

PRIMARY-CARE EXAMINATION AND ASSESSMENT OF PATIENTS WITH OCULAR HYPERTENSION OR SUSPECTED GLAUCOMA

- ✓ When referring a patient with suspected glaucoma to secondary-eye-care services, the optometrist should highlight the presence of any glaucoma risk factors.
- ✓ When referring a patient with suspected glaucoma to secondary-eye-care services the optometrist should indicate findings of tonometry, examination by slit-lamp biomicroscopy to include anterior segment and optic disc, and visual field assessment.
- ✓ Advanced pathology requires urgent referral, which should not be delayed in order to undertake repeat examinations.
- ✓ Offer patients the opportunity to discuss their diagnosis, prognosis and treatment, and provide them with relevant information in an accessible format at initial and subsequent visits.

Measurement of intraocular pressure

R For patients with ocular hypertension or suspected glaucoma a reliable baseline measure of intraocular pressure is required. A minimum of two intraocular pressure readings on a single occasion using the same tonometer is recommended. The type of tonometer and the time of measurement should be specified in any referral to secondary-eye-care services.

- ✓ To promote consistency between primary and secondary care, tonometry should be performed with Goldmann or Perkins type tonometers.
- ✓ Protocols should be in place for regularly checking calibration to ensure tonometer accuracy.

Measurement of central corneal thickness

R Central corneal thickness should be measured in patients with ocular hypertension or suspected glaucoma and reported alongside the measured intraocular pressure results when referring to secondary-eye-care services.

- ✓ Repeat measurements should be taken on a single occasion. This is an inherent feature of ultrasound pachymeters which provide a final reading based on an average of measurements. Mean and standard deviation should be recorded and provided in any referral.
- ✓ The type of pachymeter used should be stated on patient records and referrals.

Assessment of anterior chamber angle

R Depending on practitioner's preference and clinical competence, either the Van Herick method or gonioscopy may be used to detect narrow anterior chamber angles in patients with ocular hypertension or suspected angle closure.

- ✓ Due to the low specificity of optical coherence tomography, referral to secondary-eye-care services should not be based on the results of anterior chamber OCT measurements alone.

Optic disc assessment

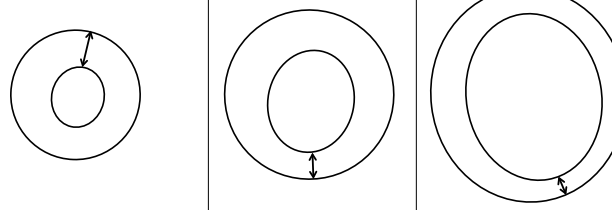
R For patients with suspected glaucoma the optic discs should be examined by slit-lamp biomicroscopy. The vertical optic disc diameter should be measured using the slit beam height. This should be corrected for the magnification of the condensing lens, and the disc categorised as small, medium or large.

- ✓ For optic disc examination in patients with suspected glaucoma, the pupil should be dilated unless there is a high risk of angle closure.

R The narrowest rim/disc ratio and disc size should be recorded and considered alongside additional indicators of glaucoma, such as optic disc nerve fibre layer haemorrhage and cup/disc ratio asymmetry, when assessing the need for referral to secondary-eye-care services.

- ✓ Patients with the following optic disc parameters should be considered for referral to secondary-eye-care services.

- small discs (<1.5 mm in diameter) where the narrowest rim/disc ratio is <0.3
- medium discs (1.5–2.0 mm in diameter) where the narrowest rim/disc ratio is <0.2
- large discs (>2.0 mm in diameter) where the narrowest rim/disc ratio is <0.1



These parameters correspond to Spaeth's disc damage likelihood scale stage 4 or greater.

- ✓ Referral should not be made solely on the basis of apparent violation of the ISNT rule.
- ✓ Patients with an optic disc nerve fibre layer haemorrhage should be referred irrespective of other signs of glaucoma.

Optic disc photography

R The optic discs should be photographed and the images transmitted with the electronic referral letter.

- ✓ Where available, use of stereophotography should be considered.

Visual field assessment

R For patients with ocular hypertension or suspected glaucoma, standard automated perimetry is recommended for visual field testing. Frequency doubling technology is also acceptable.

- ✓ A minimum of two visual field tests with consistent findings is recommended before referral to secondary-eye-care services. One test may suffice if the result is unequivocal.
- ✓ The use of the same technology in the community and secondary-eye-care services has benefit in allowing direct comparisons to be made between the visual field plots.

CRITERIA FOR REFERRAL TO SECONDARY-EYE-CARE SERVICES

- ✓ Irrespective of intraocular pressure, patients with one or more of the following findings should be referred to secondary-eye-care services:
 - optic disc signs consistent with glaucoma in either eye
 - a reproducible visual field defect consistent with glaucoma in either eye
 - risk of angle closure (occludable angle)
 - using Van Herick technique, if the peripheral anterior chamber width is $\frac{1}{4}$ or less of the corneal thickness
 - using gonioscopy, if ≥ 270 degrees of posterior pigmented trabecular meshwork is not visible.
- ✓ Patients who have ocular hypertension with intraocular pressure >25 mm Hg may be considered for referral to secondary-eye-care services irrespective of central corneal thickness.
- ✓ Patients who have ocular hypertension with intraocular pressure <26 mm Hg and central corneal thickness <555 μm should be referred to secondary-eye-care services if they are aged ≤ 65 .
- ✓ Patients who have ocular hypertension with intraocular pressure <26 mm Hg and central corneal thickness $\geq 555 \mu\text{m}$ may be monitored in the community.

