Diabetic RetinaScreen

An Clár Náisiúnta Scagthástála Reitiní do Dhiaibéitigh
The National Diabetic Retinal Screening Programme

Clinical Practice Guidelines for Treatment Clinics

First edition

Contents

Foreword

The National Screening Service (NSS) is part of the Health Service Executive (HSE). The NSS has significant experience in developing, implementing and delivering organised population-based screening programmes. The NSS encompasses BreastCheck – The National Breast Screening Programme, CervicalCheck – The National Cervical Screening Programme, BowelScreen – The National Bowel Screening Programme and Diabetic RetinaScreen – The National Diabetic Retinal Screening Programme.

Since its introduction in 2013, Diabetic RetinaScreen has been providing regular, free diabetic retinopathy screening and treatment to those with diabetes aged 12 and over. This document provides guidelines for treatment centres providing support to the Diabetic RetinaScreen programme. These guidelines are a culmination of the work of the Clinical Advisory Group, under the guidance of the National Screening Service. It was a privilege to accept the role of chair of the Clinical Advisory Group and to continue the work of my predecessor, Dr Margaret Morgan.

Contributions have been made from its diverse membership. The members are Ms Colette Murphy, Programme Manager, Diabetic RetinaScreen; Dr Margaret Morgan, Medical Ophthalmologist; Mr Paul Moriarty, National Clinical Lead, Ophthalmology; Dr Ronan Canavan, National Clinical Lead for HSE Diabetes Programme, Consultant Endocrinologist; Chríossa O'Connor, Optometrist; Dr Mark James, Medical Ophthalmologist, Cork University Hospital; Helen Kavanagh, Treatment Centre Co-ordinator, Diabetic RetinaScreen; Ms Leahna Kelly, Programme Co-ordinator, Diabetic RetinaScreen and Mr David Keegan, National Clinical Lead for Diabetic RetinaScreen, Consultant Ophthalmologist.

These guidelines serve as a support for the treatment centres in the administration of the treatment arm of the national screening and treatment programme. They are evidence-based and adhere to best international practice. The guidelines form part of the national clinical programme for ophthalmology and form an important bridge between the two programmes.

The committee recognises the constant evolution of care in this field and development of these guidelines is ongoing. Further editions will be available in the future.

David Keegan

Chair, Clinical Advisory Group

Diabetic RetinaScreen

1. Introduction

Diabetes mellitus (DM) is associated with the development of a number of complications. One of these is the development of diabetic retinopathy, potentially resulting in blindness. Diabetic retinopathy is the leading cause of new cases of preventable blindness in the working age population (20-75 years) in developed nations[1].

Retinopathy screening for patients with diabetes is an internationally accepted standard of diabetes care, and the development of population-based screening programmes has been prioritised by national and international policy makers.

In 2011 the Health Service Executive (HSE) National Diabetes Programme tasked the National Screening Service (NSS) with the development and implementation of a national diabetic retinal screening programme. The NCSS has extensive experience of developing and implementing population-based screening programmes and is responsible for BreastCheck – The National Breast Screening Programme, CervicalCheck – The National Cervical Screening Programme and BowelScreen – The National Bowel Screening Programme.

Diabetic RetinaScreen - The National Diabetic Retinal Screening Programme became available in early 2013. The quality assured programme offers Government-funded annual screening to people with diabetes, aged 12 and over. Diabetic RetinaScreen uses specialised digital photography to look for changes that could affect the eyesight. Any follow-up, further assessments or treatment of diabetic retinopathy that are recommended as part of the screening programme are free of charge.

1.1 Purpose and scope

This document specifies how treatment clinics will deliver services as part of the Diabetic RetinaScreen programme and sets out the administrative and clinical supports required by the programme.

This document specifies how treatment clinics deliver services as part of the Diabetic RetinaScreen programme. The administrative and clinical supports required by the programme are outlined in detail. Our aim is to provide all those who require further investigation or treatment as part of Diabetic RetinaScreen, with the highest possible standard of care, and to ensure that each person is offered clear, objective, full and prompt information in their diagnosis.

