MEDICAL DECISION-MAKING
IN OPTOMETRIC PRACTICE

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Principles of Diagnosis

- The study of the art and science of the process of determining the nature and circumstances of a diseased condition.
- Emphasis is placed on the biological and clinical procedures utilized in medical examination and disease differentiation.
- Goal of the diagnostic process is understand the underlying clinical pathophysiology of the disease by performing and interpreting the appropriate diagnostic tests.

Medical Decision-Making

- Evaluating the complexity of symptoms
- Evaluating pertinent physical findings
- Ordering and performing diagnostic procedures
- Evaluating concurrent problems
- Determining a final medical diagnosis
- Providing follow-up care

Medical Decision-Making

- Are you going to recommend further testing?
- Are you going to prescribe eyeglasses or contacts?
- Are you going to prescribe medication?
- Are you going to monitor?
- Are you going to change, increase, decrease or discontinue medication?
- Are you going to recommend surgery?
- Are you going to recommend a consultation?

Optometric Malpractice

- Average of 35 paid claims per year
- Most claims are for acts of omission: (i.e., failure to make a proper diagnosis and failure to initiate an appropriate treatment plan)
  1 - Failure to diagnose retinal detachment
  2 - Failure to diagnose glaucoma
  3 - Failure to diagnose tumors
  4 - Failure to diagnose choroidal neovascularization
  5 - Failure to diagnose diabetic retinopathy

Common Mistakes

- Inadequate patient history
- Inadequate eye examination
- Failure to follow-up on suspicious findings
- A lack of documentation to show what was done
Diagnostic Tests

<table>
<thead>
<tr>
<th>Functional Evaluation</th>
<th>Structural Evaluation</th>
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<tbody>
<tr>
<td>□ Refraction</td>
<td>□ Corneal Topography</td>
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<tr>
<td>□ Visual Field Exam</td>
<td>□ Specular Microscopy</td>
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<td>□ Color Vision Exam</td>
<td>□ Retinal Scanning Laser</td>
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<td>□ Sensorimotor Exam</td>
<td>□ Fundus Photography</td>
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<td></td>
<td>□ External Photography</td>
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<tr>
<td></td>
<td>□ Ophthalmic Ultrasound</td>
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</table>

Clinical Indications for Diagnostic Tests

- The evaluation of abnormal ophthalmologic signs or symptoms
- The evaluation of abnormal neurologic signs or symptoms
- The treatment of known ophthalmic disease
- The treatment of known ophthalmic injury
- The preoperative assessment of surgical risk

Clinical Applications

- To document a disease process
- To help plan the treatment of a disease process
- To document the improvement of a disease process
- To document the lack of improvement of a disease process
- To document the delivery of medical treatment
- To document the response to treatment

Medical Eye Care Services

<table>
<thead>
<tr>
<th>Anterior Segment Disorders</th>
<th>Ocular Surface Disease</th>
<th>Lacrimal Drainage Disorders</th>
<th>Retinal Disorders</th>
<th>Glaucoma</th>
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<tbody>
<tr>
<td>Cataract</td>
<td>Blepharitis</td>
<td>Epithelia due to obstruction of the canaliculus</td>
<td>Tractol Maculopathies</td>
<td>Advanced Glaucomatos Damage</td>
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<td>Epithelia due to insufficiency of drainage</td>
<td>Diabetic Retinopathy</td>
<td>Glaucoma Suspect</td>
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<tr>
<td>Dry Eye</td>
<td>Epithelia due to insufficiency of drainage</td>
<td>Mild Glaucomatos Damage</td>
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“The Blepharitis Patient”

- A 48-year-old black male presents with complaints of ocular irritation
- The patient complains of a sandy-gritty feeling that is worse upon awakening
- The patient also complains of intermittent episodes of increased tearing that usually occur late in the day or when he is tired
- Ocular history, medical history, family history are social history are non-contributory
Clinical Evaluation

- Abnormalities of meibomian gland orifices such as capping and pouting.
- Abnormalities of meibomian secretions such as poor expressibility, increased thickness, increased turbidity and deeper color.

