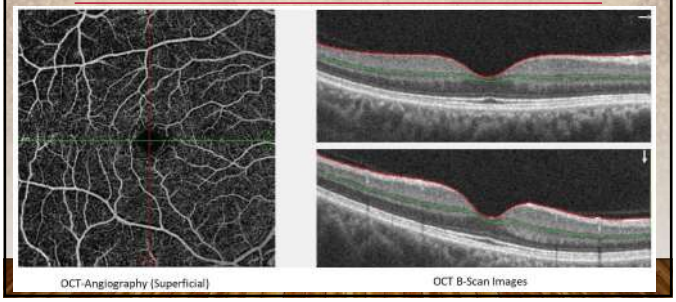
140

FOVEAL DEVELOPMENT



141

FOVEAL DEVELOPMENT



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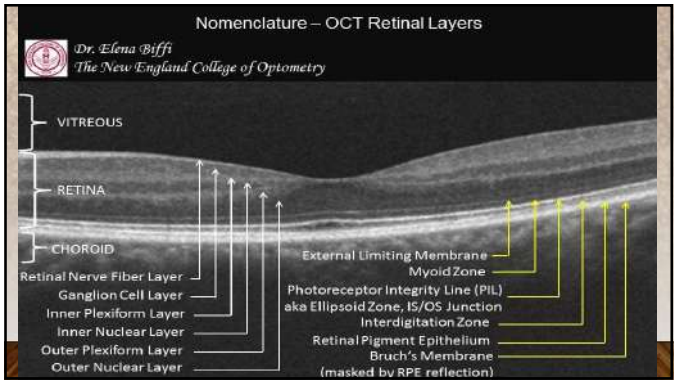


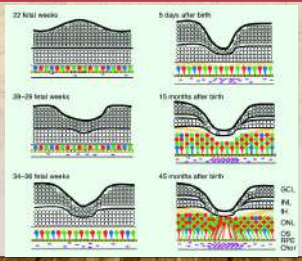
143

FOVEAL DEVELOPMENT

- Starts at fetal week 12 with pit visualization starting at fetal week 25
- Excavation doesn't complete until 15-45 months after birth

144

FOVEAL DEVELOPMENT



Gregory-Evans, Cheryl & Gregory-Evans, Kevin. (2011). Foveal hypoplasia: The case for arrested development. Expert Review of Ophthalmology. 6. 565-574. 10.1586/eop.11.60.

145

THREE IMPORTANT STEPS IN FOVEAL DEVELOPMENTAL

- Displacement of the inner retina cells to form the foveal pit
- Migration of cones toward the forming foveal pit
- Cone specialization

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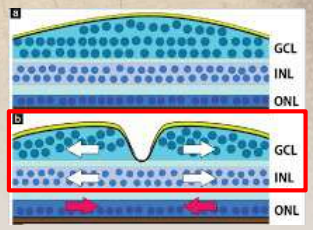
DISPLACEMENT OF THE INNER RETINA CELLS

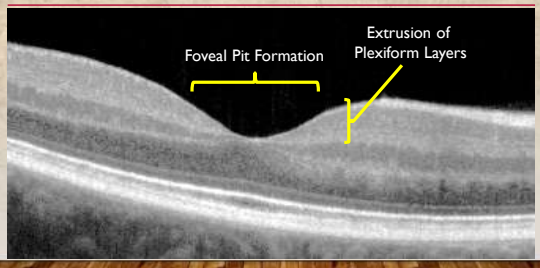
- Inner cells move outward
- Tissue dips, forming foveal pit



Kondo H. Foveal hypoplasia and optical coherence tomographic imaging. Taiwan J Ophthalmol 2018;8:181-8

147

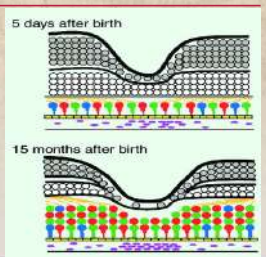
DISPLACEMENT OF THE INNER RETINA CELLS



148

MIGRATION OF CONES

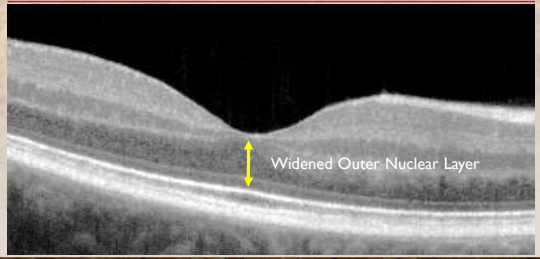
- Cones migrate to forming foveal pit
- Widens Outer Nuclear Layer



Thomas MG, et al. Structural Grading of Foveal Hypoplasia Using SD-OCT. Ophthalmology. 2011; 118(8):1653–1660.

149

MIGRATION OF CONES



150

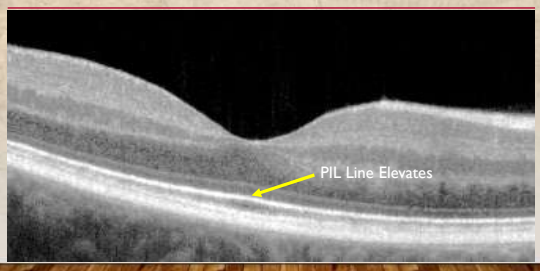
CONES SPECIALIZATION

- Increase in length
- Decrease in diameter

Thomas MG, et al. Structural Grading of Foveal Hypoplasia Using SD-OCT. Ophthalmology. 2011; 118(8):1653–1660.

151

CONE SPECIALIZATION



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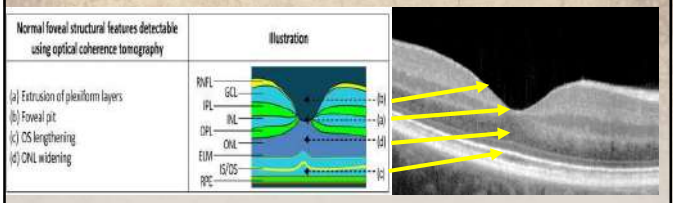
FOVEAL DEVELOPMENT



Thomas MG, et al. Structural Grading of Foveal Hypoplasia Using SD-OCT. Ophthalmology. 2011; 118(8):1653–1660.

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FOVEAL HYPOPLASIA

- Absence of a foveal depression due to a continuous neurosensory retina over the presumed location of the fovea
- Commonly associated with other ocular conditions, such as albinism, PAX6 mutations, retinopathy of prematurity, microphthalmus, aniridia, nystagmus, and achromatopsia
- Isolated foveal hypoplasia is quite rare
- Visual acuities can range from 20/20 to 20/400

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FOVEAL HYPOPLASIA

- Theories that cause arrested development
  - Lack of avascular zone
  - Decreased macular pigment density
  - Unknown factors

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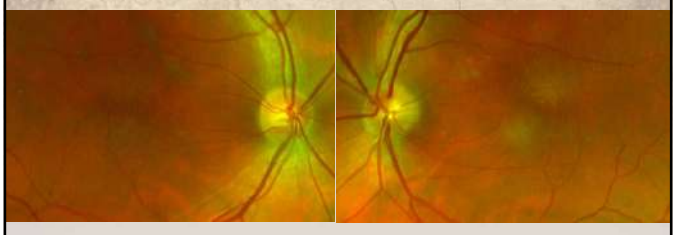
RETINAL IMAGES



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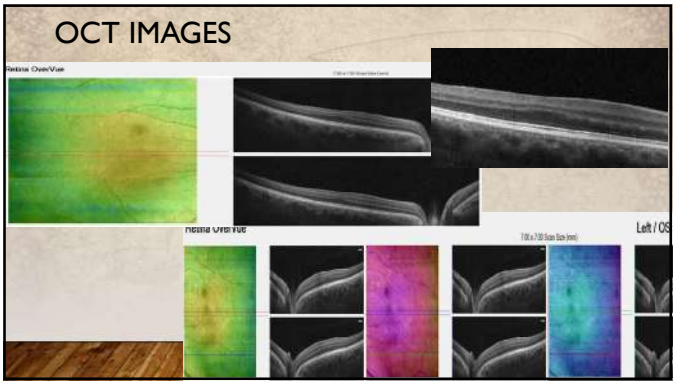
OCT IMAGES



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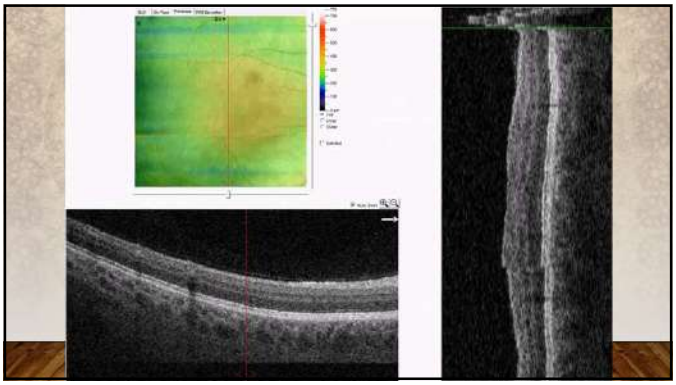

