



Central Mersey
Diabetic Retinopathy Screening Programme

SCREENING PROTOCOL 2011

For review: March 2011

Please note that adherence to this protocol forms part of the contractual arrangement between providers and the programme.

Failure to comply with the protocol constitutes a breach of contract.

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1. Screening Staff

All members of staff carrying out work for the programme will need to be on the Registered Staff list. The list will include the following staff categories:

- Programme management and administration
- Receptionist
- Screener
- Grader
- Screener/Grader
- Clinical graders

Any prospective new registered member must complete an application form and submit it to the administrative manager for approval. Once approval is granted the staff member will be given a unique username for DRSS. Every member of staff will have their own username and log-in password. Under no circumstances must this username be used to work in DRSS by anyone else.

Any trainees carrying on work for the screening venue must only do so under supervision and the registered staff member is completely responsible for their work. Supervision means that the registered staff member must be on the premises at the same time as the trainee.

City and Guilds

The document, "City & Guilds accreditation Central Mersey 2011" sets out the particular requirements for staff working in the programme.

- A Screener takes images and uses the DRSS software. Optometrists who are not registered Screeners must not undertake these functions within the programme
- Lay Screeners may take additional modules and undertake one or both of these functions
- A Grader undertakes primary and secondary grading
- By 1st April 2011, all members of staff who started undertaking work for the programme before 1st April 2009, must complete the C&G modules, or work under supervision. The supervisor must have the relevant C&G accreditation and must be present at all times
- Any members of staff who started work for the programme after 1st April 2009 must complete the relevant City and Guilds accreditation 2 years after being in post

2. Invitation for screening

Inclusion criteria

- All people aged 12 years old and over diagnosed with diabetes (type I or type II); and
- Registered at a GP practice within the boundaries of NHS Halton & St Helens; NHS Knowsley or NHS Warrington; or
- The unregistered population living within the boundaries of the programme; or
- Any others deemed appropriate by the programme manager.
- Please note this includes patients falling into the above categories who are under the care of an ophthalmologist for other eye disease

Exclusion criteria

- People who exclude themselves having made an informed choice to do so
- People who are too unwell to participate
- People with physical or mental disabilities which prevent either screening or treatment
- People under the care of an ophthalmologist for treatment and/or follow-up of diabetic retinopathy

Should you find it impractical or impossible to screen a patient, this must be reported to the screening office. The programme administration team will arrange to exclude the patient where that is appropriate.

3. Accessing patient's record

For access to the patient's DRSS record at an optometry site, you will require the following information:

- NHS Number
- Patient's date of birth

For access to the patient's DRSS record at an NHS site, you will only require the NHS Number.

Acceptable access

- Access to a patient's DRSS record card is acceptable only by a registered member of staff. Screener and graders may only access the records for up to three months after the screening date. This will be required for the following:
 - Making and altering appointments
 - Reviewing screening outcome
- Access to a patient's DRSS record card **three months after the screening date is unacceptable** and could lead to disciplinary action.
- If circumstances occur where you need access outside this criteria, contact the Screening Office in writing
 - State the reason why you require access
 - The programme manager will make the final decision to grant access
 - It may be necessary to seek consent from the patient

4. Making Appointments

Once the patient has contacted the screening venue, the appointment **MUST** be made in DRSS within 48 hours, unless this is not possible. If it is not possible this should be flagged up to the screening office and the reasons must be clearly stated in Episode Notes in the patient's DRSS record.

It is not acceptable for the time between making the appointment and it being entered on to DRSS to exceed 48 hours. This leads to dissatisfaction amongst patients who receive repeated invitations.

Please note that any venue which is experiencing difficulties in fulfilling this requirement should contact the screening office at the earliest opportunity. The screening office and the programme manager will do what they can to resolve any issues which prevent you from fulfilling this task but they can only do this if they are aware of the difficulty.

Patient Consent

When the patient has received their invite letter and booked an appointment at their choice of venue, the programme considers that there is implied consent. The onus is on the patient to exclude themselves from screening, if they so wish. Therefore, it is no longer necessary to obtain consent from the patient for screening.

However, optometry screeners may still prefer to obtain consent on the day of screening, particularly for patient attending for their first screening at the practice. If so, they can continue to use the standard consent form.

On the day of screening, ensure the "Consent given for screening and research" tab has been ticked in the DRSS record.

5. Ocular History

Screeners should follow this procedure to ascertain the patient's ocular history:

- Ask the patient if they have any current eye conditions
- Ask if they are currently under the care of the Hospital Eye Service and if so, for what reason
- Ask if they have had any eye conditions in the past
- Ask if they have ever had any eye treatment
- Ask if they have ever worn spectacles for distance vision
- Ask if they have had a recent eye test at the opticians
- If they haven't had an eye test in over 12 months, advise them that they still need to have one at least annually, as the screening process does not identify all possible eye conditions

Record in the episode notes for this screening event any eye conditions and eye treatment reported by the patient, even if it has been recorded previously.

Record in the episode notes if the patient has not brought any spectacles they normally use for distance vision, even if not worn permanently.

