

## **Topic #7: Evaluate a patient with an eye movement abnormality, diplopia, or pupillary disorders**

This post describes the ophthalmology learning objectives on the evaluation of patients with eye movement abnormalities that are covered on the Medical Council of Canada Qualifying Examination (MCCQE). The resources presented here should be sufficient to help you pass the MCCQE exam and have a basic understanding eye movement abnormality, diplopia, or pupillary disorders.

### **Learning Objectives**

7(a): Take a focused history with regards to the timing, associated pain, redness, or vision loss

7(b): List distinguishing characteristics and identify monocular and binocular diplopia

7(c): Understand and identify cranial nerve III, IV, and VI paresis/palsy

7(d): Understand and identify the presentation of ptosis

7(e): List and describe common manifestations of pupillary disorders including

- Anisocoria
- Light-near dissociation

7(f): Take a focused past ocular history relevant to diplopia and ocular misalignment

7(g): Perform a focused exam as outlined in [Topic #2](#)

7(h): Have a basic understanding of the common manifestations of eye movement abnormalities due to:

- Ischemia, vascular insufficiency, diabetes associated
- Multiple sclerosis
- Intracranial mass (e.g., aneurysm)
- Myasthenia gravis
- Graves' orbitopathy
- Orbital inflammation, infection, or tumor
- Fracture of orbital floor or "blow-out"\*
- Decompensation of childhood phoria

7(i): Describe the ocular manifestations of neurologic conditions such as

- Cerebral vascular event\*
- Increased intracranial pressure

7(j): Describe the presenting signs and symptoms of these diagnoses and generate a differential diagnosis based on the elicited history and exam

7(k): Describe the initial management and urgency of referral for these diagnoses

Note: \*Urgent and red flag conditions have been denoted with a red Asterix. These warrant urgent referral to an ophthalmologist.

### **Primary resources**

These resources cover learning objectives a-k, meeting all of the learning objectives.

- Diplopia in adults (NYU Langone): <https://nyulangone.org/conditions/double-vision-in-adults/diagnosis>
  - Objectives a, b, f, g
- Cranial Nerve Palsies (Wills Eye Hospital): [https://www.willseye.org/disease\\_condition/cranial-nerve-palsies/](https://www.willseye.org/disease_condition/cranial-nerve-palsies/)
  - Objective c
- Ptosis (AAO): <https://www.aao.org/eye-health/diseases/what-is-ptosis>
  - Objective d
- Pupillary Responses (Stanford): <https://stanfordmedicine25.stanford.edu/the25/pupillary.html>
  - Objective e
- Diplopia (Merck Manuals): <https://www.merckmanuals.com/en-ca/professional/eye-disorders/symptoms-of-ophthalmologic-disorders/diplopia>
  - Objective f, g
- Neuro-Ophthalmology with Dr. Andrew G. Lee: <https://www.youtube.com/channel/UC5HcfsELV0W9AgtvJvpQQSg>
  - Objectives f-k

### **Additional resources**

These resources provide more comprehensive information about learning objectives c, f, and k, and will allow you to expand on your understanding.

- Strabismus (Eyes for Ears): <https://eyesforears.net/episodes/2019/12/26/episode-34-strabismus-fundamentals-part-i> AND <https://eyesforears.net/episodes/2020/2/8/episode-35-strabismus-fundamentals-part-ii>
  - Objective c
- Diplopia and Ptosis (AAFP): <https://www.aafp.org/afp/2010/0715/afp20100715p187.pdf>
  - Objective f
- Diplopia (WikiEM): <https://wikem.org/wiki/Diplopia>
  - Objective k

### **Other Undergraduate Medicine Resource Pages**

Topic #1: Describe the anatomy of the eye and the visual system

Topic #2: Perform a basic eye exam

Topic #3: Evaluate a patient with acute vision loss

Topic #4: Evaluate a patient with chronic vision loss

Topic #5: Evaluate a patient with a red or painful eye

Topic #6: Evaluate a patient with eye trauma

Topic #8: Evaluate pediatric ophthalmic presentations

Topic #9: Ocular Pharmacology

Topic #10: Evaluate a patient with ocular manifestations of systemic disease