

Ophthalmic Patient History & Assessment

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COMPONENTS OF THE INITIAL HISTORY

GENERAL CONSIDERATIONS

- Consider information regarding ophthalmic conditions in terms of patient's general health status
- Evaluate information during history-taking process, use it to guide further questions

CHIEF COMPLAINT (CC)

- Record primary complaint in patient's own words
- Try to find a reason for exam – insurances don't pay for "routine exam"
 - Visual problems; problems with glasses and/or contacts
 - Prior history of ophthalmic problem or surgery – patching/glasses in childhood; trauma
 - Family history of ophthalmic problem – glaucoma, vision loss
 - Significant medical history – chloroquine, corticosteroids, hypertension, diabetes
 - If not, "pt here for ocular health maintenance exam" – better than "routine exam"

HISTORY OF PRESENT ILLNESS (HPI)

- Expands on the chief complaint – fills in the dimensions of the problem
- Includes information about concurrent conditions if present
- Acronym APQRST useful in getting the whole picture
 - **A**ggravating or alleviating factors – what makes it better or worse?
 - **P**lace or location of symptom – pinpoint as exactly as possible
 - **Q**uantity and quality of the symptom – what is it like and how bad is it?
 - **R**elated or associated symptoms – is there anything else going on with it?
 - **S**etting in which symptom occurs – where does the symptom happen?
 - **T**iming or temporal considerations – how long does it last, how long has it been there, is it continuous or intermittent?
- Symptoms – subjective complaints
 - Pain
 - Itching
 - Dryness
 - Metamorphopsia
 - Diploia
- Signs – objective phenomena
 - Tearing or discharge
 - Unequal pupils
 - Drooping lids
 - Increased IOP
 - Crusts along lashes
 - Ocular deviations

OTHER IMPORTANT COMPONENTS OF THE HISTORY

- **Allergies**
 - Differentiate between true allergy & adverse effects
 - Consider cross-reactions to similar classes of drugs (PCN, cephalosporins and betalactams; ASA and other NSAIDs in asthmatics (acetaminophen usually OK in these patients, except high-dose – ≥ 1000 mg); fluoroquinolones (ciprofloxacin and ofloxacin)
- **Current medications**
 - Ask very specifically about *all* types of medication; document at each visit
 - Medications give clues to other health issues
 - Consider ophthalmic effects (e.g., chloroquine, hydroxychloroquine, phenothiazines, tamoxifen, isotretinoin, rifabutin, cidofovir; many drugs also decrease tear production or produce pupil dilation)
- **Current general health status**
 - LMP and nursing status – important in considering drops used, medications prescribed
 - Psychosocial assessment – part of documentation necessary with E & M codes
- **Ophthalmic history**
 - Glaucoma – medications used (ask about patient's technique/schedule of using drops)

- Chronic conditions – decreased acuity (retinal disorders, trauma)
- Contact lenses – wearing schedule, care regimen
- Ophthalmic surgery
- **Medical history**
 - Cardiovascular disorders – history of myocardial infarction (especially in last 6 months), hypertension, atrial fibrillation, pacemaker, artificial valves
 - Pulmonary disorders – asthma, bronchitis, emphysema
 - Psychiatric disorders – depression
 - Diabetes – pattern of glucose self-monitoring, usual CBG level; last HgA_{1c} value, hypertension control, kidney dysfunction
- **Family history**
 - Diabetes
 - Glaucoma
 - Retinal disorders
 - Strabismus
 - Vision loss

DOCUMENTING CC AND HPI

- Include patient's age and sex; be complete but concise; be legible and literate
- Draw a single line through errors; note reason, date, time and sign the note
- Example: 46 yo ♂ presents complaining that "light has been bothering me, even when I wear my sunglasses." Onset of sxs 3 days ago. Sxs remit in dimly lighted areas. Pt also notes increased tearing. VA is "fine" and he has noted no ocular redness or discharge.
- Chart forms can assist with medical, legal and regulatory documentation requirements
 - Registration information with appropriate review of systems included
 - Summary sheet with medications, allergies, medical history
 - Examination documentation to include areas to indicate update of meds, allergies, ROS

TECHNIQUES OF INITIAL ASSESSMENT

GENERAL CONSIDERATIONS

- Thorough knowledge of anatomy and physiology imperative
- Use history data to guide assessment (e.g., "tearing" → lids, lacrimal system; "halos" → corneal exam, tonometry; "double vision" or history of childhood patching → muscle balance)
- Know what information each assessment should provide, what's normal versus abnormal
- Understand what abnormal findings mean – use that information to guide assessment
- Assess structures and functions

EXTERNAL EXAMINATION

- Rationale – many conditions have external clues; usually done first so assessment isn't affected by drops, other manipulations; provides routine structure for a complete examination
- Primarily an assessment of structures – assess each anatomic area
- Techniques
 - Unassisted inspection
 - Magnified inspection with slit lamp
 - Magnified inspection using diagnostic stains
 - Palpation and measurement
- Orbits
 - Asymmetry/proptosis – Grave's ophthalmopathy; neoplasms; inflammation; pre-septal or septal cellulitis
 - Lid retraction with exposed sclera – hyperthyroidism (Grave's ophthalmopathy)
 - Frontal or maxillary sinus tenderness – sinus infection, other infection or inflammation
- Eyelids
 - Eyelid margins
 - Erythema, edema, localized swelling, scaling – blepharitis, hordeolum, chalazion
 - Vertical positions of upper and lower lids (open, closed and during blink) – CN VII palsy, post-surgical ptosis; differentiate from pseudo-ptosis (e.g., blepharoptosis)

