

# The Swollen Disc

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- ▶ <http://www.telegraph.co.uk/news/2016/07/15/optometrist-convicted-of-boys-manslaughter-after-missing-obvious/>

# 4 Principles

- ◆ Disc Edema is not the same as Papilledema
- ◆ The 10 signs of true disc edema
- ◆ Evaluating the chronicity
- ◆ Workup of the IIH- Scanning and LP

# Don't use the term Papilledema unless you mean it

- ◆ Bilateral (Usually) Disc Edema
- ◆ Clinically indicated by other signs and Symptoms of increased ICP.
- ◆ Laboratory confirmation ( MRI, LP)
- ◆ Papilledema requires urgent workup

# Papilloedema

- ▶ 1. Swelling of the nerve fibre layer, which blurs the disc margin and peripapillary vessels is the hallmark of papilloedema.
- ▶ 2. Buried drusens also produce elevation of disc and blurring of disc margin, but can be differentiated by lack of hyperemia and disc surface microvascular abnormalities and clearly visible retinal vessels at disc margin.

# 10 Signs of Disc Edema

## ► 5 Mechanical signs

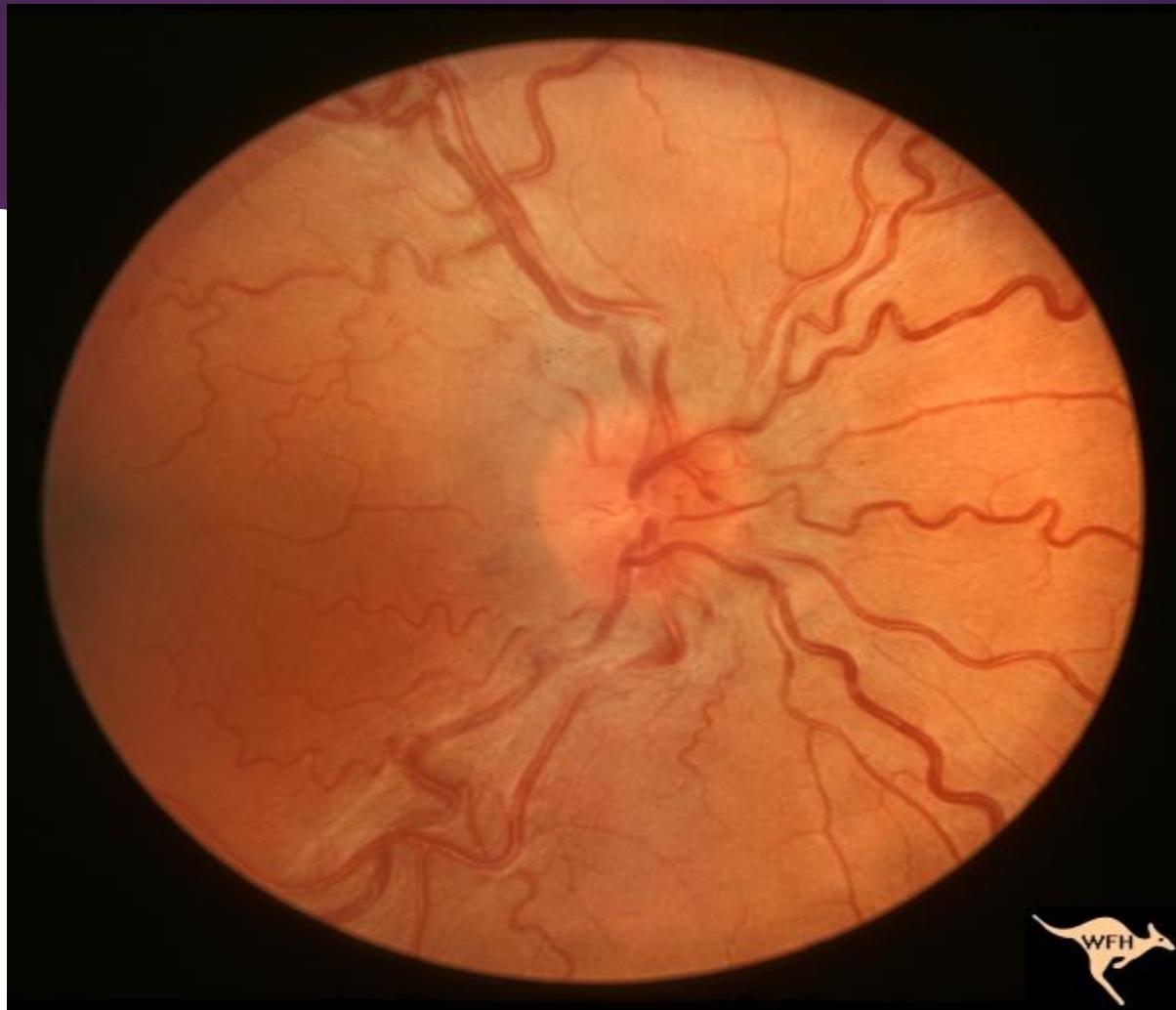
- ◆ Loss of cup
  - ◆ Anteriorization of disc
  - ◆ Blurring of margin
  - ◆ Nerve fiber layer edema
  - ◆ Folds- Retinal( Paton's line)
- Choroidal

