# HYPO-PIGMENTED LESIONS OF THE POSTERIOR EYE

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<th>Description</th>
<th>Amelanotic Choroidal naevus</th>
<th>Amelanotic Choroidal Melanoma</th>
<th>Choroidal Metastasis</th>
<th>Focal Scleral Nodule (Solitary Idiopathic Choroiditis)</th>
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<tr>
<td>Optomap /retinal photo</td>
<td><img src="image1.png" alt="image" /></td>
<td><img src="image2.png" alt="image" /></td>
<td><img src="image3.png" alt="image" /></td>
<td><img src="image4.png" alt="image" /></td>
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<tr>
<td>Fundus Autofluorescence (FAF)</td>
<td><img src="image5.png" alt="image" /></td>
<td><img src="image6.png" alt="image" /></td>
<td><img src="image7.png" alt="image" /></td>
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<tr>
<td>Optical coherence tomography (OCT)</td>
<td><img src="image9.png" alt="image" /></td>
<td><img src="image10.png" alt="image" /></td>
<td><img src="image11.png" alt="image" /></td>
<td><img src="image12.png" alt="image" /></td>
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| **Amelanotic Choroidal naevus** | • Common, benign lesion with detectable borders, round/oval in shape.  
• Typically located posterior to the equator.  
• Chronic naevi may show atrophy, hyperplasia, fibrous/osseous metaplasia, overlying drusen, RPE detachment and/or an RPE trough.  
• Less than 2mm thick and less than 5mm in diameter.  
• Up to 10% of choroidal naevi are amelanotic, adopting a homogenous pattern of medium reflectivity without posterior shadowing on OCT.  
• Carries up to a 1% lifetime risk of malignant transformation.  
**Documentation and routine review required.** | **Amelanotic Choroidal Melanoma** | • Most common primary malignant intraocular neoplasm in adults.  
• Solitary mass that is acoustically hollow on ultrasound.  
• Greater than 2mm thick.  
• May be associated with lipofuscin (overlying orange pigment), sub-retinal fluid or haemorrhage, sentinel vessels, choroidal folds, retinal detachment or inflammation.  
• 15% of choroidal melanomas may be non-pigmented and 30% mixed.  
**Prompt referral to an Ophthalmologist is required.** | **Choroidal Metastasis** | • Ill-defined, hypo-pigmented lesions.  
• Often associated with overlying pigmentary changes.  
• Multifocal and/or bilateral in 25% of cases.  
• Mildly elevated (less than 3mm).  
• May be symptomatic due to an associated exudative retinal detachment.  
• Primary lesion elsewhere in the body (commonly lungs or breast).  
**Prompt referral to an Ophthalmologist is required.** | **Focal Scleral Nodule (Solitary Idiopathic Choroiditis)** | • Discrete, round, yellow-white lesion with surrounding orange halo.  
• Active lesions have ill-defined margins, sub-retinal fluid and yellow intra-retinal exudative material. Focal haemorrhages may also be present.  
• OCT imaging shows a smooth and dome-shaped lesion with thinning of the overlying choroid.  
• Recent studies using enhanced depth imaging OCT suggest the lesions may have a scleral rather than a choroidal basis.  
**Routine review of inactive lesions, refer active lesions to an Ophthalmologist.** |
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<th>Chorioretinal Atrophy</th>
<th>Torpedo Maculopathy</th>
<th>Bergmeister's Papilla</th>
<th>Myelinated Nerve Fibres</th>
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<tr>
<td>Chorioretinal Atrophy</td>
<td>Circumscribed areas of retinal thinning from loss of RPE and photoreceptors, which allows increased visualisation of the choroidal vasculature.</td>
<td>A congenital, solitary spindle-shaped chorioretinal lesion typically located temporal to the fovea.</td>
<td>A persistent remnant of the hyaloid artery.</td>
<td>White striated areas in the fundus with feathery margins that obscure the underlying vasculature.</td>
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<tr>
<td>Torpedo Maculopathy</td>
<td>Older lesions have surrounding pigment hyperplasia.</td>
<td>OCT shows lesions to be either flat or excavated and associated with neurosensory detachments and disorganisation of the retinal layers.</td>
<td>Either a remnant of the vascular core of the artery (appears as an anterior projection from the optic disc) or a remnant of the fibro-glial sheath (appears as a tuft of glial tissue, usually on the nasal aspect of the disc).</td>
<td>Usually congenital, however can be acquired or progressive during childhood and regression can occur following damage to the optic nerve.</td>
</tr>
<tr>
<td>Myelinated Nerve Fibres</td>
<td>OCT shows loss of the RPE and thinning of the outer retinal layers.</td>
<td>Documentation and routine review required.</td>
<td>No specific management required.</td>
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<td>Globular white elevated lesion arising from the inner surface of the retina or optic nerve head.</td>
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<tr>
<td>Early semi-translucency increasing in calcification over time.</td>
</tr>
<tr>
<td>Optically empty adjacent cystic intra-retinal spaces may be seen on OCT.</td>
</tr>
<tr>
<td>Minimal growth normally, however enlargement can occur rarely causing vitreous haemorrhage or intraretinal / subretinal exudation.</td>
</tr>
<tr>
<td>Associated with neurofibromatosis or tuberous sclerosis.</td>
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**Documentation and routine review. Refer enlarging lesions.**

### Astrocytic Hamartoma (Retinal Astrocytoma)

- Optomap /retinal photo
- Fundus Autofluorescence (FAF)
- Optical coherence tomography (OCT)

**Description**

- Rare benign tumour of the choroid, typically occurring unilaterally in the juxtapapillary or macular areas.
- Irregular shape, slightly elevated and typically display a fine superficial vascular network. Over time, colour changes from yellow orange to yellow-white.
- OCT shows a change in the choroidal architecture with unaffected inner and outer retinal layers.
- B-scan ultrasound shows a characteristically strong acoustic shadow and may be required to form the diagnosis.
- Calcium supplementation may be considered.

**Documentation and routine review.**

### Choroidal Osteoma

- OCT not available

**Description**

- Flat creamy orange-yellow mass deep in the sensory retina that may be single or multiple and usually associated with vitritis.
- Between 56-80% of cases of PIOL subsequently develop brain lymphoma.

**Prompt referral to a neuro-ophthalmologist is required.**

### Primary Intraocular Lymphoma (PIOL)

- FAF not available
- OCT not available

**Description**

- Multiple small, flat, discrete, white lesions typically clustered in a single quadrant.
- Lesions commonly increase in size towards the periphery.
- Lesions lie at the level of the RPE and OCT imaging may show an attenuation of the ellipsoid zone.

**Documentation and routine review.**

### Grouped Congenital Albinotic Spots (Polar Bear Tracks)

**Image Courtesy of Dr N.Assaad**

**Description**

- Multiple small, flat, discrete, white lesions typically clustered in a single quadrant.
- Lesions commonly increase in size towards the periphery.
- Lesions lie at the level of the RPE and OCT imaging may show an attenuation of the ellipsoid zone.

**Documentation and routine review.**