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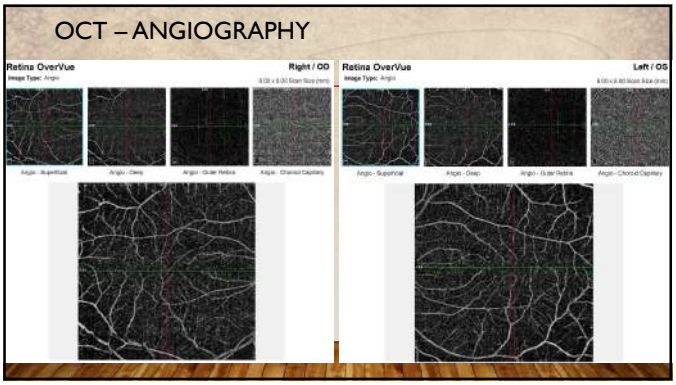
OCT – ANGIOGRAPHY



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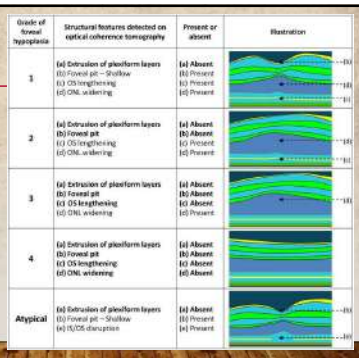
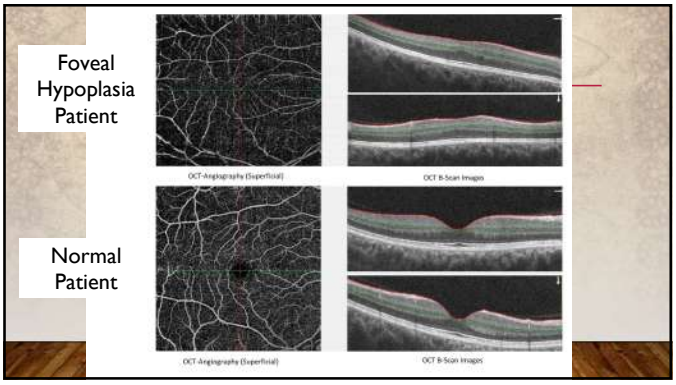
FOVEAL HYPOPLASIA GRADING SCALE



Thomas MG, et al. Structural Grading of Foveal Hypoplasia Using SD-OCT. Ophthalmology 2011; 118(8):1653–1660.

160



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FOVEAL HYPOPLASIA MANAGEMENT

- Patient education
- Low Vision
- Genetic Testing/Therapy

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Using Retinal Location to Aid in the Diagnosis

Marcus Gonzales, OD, FAAO
UHCO Cedar Springs Eye Clinic

1

Financial Disclosures

- No financial disclosures.
- Marcus Gonzales OD, FAAO, Diplomate, American Board of Optometry
- Clinical Assistant Professor at the University of Houston College of Optometry

2

3

Where in the retina is it?

- Depth and location define the pathology
- Some pathology affects multiple depths and locations
- Diagnosis may not always be definitive, but accurate findings can't be wrong
- Not sure of diagnosis?
  - Remember "company it keeps"

4

Techniques to help determine where the pathology exists

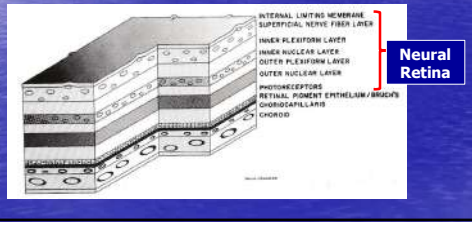
- Appreciating retinal depth
  - Color and Clarity
  - Shadowing
  - Other retinal structures as landmarks
- Ocular Coherence Tomography (OCT)
- Fluorescein angiography / OCT-Angiography

Must understand retinal anatomy to know where defects exist

5

Retinal Anatomy Basics

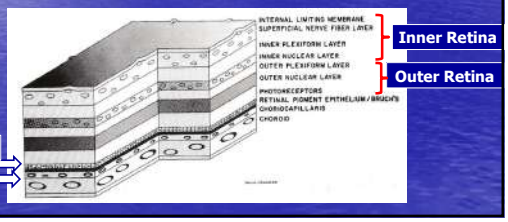
- Retina – 10 layers (ILM to RPE)
- Neural Retina – 9 layers (excludes the RPE)
- Retinal Detachment – neural retina detaches from RPE



6

Retinal Anatomy Basics

- Inner retina – ILM to Inner Nuclear Layer
- Outer retina – Outer Plexiform Layer to Photoreceptors
- Sub-retinal – space between the neural retina and RPE
- Sub-RPE – space underneath the RPE



7

Retinal Anatomy Basics

- Vitreous adheres to the retina strongly at the ora, optic nerve and macula
- Internal Limiting Membrane (ILM) keeps the vitreous out of the retina
- Neurosensory retina is loosely connected to the RPE
- RPE/Bruch's membrane keeps choroid out of the retina

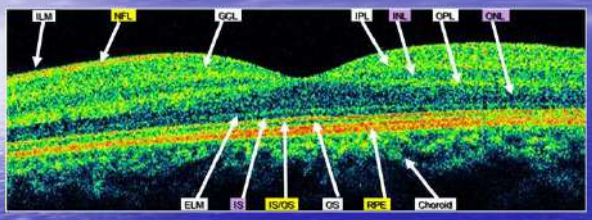
8

OCT Basics

- Light passes into eye and reflects off the retina to provide a histological-type image of the retinal architecture
- Retinal layers hyper/hypo-reflect based on specific tissue type
- Changes to the normal retinal reflectivity indicates a defect
- If defect strongly reflects light, creates pseudo-hypo defect (shadow)

9

Normal HD-OCT B-Scan



NFL: Nerve Fiber Layer
ILM: Inner Limiting Membrane
GCL: Ganglion Cell Layer
IPL: Inner Plexiform Layer
INL: Inner Nuclear Layer
OPL: Outer Plexiform Layer
ONL: Outer Nuclear Layer
ELM: External limiting membrane
IS: Photoreceptor Inner Segment
IS/OS: Junction of inner and outer photoreceptor segments (AKA: PIL, EZ)
OS: Photoreceptor Outer Segment
RPE: Retinal Pigment Epithelium/Bruch's

10

Ocular Blood Flow Basics

- Inner retinal layers receive blood via retinal circulation
- Outer retinal layers and RPE receive nutrients via diffusion from choroidal circulation
- Inner retinal layers are tighter making it more resistant to edema than outer retinal layers

- Foveal **Avascular** Zone (FAZ) receives nutrients via diffusion from choroidal circulation

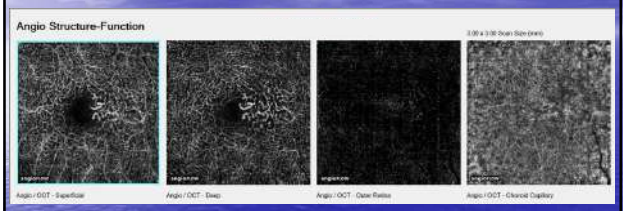
11

OCT Angiography Basics

- Uses **motion contrast** to generate high resolution images of retinal vasculature
  - Tracks motion of red blood cells (RBCs) relative to surrounding inert tissue
- Non-invasive
- Takes a few seconds to generate image
- Will scan multiple layers of the retina and choroid and adjust for patient movement

12

OCT Angiography Basics



Superficial Capillary Plexus | **Deep Capillary Plexus** | **Outer Retina = AVASCULAR** | **Choriocapillaris**

Should not show vasculature

13

OCT Angiography Basics

- Changes to the normal RBC movement indicates a defect
- Abnormal vasculature (NVD/E, IRMA, CNVM):
  - Still has moving RBCs → highlighted on OCTA
- Vascular leakage and stagnant fluid (edema):
  - No RBC movement → NOT highlighted on OCTA
- Retinal Non-perfusion (ischemia):
  - No RBC movement → vascular dropout in superficial/deep capillary plexus views

14

Division of the Retina

- Above the retina
- Anterior retinal layers
- Intraretinal layers
- Posterior retinal layers
- Beneath the retinal pigment epithelium (RPE)

15

Common Pathologies Above the Retina

- Vitreous opacity
- Asteroid Hyalosis
- Vitreous hemorrhage
- Epiretinal membrane
- Vitreomacular traction

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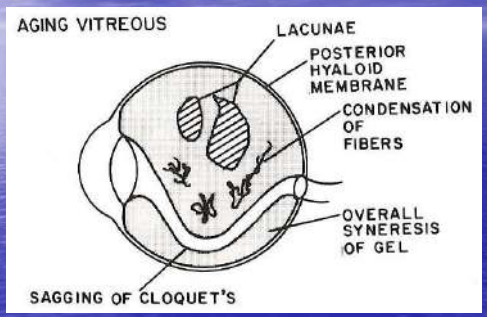
Vitreous Opacity



Alexander LJ. Primary Care of the Posterior Segment. East Norfolk, CT: Appleton & Lange, 1989.