## ► 5 Vascular signs

- ◆ Hyperemia of disc
- ◆ Venous congestion like vein dilation and tortuosity
- ◆ Peripapillary hemorrhages
- ◆ NFL infarcts(CWS)
- ◆ Exudates

# Optic disc



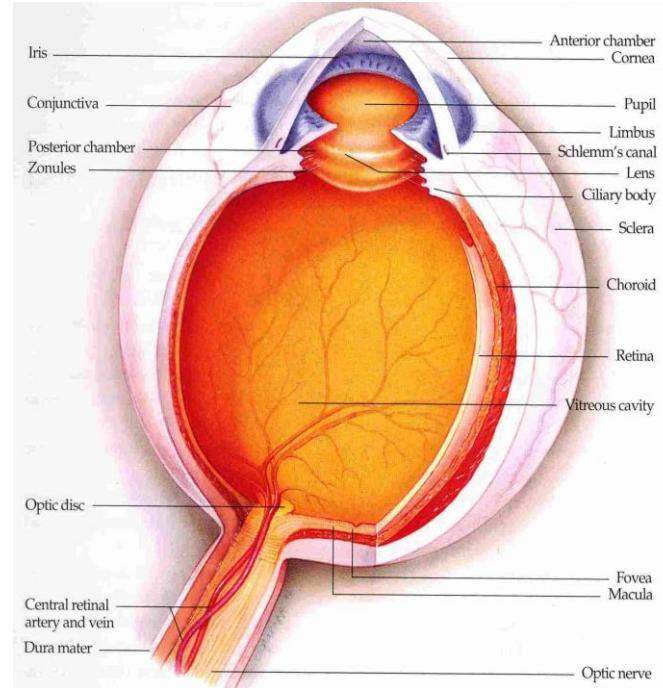


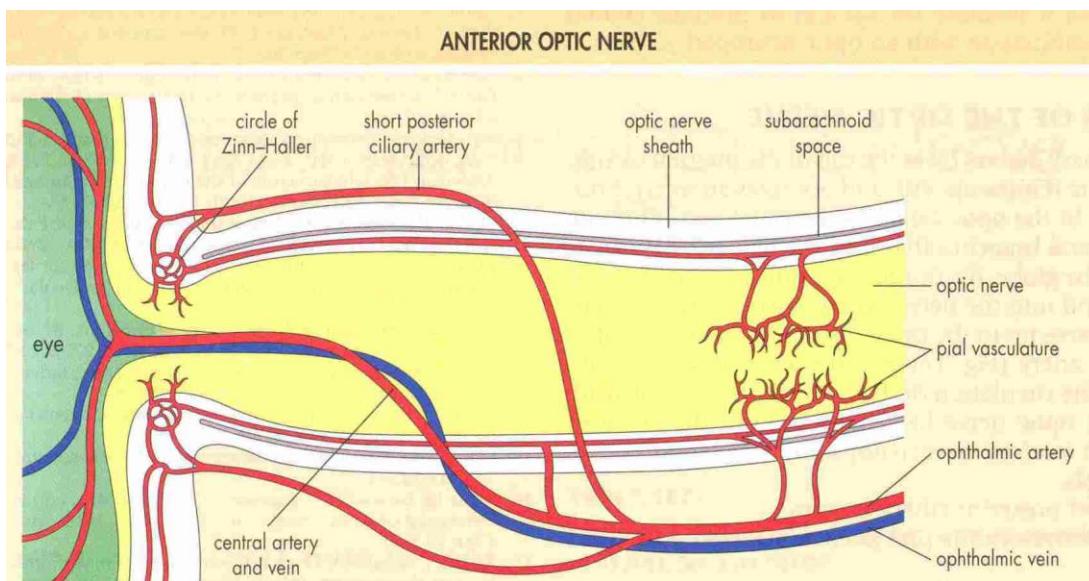
# Mild Disc oedema



# Causes of disc swelling

- ▶ Increased intracranial pressure
- ▶ Ischemic optic neuropathy
- ▶ Optic neuritis
- ▶ Central retinal vein occlusion
- ▶ Nutritional optic neuropathy
- ▶ Toxic optic neuropathy
  - ETOH-ethanol-Digitalis-
  - Ethambutol -Chloramphenicol-
  - INH
- ▶ Tumor
- ▶ Infiltrative
- ▶ Orbital Pseudotumor
- ▶ Thyroid orbitopathy





