Ophthalmology History and Examination

Introduce, consent

Name, Age, OCCUPATION – especially important in ophthalmology case

Presenting complaint:

- SQITARS (site and radiation, quality, intensity, timing, aggravating factors, relieving factors, secondary symptoms) NOTE: remember the value of open questioning, the attached are just some specific questions that may be useful in demonstrating subject knowledge and in establishing a diagnosis. Use as appropriate, it is not essential to ask all….there will not be time!
- Which eye is worse? – may be difficult to establish. Has patient tried covering one eye?
- Double vision – when? How often? Monocular (Cataract) or binocular? Any time better or worse, what were you doing when this came on, any double vision previously?
- Acuity – loss of ability to see faces? (Classic ARMD). One eye or both eyes, slow onset or fast, had this before
- Colour vision – any inherited colour vision impairment known? red desaturation only likely to be established via thorough examination
- Peripheral fields – bumping into things/ frequency of car accidents i.e. glaucoma – like tunnel vision
- Night vision
- Flashes of light
- Floaters i.e PVD, small haemorrhages, or retinal detachment
- PAINFUL – eye movements, photophobia etc
- History of trauma – does this coincide with symptoms
- Progression – better or worse, over what sort of time period –years or weeks?
- Any glare, monocular diplopia, colour change (white object appearing yellow), waving of lines – all symptoms of cataracts
- DO YOU WEAR GLASSES/CONTACTS – essential question, any recent change in prescription – could indicate new pathology (cataract), long or short sighted? And do they know by how much. Myopic patients are more at risk of developing glaucoma
- Headaches, jaw claudication, temporal pain – may precede sudden loss of vision i.e. temporal arteritis, also consider migraine
- Do you have regular eye check ups – diabetics should have yearly reviews
- Have you or anyone noticed a change in appearance of your eyes? - could be a history of proptosis or red eye
- Any redness? - associated questions to try and establish likely causes:
  - Itchiness?
  - Discharge worse in morning?
  - Allergies?
  - Trauma?
  - Eye pain?
  - Do you wear lens? – i.e trauma
  - Photophobia?
  - Both eyes?
POH:
- Ever had this problem before
- Do you see an ophthalmologist/ optometrist or had eye problems before? If so do you know your pressures? Some patients will know their IOP’s
- Family history of eye problems i.e glaucoma
- How have they investigated you? How are you treated
- Previous eye surgery? – i.e. if the patient has had cataract surgery and is now experiencing symptoms similar to their pre op state could they be experiencing opacity of the posterior lens capsule? - May require YAG laser treatment

PMH:
- DM? HTN? Well controlled, how controlled? – ask lots of details about this, these are likely chronic conditions you may get in an exam, what are the recent BMs, what have they been before, do they go to their regular appointments
- Smoker – how much for how long?
- Asthma, COPD – b blocker eye drop contra indicated in such patients
- Other – such as systemic inflammatory conditions that may be affecting the eyes

Drugs:
- Medications for eyes? Drops? Have you had drops today? – in exams patients may well have one purposefully dilated pupil for you to perform your exam – you will impress not only if you note it during an exam but also if you have asked in your history and so when you come to examine you know it is iatrogenic as opposed to pathological!
- Any eye surgery or laser treatment
- Why?
- Any other medications – i.e for systemic inflammatory conditions

ALLERGIES

Family history – glaucoma has some inherited links

SOCIAL – how does this affect your life? – examiner’s love this!
- Job
- Driving
- Independence – does the patient qualify for blind or partially sighted resister?
- Any aids required
- Reading etc
- Falls
- SMOKE!!
- drink

Is there anything that I might have missed that you want to tell me?

Summarise
Examination

Note: This is just a guide to a full examination of the eye. In a real examination you may be guided to just focus on one part such as visual fields or ophthalmoscopy.

Introduce, consent, exposure – have the patient sitting opposite you on the same eye level.

Inspection:
- Have a general inspection around the patient for to spot any clues – glasses, walking stick, ‘white’ stick etc.
- Then stand over the patient and look down across their forehead towards their eyes as this is a good way to assess proptosis (eye protruding from orbit) – uni or bilateral?
- Closer inspection around eye – asymmetry, lumps, skin changes, scar sites, it is important to note any malposition of eyelids – ectropion, entropion or ptosis
- Inspect eye – redness, strabismus (squint), try and note any ‘holes’ in the iris that could be potential peripheral iridotomy sites used to treat angle closure glaucoma, pupil – note the size, equality of both, shape,

Visual acuity:
- ALWAYS ASK THE PATIENT TO PUT ON GLASSES/ LENS as appropriate for the distance when testing acuity. It is the corrected acuity you want so you can denote any recent changes that could be pathological
- Using snellen charts sit the patient 6m away. Get them to cover on eye and read down the chart. Record the acuity for each eye. Please note that in small rooms a mirror is used at 3m which effectively doubles the reading distance to 6m.
- It is best to do record VA before dilating the pupil or shining a light in the eye
- If the patient’s VA is really poor you can bring them within 3m to the chart, and if still no recording then you resort to CF (counting fingers), then seeing HM (hand Movements) then PI (perception to light)
- You should make yourself familiar with Logmar charts as an alternative to Snellen charts
- It is unlikely that you will be required to test NV (near Vision) but in case you do it is measured at 0.3m with similar charts to the Snellen. The average book print is N8. Your examination is exactly the same as for the Snellen chart: wear glasses if needed, cover alternate eyes and record line read to.