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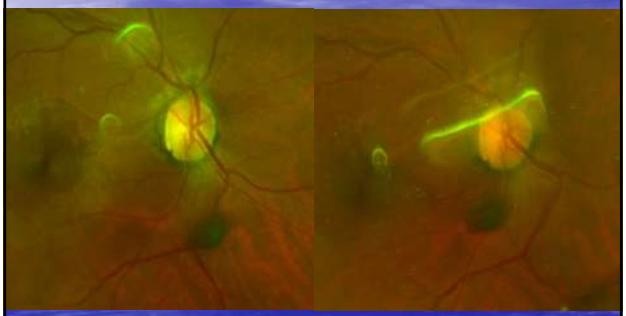
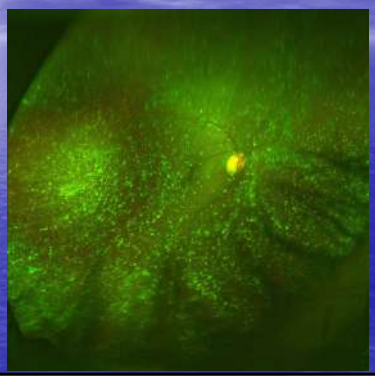
Vitreous Opacity



18

Asteroid Hyalosis



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Vitreous Hemorrhage

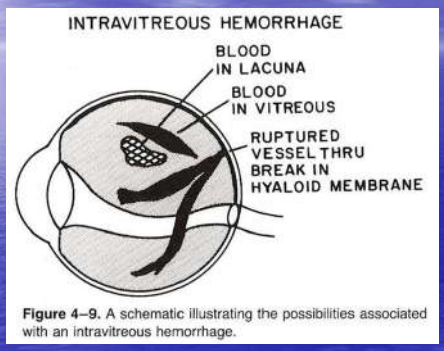

Figure 4–9. A schematic illustrating the possibilities associated with an intravitreous hemorrhage.

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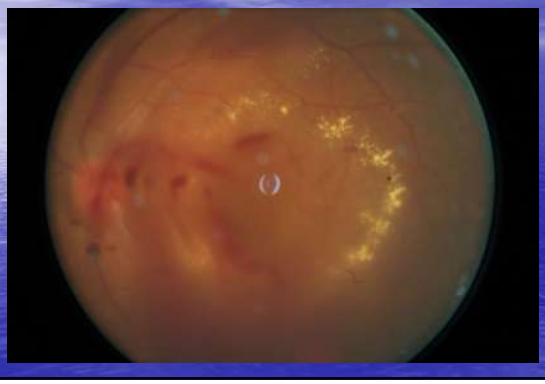
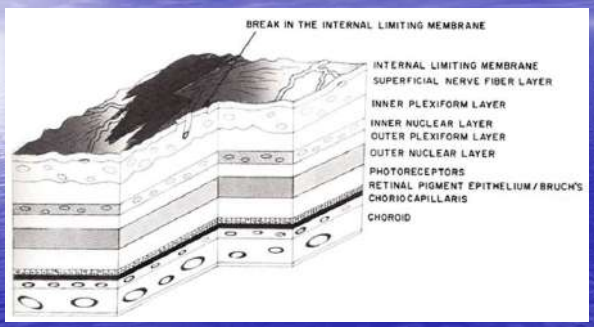
Vitreous Hemorrhage



21

Epiretinal Membrane



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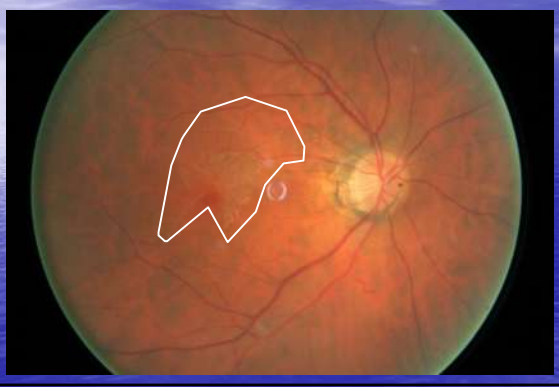
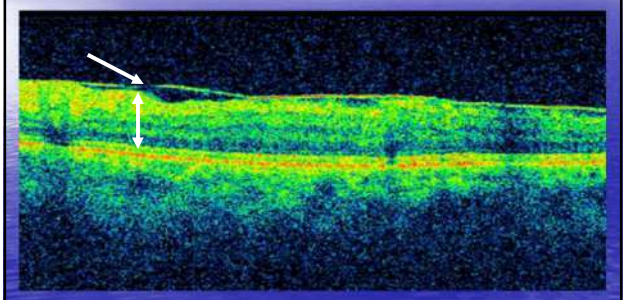
22

Epiretinal Membrane



23

Epiretinal Membrane OCT



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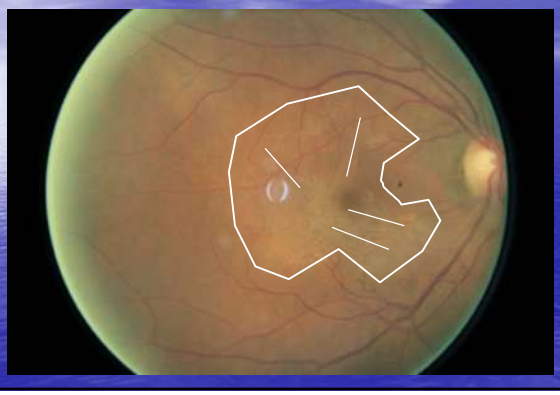
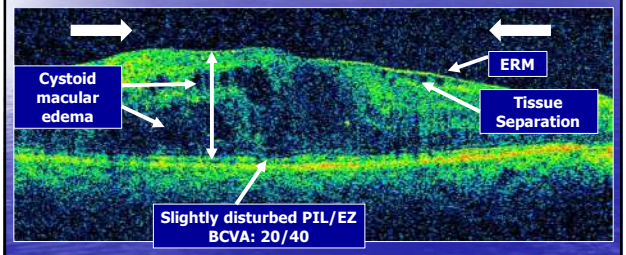
Contracted Epiretinal Membrane OCT



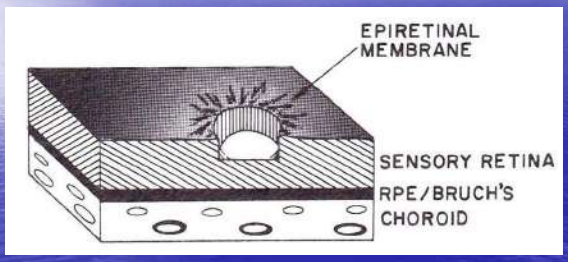
25

Contracted Epiretinal Membrane OCT



26

ERM-Related Lamellar Hole



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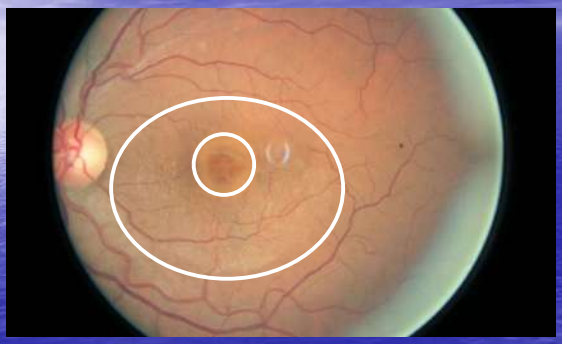
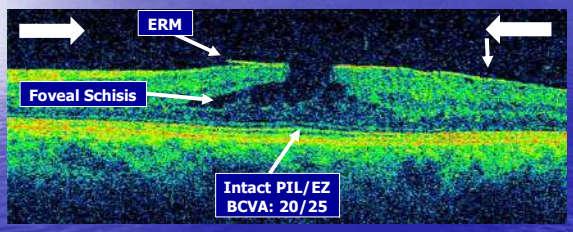
27

ERM-Related Lamellar Hole



28

ERM-Related Lamellar Hole OCT



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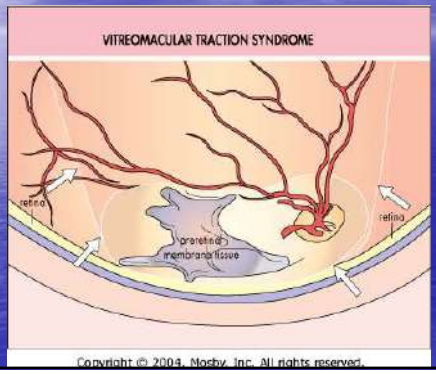
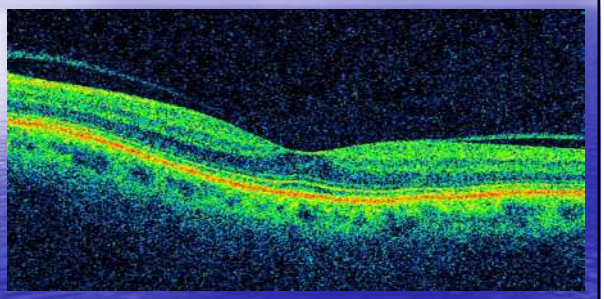
Vitreomacular Traction