# Moderate disc oedema



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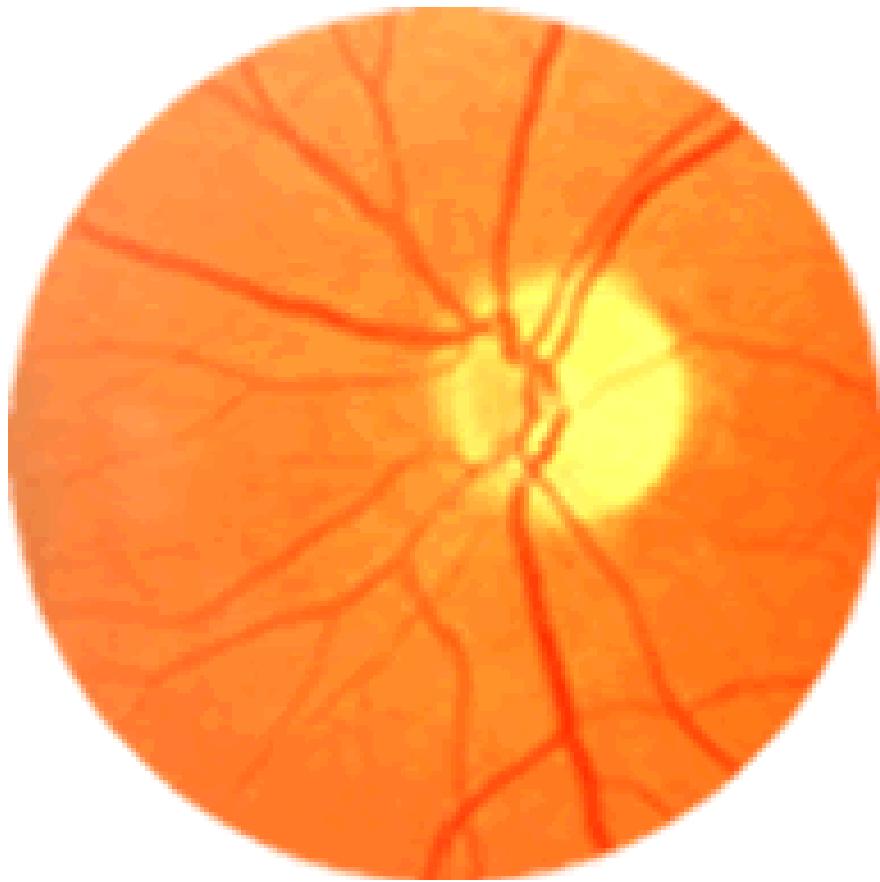
# Severe Papilloedema

