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Ophthalmology: Clinical Guidelines for FRCOphth & FRCS (Ophth)

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For the most up-to-date version of this document, please see:
http://www.londoneyecourse.com/exam-resources.html

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IMPORTANT DISCLAIMER

- This document simply collates guidelines which are important to know for the FRCOphth & FRCS (Ophthalmology)

- The most accurate and comprehensive source is the original guidline.

- London Eye Course takes no responsibility for any errors/inaccuracies/outdated information in this document

- Healthcare professionals should refer to the original guidelines for most accurate and up-to-date information

October 2016

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CRVO & BRVO

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

Sivaprasad S, Amoaku WM, Hykin P; RVO Guideline Group. The Royal College of Ophthalmologists Guidelines on retinal vein occlusions: executive summary. Eye (Lond). 2015 Dec;29(12):1633-8.

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CRVO Medical Investigations

- Recommended in the eye clinic
- Aim to detect conditions that require urgent action
  - Blood pressure
  - Serum glucose
  - FBC
  - ESR
    - If raised consider:
    - inflammatory conditions
    - blood disorders such as myeloma

- Other Investigations
  - Be guided by history and examination or initial test results.

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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Non-ischaemic CRVO

Baseline assessment should include:

- VA
- IOP

- Gonioscopy (if ischaemic CRVO suspected)

- OCT macula
- Colour fundus photo
- FFA

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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Non-Ischaemic CRVO macular oedema

- VA > 6/12
  - Observe patient for spontaneous resolution
- VA 6/12 - 6/96
  - Intravitreal anti-VEGF or Ozurdex implant
- VA < 6/96:
  - Poor potential for significant VA improvement but some eyes may respond so can offer treatment
  - Watch for NVI/NVA; high risk

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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CRVO macular oedema (MO)

- Ranibizumab or Aflibercept
  - Monthly injections until max VA achieved
  - Defined as stable VA for 3 consecutive months
  - Monitor monthly thereof
  - Restart treatment if VA drops again due to MO
  - Monthly injections until stable VA for 3 months
  - If no improvement over the first three injections, consider treatment cessation
  - If no improvement after 6 injections treatment cessation is *recommended*

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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CRVO macular oedema (MO)

- Ozurdex
  - Retreatment may be required 4-6 monthly intervals until VA is stable
  - Occasionally retreatment may be required at shorter intervals (3 monthly)
  - Monitor for raised IOP and cataracts

- Note regarding AntiVEGFs
  - preferred in eyes with a previous history of glaucoma or phakic younger patients.

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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CRVO macular oedema (MO)

- If treatment results in reduction of CMT without improvement of deterioration of VA, this may still be acceptable as a favourable treatment outcome (i.e. preventing loss of VA)

- No evidence to support switching treatment agents, but may be considered.

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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Follow up

- VA, OCT macular thickness, IOP at each visit

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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Ischaemic CRVO

- NVA/NVI and an open angle:
  - Urgent PRP
  - Review at 2 weeks and then until NV regress
  - PRP + intravitreal bevicizumab if NV persist

- NVA/NVI and a closed angle and raised IOP:
  - Urgent PRP + cyclodiodode/tube-shunt surgery
  - If VH can do transcleral diode and retinal cryo

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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BRVO

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BRVO

- Investigations
  - Serum glucose
  - BP
  - FBC
  - ESR

- GP to manage risk factors

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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Non-ischaemic BRVO

- VA >6/12
  - observe for 3 months

- VA ≤ 6/12 MO and haemorrhages not masking the fovea:
  - No macular ischaemia (MI):
    - Observe for 3 months
  - Mild to Moderate MI
    - Consider Ranibizumab or Ozurdex
  - Severe MI
    - No Treatment - recommended, observe for NV

- VA ≤ 6/12 MO and haemorrhages masking the fovea:
  - Monthly ranibizumab or baseline Ozurdex for 3 months
  - FFA at 3 months
    - If severe MI, it is likely that no treatment will prove beneficial