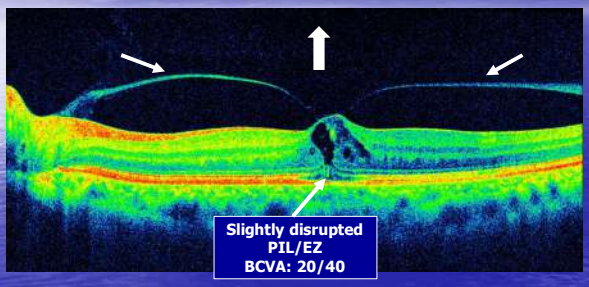
30

Vitreo-Foveal Attachment/Adhesion



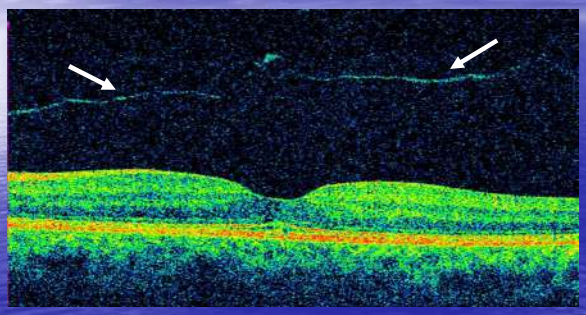
31

Vitreomacular Traction OCT



32

Posterior Vitreous Detachment OCT



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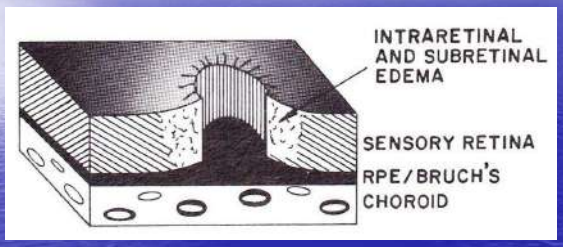
Macular Hole



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Stage 4 Macular Hole

35

Stage 4 Macular Hole

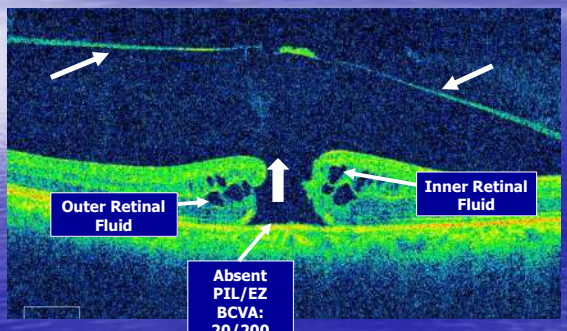

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Table 1 Classification in Idiopathic Macular Holes

Stage in Common Use for Full-Thickness MH	Gass-Based Classification	IVTS Classification
0	Previous MH with no foveal architecture changes and VMA in the fellow eye	VMA
1	Impending macular hole with foveal architecture change	VMT without MH
2	MH with preexisting VMA	Small-sized or medium-sized MH with VMT (250-400μm)
3	≥ 400 μm MH without VMA	Medium-sized or Large-sized MH with VMT (> 400μm)
4	MH with complete vitreous separation	Any sized MH without VMT

Abbreviations: IVTS, International Vitreomacular Traction Study; VMA, vitreomacular attachment; MH, idiopathic full-thickness macular hole; VMT, vitreomacular traction; RPE, retinal pigment epithelium.

Ittarat, Mantapond et al. "Literature Review of Surgical Treatment in Idiopathic Full-Thickness Macular Hole." Clinical Ophthalmology (Auckland, N.Z.) 14 (2020): 2171 - 2183.

37

Idiopathic Macular hole management

- Urgent (not emergent) Referral to retina for vitrectomy + ILM/ERM peel – or – ocriplasmin injections
  - Determine length of time since vision loss from macular hole specifically
  - Timeline and hole size dictates visual prognosis
- Macular hole development in fellow eye
  - 10-15% in 5 years

38

Common Pathologies in the Anterior Retinal Layers

- Flame-shaped/Splinter hemorrhages
- Preretinal/Boat/Subhyaloid hemorrhages
- Retinal neovascularization
- Cotton wool spot
- Medullated nerve fiber layer

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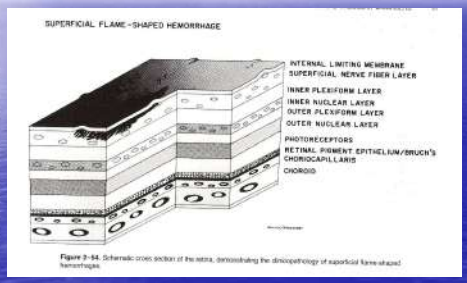
Flame-shaped Hemorrhage



Alexander LJ. Primary Care of the Posterior Segment. East Norfolk, CT: Appleton & Lange, 1989.

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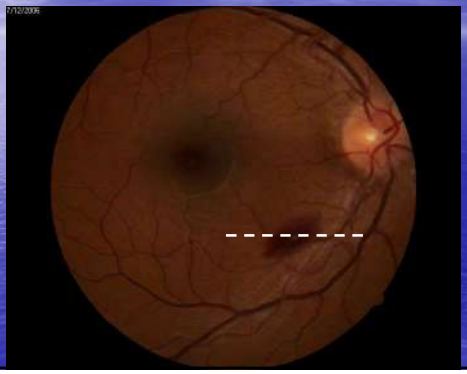
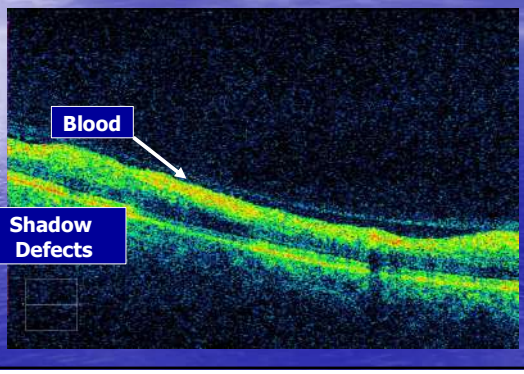
Flame-shaped Hemorrhage



41

Flame-shaped Hemorrhage OCT

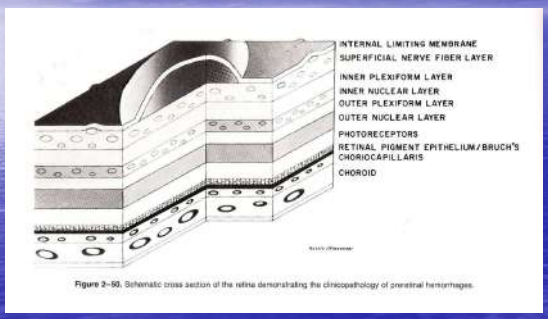


42

Splinter Hemorrhage

43

Preretinal/Boat Hemorrhages



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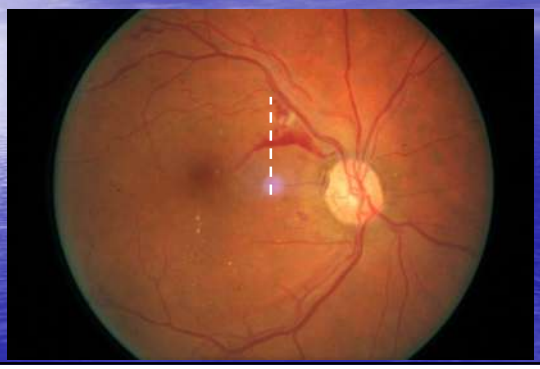
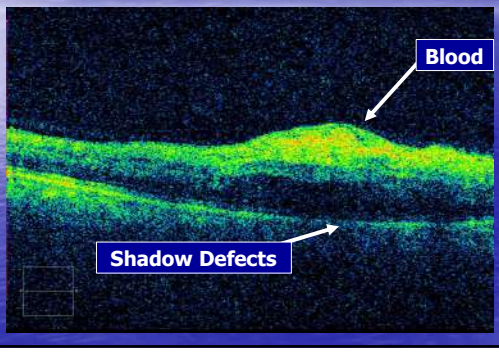
Preretinal Hemorrhage



