

Leukocoria			
	Definition and pathophysiology:	Diagnosis	Treatment
Cataract: -The commonest cause of leukocoria in children and reversible blindness.	Any opacity of the lens, regardless of etiology.	1. Screen neonates 2. Slit-lamp exam, and by noting changes in red reflex using ophthalmoscope. 3. US to rule out retinoblastoma.	Unilateral: immediate surgery before 1 month of age (risk of amblyopia) Bilateral: surgery in the first 2 - 3 months.
Ritnoblastoma - Most common primary intraocular malignancy in children (3 year olds). - Unilateral or bilateral	Malignant transformation of primitive retinal cells before final differentiation.	Symptoms: 1. Leukocoria (white pupillary reflex) is the commonest 2. Strabismus (blocks the fovea) 3. Orbital invasion with proptosis and bone invasion may occur in neglected cases.	Radiotherapy, chemotherapy combined with laser and/or enucleation.
Retinopathy of Prematurity	1. The retina has no blood vessels until the 4th month of gestation, at which time the hyaloid vessels at the optic disc grow towards the periphery. These vessels reach the periphery after 8 months of gestation. The non-vascularized retina is susceptible to oxygen damage in the premature infant. 2. Ischemic peripheral retina → Fragile new vessels → Bleeding. The blood contains WBCs, macrophages and fibroblast → Fibrosis and contraction of the retina → Retinal detachment.	Screening: Babies born at or before 31 weeks gestational age, or weighing 1500g or less, should be screened for ROP by an ophthalmologist.	• Cryotherapy or laser (laser is now the standard treatment, with better refractive outcome) • Anti-VEGF intravitreal injections
Retinal Detachment: High myopia and trauma are causes of RD.	Cleavage between the neurosensory retina and the retinal pigment epithelium (RPE). The transparent neurosensory retina separates from the pigmented retina so it appears white.	Symptoms: Flashes of light Floaters Curtain of blackness / peripheral field loss	Prophylactic and therapeutic
Medullated Nerve Fibers: - Most commonly unilateral	In normal eyes, optic nerve myelination stops at the cribriform plate. In eyes with myelinated nerve fibres the ganglion cells retain a myelin sheath.	Symptoms: Usually asymptomatic (poor vision if involves the macula). Signs: White feathery streaks running within the retinal nerve fibre layer towards the disc (cats fur sign)	No treatment.
Coat's Disease: [Retinal telangiectasis] - Typically unilateral	Retinal vascular anomalies characterized by dilatation and tortuosity of retinal vessels, aneurysms, vascular leakage which causes exudative retinal detachment. Usually in 5 year olds.	Symptoms: Visual loss, strabismus and/or leukocoria	Laser Treat the underlying cause
PHPV: - Uncommon, sporadic, unilateral condition	The primary vitreous used in formation of the eye during fetal development remains in the eye upon birth and is hazy and scarred.		Remove the opacity in the lens and cut the blood vessels if possible.

Leukocoria			
	Definition and pathophysiology:	Diagnosis	Treatment
Organized vitreous hemorrhage:	Bleeding into the vitreous cavity secondary to a neovascular membrane or to a retinal tear. After the blood resolves the hemoglobin will give different colors like whitish or yellowish color and some fibrous sheets may persist.	Symptoms: Red haze, blurred vision, or floaters. Signs: ophthalmoscopy: no red reflex if large hemorrhage, retina not visible due to blood in vitreous - Ultrasound (B-scan) to r/o RD.	1. Non-urgent cases (e.g. no RD), blood usually resorbs in 3-6 months 2. Surgical: vitrectomy ± RD repair ± retinal endolaser
Coloboma: - Congenital condition - Anterior and posterior	A hole in one of the structures of the eye. Caused by failure of choroid fissure closure between two structures in the eye. Only posterior (choroidal coloboma) presents with leukocoria.	Symptoms: Poor vision if involves the macula. Signs: White area largely devoid of blood vessels, in the inferior fundus, if it involves the disc it gives rise to leukocoria.	