NSC proposal: retinopathy (R)

Level 0	None	
Level 1	Background	microaneurysm(s)
		haemorrhage(s) ± any exudate
Level 2	Pre-proliferative	venous beading
		venous loop or reduplication
		IRMA
		multiple deep, round or blot haemorrhages
		(CWS - careful search for above)
Level 3	Proliferative	NVD/NVE
		pre-retinal or vitreous haemorrhage
		pre-retinal fibrosis ± TRD

NSC proposal: maculopathy (M)

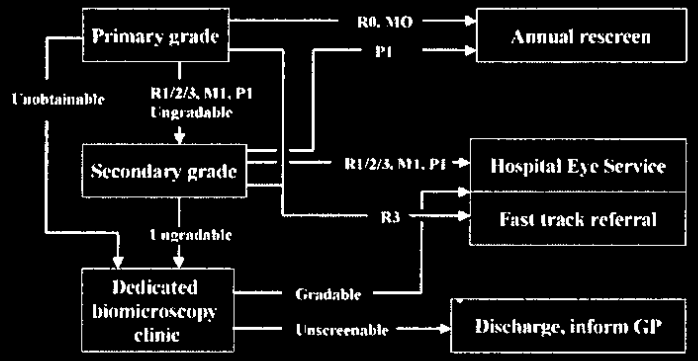
Any of

- exudate ≤ 1DD of centre of fovea
- circinate or group of exudates within macula
- any MA or haem ≤ 1DD of centre of fovea only if associated with a best VA of ≤ 6/12 (if no stereo)
- retinal thickening ≤ 1DD of centre of fovea (if stereo available)

NSC proposal: P and U and OL

Photocoagulation (P)	focal/grid macular
	peripheral scatter
Unclassifiable (U)	ungradable/unobtainable/unscreenable
Other lesion (OL)	central/branch retinal vein occlusion
	AMD/drusen
	glaucomatous disc cupping
	cholesterol emboli
	pigmented lesion
	myelinated nerve fibres

Grading process



Referral

R 0	Annual screening	
R 1	Annual screening, inform diabetes care team	
R 2/M1	Refer to HES	
R 3	Fast-track referral to hospital eye service	
P 1	New screenee	→ HES
	Quiescent treated	→ annual screening
OL	Refer to HES or inform primary physician	
U	Media opacity	→ HES
	Unscreenable	→ discharge, inform GP

DIABETIC RETINOPATHY

Diabetic retinopathy is a progressive ophthalmic microvascular complication of diabetes characterised by the presence of microaneurysms, haemorrhages, exudates, venous changes, neovascularisation, and retinal thickening. It can involve the peripheral retina, the macula, or both[1]. The various identifiable stages of the condition are described as: background where pathology is intraretinal, proliferative where pathology extends forward onto the retinal surface into the vitreous and beyond and pre-proliferative where the condition exhibits signs of imminent proliferation[2].

The Wisconsin Epidemiologic Study of Diabetic Retinopathy showed that background DR (microaneurysms and haemorrhages) was present in nearly all subjects with type 1 diabetes (T1DM) of 20 years duration[3] and in 80% of those with type 2 diabetes (T2DM) of a similar duration[4].

The condition remains the leading cause of blindness among the UK's working age population[5].

A comprehensive National Screening Programme is currently being implemented to meet targets set out in the National Service Framework for Diabetes[6]. The National Screening Committee has recently produced grading criteria describing each level of disease determined by the lesions detected during screening, and management guidelines to ensure appropriate monitoring and treatment of the condition[7].

NSC Proposed Grading Criteria - Minimum Data Set

Level R0 - None

Level R1 - Background

- microaneurysm(s)
- retinal haemorrhage(s) ± any exudate

Level R2 - Pre-proliferative

- venous beading
- venous loop or reduplication
- intraretinal microvascular abnormality (IRMA)
- multiple deep, round or blot haemorrhages

(CWS - careful search for above features)

Level R3 - Proliferative

- new vessels on disc (NVD)
- new vessels elsewhere (NVE)
- pre-retinal or vitreous haemorrhage
- pre-retinal fibrosis ± tractional retinal detachment

Maculopathy (M)

- exudate within 1 disc diameter (DD) of the centre of the fovea
- circinate or group of exudates within the macula
- retinal thickening within 1DD of the centre of the fovea (if stereo available)
- any microaneurysm or haemorrhage within 1 DD of the centre of the fovea only if associated with a best VA of ≤ 6/12 (if no stereo)

Photocoagulation (P)

- focal/grid to macula
- peripheral scatter

Unclassifiable (U)

- Ungradable/unobtainable

NSC Proposed Management Criteria

R0 Annual screening

R1 Annual screening, inform diabetes care team

R2 Refer to hospital eye service

R3 Fast-track referral to hospital eye service

Maculopathy **(M)**

M1 Refer to hospital eye service

Photocoagulation **(P)**

P1 New screenee - refer to hospital eye service

P2 Quiescent post treatment - annual screening

Other lesions **(OL)**

Refer to hospital eye service or inform primary physician

Ungradable/unobtainable **(U)**

Media opacity hospital eye service

Unscreenable

discharge, inform GP
(option to recall for further photos if purely technical failure)

References

1. Harding S 2003. Diabetic retinopathy. The British Medical Journal. 326: 1023-1024.
2. Kanski J. Clinical Ophthalmology 5th Edition. Butterworth Heineman 2003.
3. Klein R *et al* 1984. The Wisconsin Epidemiological Study of Diabetic Retinopathy. II. Prevalence and risk of diabetic retinopathy when age at diagnosis is less than 30 years. Archive of Ophthalmology. 102: 520-526.
4. Klein R *et al* 1984. The Wisconsin Epidemiological Study of Diabetic Retinopathy. III. Prevalence and risk of diabetic retinopathy when age at diagnosis is 30 or more years. Archive of Ophthalmology. 102: 527-532.
5. Khoner E 2003. Commentary: The treatment of diabetic retinopathy. The British Journal of Medicine. 326: 1024-1025.
6. NSF 2003. Diabetes: Delivery Strategy www.publications.doh.gov.uk
7. NSC 2000. Preservation of sight in diabetes; a risk reduction programme. www.diabeticretinopathy.screening.nhs.uk

Example images on reverse