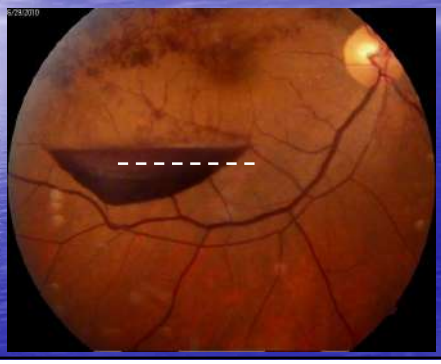
45

Preretinal Hemorrhage OCT



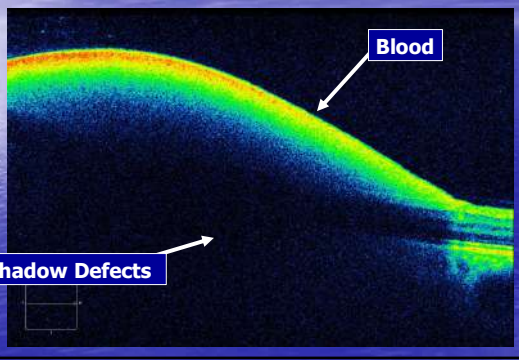
46

Boat/Subhyaloid Hemorrhage



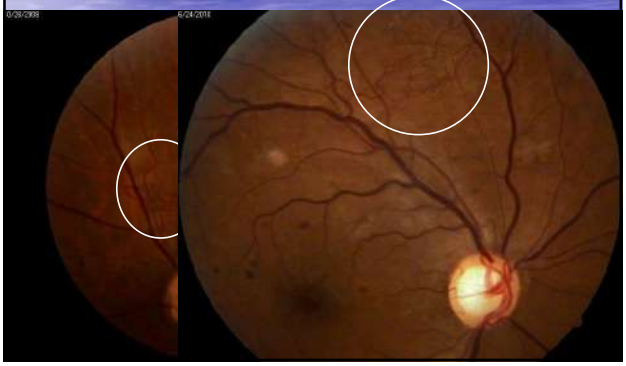
47

Boat/Subhyaloid Hemorrhage OCT



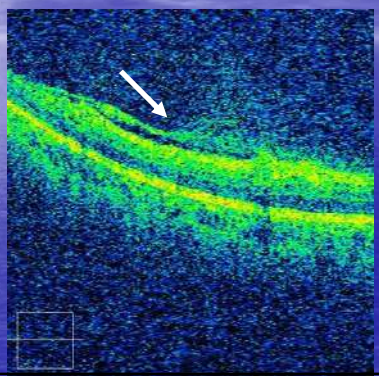
48

Beginning Retinal Neovascularization



49

Beginning Neo OCT



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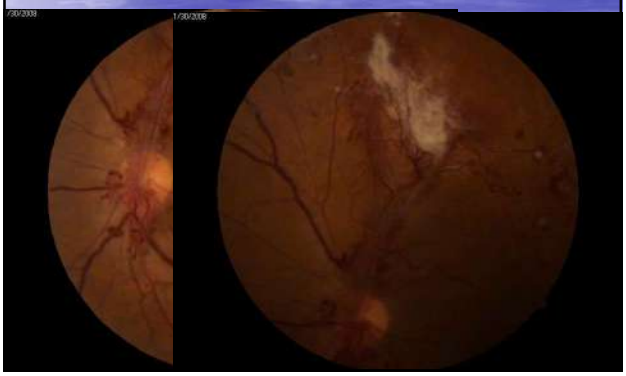
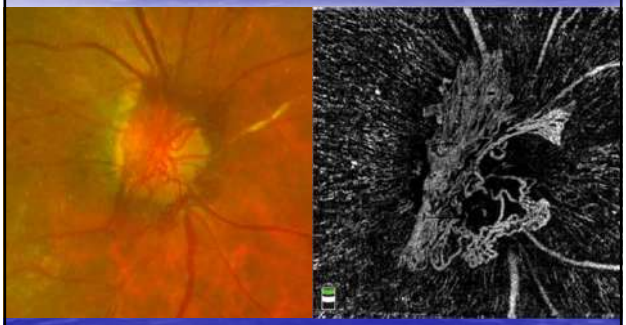
Extensive Neovascularization



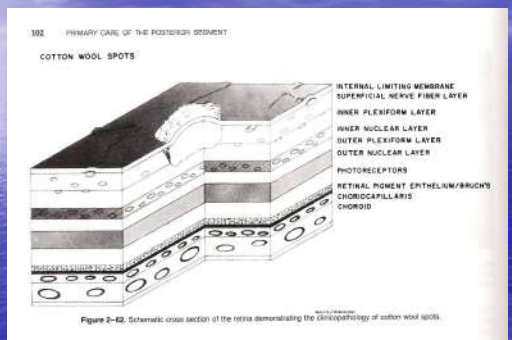
51

Disc Neovascularization



52

Cotton Wool Spot



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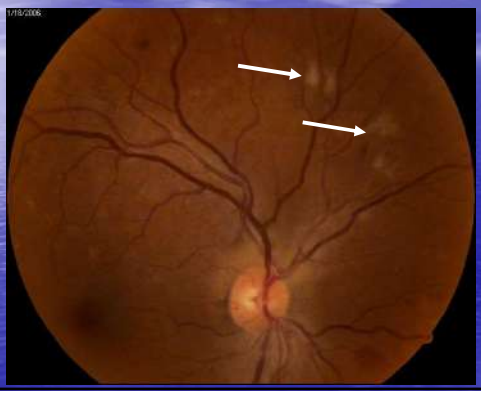
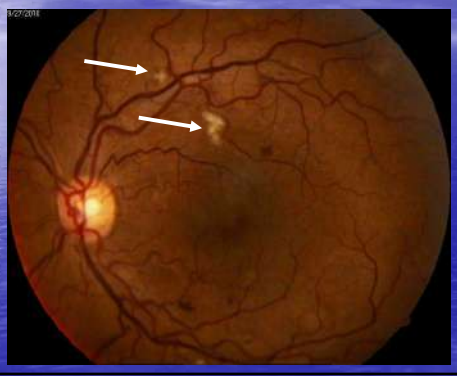
Cotton Wool Spot in Diabetic Retinopathy



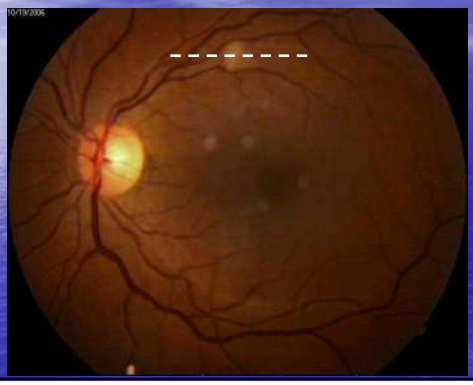
54

Cotton Wool Spot in HTN Retinopathy



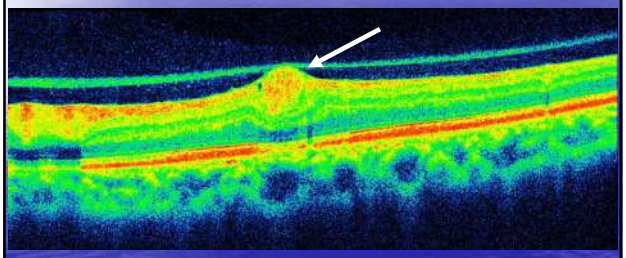
55

Isolated Cotton Wool Spot



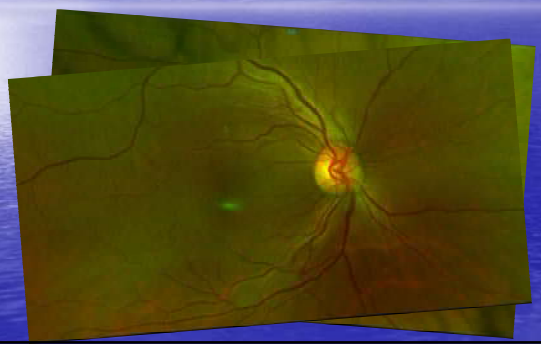
56

Cotton Wool Spot OCT



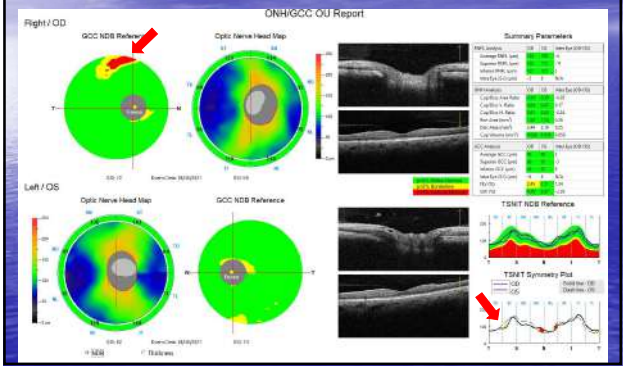
57

NFL Defect 2’ CWS or Glaucoma



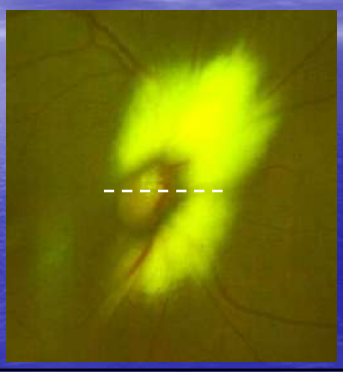
58

NFL Defect 2’ CWS or Glaucoma



59

Medullated Nerve Fiber Layer



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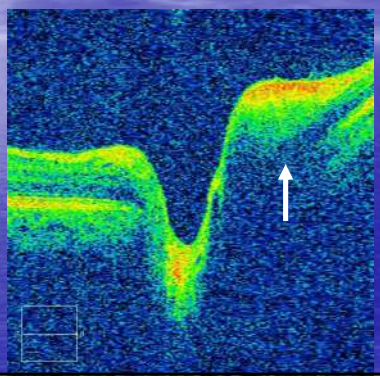
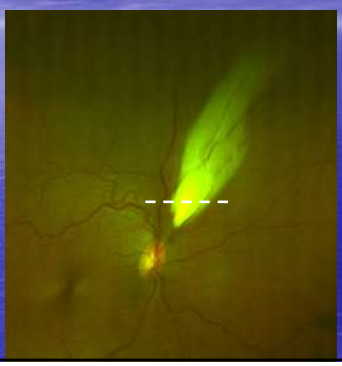
Medullated Nerve Fiber Layer OCT



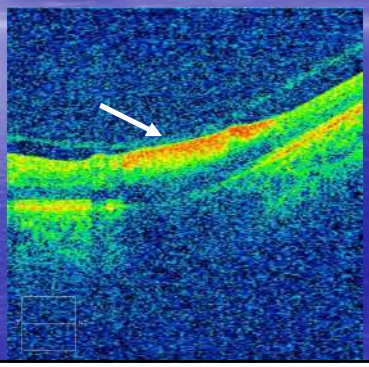
61

Medullated Nerve Fiber Layer



62

Medullated Nerve Fiber Layer OCT



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Common Pathologies in the Intraretinal Layers

- Dot/blot hemorrhages
- Exudates
- Vascular-Related Macular Edema
  - Cystic
  - Diffuse
- Cystoid Macular Edema
- Central Serous Macular Edema