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Non ischaemic BRVO

- At 3m follow up:
  - Modified grid laser if
    - persistent MO
    - minimal macular ischaemia
    - and other treatments unsuccessful or unavailable
  - If VA≥6/9 or no MO
    - If initially observed – continue to observe
    - If on antiVEGF or ozurdex continue as per MO in CRVO

- Further follow up:
  - If observed only, follow up 3 monthly for 18m
  - If recurrence/new MO, consider reinitiation of ranibizumab/ozurdex

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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Ischaemic BRVO

- Watch for NV
  - If NVE
    - Sector laser photocoagulation to ischaemic quadrants
    - Off licence bevacizumab may be given with laser
  - Follow up 3 monthly for 24 months

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Ischaemic BRVO

- Watch for NV
  - If NVE –
    - sector laser to all ischaemic quadrants
    - +/- intravitreal bevacizumab
- Follow up 3 monthly for 24 months

http://www.nature.com/eye/journal/v29/n12/full/eye2015164a.html

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VIGABATRIN

https://www.rcophth.ac.uk/wp-content/uploads/2015/01/2008-SCI-020-The-Ocular-Side-Effects-of-Vigabatrin-Sabril.pdf

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Vigabatrin

- Anti-epileptic for partial epilepsy (second line): GABA inhibitor

- Ocular Risks
  - Prevalence of field loss 30-40%
  - Bilateral concentric VF loss – temporal and mostly macular sparing; can be cause of binasal field defect

  - Not dose related
  - Irreversible

https://www.rcophth.ac.uk/wp-content/uploads/2015/01/2008-SCI-020-The-Ocular-Side-Effects-of-Vigabatrin-Sabril.pdf

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Vigabatrin Guidelines

- Initial suprathreshold VF test Humphrey 120
- If abnormal do threshold 30-2 within 1 month to confirm
- Do every 6m for 5 years, then annually if no VF defect

- The prescribing doctor should warn the patient of the risks of the drug before use
- Warn patient VF defect may worsen if drug used for >5yrs or cumulative dose >5kg (normal dose 2mg/kg daily)

https://www.rcophth.ac.uk/wp-content/uploads/2015/01/2008-SCI-020-The-Ocular-Side-Effects-of-Vigabatrin-Sabril.pdf

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Retinopathy of Prematurity (ROP)

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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ROP Zones

- Zone I
  - A circle of radius - twice the distance from the disc centre to the centre of the macula
- Zone II
  - Extends from the edge of zone I to the nasal ora serrata
- Zone III
  - The residual crescent of retina anterior to zone II

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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ROP Stages

- Stage 1
  - Demarcation line.
- Stage 2
  - Elevated ridge.
- Stage 3
  - Extraretinal fibrovascular proliferation
- Stage 4
  - Partial retinal detachment
    - 4a Extrafoveal
    - 4b Foveal
- Stage 5

  -Total retinal detachment.

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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Plus disease

- Plus Disease
  - Significant level of vascular dilation and tortuosity observed at posterior retinal vessels.
  - Vitreous haze and anterior chamber haze
  - Iris vascular engorgement
  - Poor pupil dilation

- Pre-plus
  - Vascular changes at the posterior pole that cannot be considered as normal but not sufficient to be diagnosed as plus

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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ROP Guidelines

- Who to screen?
  - Must screen <31 weeks or < 1251g
  - Should screen <32 weeks or <1501g

- When to screen?
  - <27 weeks
    - screen at 31 weeks
  - 27-32 weeks
    - screen after 4-5 weeks
  - >32 weeks but <1501g
    - screen after 4-5 weeks

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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ROP Guidelines

- How often?
  - Weekly if zone 1 or posterior zone II, any stage 3 or any plus or pre-plus
  - Otherwise twice weekly

- When to stop?
  - If vascularised into zone III
    - (after 36 weeks)
  - If on 2 consecutive exams;
    - No increase in severity
    - Demarcation colour has changed from salmon pink to white,
    - Vessels beyond demarcation line,
    - Replacement of active ROP lesions by scar tissue