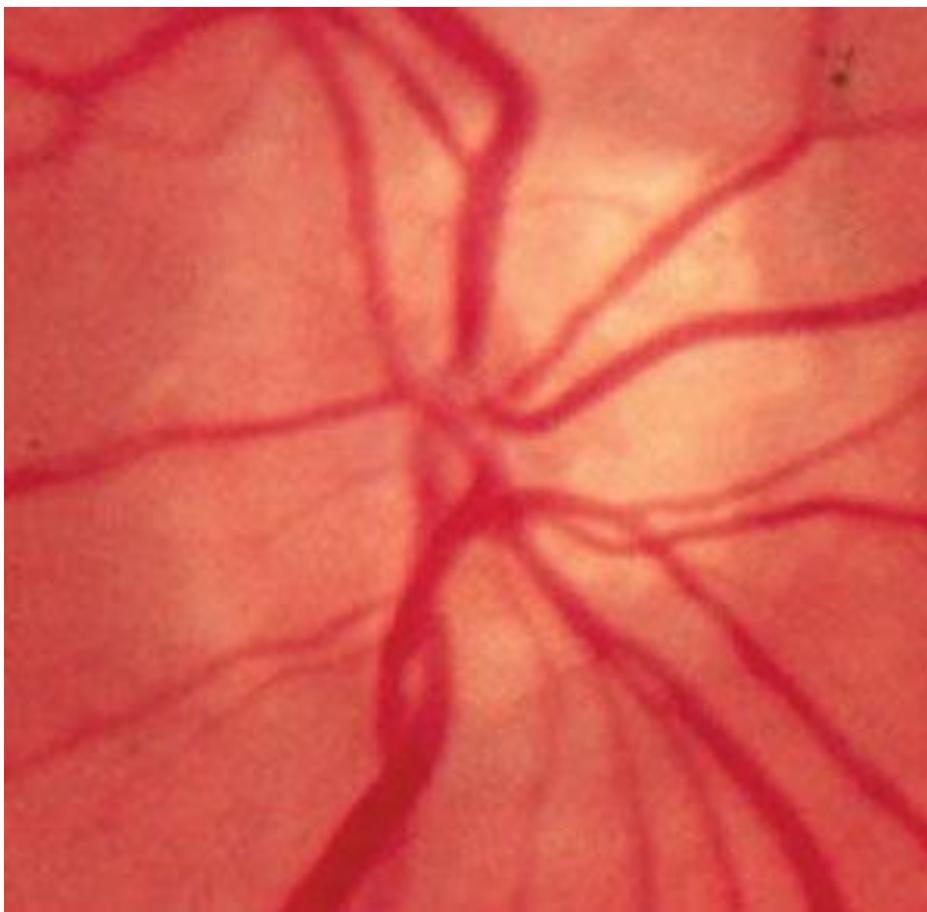


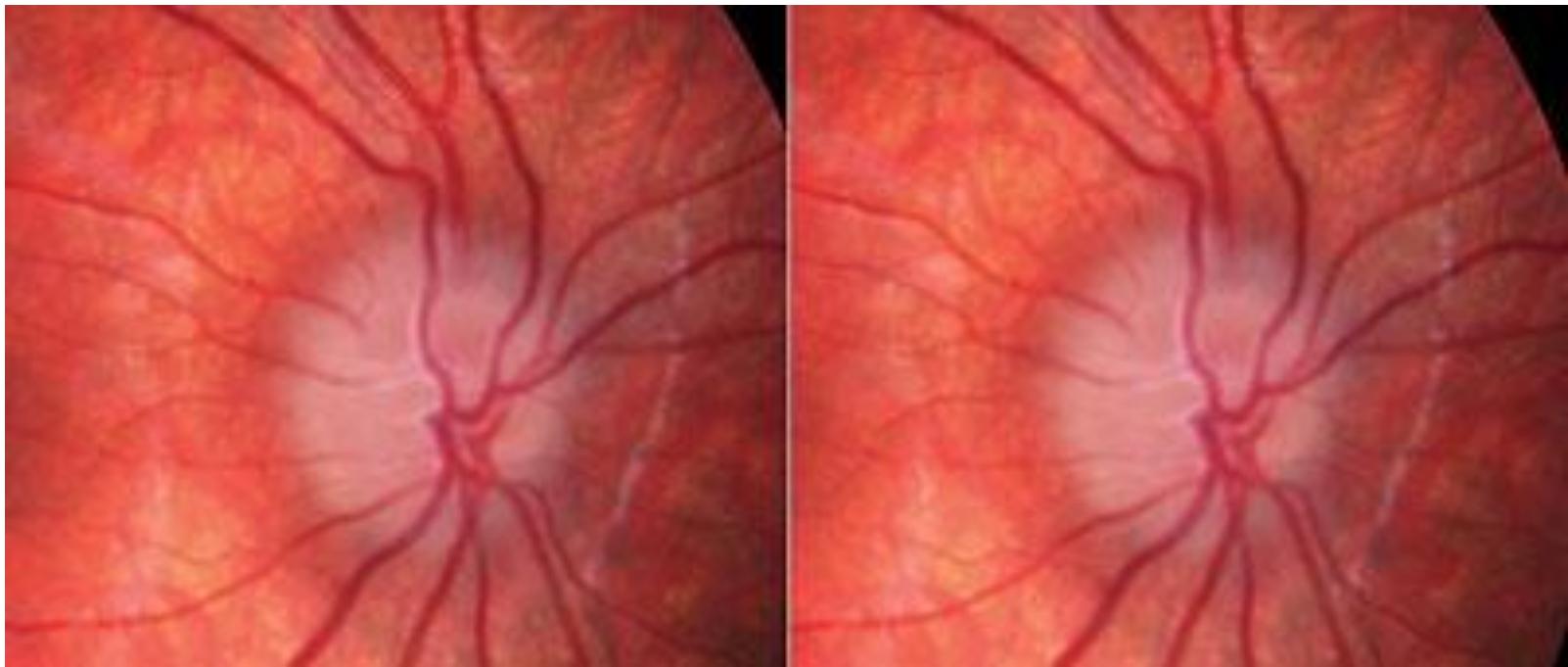


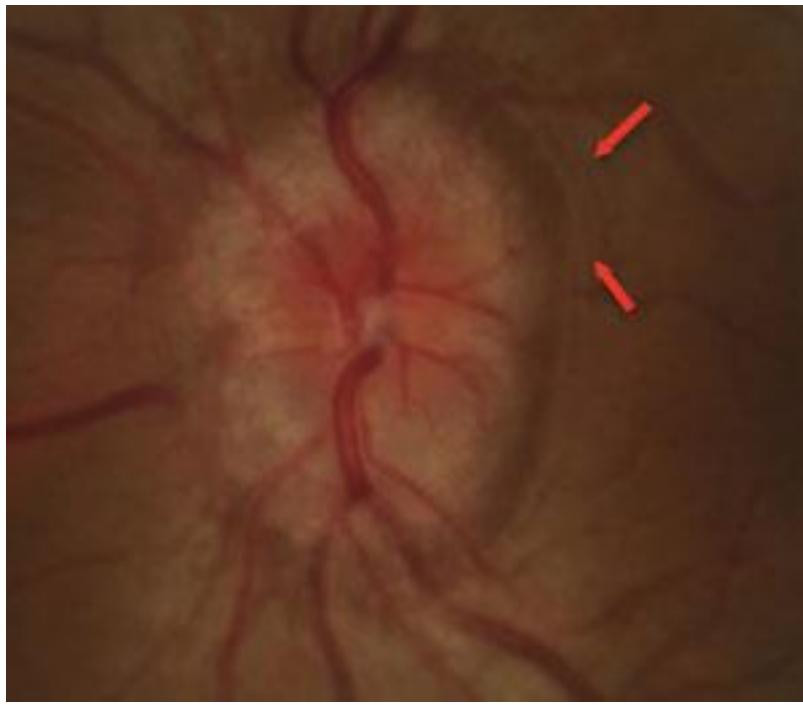
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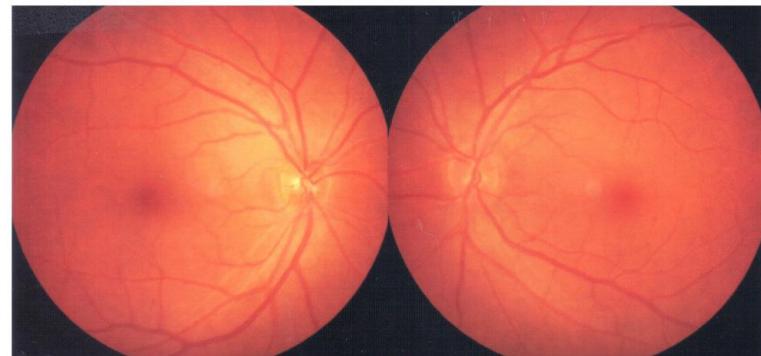


