



# ACUTE VISUAL LOSS

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# ACUTE VISUAL LOSS

Sudden onset of blindness is a disaster for most people and you should be able to evaluate such a patient and be able to recognize situations requiring urgent action.

# ACUTE VISUAL LOSS

1. Media opacities
2. Retinal disease
3. Optic nerve disease
4. Visual pathway disorders
5. Functional disorders
6. Acute discovery of chronic visual loss

# ACUTE VISUAL LOSS

Acute glaucoma

Central retinal artery occlusion

Central retinal vein occlusion

Retinal detachment

Optic neuritis

# ACUTE VISUAL LOSS

## History:

The history questions to be asked of a patient of sudden visual loss include:

1. Is the visual loss transient or persistent?
2. Is the visual loss monocular or binocular?
3. Did the visual loss occur suddenly or it developed over hours, days or weeks?
4. What is the patient's age and general medical condition?
5. Did the patient have normal vision in the past and when was vision last tested

last, as quite a number of people will realize loss of vision from one eye when they cover the good eye.

# ACUTE VISUAL LOSS

## following tests:

- Visual acuity testing
- Confrontation visual fields
- Pupillary reactions
- Ophthalmoscopy
- External examination of the eye with a pen light
- Tonometry to measure the intraocular pressure

# Media opacities



## Corneal edema

The cornea appears like a ground glass rather than its normal clear appearance.

The most common cause of corneal edema is **increased intraocular pressure** and occurs typically in **angle closure glaucoma**.

Any acute infection of the cornea by a corneal ulcer may mimic corneal edema.



# Acute glaucoma



# Media opacities



## Hyphema

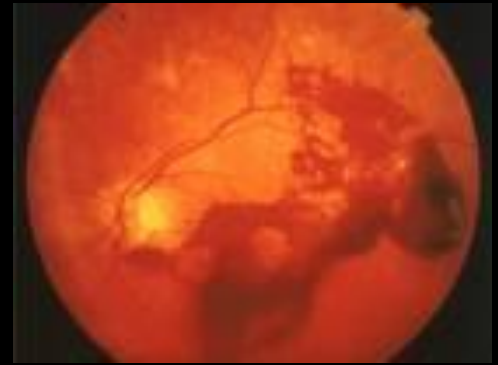
**Hyphema is blood in the anterior chamber**

The hyphema is a direct consequence of blunt trauma to a normal eye.

However, it can occur with tumors, diabetes, intraocular surgery and chronic inflammation which all cause neovascularization.



# Media opacities



## Vitreous hemorrhage

Any bleeding into vitreous will also reduce the visual acuity.

after trauma, seen in diabetics or after a retinal vein occlusion and it may also accompany subarachnoid hemorrhage.

If you cannot appreciate a red reflex with an ophthalmoscope and the lens appears clear, you should suspect a vitreous hemorrhage.

The diagnosis is confirmed with slit lamp examination through a dilated pupil.

B scan is important.



# Retinal diseases

## Retinal detachment

**an extensive retinal detachment involving the macular area would produce acute visual loss and this patient will complain of flashing lights followed by a large number of floaters and then a shade or blind covering the visual field.**

An afferent pupillary defect is usually present.

The diagnosis is confirmed by ophthalmoscopy through a dilated pupil, and retina appears elevated with folds and the choroidal background is indistinct



# Retinal vascular occlusion

## Central Retinal artery occlusion –

A sudden, painless and often complete visual loss may indicate central retinal artery occlusion.

Several hours after a central retinal artery occlusion, the inner layer of the retina becomes opalescent.

A cherry red spot is seen due to the pallor of the perifoveal retina in contrast to the normal color of the fovea.

A chronic cherry red spot is also a feature of the storage diseases such as Tay-Sachs Pick disease and Niemann-Pick disease.



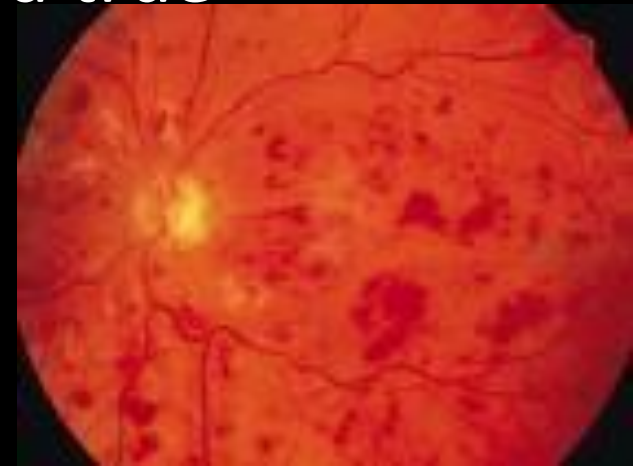
# Retinal vascular occlusion

## Retinal vein occlusion

ophthalmoscopes picture of disc swelling, venous engorgement, cotton wool spots and diffuse retinal hemorrhages like blood and thunder.

Loss of vision may be severe.

There is no generally accepted acute management.  
Central retinal vein occlusion is not a true ophthalmic emergency



# Retinal vascular occlusion

## Branch Retinal Artery Occlusion

when only a branch of the central retinal artery is occluded, vision is only partially lost.

This is more likely to be the result of an emboli and the source of the emboli should be sought.

If the visual acuity is affected, attempts should be made to dislodge the emboli by ocular massage.

# Optic Nerve Disease

## Optic Neuritis:

Optic Neuritis is inflammation of the optic nerve and is usually associated with multiple sclerosis in a significant number.

The visual acuity is markedly reduced and an **afferent pupillary defect is present.**

The optic disc initially appears hyperemic and swollen.

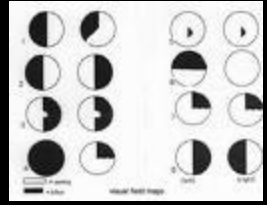
The visual acuity usually recovers;

however, repeated episodes of optic neuritis | permanent loss of vision.





# Visual Pathway Disorders



**Homonymous hemianopia - is loss of vision on one side of both visual fields**

and may result from occlusion of one of the posterior cerebral arteries with infarction of the occipital lobe.

Other vascular abnormalities occurring in the middle cerebral artery distribution may produce a hemianopia, but usually other neurological signs are prominent.

Any patient with a hemianopia needs a CT or MRI to localize and identify the cause.





# Cortical Blindness



**Cortical Blindness: A rare extensive bilateral damage to the cerebral visual pathways results in complete loss of Vision.**

This condition is referred to as cortical, central or cerebral blindness.

As the pathways serving the pupillary light reflex separate from those carrying visual information at the level of the optic tracts, a patient who is cortically blind has normal pupillary reactions.

Thus a patient with normal fundus examination along with normal pupillary reactions, most likely has cortical blindness..

# Functional Disorders

A functional disorder is used in preference to hysterical or malingering to describe visual loss without organic basis.

A patient may report complete blindness in one eye and normal vision in the other eye,  
and no relative afferent pupillary defect