Test Pupillary responses:
- Use the ulnar aspect of your hand to place down the patient’s nose to block any light from your torch affecting the other pupil
- Direct pupil response – both sides
- Indirect
- Finally RAPD – swinging flash light test

Response to accommodation:
- Ask the patient to focus on far away object, then ask them to focus on your finger close to their face, the pupils should constrict. Do one pupil at a time.

Eye Movements:
- The patient must keep their head still whilst doing this. If they persistently follow your finger with their head then you may have to hold it still.
- Move your finger in the ‘H’ and ‘X’ directions. Before you start it is essential that you ask them to tell you if and when they see double. Where in the movements is vital.
- Also note any lid lag associated with thyroid disturbance.
Visual Fields:
- Assessed by confrontation
- Patient to sit 1m away from you at same eye level
- Ask patient to cover their right eye, examiner covers his/her left eye with left hand.
- You must state clearly to the patient that you are testing their peripheral fields and they must focus on the tip of your nose at all times and not be tempting to look at you moving hand! They must keep their head still
- You then extend your free right hand outside your own peripheral field of vision. Slowly bring it towards the midline with a wagging finger or red hatpin until they can see it.
- Remember you are comparing their field of vision to theirs so assuming yours is normal!
- Do this with all medial and lateral quadrants and then do the other eye. You should be able to map out any areas of visual loss.
- You could also assess the size of a patient’s blind spot by bringing a red hat pin in from their lateral side but this is not very accurate and is probably unnecessary in an examination. Optic neuropathy can increase the size of one’s blind spot, causing a central scotoma.

Fundoscopy:
- This is very difficult without dilated pupils. In exams they will often dilate one side for you – do this side first as it will be easiest and the examiner may then not want you to do the other.
- Sit the patient in a dark room to further dilate pupils
- Adjust the beam of light to the appropriate round white beam
- Adjust the settings to correct any of your own refractive errors - i.e. using the number dial
- Note – you should familiarise yourself with a selection of fundoscopes as in the stress of an examination they can be surprisingly difficult to turn on!
- Sit the patient down and explain that you want them to focus on a distant point and not to divert their gaze. Make it clear that you will shine a light into each eye respectfully and your face will get very close to theirs but you will not hit them
- Before you begin it is essential to check both eyes for a RED REFLEX – these will be absent in prosthetic eyes, cataracts and various retinal detachments
- Examine their right eye using your right eye and their left eye using your left eye – this requires practice on your less dominant side but is important in preventing ‘head banging’ with your patient
- Use your free hand to rest on their forehead above the examined eye. This works doubly to prevent collision with your patient and can also be used to gently hold the eyelid open.
- Start from an arms length and move in closer adjusting the focus until you see the retina.
- Search for a vessel and follow it in as it gets bigger towards the optic disc.
- When you get to the optic disc you need to note:
  - Size
  - Colour (atropy)
  - Cup:disc ratio – increased in glaucoma
  - Margins – should be distinct, blurred could be an indication of papilloedema.
- Then follow the major blood vessels one at a time noting:
  - Calibre
  - Course i.e tortuous or any AV nipping
  - Colour
- The you should scan all quadrants of the retina looking for any other abnormalities such as drusen or more importantly diabetic laser burns – note where these are – you will be expected to notice these
- Finally ask the patient to look directly at the light to assess the macula – do this last as it can be uncomfortable.
- If time compare the other side
You could finish your examination by testing for latent and manifest squints as you have deemed necessary in the history. You may also want to mention the use of Ishihara charts to assess colour vision.

**Fundoscopy:**

**TIP** — Important things to be on the search for during fundoscopy include changes indicative of chronic disease such as diabetes and hypertension and any obvious burn scars from laser therapy. **DO NOT** be tempted to make signs up as from their history as a diabetic/ hypertensive etc because a well controlled disease may not have any signs. In my examination I had a diabetic with a completely normal retina – the students who did the best admitted that they could not see any of the changes they were expecting to see.

**Prosthetic eyes:**

**TIP** — Prosthetic eyes are not always as easy to spot straight off as one may think. Some can have normal eye volume and even move appropriately! The giveaways in the exam will be an absent red reflex, no pupil responses and zero visual acuity. Hopefully you may get this from the history anyway!

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**Important Note**

These notes were written by Alexander Brent. They are presented in good faith and every effort has been taken to ensure their accuracy. Nevertheless, medical practice changes over time and it is always important to check the information with your clinical teachers and with other reliable sources. Disclaimer: no responsibility can be taken by either the author or publisher for any loss, damage or injury occasioned to any person acting or refraining from action as a result of this information.

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