# Congenital Disc Anomalies



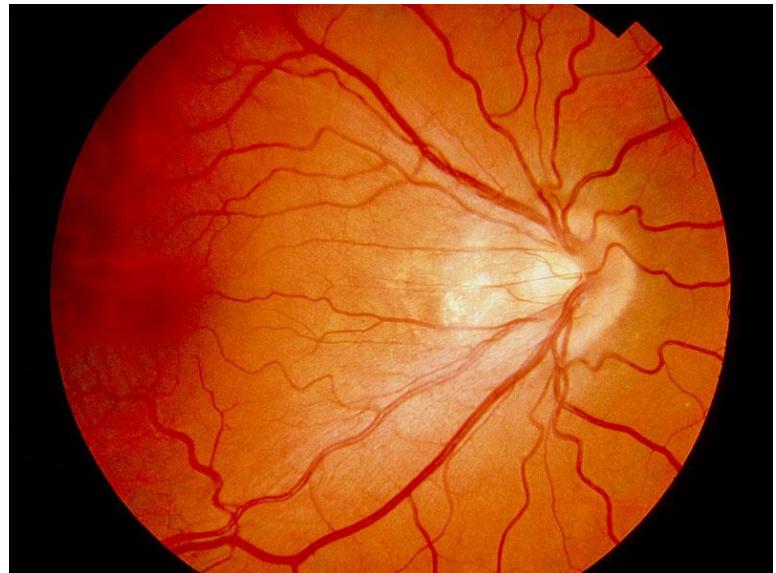
# Congenitally Full discs(CFD)

- ◆ Densely packed optic nerve head
- ◆ Optic disc smaller than averaged sized and often in hyperopic
- ◆ Typically hyperemic in colour with little or no cup
- ◆ Superonasal and inferonasal blurred margins



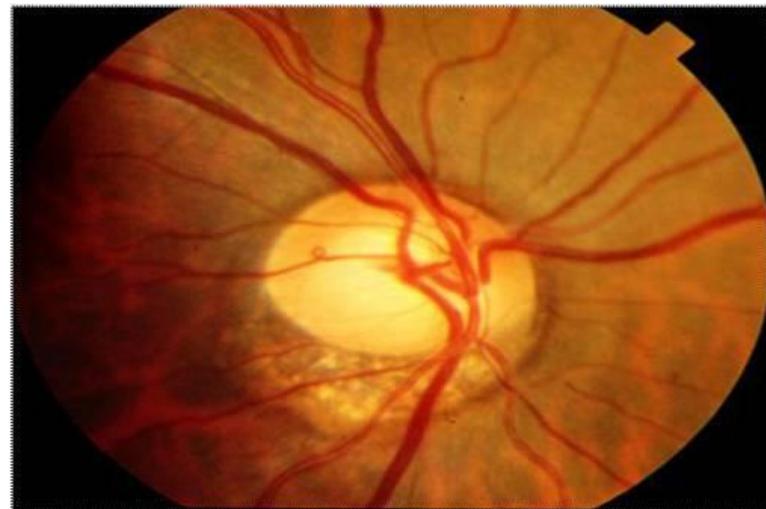
# Malinserted optic Disc

- ◆ Oblique insertion of the nerve to globe
- ◆ Nasal portion is elevated with temporal portion depressed and associated with Scleral crescent
- ◆ Gives swollen appearance as nasal margin blurred
- ◆ Typically have mirror images in right and left eye and moderately myopic



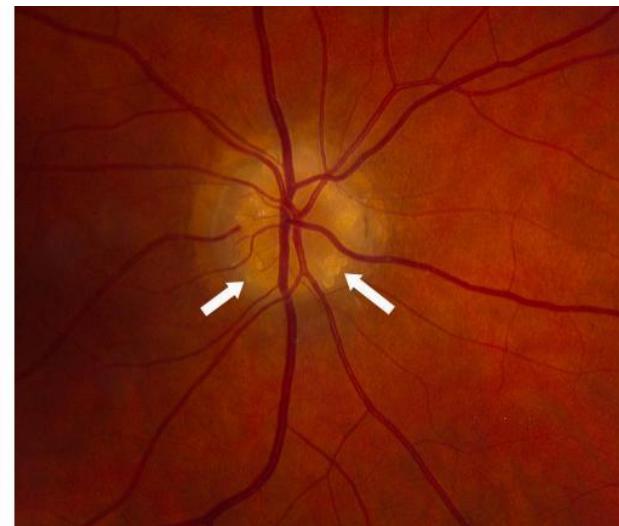
# Tilted disc syndrome

- ◆ The disc's vertical axis itself is tilted downward nasally giving the superior temporal aspect of the nerve an elevated appearance with inferior portion.
- ◆ Decreased visual acuities
- ◆ Bi-temporal visual field defects not respecting the vertical meridian



# Optic Nerve Head Drusens

- ◆ Inherited as AD in 1% of population
- ◆ Scleral canal and optic disc is much smaller
- ◆ Visible and buried
- ◆ Congenital can have abnormal vasculature
- ◆ Peripapillary RPE changes in 33%
- ◆ Absent to very small CD ratio