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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ROP Guidelines

- WHO to treat?
  - Zone I any stage with plus
  - Zone I stage 3 wihthout plus
  - Zone II stage 3 with plus
  - Seriously consider treating:
    - Zone II stage 2 with plus

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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ROP Guidelines

- How to treat…
  - Treat within 48hrs, diode laser, near confluent (1/2 burn apart) burns throughout avascular retina
  - If no diode, use argon or cryotheraphy
  - Review in 5-7 days
  - Retreat 10-14 days if no regression

https://www.rcophth.ac.uk/wp-content/uploads2014/12/2008-SCI-021-Guidelines-Retinopathy-of-Prematurity.pdf

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Hydroxychloroquine

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Hydroxychloroquine

- Antimalarial used for SLE and RA
- Ocular features
  - vortex keratopathy and maculopathy (rare)

- RCOphth (2009) recommends no screening programme as maculopathy rare and no reliable test to detect a reversible stage

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Guidelines

- Max dose should be <6.5mg/kg LEAN body weight

- Pre-treatment VA and near vision – can commence if N6 or N8
- Referral to ophthalmologist if abnormal at baseline
- If patient notices reduced vision can see optometrist to check vision and should seek advice from the hydroxychloroquine prescriber
- After 5 yrs on continuous meds need local agreement with ophthalmology

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What to look for?

- Enquiry about disturbance central vision
- VA and reading acuity
- Amsler Chart
- Slit lamp: cornea deposits
- Stereo slit lamp fundoscopy: Looking for Bull's eye maculopathy changes
- Central 10-2 visual field: Looking for paracentral scotomas
- OCT Macula: localized thinning of the photoreceptor layers in the parafoveal region

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Table 3. Clinical Examination Techniques

Recommended Screening Tests
Primary tests: ideally do both
Automated visual fields (appropriate to race)
SD OCT
Other objective tests (as needed or available):
mfERG
FAF
Newer tests of possible value in future
Microperimetry
Adaptive optics retinal imaging
Not Recommended for Screening
Fundus examination
Time-domain OCT
Fluorescein angiography
Full-field ERG
Amsler grid
Color testing
EOG

EOG = electro-oculogram; ERG = electroretinogram; FAF = fundus autofluorescence; mfERG = multifocal electroretinogram; SD OCT = spectral-domain optical coherence tomography.

Table From:
http://www.aao.org/clinical-statement/revised-recommendations-on-screening-chloroquine-h

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Oncology referrals

Asked about in April 2016 OSCE

- Which centres?
  - Liverpool, Sheffield and London

- Refer:
  - Primary Intraocular tumours (other than naevus), lymphoma or metastatic tumours
  - Conjunctival or epibulbar tumours

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2009-SCI-011-Referral-guidelines-for-adult-ocular-tumours.pdf

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Oncology Referrals

- Conjunctival melanocytic tumour if:
  - Involves caruncle, cornea or palpebral conjunctiva
  - Feeder vessel
  - Diameter >3mm especially if without clear cysts
  - Nodular with diffuse pigmentation

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2009-SCI-011-Referral-guidelines-for-adult-ocular-tumours.pdf

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Oncology Referrals

Asked about in April 2016 OSCE

- Choroidal tumour if:
  - >2mm thickness
  - Collar stud configuration
  - Documented growth
- Or 2 of:
  - >1.5mm thickness
  - Orange pigment
  - serous retinal detachment
  - Symptoms

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2009-SCI-011-Referral-guidelines-for-adult-ocular-tumours.pdf

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Oncology referrals

- Iris nodules if:
  - >3mm diameter
  - Marked elevation
  - Secondary glaucoma or localised cataract
  - Involving angle

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2009-SCI-011-Referral-guidelines-for-adult-ocular-tumours.pdf

