Screening Adult Double Vision

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Diplopia

- Binocularly, the patient sees two images simultaneously due to images falling on non-corresponding retinal areas.

- Two Parts:
  - I Phone triage
  - II In clinic history and workup
Triage Questions

- When possible speak to patient rather than family member.
- How and when did you first notice double vision?
- Sudden or gradual onset?
- Constant or intermittent?
- Frequency?
- What caused this?
Triage Questions

- Worse/better in up, down, right, or left gaze, images tilted?
- Images vertical, horizontal, or a little of both?
- Gone with EITHER eye covered?
- Can you make it go away?
Medical Questions

Cardiovascular
- High Cholesterol
- Hypertension
- History of stroke
- Aneurysm
- Arteriosclerosis, Vasculitis
- Temporal arteritis

Neurologic
- Cancer
- Multiple sclerosis
- Parkinson’s
- Brain shunt
Medical Questions

Eye Disease
- Lenticular changes
- Retinal disease
- Keratoconus

Other
- Recent illness
- Thyroid disease
- Medications
- Myasthenia gravis
- Diabetes
Further Questions

- Recent change in activity - more computer time, reading, night driving
- Change in glasses, contacts - monovision
- Change in vision
- Head/face trauma
- Decreased depth perception
- Exercise or fatigue related
Further Questions

- Severe headache, vertigo, nausea, numbness, tingling, slurred speech, weakness
- Lid droop
- Recent surgery
- Pupils unequal
What is an Emergency?

- Sudden onset
- Constant or gaze specific
- Medical history - HTN, CVA, high cholesterol, diabetes, shunt, cancer, severe headache, trauma*
- Same day appointment
What is Urgent?

- Sudden or rapid onset
- Medical history - Parkinson’s, MS, recent illness
- Appointment within a few days
What is Next Available?

- Changes in use of eyes
- Changes in glasses/contacts
- History of cataracts, keratoconus, retinal disease, thyroid disease
- Monocular double vision
- Childhood strabismus, eye exercises
- Appointment within 6-8 weeks
Which Eye Doctor? MD or OD

- Clinic preference in some cases
- Establish a protocol for Emergent and Urgent cases
Monocular Causes

- Ocular
  - Macular disease
  - Cataract
  - Displaced IOL
  - PI
  - Keratoconus
  - Corneal scar
  - Dry eye
Monocular Causes

- Refractive
  - Astigmatism uncorrected
  - Progressive bifocal
  - Incorrect refraction
  - Bent glasses especially with flat top bifocal
Binocular Causes

- Neurologic - Parkinson’s, MS, skew, midbrain lesion
- Neuromuscular - myasthenia, CPEO
- Restrictive - thyroid eye disease, blow out fracture, acquired Brown’s syndrome (dog bite, sinus surgery)
- Paretic - CN III, IV, VI
Binocular Causes

- Dragged fovea - small epiretinal membrane (lights on-off test)
- Cataract surgery - IR paresis, aniseikonia, prior controlled strabismus
- Retina surgery - scleral buckle, inferior rectus paresis
- Glaucoma surgery - Baerveldt, Ahmed valves
Binocular Causes

- Sensory - ARC, post EOM surgery
- Refractive - mono vision, aniseikonia, lenses switched
- Fixation switch
- Visual field loss leading to hemi-field slide
- Convergence insufficiency
- Divergence insufficiency
Case #1

- 55 year old male referred by VA for vertical double vision
- Gradual onset over 1+ years
- Wears OTC readers
- Referring Dx: Convergence Insufficiency
- Appointment: not urgent.
- Exam: Good vision, stereo, ortho at distance with 10^ Exo at near. Monocular diplopia resolved with pinhole.
- DX: severe dry eye
Case #2

- 65 year old with poorly controlled diabetes. Woke up with double vision.
- Appointment: Same or next day
- DX: CN VI palsy
Case #3

- For two months patient notes intermittent vertical double vision and blurred “weird” vision in right eye only. Gone with OD occluded, but not with OS occluded.
- History of “retina problems”
- Appointment: If negative for retinal detachment then 1-2 weeks.
- DX: Epiretinal membrane
Case #4

- 55 year woman notes occasional double vision especially when tired or reading a lot. Started wearing monovision contact lenses recently.
- Appointment: Not urgent
- DX: Intermittent exotropia previously well controlled.
- Plan: Discontinued monovision and resolved.
- Monovision can be intentionally or accidentally induced by cataract and refractive surgery
Case #5

- 10 year old boy with recent history of fever and illness notes constant double vision since yesterday.
- Appointment: Same day
- DX: CN VI palsy post-viral in a child.
- Have to rule out cranial mass as cause
Questions