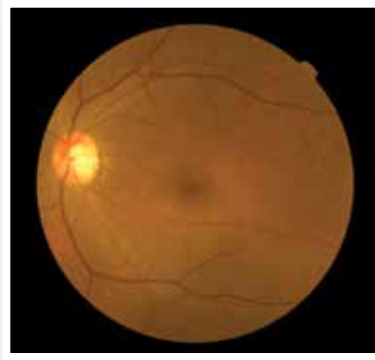
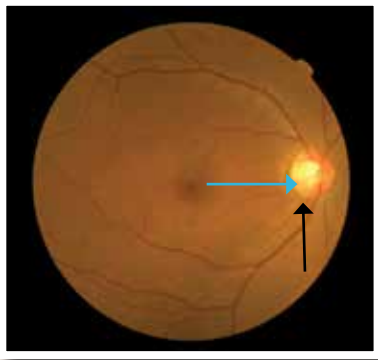


THE OPTIC DISC

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The optic nerve, the second cranial nerve comprise approximately a million nerve fibres all in a diameter of 1.5 mm within the retina. The optic nerve in a retinal photograph is important in staging the severity of diabetic retinopathy. The appearance of the optic disc, its colour, the sharpness of the optic nerve margins, the presence of congested or abnormal fine blood vessels, the size of the optic cup, among other signs, can point to a host of eye conditions. Here are some common and not-so-uncommon optic disc pictures you might come across in your patients who come to you waving a set of retinal photographs.

The Normal Optic Disc



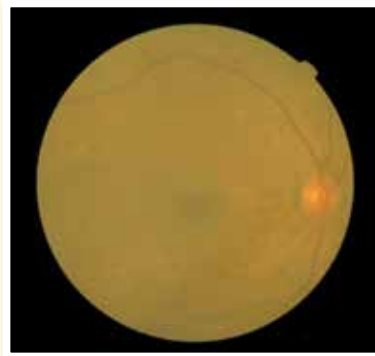
Note the optic cup-disc ratio. This is the ratio of the diameter of the optic cup (the blue arrow) divided by the longest diameter of the whole optic disc (black arrow). The ratio of the cup-disc or CD ratio and the difference in the CD ratio between the two eyes are important factors for the diagnosis of suspected chronic glaucoma.

Generally a CD ratio of 0.6 and above and a difference of 0.2 or more between the two eyes should trigger a full clinical examination. Bear in mind that retinal photography alone is insufficient to clinch a diagnosis or to rule out the presence of chronic glaucoma.

The Pale Disc



Left optic atrophy following a late presentation acute glaucoma attack.



The normal right optic nerve of the same patient. The retina features are blurred and obscured by cataract.

A pale disc is always a cause for concern. One should always compare the colour of the optic nerve with that of the fellow eye.

The diagnosis of optic atrophy can be collaborated by the accompanying poor vision. In early stages of optic atrophy however visual function may only be mildly affected.

If you are seeing the patient, check for relative afferent pupillary defect (RAPD) colour vision, contrast and possible causes of optic atrophy.

More commonly seen causes of optic atrophy include chronic glaucoma, trauma, optic neuritis, toxic neuropathy, and compressive lesions, among others.

Pituitary tumours or suprasellar meningioma are notoriously difficult to diagnose as the optic disc pallor is often minimal. Most are diagnosed from the loss of the outer visual fields (bitemporal hemianopia).



Left enlarged optic cup-disc from advanced chronic glaucoma on first consultation.



Fellow eye with a normal CD (optic cup/optic disc) ratio.