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Oncology Referrals

- Whom not to refer to adult ocular oncology:
  - CHRPE
  - Simple naevi if;
  - Small and flat, or
  - Minimally raised with only drusen on surface
  - Eye lid tumours
  - Orbital tumours
- Retinoblastoma:
  - Refer to retinoblastoma services in London or Birmingham

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2009-SCI-011-Referral-guidelines-for-adult-ocular-tumours.pdf

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AMD guidelines

IMPORTANT FLOWCHART:

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-319-RCOphth-AMD-guidelines-flowchart-September-2013.pdf

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AMD guidelines

- Smoking cessation: 2-3x increased risk
- Balanced healthy diet
- Pre-treatment: VA, OCT, FFA
- Treat with anti-VEGF if:
  - Active subretinal neovascular membrane
  - Evidence of progression
    - new membrane, visual decline, new haemorrhage or SRF
  - VA 6/12 to 6/96 (NICE guidance)
  - No permanent structural foveal damage
  - Lesion size ≤12dd in greatest linear dimension
  - No previous sensitivity to anti-VEGF

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Other considerations for Treatment

- Bilateral CNV:
  - For simultaenous intravitreal injections
    - have seprate sets and separate vials for each eye
- Predominant haemorrhagic lesions
  - Can still use anti-VEGF
- Raised IOP
  - Can still use anti-VEGF but must treat IOP
- Intraocular surgery
  - Control CNV activity before cataract surgery
  - After cataract surgery can use anti-VEGF but pay attention to cataract wound

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Intravitreal anti-VEGF

- Theatre or dedicated clean room: good illumination, washable floor, ceiling non-particulate in nature
- Must wear surgical gloves, mask if desired
- Preparation:
  - do not need to do VA and IOP on day;
  - topical anaesthesia,
  - povidone 5% for at least 60 seconds

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Intravitreal anti-VEGF procedure

- Pt prep
- Eye prep
- Drape pt
- Eyelid speculum
- Iodine
- Patiet to look away from injection site
- Mark with calipers from limbus:
  - 3-3.5mm aphakic or pseudophakic; 3.5-4mm phakic
- Insert needle tip aimed to centre of globe
- Inject slowly
- Cotton-bud to site to prevent reflux
- Check VA CF or HM – if not, check central retinal artery
  - do AC paracentesis within 3-5mins, then if VA returning but IOP high give iv diamox

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Intravitreal anti-VEGF

- Post-injection
  - Not mandatory to check on slit lamp or IOP
  - Routine post-injection antibiotics not recommended as no evidence of reduced endophthalmitis – can be used at discretion of clinician
  - Clear instructions on what to expect and telephone number for advice

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Follow up

- Ranibizumab or aflibercept
  - give three ‘loading’ monthly injections
- Then continue
  - ranibizumab 4 weekly (or aflibercept 8 weekly) if:
  - Persistent evidence of lesion activity
  - Lesion continues to respond to treatment
  - No contraindications to continuing treatment

- (NB can try switching antiVEGF agents)

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Follow up

- Stop treatment if:
  - No disease activity (no leakage on FFA, no new haem even if persistent fluid on OCT)
  - No evidence further worsening on OCT once Tx stopped
  - No deterioration in VA attributable to CNV
  - Adverse events: endophthalmitis, RD, uncontrolled uveitis MI/CVA in 3m or hospitalisation
  - VA reduced by 30 letters from baseline – indicates poor prognosis

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Extrafoveal CNV

- Can treat with laser, but if large, treat as subfoveal with anti-VEGF

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Who can administer intravitreals?