Medical Decision-Making

- Clinical Diagnosis
  1. Primary: Posterior blepharitis
  2. Secondary: Evaporative dry eye syndrome
- Treatment Plan
  1. Prescribe oral minocycline 50mg 2x day for ten days*
  2. Prescribe Azasite, Besivance or Zylet eye drops 2x day for three weeks
  3. Prescribe hot compresses 1x day for three weeks
  4. Next visit in three weeks

Medical Coding

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Medical Billing: Blue Cross

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<thead>
<tr>
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Total for two visits = $234.61
"The Crying Patient"

- 68-year-old white female presents with a chief complaint of excessive tearing
- The patient states that she has to “dab” at her eyes frequently with a tissue
- Visual acuity is acceptable with the current spectacle prescription
- Ocular history, medical history, family history and social history are non-contributory

Clinical Evaluation

External Ocular Examination with Biomicroscopy

Abnormal tear meniscus secondary to inferior punctal stenosis.

Punctal Stenosis

- Acquired stenosis of the inferior punctum
- Mechanical, infectious, toxic, or inflammatory processes may result in punctal stenosis
- Simple dilation of the punctum may establish the patency of the nasolacrimal system

Dilation of the Lacrimal Punctum

- The lower punctum is inspected microscopically
- A lacrimal probe is inserted into the lacrimal punctum
- The punctal orifice is gradually dilated using probes of increasing size

Medical Decision-Making

- Clinical Diagnosis
  (1) Primary: Epiphora with insufficient drainage in both eyes secondary to punctal stenosis
- Treatment Plan
  (1) Non-obstructive causes of epiphora are identified and excluded
  (2) Perform dilation of the lacrimal punctum on both lower eyelids
  (3) Prescribe topical steroid/antibiotic eye drops
  (4) Next visit in three weeks

Medical Coding

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Medical Billing: Medicare

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1st Eye Care Practice Statistics - 2009

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<td>Probing of the Nasolacrimal Duct</td>
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<td>Probing of the Canaliculus</td>
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<td>Dilation of the Punctum</td>
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<td>Corneal Foreign Body Removal</td>
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<td>Epilation with Forceps</td>
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<tr>
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Traction Maculopathies

- Traction on the macular tissue produces gradual anatomic and functional deterioration in proportion to traction forces and their duration of action.
- Macular traction is tangential to the macular surface in disorders such as cellophane maculopathy, macular pucker, and macular hole.
- Macular traction is anterior/posterior to the macular surface in vitreomacular traction syndrome.
- Traction maculopathies are estimated to occur in 6.4% of the population over age 50.

Abnormal Signs & Symptoms

- Loss of the foveal reflex
- Loss of the foveal depression
- Localized elevation of the macula
- Retinal striae secondary to traction
- Chronic cystoid macular edema
- Blurred visual acuity
- Reduced visual acuity
- Metamorphopsia on Amsler grid testing

“The Retinal Disease Patient”

- 62-year-old black female returns to the office with a chief complaint of reduced vision
- Patient states that she “just can’t see right”
- Best corrected distance visual acuity is 20/30 in the right eye and 20/40 in the left eye
- The HPI reveals a previous eye examination performed eighteen months earlier with 20/20 visual acuity in each eye
- Ocular history, medical history, family history and social history are non-contributory

Clinical Evaluation

External Ocular Examination with Biomicroscopy

Age-related cortical cataract in the left eye.
Clinical Evaluation

Direct Ophthalmoscopy

Ophthalmoscopy reveals mild pigmentary disorganization of the macula.

Vitreomacular Traction Syndrome

- Incomplete posterior vitreous detachment
- Persistent attachment to the macula in the left eye
- Anterior/posterior traction on the macula
- Foveal cyst with subretinal fluid

Stratus OCT reveals retinal thickening with a peaked triangular appearance.