If the patient mentions any recent ocular symptoms or concern about their eyesight, advise them to go for an eye test as soon as possible, regardless of the outcome of the screening. Also, tick the "Eye test recommended" tab in the DRSS record and report this in the episode notes.

6. Visual Acuity

The VA should be measured using an appropriate test chart, which must be set at the correct working distance. VA should be recorded in the patient's DRSS record in all cases. Please give best VA only and use the various sub-levels to assist with audit.

The best VA will be:

- With spectacles, if brought
- With Contact lenses if wearing
- Best corrected VA after refraction if patient is having an eye test at the same time
- With Pinhole, if no visual correction brought, i.e. spectacles or contact lenses
- With Pinhole, if there is no current visual correction

It will be sometimes necessary to record a non-standard VA level:

- If the patient has a false eye, set the VA as "Prosthetic Eye". This eye will automatically drop out of the grading form and assist workflow
- If the patient has VA in one eye worse than 6/60 due to untreatable ocular disease, please mark the VA as "Opaque eye", e.g. advanced Wet AMD, CRAO or CRVO. This eye will automatically drop out of the grading form and assist workflow. The screener can then decide whether it is appropriate to still take images in this eye
- If the patient has ocular disease affecting the media, as well as reduced VA, which you feel is likely to make assessment of the images unacceptable even with Slit Lamp, please mark the VA as "Opaque eye", e.g. significant Posterior Capsular Fibrosis, Corneal scarring/injury or mature cataract. This eye will automatically drop out of the grading form and assist workflow. In these cases, always take the best images of this eye possible
- If it is impossible to measure VA, e.g. Learning Difficulties, Dementia or Language barriers but images can still be taken, mark the VA as "No VA"
- In all the above cases, clearly state the reasons for using these settings in the current episode notes

If uncertain about what VA level to set, flag up the patient as "Grade on hold" and contact the Clinical Adviser for advice.

7. Dilation

The drop of choice for dilating is 1% Tropicamide. Although 0.5% can be used, it is not quite as effective, particularly in older patients. It is recommended to instil one to 3 drops of 1% Tropicamide, depending on age and initial pupil size. Details of the drops, used, including dosage, batch number and expiry date should be recorded on the patient's DRSS record.

The Clinical Adviser believes that there are no significant risks in using 1 drop of 2.5% Phenylephrine additionally when there is poor dilation after 20 minutes. Patient records may be annotated to suggest this is required. We therefore advise that it is used by all Screeners and Screener/Graders, as required to achieve fuller dilation. This should also be recorded on the patient's DRSS record card.

Drops should be procured, stored and used according to NSC protocol, as well as City & Guilds training (for lay Screeners and Screener/Graders) and professional guidance (for optometrist Screeners and Screener/Graders).

Any adverse reactions to drops should be reported in the patient's DRSS record and the Screening office should be informed. If necessary, the patient should be referred for medical attention.

8. Pregnancy

Significant retinopathy present at the start of the pregnancy can progress rapidly. Additionally, treatment can become difficult later in the pregnancy. Therefore, pregnant ladies need urgent HES attention and treatment needs to be carried out early.

Although the NSC guidance advises that digital screening after mydriasis should be used in pregnancy it also states that only registered doctors should use Tropicamide in pregnant ladies. Therefore, as no screeners in the programme would satisfy this requirement and we are advised that NSC insurance would not cover its use by lay screeners or optometrists, the best images possible must be obtained without dilation.

The procedure for screening in pregnancy:

- Pregnant lady sent invite for screening
- Screened every 3 months
- Final screen 3 months after birth
- If images are unacceptable, the patient will be referred to the HES, rather than for Slit Lamp grading
- If the patient requires referral they will all be treated as urgent

9. Imaging

Camera settings

The Cheshire digital imaging document demonstrates the correct camera setting. A copy of the document can be accessed at <http://www.loc-net.org.uk/centralmerseyloc/116958527813279.html>

Image positions

The NSC policy document states the following:

Macular

- Centre of fovea ≤ 1 DD from centre of image and vessels clearly visible within 1DD of centre of fovea
- Vessels visible across $>90\%$ of image

Adequate:

- Centre of fovea >2 DD from edge of image
- Vessels visible within 1DD of centre of fovea

Nasal

- Centre of disc ≤ 1 DD from centre of image and fine vessels clearly visible on surface of disc
- Vessels visible across $>90\%$ of image

Adequate:

- Complete optic disc >2 DD from edge of image
- Fine vessels visible on surface of disc

Poor quality images

The main reasons for poor quality images, which should be recorded include:

- Cataract
- Poor dilation
- Ptosis
- External ocular condition
- Learning difficulties

The screener should make a comment in the Episode Notes of the patient's DRSS record card if they have had difficulty obtaining good quality images. Also, where possible, e.g. obvious cataract, take an external image but still make a comment.

Artefacts

The main reasons for artefacts include:

- Dust
- Dirt
- Condensation
- Smudge

If there is an obvious artefact, make comments in Episode Notes of the patient's DRSS record card. All screening sites have a responsibility to ensure their camera is clean and free of artefacts. Each site must have a maintenance contract and call them out to rectify persistent problems.