- Non-medical healthcare professionals (HCP) may administer if stipulations are met
  - Pt remains under named consultant
  - HCP fully trained in rationale, effects and complications of treatment
  - HCP fully trained in technique
  - Has immediate access to ophthalmic specialist doctor
  - Continuous audit of injection service provided by HCP with regular pt feedback
  - Hospital Trust management support initiative and appropriate indemnity in place
  - Consent
  - Training of ophthalmic doctors not compromised

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Dry AMD Guidelines

- Smoking cessation: 2-3x risk
- Balanced healthy diet
- AREDS2
- Counselling
- Visual rehabilitation

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Diabetic Retinopathy (DR)

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DR screening referral to HES

- R0 – annual screen
- R1 - annual screen
- R2 - 13 week referral
- R3 (PDR) – 2 week referral
- M0 - (no lesion within 1dd, VA better than 6/12 and no exudates within 1dd) – annual screen
- M1 - (exudates within 1dd, circinate within macula, microaneursm within 1dd and VA<6/12) – 13week referral

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Pregnancy and DR

- Pregnant women with known DM should be offered retinal assessment (digital imaging) following first antenatal clinic
- If no DR again at 28 weeks
- If DR then again at 16-20 weeks
- If pre-proliferative DR during pregnancy, need ophthalmological FU for at least 6m post partum
- Use tropicamide alone for dilating

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Ranibizumab for DMO

- DMO with central retinal thickness (CRT) >400 microns (RESTORE)
- Monthly and continued until maximum VA reached – VA stable for 3 consecutive months
- Then monitor monthly – retreatment if VA loss from DMO

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Aflibercept for DMO (NICE)

- DMO with CRT>400micrometers (VIVID and VISTA vs laser)
  - Aflibercept 2mg intravitreal injection every month for 5 consecutive months
- Then 1 injection every 2m with no requirement for monitoring between visits
- After first 12m, treatment interval can be extended based on visual and anatomic outcomes
- Discontinue if patient not benefiting

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-318-RCOphth-AMD-Guidelines-Sept-2013-FINAL-2.pdf

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Ozurdex (dex implant) for DMO

- Option for DMO (MEAD trials) if:
  - Pseudophakic
  - DMO not responsive to non-corticosteroid or if alternatives unsuitable

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Iluvien (fluocinolone) implant for DMO

- Chronic DMO
  - (FAME A and FAME B) if:
  - Pseudophakic and
  - DMO not responsive to non-corticosteroid or if alternatives unsuitable

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CVI Registration

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213286/CVI-Explanatory-notes-in-DH-template.pdf

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Registration as sight impaired

- VA 3/60 – 6/60 with normal VF
- VA 6/60 – 6/24 with moderate contraction VF, media opacities or aphakia
- VA 6/18 or better with severe VF loss (eg hemianopia, retinitis pigmentosa)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213286/CVI-Explanatory-notes-in-DH-template.pdf

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Registration as severely sight impaired

- VA≤3/60 – 6/60 with very contracted VF
- VA 6/60 or better with very contracted VF
- homonymous or bitemporal hemianopia *excluded*
  - unless VA <6/18

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213286/CVI-Explanatory-notes-in-DH-template.pdf

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Driving Standards

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Driving Standards

- https://www.rcophth.ac.uk/wp-content/uploads/2014/08/Focus-Summer-2013.pdf

- https://www.gov.uk/guidance/visual-disorders-assessing-fitness-to-drive

- Oxford Handbook of Ophthalmology summary

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Driving Standards

Visual Acuity Criteria

- Group 1 drivers (car and light vehicles)
  - Read pre 2001 number plate at 20.5m or post 2001 number plate at 20m, and
  - BCVA at least 6>12 with BEO

- Group 2 drivers (LGV and PCV)
  - As for group 1 AND
  - At least 6/7.5 in better eye, AND
  - At least 6/60 in worse eye, AND
  - Glasses ≤8D

https://www.gov.uk/guidance/visual-disorders-assessing-fitness-to-drive

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Driving Standards

- VF
  - Humphrey analyser; Esterman program (binocular)
  - Goldmann VF in exceptional circumstances
  - Max false positives permitted: 20%

https://www.gov.uk/guidance/visual-disorders-assessing-fitness-to-drive

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Driving Standards

- VF
  - Group 1 drivers
    - At least 120 degrees on horizontal (target equivalent to Goldmann III4e setting)
    - with extension of at least 50 degress left and right, and 20 degrees up anddown
    - No defect in binocular field encroaching within radius of the central 20 degrees