- Alignment of lid margins with globe surface – ectropion (epiphora), entropion (corneal surface disorders), chronic blepharitis with scarring
 - Additional assessments – palpebral fissure height; margin-reflex distance; upper eyelid crease; levator function; taped and untaped visual fields; Tensilon test or ice patch
 - Eyelashes
 - Direction of growth – trichiasis may be secondary to cicatricial disorders
 - Lashes – loss or abnormal growth (prostaglandin analogs); crusting
- Lacrimal apparatus
 - Presence and amount of tears – epiphora may occur from dry eye; Schirmer tests
 - Puncta locations, appearance, patency – ectropion, entropion, dacryocystitis, neoplasms
 - Lacrimal sac inflammation or discharge
 - Lacrimal gland inflammation – benign or malignant neoplasms
 - Additional assessments – dye disappearance test; Jones I and/or Jones II; tear film breakup time; NLD irrigation
- Conjunctivae
 - Bulbar surface – injection, edema, discharge, growths, foreign bodies
 - Tarsal surface – giant papillary conjunctivitis, foreign bodies, presence of pallor
 - Findings may indicate need for preventive teaching
- Cornea
 - Clarity of central and peripheral cornea
 - Surface defects may only be visible with staining
 - Corneal thickness – implications for LASIK, glaucoma assessment
- Iris
 - Color symmetry, freckles
 - Iridodonesis
 - Structural defects
 - Anterior chamber depth – many glaucoma patients worry about OTC meds warning about use in glaucoma; good teaching opportunity

VISUAL ACUITY AT DISTANCE

- Snellen chart
 - Completely occlude non-testing eye and observe patient for peeking
 - Scramble letters or use another chart if patient has memorized chart
- E or C charts, Allen figures, HOTV matching –useful for very young, illiterate, or poor cognitive abilities (dementia, mental retardation)
- Other methods of VA assessment useful in certain circumstances (pinhole occluder, Teller acuity cards, glare testing, contrast sensitivity, potential acuity meter)

VISUAL ACUITY AT NEAR

- Jaeger chart, Rosenbaum pocket chart
- Record VA in Snellen or Jaeger notation

VISUAL ACUITY IN LOW VISION PATIENTS

- Test at closer distances until patient can see the 200 optotype; e.g., 10/200, 5/200
- Finger counting or hand motion – begin at 5 feet and move in; e.g., “FC at 3 feet” or “HM at 5 feet”
- Light perception – if patient unable to see standard penlight, use indirect ophthalmoscope; e.g., “LP” or “bare LP” if only indirect light seen; “NLP” if no light seen

OCULAR MOTILITY

- General considerations
 - Must know cranial nerve innervations of extraocular muscles to evaluate results
 - Phorias (latent deviations) versus tropias (manifest deviations)
- Alternating cover test – good screening for phorias, tropias; watch for objection to cover
- Cover-uncover test – differentiates between phorias, tropias
- Prisms with alternating cover test – quantifies deviations
- Worth 4 Dot test – to assess presence or absence of fusion (suppression)
 - 1 white, 1 red, 2 green lights; glasses with 1 red-free green lens, 1 green-free red lens (by convention, red lens placed in front of OD)
 - Normal assessment results
 - Both eyes see white spot; OD sees 1 red, no green; OS sees 2 green, no red
 - Patient sees all 4 disks – white (reported as red, green or changing), red, 2 green
 - Abnormal assessment results
 - Diplopic response – sees 5 disks (2 red, 3 green)
 - OD suppressing – sees 3 disks (white, 2 green – reported as 3 green)
 - OS suppressing – sees 2 disks (white, red – reported as 2 red)

PUPIL EXAMINATION

- Assess direct and indirect response to light, accommodation
- Up to 20% have physiologic anisocoria (difference usually the same in bright or dim light)
- Common abnormalities
 - Marcus Gunn pupil – seen in ischemic retinal vein occlusion, other causes of unilateral optic nerve dysfunction; assessed with swinging flashlight exam
 - Easier to evaluate in dim light; make sure patient fixates at distance
 - Afferent papillary defect (APD – abnormality in input from eye to brain)
 - No associated anisocoria
 - Findings for OS with APD
 - Light into OD – OD responds with constriction, OS has normal consensual response and also constricts equally
 - Swing light to OS – both pupils dilate (or fail to constrict as expected)
 - Swing light back to OD – both pupils again constrict
 - Adie's pupil – seen with benign ganglionic or postganglionic lesions
 - Affected pupil appear larger in bright light
 - Near reaction (accommodative response) often increased in affected eye
 - Horner's syndrome – seen in conditions with damage to sympathetic nervous system
 - Anisocoria is greater in dim light
 - Dilation lag of affected pupil occurs because dilation occurs due to sphincter muscle relaxation only (no assistance from non-functioning dilator muscle)
 - Associated signs – ptosis, anhidrosis on affected side of face (innervation also by sympathetic system); presence depends on location of the damaging lesion
 - Argyll-Robertson syndrome – classic late nervous system manifestation of syphilis
 - Bilateral, asymmetric miosis; poor dilation
 - Intact visual function

OTHER ASSESSMENTS

- Visual fields – confrontation fields; automated perimetry, optic disc topography if indicated
- Tonometry – Goldmann is standard; Perkins, Tono-Pen, pneumatonometer if needed
- Adjunctive testing – color vision, stereopsis, kertatometry/topography, specular microscopy