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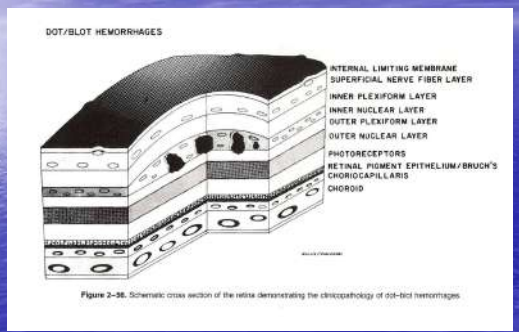
Dot/Blot Hemorrhages



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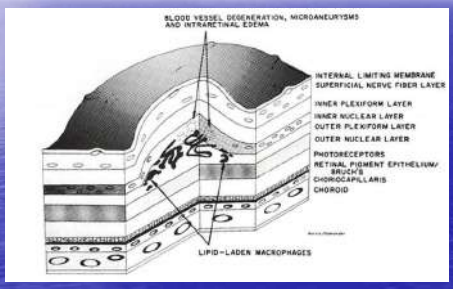
Dot/Blot Hemorrhages

66

Exudates with diabetic macular edema



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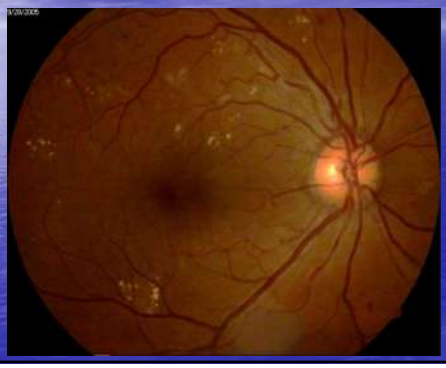
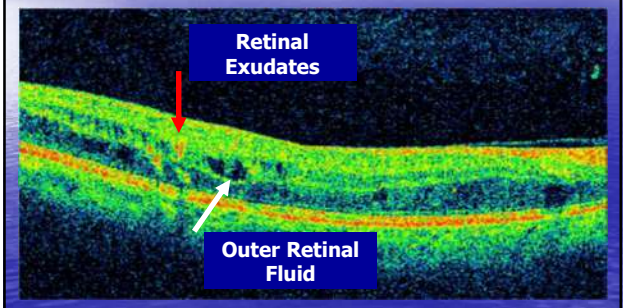
Exudates



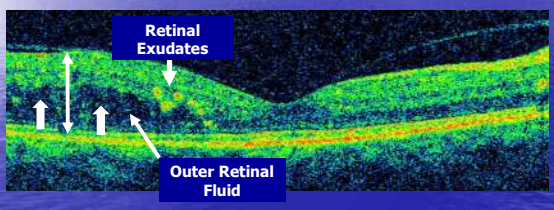
68

Dot/Blot Hemorrhage and/or Exudate with Cystic Edema OCT

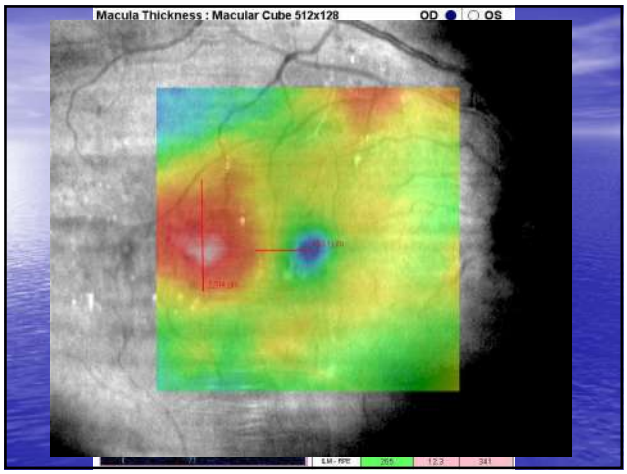


69

Diabetic macular edema OCT

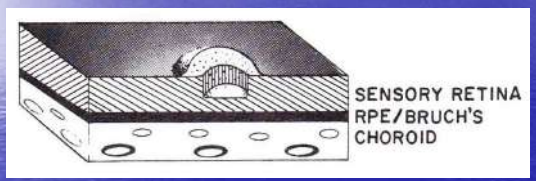


70



71

Cystoid Macular Edema



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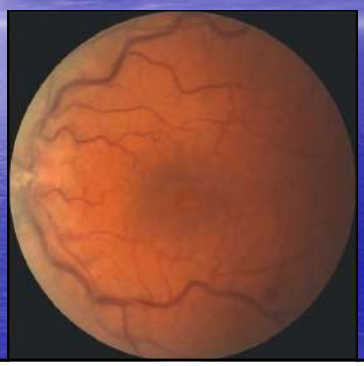
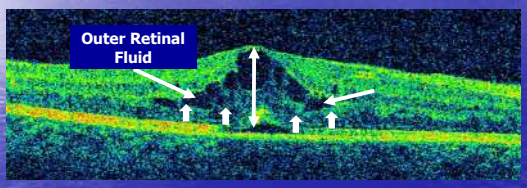
Cystoid Macular Edema



73

Cystoid Macular Edema OCT



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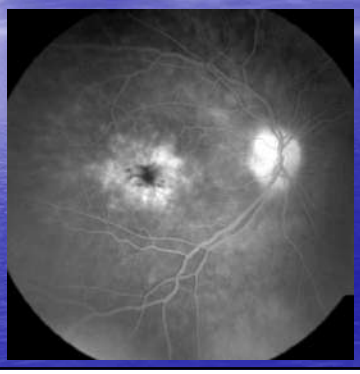
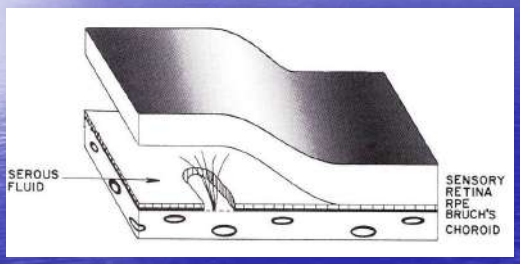
Cystoid Macular Edema NaFl



75

Central Serous Chorioretinopathy



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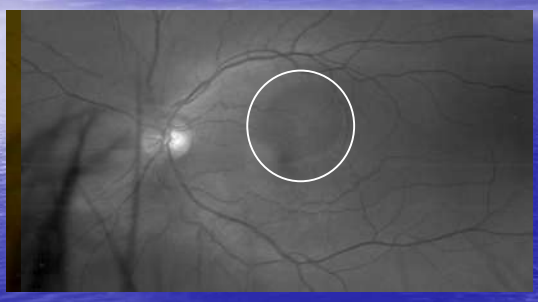
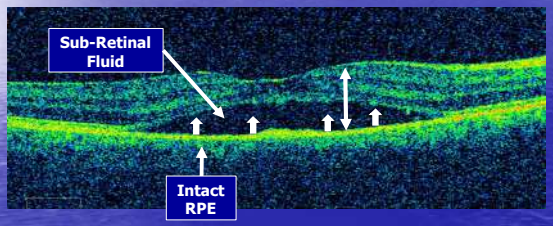
Central Serous Chorioretinopathy



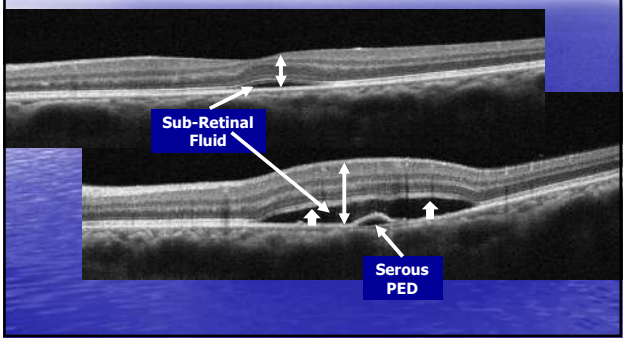
77

Central Serous Chorioretinopathy



78

CENTRAL SEROUS CHORIORETINOPATHY OCT



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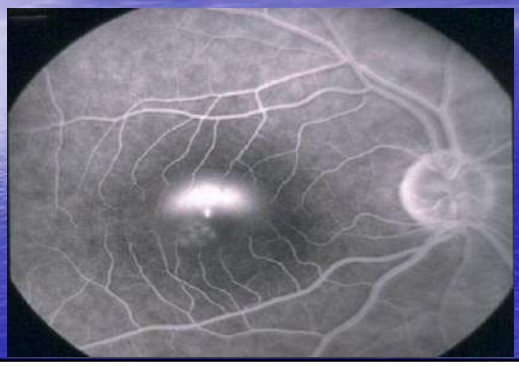
Central Serous Maculopathy NaFl



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Common Pathologies in the Posterior Retinal Layers

- Drusen
- RPE changes
  - Hypertrophy
  - Atrophy
  - Hypopigmentation/Depigmentation
  - Hyperplasia

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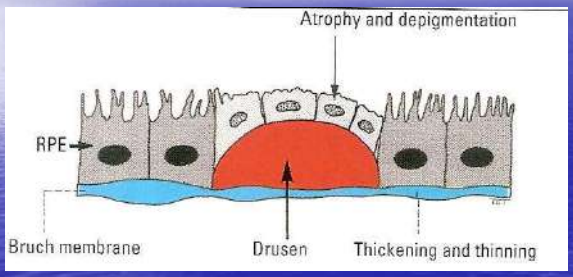
Drusen