https://www.gov.uk/guidance/visual-disorders-assessing-fitness-to-drive

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Driving Standards

- VF
  - Group 2 drivers
    - Horizontal VF at least 160 degrees with extension 70 degress left and right and 30 degress up and down, and
    - No defects in central 30 degrees

https://www.gov.uk/guidance/visual-disorders-assessing-fitness-to-drive

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Driving Standards

- Monocularity
  - Group 1 only if adapted to disability, with usual VA requirements and normal monocular VF
- Diplopia
  - Cannot drive with diplopia
  - Can patch one eye if meet criteria for monocularity
  - If stable diplopia >6m DVLA may permit
- Blepharospasm
  - If severe cannot drive
  - If mild, treated, can drive with consultant approval

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Driving standards

- Diabetes
- Insulin treated
  - Group 1
    - Must meet criteria and notify DVLA
  - Group 2
    - Must meet criteria and notify DVLA
      - criteria include full awareness of hypoglycaemia, no episode of severe hypoglycaemia in the preceeding 12 months
- If visual complications
  - Group 1
    - May need to stop driving and notify the DVLA
  - Group 2
    - Must not drive and must notify the DVLA

https://www.gov.uk/guidance/visual-disorders-assessing-fitness-to-drive

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RCOphth guidance: Cataract surgery

Based on the 95% distribution biometric measurements should be repeated if:

- Axial length is <21.20 mm or >26.60 mm
- Mean corneal power is <41D or >47D
- Delta K is >2.5D
- Difference in axial length between fellow eyes of >0.7mm
- Difference in mean corneal power of >0.9 dioptres

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2010-SCI-069-Cataract-Surgery-Guidelines-2010-SEPTEMBER-2010.pdf

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WHO Checklist

- IMPORTANT

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2010_PROF_062_Cataract_Surgery_Checklist.pdf

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2010-SCI-069-Cataract-Surgery-Guidelines-2010-SEPTEMBER-2010.pdf

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RCOphth guidance: Cataract surgery

Should be able to achieve a refractive outcome within

± 1D

of the 'target' in

85% of cases

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2010-SCI-069-Cataract-Surgery-Guidelines-2010-SEPTEMBER-2010.pdf

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Endophthalmitis

RCOphth current guidance:

- If local rates of endophthalmitis over a properly audited time frame are similar to those reported in the Bolton study (0.055%), then continuing with whatever preventative/prophylactic measures are in place would seem reasonable.

- If local rates are higher than those reported in the Bolton study then intracameral cefuroxime may be added as part of a package of measures to lower endophthalmitis rates after a suitable analysis of processes has taken place.

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2010-SCI-069-Cataract-Surgery-Guidelines-2010-SEPTEMBER-2010.pdf

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RCOphth guidance: Cataract surgery

Endophthalmitis:

Important to know 2016 guidelines on prevention and read flowchart about dealing with cluster of endophthalmitis:

https://www.rcophth.ac.uk/wp-content/uploads/2016/07/Managing-an-outbreak-of-postoperative-endophthalmitis.pdf

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Corneal transplantation

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Eye banks in UK

- CTS eye bank Bristol
- CTS eye bank Manchester
- Queen Victoria Hospital, East Grinstead
- Moorfields Eye Hospital, London

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Consent for transplantation

- If person expressed wish to be or not be eye donor (eg National Organ Donor Register or in will), cannot be overridden by relatives unless exceptional circumstances
- If no prior consent, consent given by person in qualifying relationship as defined in Human Tissue Act 2004 (or HT(Scotland)A 2006)
- If death referred to coroner, permission must also be obtained

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Consent for research and training

- Separate consent for this and relatives should always be asked about these additional uses of tissue
- If tissue not going to be used, relatives should be informed that tissue will be disposed of in lawful manner

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Consent for blood sample/ testing

- Consent should be taken for sample of donor's blood to test for viral and microbiological markers of transmissible disease
- Relatives should be informed of any positive results that may have implications for out health