When To Refer

- Patients with 20/50 – 20/70 or worse visual acuity
- Patients with declining visual acuity
- Patients with clinical signs of cystoid macular edema
- Patients with clinical signs of vascular incompetence
- Patients with clinical signs of an impending macular hole
- Patients with an intolerance for visual distortions

Medical Decision-Making

- Clinical Diagnosis
  1. Primary: Macular degeneration
  2. Secondary: Cataract
- Physical Diagnosis
  1. Primary: Vitreomacular traction syndrome
  2. Secondary: Cataract
- Treatment Plan
  Because of the mild loss of visual acuity, surgery is not the best treatment option. Observation in my office is the best option. Next visit in one month.

Medical Coding

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Medical Billing: Blue Cross Insurance

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The Unexplained Loss of Vision

- 86-year-old black female returns to the office with a chief complaint of reduced vision.
- Patient states that her vision seems to be getting “dim.”
- Best corrected distance visual acuity is 20/40 in the right eye and 20/400 in the left eye.
- The HPI reveals a previous eye examination performed two years earlier with 20/30 visual acuity in the right eye and 20/400 in the left eye.
- Ocular history is significant for cataract surgery performed ten years earlier on the right eye.

Clinical Evaluation

External Ocular Examination with Biomicroscopy

Pseudophakia in the right eye

Cataract in the left eye

Direct Ophthalmoscopy

Peripapillary Disc Atrophy

Old Vascular Occlusion

Non-Orthogonal Irregular Astigmatism

Specular Microscopy

Abnormal endothelial cell density

Normal corneal endothelium

Optical Coherence Tomography

Stratus OCT reveals an abnormal retinal nerve fiber layer.

Slope and modulation of the TSNIT profile is abnormal.

Analysis reveals a significant flattening of the superior retinal nerve fiber layer bundle.
Visual Field Examination

- Humphrey Field Analyzer reveals a moderate reduction in retinal sensitivity
- Double arcuate visual field defect
- Possible glaucomatous visual field defect
- Possible visual field defect secondary to peripapillary disc atrophy

Medical Decision-Making

- Clinical Diagnosis
  1. Primary: Pseudophakia – right eye
  2. Secondary: Corneal opacity – both eyes
  3. Secondary: Optic disc atrophy – both eyes
- Physical Diagnosis
  1. Primary: Visual field defect – right eye
  2. Secondary: Fallout of the nerve fiber layer – right eye
  3. Secondary: Iatrogenic endotheliopathy – right eye
  4. Secondary: Irregular astigmatism – right eye
- Treatment Plan
  Monitor in my office. No medical treatment now. Next visit in three months.

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<th>Description</th>
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Medical Billing: Medicare

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<tr>
<td>92014</td>
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<td>$409.25</td>
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“The Contact Lens Patient”

- 47-year-old black female returns to the office with a chief complaint of reduced vision
- Patient discontinued contact lens wear five months earlier due to poor comfort (“dry and itchy”)
- She has noticed some intermittent ocular discomfort and photophobia for the past two months
- She is wearing old eyeglasses – her most recent spectacle prescription is broken
- Patient thinks her reduced vision is because she is wearing an old eyeglass prescription
- Patient would like to try wearing contacts again

 Clinical Evaluation

Chronic Anterior Uveitis with Posterior Synechiae

Best corrected visual acuity = 20/40
Spec Rx: O.D. -7.00 = 1.00 x 175
IOP measures 11 mmHg

Best corrected visual acuity = 20/30
Spec Rx: O.S. -7.00 = 0.75 x 010
IOP measures 10 mmHg
Specular Microscopy

- Corneal Edema
- Stage 4 Corneal Guttata
- Presence of Pleomorphism
- Elevated Rate of Polymegethism

Optical Coherence Tomography

- Stratus OCT reveals bilateral and symmetrical increase in retinal thickness
- Foveal depression is still present in both eyes
- Clinical appearance is consistent with early macular edema secondary to chronic anterior uveitis

Medical Decision-Making

- **Clinical Diagnosis**
  1. Primary: Chronic anterior uveitis
  2. Secondary: Corneal edema
  3. Secondary: Posterior synechiae

- **Physical Diagnosis**
  1. Primary: Chronic anterior uveitis
  2. Secondary: Retinal edema
  3. Secondary: Corneal endotheliopathy

- **Treatment Plan**
  In office cyclopia. Prescribe Pred Forte 4x day for one week. Next visit in one week.

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