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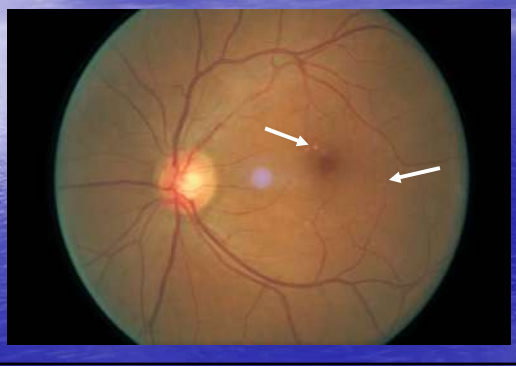
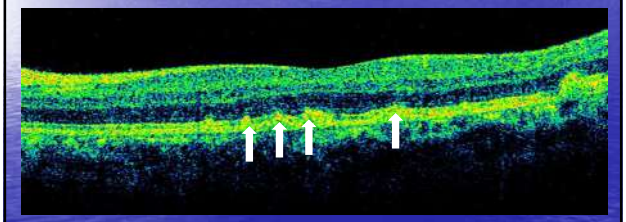
Hard Drusen



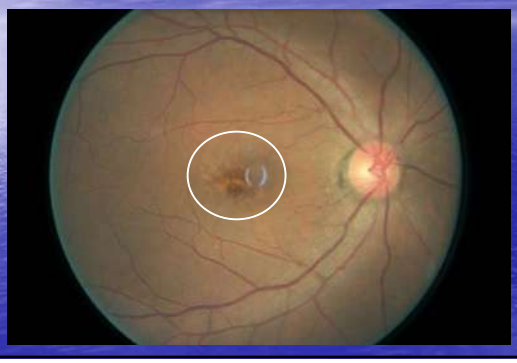
83

Hard Drusen OCT



84

Soft Drusen



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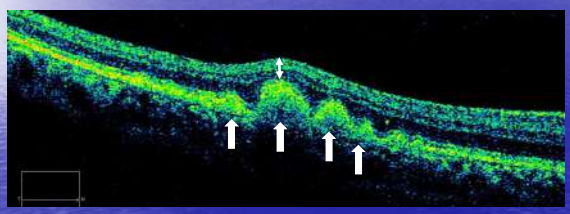
Soft Drusen OCT



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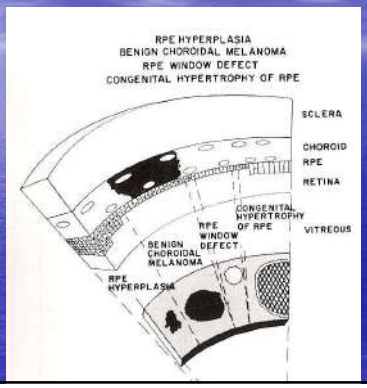
RPE Changes



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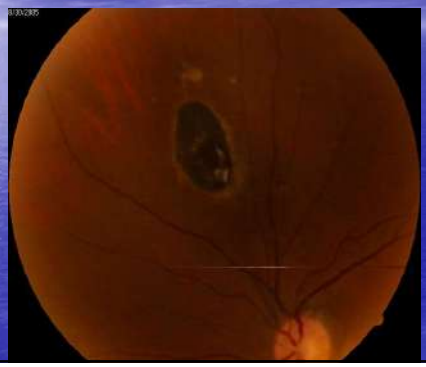
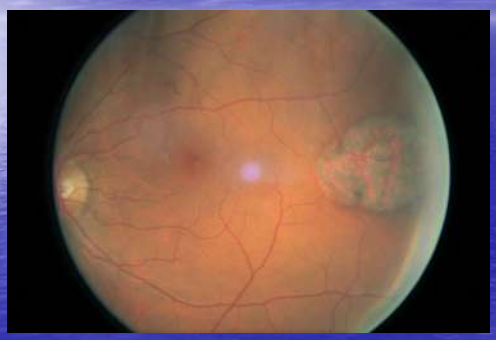
RPE Hypertrophy/Hypopigmentation



88

RPE Hypertrophy & Atrophy



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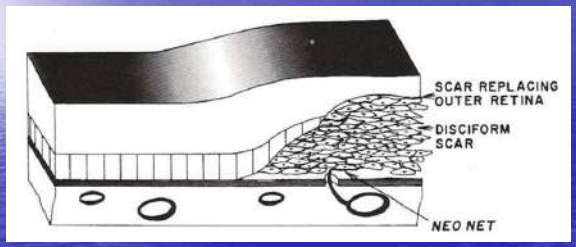
RPE Hyperplasia/Disciform scar



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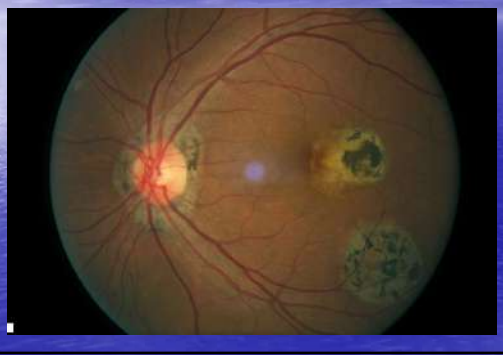
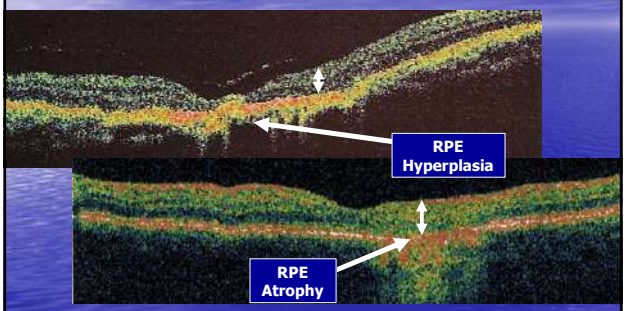
90

RPE Hyperplasia/Disciform scar



91

RPE Hyperplasia/Disciform scar



Schuman, Joel. Optical Coherence Tomography of Ocular Diseases 2nd ed. Thorofare, NJ: Slack, 2004.

92

Common Pathologies beneath the Retinal Pigment Epithelium

- Breakdown of Bruch's Membrane
  - Retinal Pigment Epithelial Detachment (PED)
    - Drusenoid
    - Serous
    - Hemorrhagic
    - Fibrovascular (Choroidal Neovascular Net)
  - Linear Breaks
    - Angioid Streaks
    - Lacquer Cracks
- Choroidal nevus/melanoma

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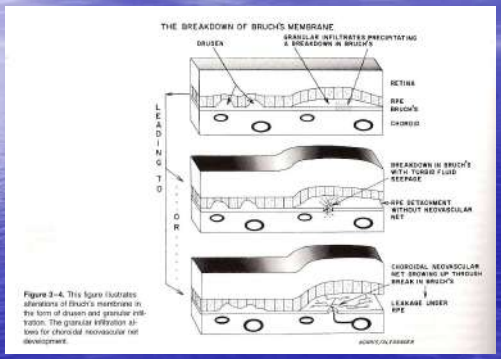
Breakdown of Bruch's Membrane



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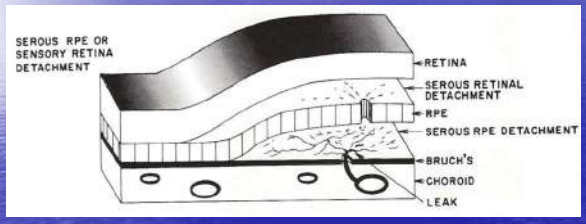
Serous PED



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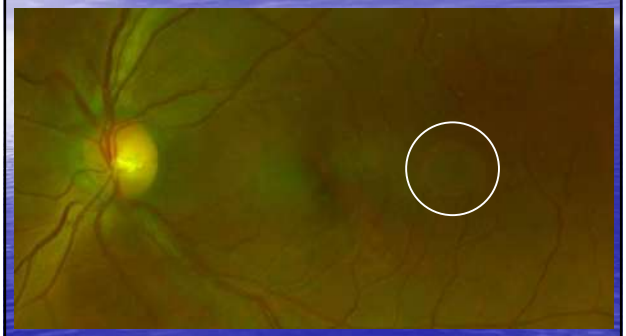
95

Serous PED



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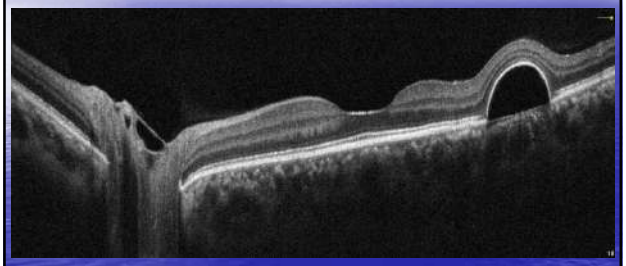
Serous PED OCT



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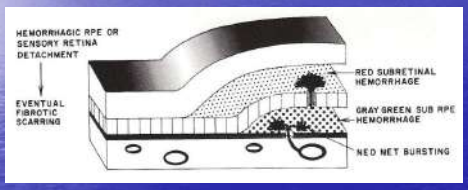
Hemorrhagic PED