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Consent for seeking further info

- Relatives asked for permission to seek info regarding donor's medical history and behavioural background from medical records, GP, other health care professionals

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Timing

- Enucleation should be carried out ASAP after death but within 24hrs
- Statutory requirement of Quality and Safety Regulations that blood sample taken within 24hrs of death

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Contraindications to ocular tissue transplantation

- Infections
  - HIV/AIDS
  - Viral Hepatitis (A, B, C)
  - HTLC
  - Seropositivity: anti-HIV, HBsAg, anti-HBc, anit-HCV, anti-HTLV, syphilis
  - Behavior leading to risk of HIV, hepatitis, HTLV
  - Tattoos and body piercing within 4m death
  - Acupuncture within 4m death
  - Imprisonment within 12m death
  - Bleeding disorder treated with blood derived coagulation concentrates
  - Viral encephalitis or encephalitis unknown origin, viral meningitis
  - Rabies
  - Congenital rubella
  - TB
  - Reyes
  - PMLE
  - septicaemia

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Contraindications

- Previous surgery/medical treatments
  - Immunosuppression
  - Receipt of organ transplant
  - Receipt of dura mater or brain/spinal surgery pre Aug 1992
  - Receipt human pituitary hormones
  - Receipt cornea, sclera or other human tissue allograft

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Contraindications

- Unknown aetiology and CNS disorders
  - Death from unknown cause
  - CJD and CNS diseases of unknown aetiology (eg Alzheimer's, other dementias, Parkinson's, MS, MND)

- Malignancies
  - Leukaemia, lymphoma, myeloma, polycythaemia, sideroblastic anaemia, myselodysplastic syndrome

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Contraindications

- Eye diseases
  - Active ocular inflammation/uveitis
  - Any congenital or acquired disorders of eye, or previous ocular surgery (inc corneal laser surgery)
  - Retinoblastoma
  - Malignant tumours of anterior segment

https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013_Prof_251_RCOphth-Standards-for-the-Retrieval-of-Human-Ocular-Tissue.pdf

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Local Anaesthesia in Ophthalmic Surgery

- Adapted from
  - Joint guidelines from the Royal College of Anaesthetists and the Royal College of Ophthalmologists

Joint guidelines from the Royal College of Anaesthetists and the Royal College of Ophthalmologists:
https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2012-SCI-247-Local-Anaesthesia-in-Ophthalmic-Surgery-2012.pdf

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Local Anaesthesia in Ophthalmic Surgery

- Local orbital blocks should be administered by a trained anaesthetist or ophthalmologist.

- *Appropriately trained, indemnified and professionally regulated** non-medical staff may administer topical, subconjunctival or sub-Tenon's blocks in some cases

Joint guidelines from the Royal College of Anaesthetists and the Royal College of Ophthalmologists:
https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2012-SCI-247-Local-Anaesthesia-in-Ophthalmic-Surgery-2012.pdf

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Local Anaesthesia in Ophthalmic Surgery

- Intravenous sedation
  - Administer only under the direct supervision of an anaesthetist, whose sole responsibility is to that list.
- Without sedation
  - An anaesthetist is not essential for topical, subconjunctival or sub-Tenon's anaesthesia

Joint guidelines from the Royal College of Anaesthetists and the Royal College of Ophthalmologists:
https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2012-SCI-247-Local-Anaesthesia-in-Ophthalmic-Surgery-2012.pdf

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Abusive Head Trauma and the Eye in Infancy

See:

- https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-292-ABUSIVE-HEAD-TRAUMA-AND-THE-EYE-FINAL-at-June-2013.pdf

- https://www.rcophth.ac.uk/wp-content/uploads/2014/12/2013-SCI-293-Appendix-3-Recording-Ophth-features-of-suspected-paediatric-head-trauma.pdf

See summary document in:

- http://www.londoneyecourse.com/exam-resources.html

Very common and important exam topic. Learn well.