Missing/incomplete images

Images should always be double saved before exiting the capture screen. Also, regularly check equipment and connections.

During image capture, if circumstances prevail, e.g. lost connection, patient unwell and the image set cannot be completed:

- Flag as "Incomplete images"
- Inform the Screening Office
- The screening office will attempt to rectify the situation
- If the images cannot be recovered, it may be necessary to re-screen the patient

10. Images added later

There are certain instances when it is necessary to add images at a later time, e.g. due to VPN connection loss or DRSS software malfunction. However, these should only be isolated, rare occasions. We have found several instances where this has caused a significant issue, as the wrong images have been added. There has been one case where referable retinopathy was not referred within the required timeline, as images were added too late.

If these problems run into another day, the screening venue **must** contact the Screening Office for permission to continue screening.

If you experience circumstances that mean you are unable to capture straight to the capture screen and have to capture using alternative software and add images later, the following Failsafe procedure **must** be followed:

- Contact the Screening office **immediately** you experience the problem, stating clear reasons why you cannot capture in the usual way
- If partially completed, flag the images as “Incomplete Images”
- Also send an email to the Failsafe Officers and Clinical Adviser for audit purposes, again stating clearly your reasons
- Follow the procedures to add the images later, when connection and software are functioning normally
- Set the flag as “Upload Requested” and save the images
- Email the Failsafe Officers and Clinical Adviser when you have completed the screening episode
- Once the Failsafe procedures are complete, the images will be reset and the patient can be graded as usual

11. Making comments

Comments should be made very regularly to explain and inform the programme and assist the graders. All comments made in the patient's DRSS record card are internal, so please keep comments clear, concise and relevant. Where the same circumstances apply, comments should be added again at each episode, so graders can still access them each year.

- Screeners **must** make comments on the reasons in all cases where the VA is 6/12 or worse
- Screeners **must** make comments on the reasons in all cases where due to difficulties in screening, any part of an image field is incomplete
- Screeners **must** make comments on the reasons in all cases where due to difficulties in screening, any image is missing
- Screeners **must** make comments on any known diabetic ocular condition, as well as previous treatment
- Screeners **must** make comments on any known non-diabetic ocular condition
- Screeners should comment on any non-diabetic condition suspected during an eye test at the same time as the screening

Screeners who are not also graders should refrain from making more general comments about the type and level of retinopathy, unless relevant to why they have flagged the images, e.g. avoid comments such as "background retinopathy", "few dots and exudates".

12. Flagging up Image sets

Where there appears to be gross or significant retinopathy on the images the screening venue should flag them up within the capture screen.

This will mostly apply to screening centres where the patient is having a sight test at the same time or to Screener/Graders. Please note that the Screener or venue will not be audited for performance, but it is merely to improve and speed the flow of more serious retinopathy through the grading process. It will also enable correct referral as appropriately as required.

- **Urgent:** New vessels, vitreous haemorrhage or signs of retinal detachment. If this is required, phone the Failsafe Officers at the Screening Office urgently and send an email immediately to Bob Wilkes, Clinical Adviser
- **Fairly urgent:** (Vessel abnormalities, widespread and large haemorrhages, particularly in the centre, macular area)
- **Incomplete Images:** This flag should be used if it is not possible to fully complete capture. The protocol for images saved later should also be followed
- **Upload Requested:** This should be used for images added later, as per the protocol, or to put grading on hold, if you have asked the Clinical Adviser for advice. The Screening office will also use this when it has asked screeners to resave images
- **Grade on Hold:** This should be used if some other problem has arisen that makes it better to stop the grade, e.g. missed VA. It may also be used by Graders or the Screening office if it is appropriate to hold the grading process while they seek advice from the Programme Management

Procedures for flagging up image sets are contained in Chapter 6 of the DRSS manual on Image Capture.

13. Referrals

Diabetic Retinopathy

All referrals for Diabetic Retinopathy must go through the screening programme. If any screener or other member of the provider's staff feels the patient requires referral for a diabetic retinopathy, they should:

- Flag the image set up accordingly, as either "Urgent" or "Fairly Urgent"
- Make appropriate comments in the DRSS record card
- Phone the failsafe Officers at the Screening Office
- The office will then fast track the grading through the system to ensure the correct referral process is carried out

Non-Diabetic conditions

The screening office **cannot** make referrals for other eye conditions, except some rare cases identified in the grading process, e.g. melanoma. Even then, the office will liaise with the provider for the best referral pathway, according to local protocol.

If the patient had a sight test at the time of screening, the practitioner undertaking the sight test has the sole responsibility to identify and manage non-diabetic conditions. The provider still has all the usual obligations to examine and refer the patient for eye conditions other than diabetic retinopathy.

If the Optometry screening venue is unsure if an eye condition found in the screening process combined with a sight test is diabetic retinopathy and whether they need to refer or not, they should contact the Clinical Adviser for advice.

14. Resources

Connection Problems

The correct procedure if you experience any problems is:

- Contact IT
- Contact the Screening Office

DRSS Problems

The correct procedure if you experience any problems is:

- Contact the Screening Office
- Contact Orion
- Contact IT

Failsafe Officers

Paula McGarry:

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