DISCHARGE FROM SECONDARY-EYE-CARE SERVICES

Facilitating safe discharge

- ✓ When deciding if a patient should be discharged from secondary eye-care-services, there should be discussion with the patient to identify and take account of their preferences.
- ✓ When a patient is discharged from secondary-eye-care services the responsibility for patient care is transferred to the optometrist.
- ✓ Local arrangements for follow up and monitoring in the community should include protocols for communicating with patients who do not attend, or do not respond to invitations to make appointments, and for liaison with general practice and secondary-eye-care services.

Discharge criteria

Patients with ocular hypertension

- ✓ The following groups may be considered for discharge from secondary-eye-care services where robust local arrangements are in place for follow up and monitoring in the community. Patients with:
 - untreated ocular hypertension where intraocular pressure is <26 mm Hg, CCT is $\geq 555 \mu\text{m}$ and ocular examination is otherwise normal
 - untreated ocular hypertension with intraocular pressure >25 mm Hg with otherwise normal ocular examination and a low lifetime risk of glaucomatous visual disability
 - treated ocular hypertension where re-referral criteria are documented.

Patients who have had iridotomy

- ✓ Patients with primary angle closure who have had prophylactic iridotomy may be considered for discharge from secondary-eye-care services if they:
 - have confirmed open angle
 - are not on topical medication
 - have no evidence of glaucoma.

Patients with treated glaucoma

- ✓ Patients with treated glaucoma should normally be monitored in secondary-eye-care services.
- ✓ Discharge to a locally accredited glaucoma optometrist may be considered at the discretion of the consultant ophthalmologist where this is in the best interests of the patient. Robust local arrangements for follow up and monitoring should be in place and the frequency of monitoring and criteria for re-referral should be individualised.

MONITORING AT-RISK GROUPS

Patients with family history of glaucoma

- ✓ Where family history of glaucoma in a first-degree relative is the sole risk factor identified at routine eye examination the patient should be recalled for review at least every two years. If additional risk factors are present the patient should be reviewed annually or more frequently depending on clinical judgement.

Patients with ocular hypertension

- R** For patients with ocular hypertension, treated or untreated, a reliable baseline based on repeated measurement of IOP and perimetry should be established. Repeat glaucoma testing every two years is recommended.
- ✓ Documentation of baseline optic nerve status is recommended.
- ✓ The testing process and, if applicable, potential side effects related to treatment should be fully explained to patients.

Patients who have had prophylactic iridotomy secondary to primary angle closure

- ✓ Patients with primary angle closure or suspected primary angle closure who have undergone successful iridotomy require lifelong monitoring which can be carried out in primary care. Monitoring should include measurement of intraocular pressure and visual fields as well as assessment of optic discs and anterior chamber depth.

Patients with pseudoexfoliation

- ✓ Individuals with signs of pseudoexfoliation require ongoing monitoring owing to their increased risk of developing glaucoma. If there are no clinical signs of ocular hypertension or glaucoma the patient can be monitored in the community.

Patients with pigment dispersion syndrome

- ✓ Individuals with pigment dispersion syndrome require ongoing monitoring owing to the increased risk of developing glaucoma. If there are no clinical signs of ocular hypertension or glaucoma at presentation the patient can be monitored in the community.

Patients with optic disc anomalies

Myopic discs

- ✓ Individuals with myopic discs require ongoing monitoring owing to the increased risk of developing glaucoma. If there are no clinical signs of ocular hypertension or glaucoma at presentation the patient can be monitored in the community.

Tilted optic disc

- ✓ Healthcare practitioners should be aware that tilted optic disc is not associated with any increased risk of glaucoma. Visual field defect mimicking glaucoma is common in patients with tilted optic disc, but, in contrast to glaucomatous optic damage, the defect is non-progressive, located temporally, and not dense.

Optic disc drusen

- ✓ Patients with optic nerve head drusen who are normotensive and show no evidence of glaucoma can be followed up by community optometrists. Patients with optic nerve head drusen, with ocular hypertension and/or a visual field defect require more frequent follow up owing to the increased risk of developing glaucoma and should be referred to secondary-eye-care services.

SOURCES OF FURTHER INFORMATION

IGA - International Glaucoma Association

Woodcote House, 15 Highpoint Business Village, Henwood, Ashford Kent TN24 8DH

Helpline: 01233 64 81 70
www.glaucoma-association.com • Email: info@iga.org.uk

A UK charity which works to prevent glaucoma blindness by providing information and advice.

This Quick Reference Guide provides a summary of the main recommendations in **SIGN 144 Glaucoma referral and safe discharge**.

Recommendations **R** are worded to indicate the strength of the supporting evidence. Good practice points ✓ are provided where the guideline development group wishes to highlight specific aspects of accepted clinical practice.

Details of the evidence supporting these recommendations can be found in the full guideline, available on the SIGN website: www.sign.ac.uk. This QRG is also available as part of the SIGN Guidelines app.