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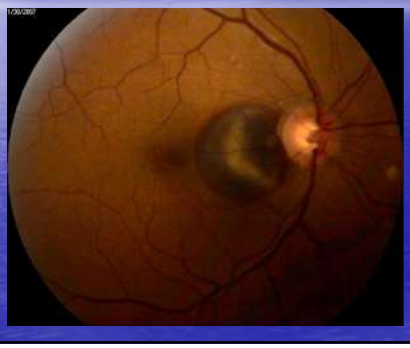
98

Hemorrhagic PED



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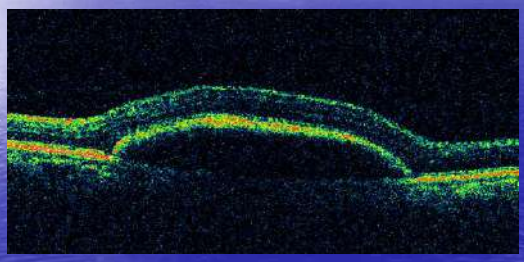
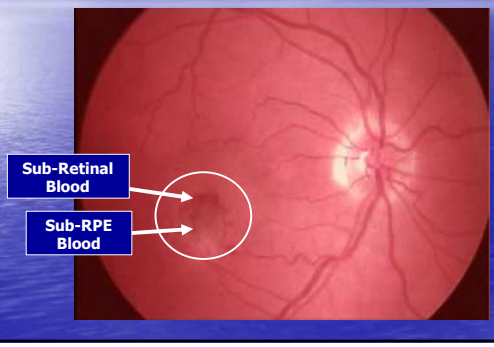
Hemorrhagic PED OCT



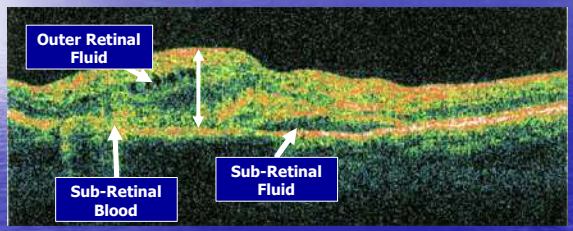
100

Choroidal Neovascular Membrane



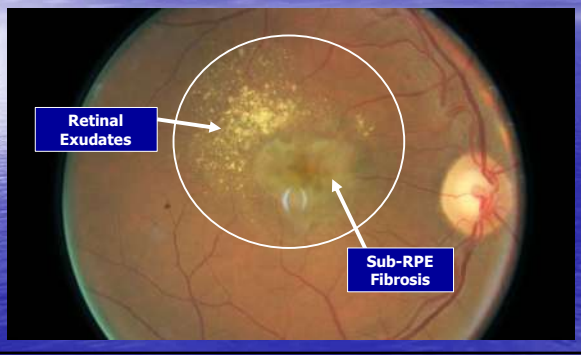
101

Choroidal Neovascular Membrane



102

Choroidal Neovascular Membrane



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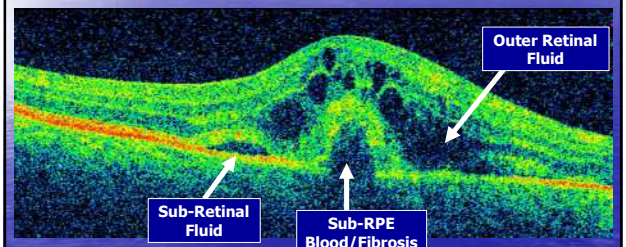
Choroidal Neovascular Membrane



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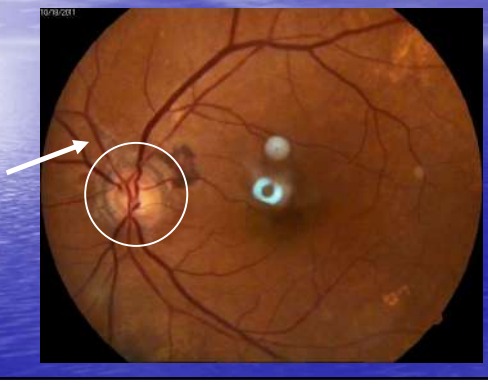
Angioid Streaks



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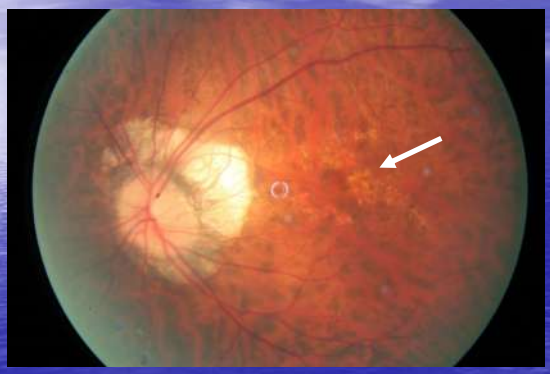
Lacquer Cracks



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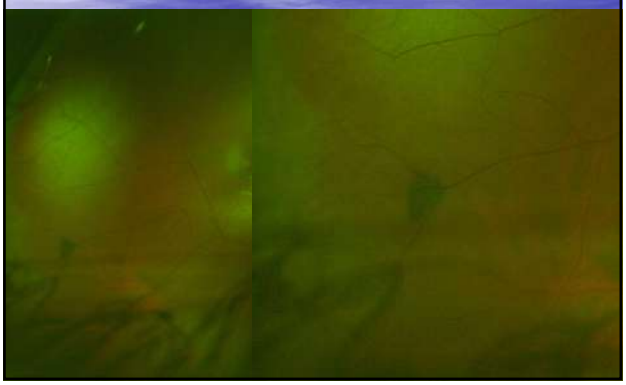
Choroidal Nevus



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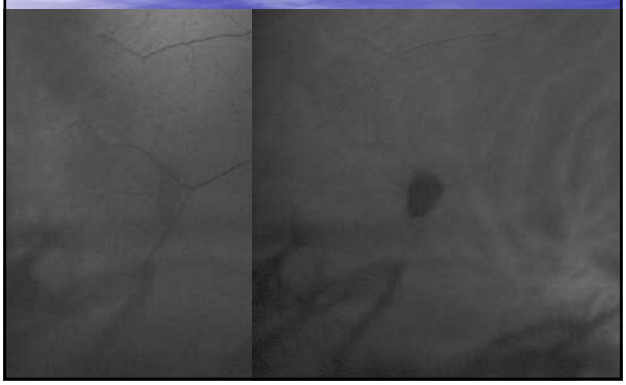
Choroidal Nevus



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TFSOM-UHHD Acronym

- To – *Thickness* >2mm
- Find – Subretinal *Fluid*
- Small – *Symptoms*
- Ocular – *Orange* pigment
- Melanoma – *Margins* within 3mm of the ONH
- Using Helpful – *Ultrasound Hollowness*
- Hints – Absence of *Halo*
- Drusen – *Daily*

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TFSOM-UHHD Acronym

Risk Factor(s)	Hazard Ratio (5yrs)	Management
0	<1%	Monitor annually
1-2	3x	Monitor 6mo
3-4	5x	Monitor 4mo
5-6	9x	Refer to retina specialist
All 7	21x	Refer to retina specialist

Hazard Ratio – basically how many more times the nevus will convert to melanoma

Arch Ophthalmol. 2009;127(8):981-987. doi:10.1001/archophthalmol.2009.151

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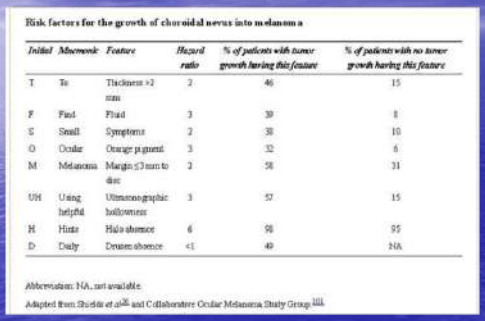
TFSOM-UHHD



Risk factors for the growth of choroidal nevus into melanoma

Initial	Mnemonic	Feature	Hazard ratio	% of patients with tumor growth having this feature	% of patients with no tumor growth having this feature
T	To	Thickness >2 mm	2	46	15
F	Find	Fluid	3	39	8
S	Small	Symptoms	2	38	10
O	Ocular	Orange pigment	3	32	6
M	Melanoma	Margin ≤3 mm to disc	2	58	31
UH	Using helpful	Ultrasonographic hollowness	3	57	15
H	Hints	Halo absence	6	98	95
D	Daily	Drusen absence	<1	49	NA

Abbreviation: NA, not available.

Adapted from Shields et al[46] and Collaborative Ocular Melanoma Study Group.[101]

Eye (Lond). 2017 Feb; 31(2): 241–257.

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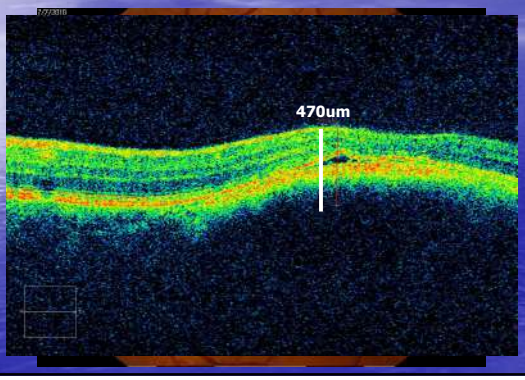
Is the OCT helpful?



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Questions??

mbgonzal@central.uh.edu

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