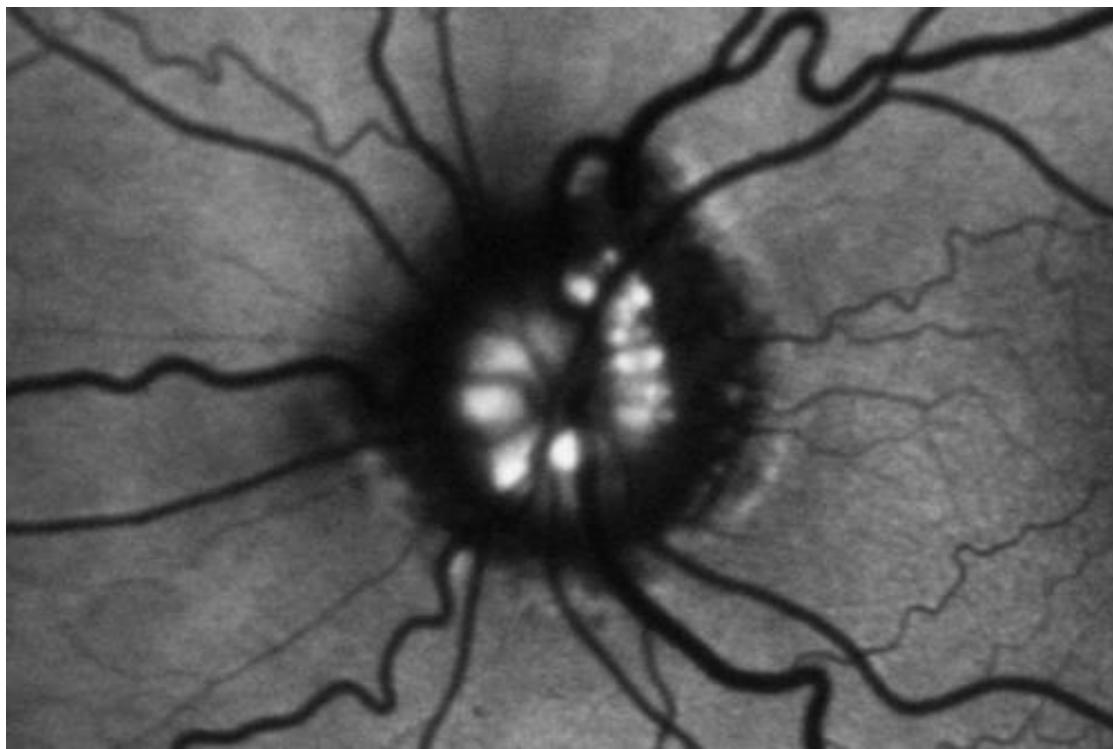


# ONHD

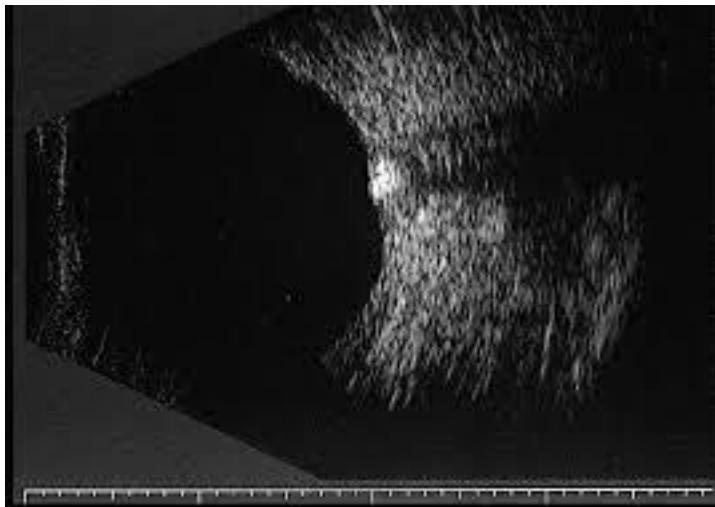


**U of Iowa, 2007**

# Autofluorescence

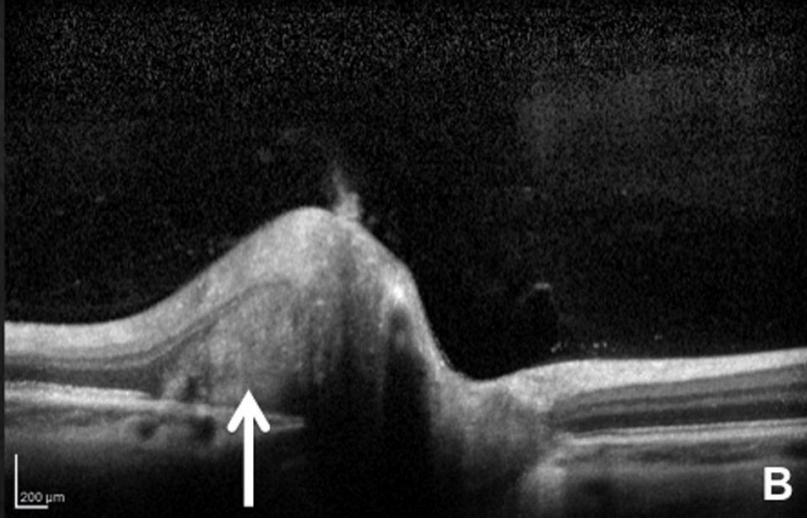
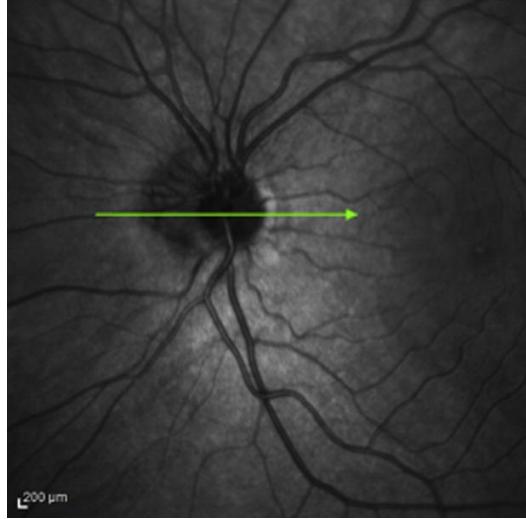
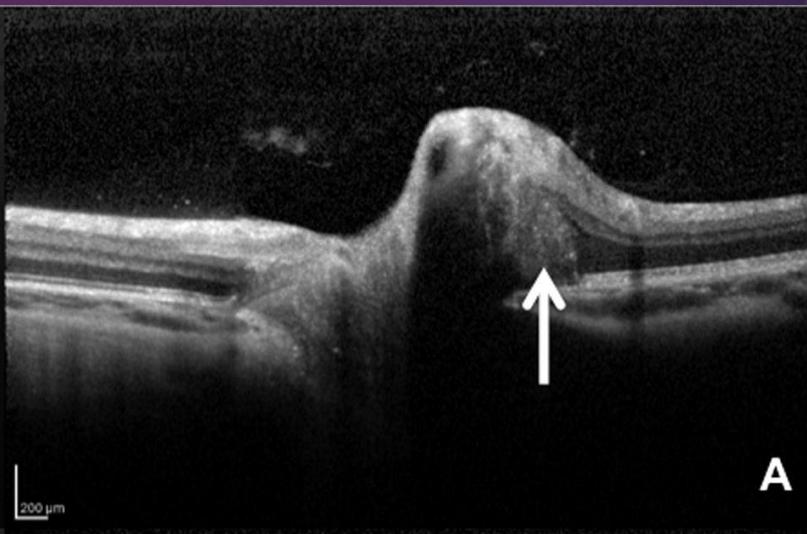
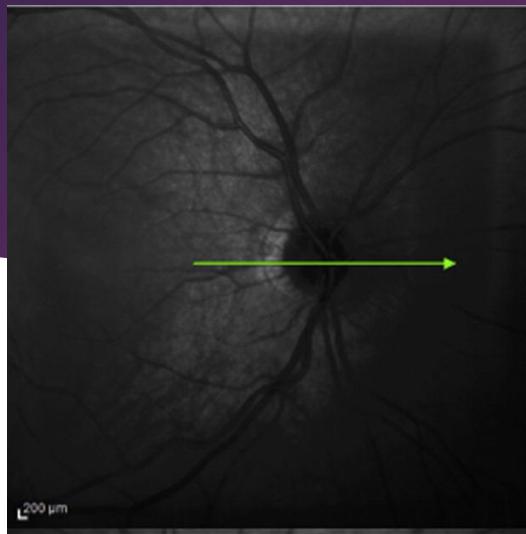


