

## Fundoscopy

In the exam you will be expected to treat the dummy's head as a real patient. Introduce yourself as you would to a patient, explain what the procedure involves i.e. you would like to examine the back part of the eye. It will involve dimming the light, shining a light into the patient's eyes and coming quite close to the patient. Offer a chaperone if the dummy's particulars are that of an opposite sex patient

1. Ask the patient to focus gaze on a distant object to prevent constriction of pupils from accommodation. Tell the patient to blink and breathe normally.
2. Turn the ophthalmoscope on to a low-moderate light intensity
3. Use your right eye to look into the patient's right eye and left eye for the patient's left eye
4. Stand at a distance and look through the ophthalmoscope into the patient's eye from a distance and look for the red reflex
5. Follow the red reflex into the eye angling the light slightly towards the patient's nose.
6. Move close to the patient and locate the optic disc. The normal disc diameter is 1.5 mm.
7. Examine the fundus as if it were a clock with the disc at the centre. Describe any abnormalities in relation to the disc i.e. 3 o'clock at 2 disc diameters from the disc.
8. Follow the superonasal arcade, the inferonasal arcade, the superotemporal arcade and the inferotemporal arcade
9. Focus on the macula at the end. It is present temporal to the optic disc

Optic disc: Normal optic disc is pink with slight pallor on the temporal side. Its margins are well defined. The diameter of the disc should not be more than 50% of the disc.

Hard exudates: are well defined and are seen in hypertension, diabetes and retinal vein occlusion

Soft exudates: look like cotton wool

Papilloedema: It is the swelling of the optic disc with blurred margins. Normal cupping of the disc is also lost. Veins congested. It occurs in increased intracranial pressure, malignant hypertension and optic nerve tumours.

Hypertensive retinopathy: Patches of the ischaemia may appear as the blood supply becomes inadequate. Hypertensive retinopathy presents with a 'dry' retina i.e. few haemorrhages, rare oedema and exudates with multiple cotton wool spots whereas diabetic retinopathy presents as 'wet' retina i.e. with numerous haemorrhages, exudates, extensive oedema, and few cotton wool spots.

Group I: narrowing of the retinal arteries

Group II: narrowing of the retinal arteries with areas of focal narrowing and arteriovenous nipping

Group III: abnormalities as seen in groups I and II along with retinal haemorrhages, hard and soft exudates.

Group IV (i.e., malignant hypertension): All the above along with swelling of the optic nerve.

Diabetic retinopathy: Dot and blot haemorrhages, microaneurysms, venous dilatation, neovascularisation leading to proliferative retinopathy.

Retinal vein occlusion: Stormy sunset appearance. Engorged veins with large flame haemorrhages and cotton wool spots. In branch vein occlusion changes is confined to a small area.

Retinal artery occlusion: In occlusion of the central retinal artery the retina appears pale and macula becomes prominent and is cherry red in colour.

Senile degeneration: Optic disc normal, unusual pigmentation at the macula. Drusens (nodules in the choroid) usually present.

Optic atrophy: Pale optic disc. Occurs in glaucoma, retinal damage and ischemia.