

# Ghana Diabetic Retinopathy NetWork

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# Goals of GhDRN

- Organize Eye Care Workers in the country to collect data on all diabetes related eye care going on at the moment.

# Levels of care

- General Medical Practitioners and other non-ophthalmic physicians looking after diabetics
- Primary level Ophthalmic Nurses
- Secondary level Eye Specialists with no DR treatment facility
- Tertiary level Eye specialists with DR Treatment facility
  - Injections
  - Laser
  - Vitreoretinal surgery

# Local DR network

- Each Eye Specialist to form a network of
  - Physicians and Ophthalmic nurses who refer diabetics to him or her
  - Next level of care he or she will refer diabetic patients to
- Collation of monthly data on diabetic patients seen and treated
- Monthly returns on data on diabetic work to a national data collection centre

# Unique identification number

- Hospital number of the diabetic patient at the originating centre preceded by a unique 2 letters similar to what we have in the postal system

# LogMar Visual Acuity

- Eventually VA will be reported in LogMar

DR Grading system to be used

**Table 1. Disease grading protocol in National Guidelines on Screening for Diabetic retinopathy grading in England and Wales screening programmes.**

<b>Level</b>	<b>Equivalent disease severity level<sup>a</sup></b>	<b>Clinical features</b>
<i>Retinopathy</i>		
R0	No retinopathy	
R1	Mild and moderate non-proliferative diabetic retinopathy	Microaneurysms; retinal haemorrhages or exudates not within the definition of maculopathy
R2	Severe non-proliferative diabetic retinopathy	Venous beading/loop/reduplication; intraretinal microvascular abnormality ;multiple deep, round or blot haemorrhages
R3	Proliferative diabetic retinopathy	New vessels disc or elsewhere
<i>Maculopathy</i>		
M0		No maculopathy
M1		Exudate within 1 disc diameter of the centre of the fovea; circinate or group of exudates within the macula; retinal thickening within 1 disc diameter of the centre of the fovea; any microaneurysm or haemorrhage within 1 disc diameter of the centre of the fovea only if associated with a best visual acuity of 6/12 or worse.
<i>Photocoagulation</i>		
P0		No photocoagulation
P1		Evidence of focal or grid laser or peripheral scatter
<i>Unclassifiable</i>		
U		Unobtainable/ungradable

<sup>a</sup>International classification proposed by American Academy of Ophthalmologists.  
doi:10.1371/journal.pone.0032182.t001

Sivaprasad S, Gupta B, Gulliford MC, Dодhia H, et al. (2012) Ethnic Variations in the Prevalence of Diabetic Retinopathy in People with Diabetes Attending Screening in the United Kingdom (DRIVE UK). PLoS ONE 7(3): e32182. doi:10.1371/journal.pone.0032182  
<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0032182>



# Revised Grading Classification for Pre-proliferative DR (R2)

- **Venous beading** (*N.B. Venous beading from ischaemia in diabetic retinopathy does not occur in isolation*)
- **Venous reduplication**
- **Multiple blot haemorrhages** (*N.B. If uncertain, refer only in the presence of IRMA that are definitely seen*)
- **Intraretinal microvascular abnormality (IRMA)**

# Revised grading for Proliferative DR (R3)

- The new classification consists of two categories **R3A** (Active Proliferative Retinopathy) and **R3S** (Stable Treated Proliferative Retinopathy).

# Revised grading for Proliferative DR (R3)

- **R3A**

- Patients with newly presenting proliferative retinopathy
- Patients where previous treatment has not been deemed stable by the treating ophthalmologist.
- Any patient where new features indicating reactivation of proliferation or potentially sight threatening change from fibrous proliferation are seen with respect to a previously obtained reference image set.

# Revised grading for Proliferative DR (R3)

- R3S
  - Evidence of Peripheral Retinal Laser Treatment
  - Retina deemed stable

# Notes on grading system

- Cotton wool spots
  - Isolated cotton wool spots (one or more) in the absence of any microaneurysm or haemorrhage should be counted as no DR (R0).
  - Any number of cotton wool spots (CWS) in the presence of other non-referable features of DR should be graded as background DR (R1).
  - Where CWS are detected, graders should ensure that they have checked for features of referable DR in particular IRMA and early venous beading.

# Notes on grading system

- Venous loops
  - A **venous loop** should be regarded as a feature of R1.
- Photocoagulation scars
  - If there is no evidence of previous photocoagulation, P0 grade is assigned. If there is evidence of previous photocoagulation (focal/grid to macula or peripheral scatter) a P1 grade is assigned.

# Notes on grading system

- Definition of macula
  - The macula is defined as that part of the retina which lies within a circle centred on the centre of the fovea whose radius is the distance between the centre of the fovea and the temporal margin of the disc.

# Fundus photography

- Macula centred
- Disc centred





# Ghana Diabetic Retinopathy NetWork Referral Form A

# Data Collection Forms