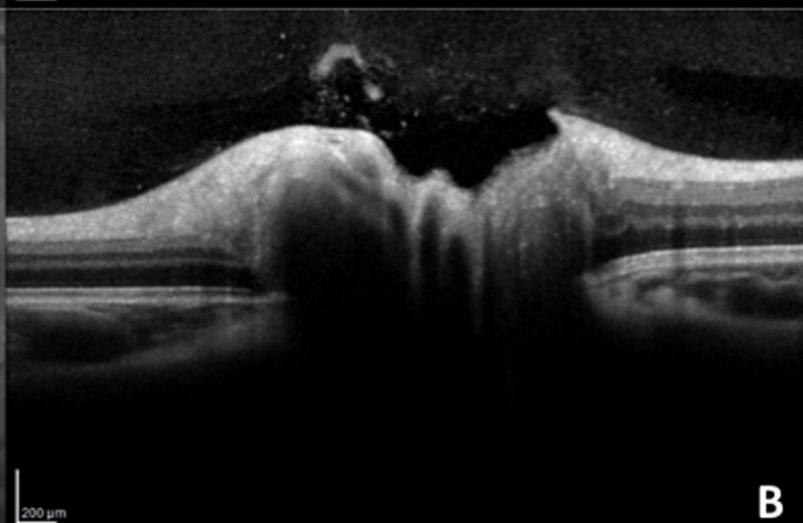
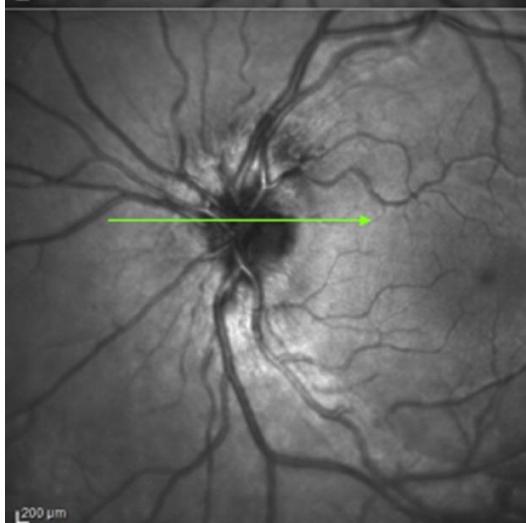
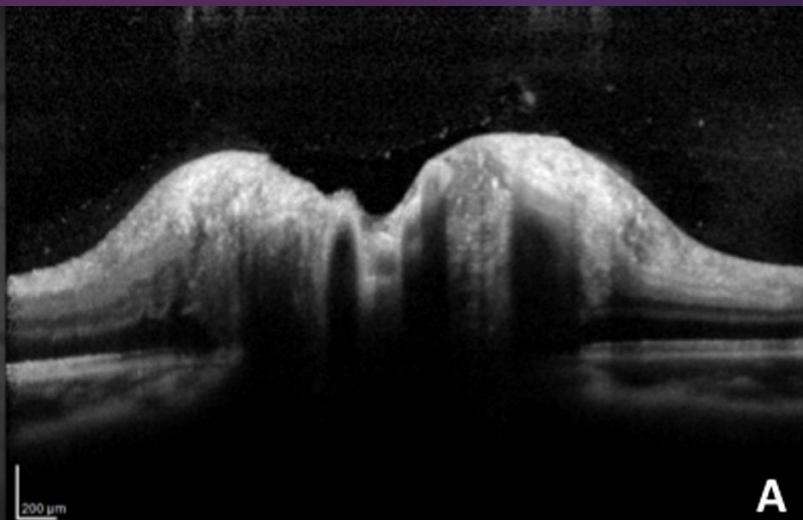
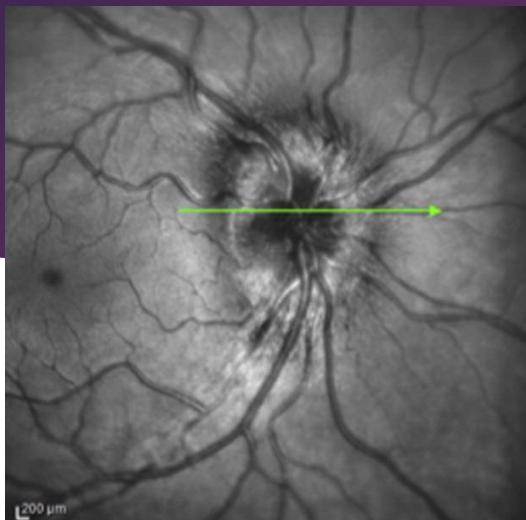
# Ultrasound

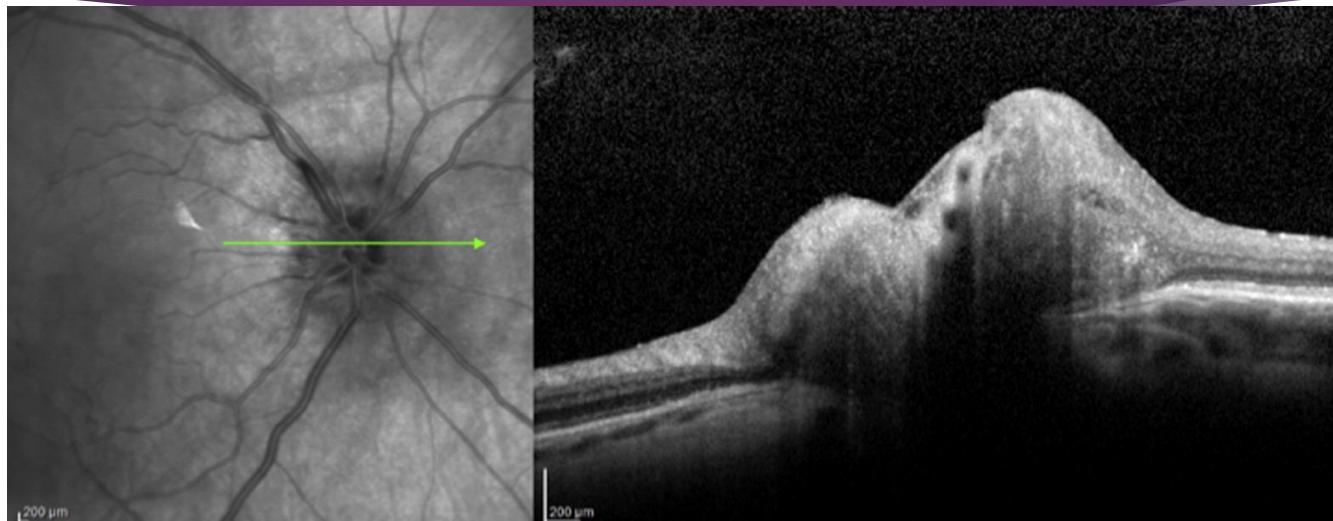


# ONHD versus Papilledema

Key Feature	ONHD	True Papilledema
Visual symptoms	Transient visual loss(TVL) and visual field defects can occur	TVL, Double vision and Visual field defects
Headaches	Not associated	If described are usually on wakening up or change in posture
Neurologic symptoms	Not associated	Tinnitus, vertigo, nausea vomiting, peripheral neuralgia's
Optic nerve appearance	Elevation confined to optic disc, SVP present	Elevated swollen nerve, hyperemia, peripapillary vessel obscuration ± flame shaped hemorrhages, cotton wool spots ± pattons line, SVP absent
Vasculature	Anomalous branching	Microvascular dilatation.









# Thank You