2. Treatment clinic guidelines

2.1 Facilities and access

All Diabetic RetinaScreen treatment clinics are located in a dedicated outpatient facility and provide the following:

- Clear signage from the hospital entrance to the Diabetic RetinaScreen treatment clinic
- A dedicated reception area
- A dedicated waiting area
- Adequate restroom facilities

2.2 Administration room

The administration room provides:

- Dedicated office space for administrative support
- Appropriate computer and printer hardware
- Telephone and fax facilities
- Space for medical record storage
- A facility to update the OptoMize system

2.3 Clinical room

The clinical room provides:

- A dedicated area for visual acuity measurement
- The potential to record LogMAR visual acuity
- A facility to enter the results of the clinical assessment/procedures performed on Optimize system
- Adequate size with good ventilation
- A secure space

2.4 Equipment

Each clinic room must be equipped with the following:

- LogMAR chart
- Snellen chart
- Adjustable patient chair
- Examination couch
- Slit lamp
- Indirect ophthalmoscope
- Lenses for slit lamp and indirect fundoscopy
- Laser lens for macular and panretinal laser
- Tonometer
- Disposable tonometer prisms
- Computer and IT networks

There should be access to:

- Fundus Camera and Fluorescein Camera
- Optical coherence tomography (OCT)

2.5 Surveillance clinic (if present)

A dedicated area for visual acuity measurement requires the following:

- LogMAR chart
- Snellen chart
- Adjustable patient chair
- Fundus camera
- Optical coherence tomography (OCT)

2.6 Intravitreal injection room

The intravitreal injection rooms must comply with standards as outlined in the Royal College of Ophthalmologists (2009) Guidelines for Intravitreal Injections Procedure[2].

2.7 Staffing

The Diabetic RetinaScreen treatment clinic requires the following resources:

- Lead clinician, with sessional support in their absence
- Dedicated nurse assigned to the clinic
- Administrative support
- Ophthalmologist trained in the delivery of laser treatment
- Ophthalmologist trained in the delivery of intravitreal injections
- Appropriate medical staff

Where there is a surveillance clinic in place there should be an ophthalmologist assigned with clinical responsibility for the delivery and quality assurance of this service.

3. Management of new referrals

3.1 Administration

All new referrals should be acknowledged and validated through the referral validation process on OptoMize, with the screening service provider. Urgent new referrals are offered an appointment within 12-24 business days after notification of screening result, as outlined in the 'Standards for Quality Assurance in Diabetic Retinopathy Screening.[3] Non-urgent new referrals are offered an appointment within 78-108 business days after notification of screening result.[3] All new referrals received are reviewed by a clinician. A dedicated telephone number and email address must be provided to clients for appointment scheduling.

4. Management of treatment clinics

4.1 Administration

- Where a client has previously attended an eye clinic in the treatment clinic, access to their clinical records is to be provided.
- A dedicated telephone contact number must be provided to patients following treatment.
- Any change to demographic details while the client is in treatment should be sent to the photography and grading provider and to the Diabetic RetinaScreen programme to ensure accuracy of data.
- The hospital will operate a clear policy on management of patient complaints and concerns in compliance with HSE complaints policy.

4.2 Information technology

Diabetic RetinaScreen uses a systematic screening package called OptoMize. The OptoMize system must be accessible to relevant staff, including administrative and clinical staff members. Training is required for all OptoMize users with unique log-in credentials assigned to each. Details of all clinical encounters for assessment and treatment are recorded on the OptoMize system.

5. Clinical guidelines

5.1 Management of referrals for proliferative diabetic retinopathy

The following steps must be adhered to for effective management of referrals for proliferative diabetic retinopathy.

5.1.1 Initial assessment

12-24 business days after notification of screening result[3]

5.1.2 History

- Control blood glucose and blood pressure

5.1.3 Examination

- Visual acuity
- Slit lamp assessment
- Gonioscopy in presence of neovascularization (NVI)

5.1.4 Imaging

- OCT in presence of coexisting diabetic macular edema (DME)
- Fundus Fluoresciein Angiography (FFA) if indicated to assess extent of ischaemia

5.1.5 Management

- Address control of systemic risk factors, namely:
  - Blood glucose
  - Hypertension

5.1.6 Photocoagulation

- Treatment to commence within 12 business days after initial assessment, according to 'Standards for Quality Assurance in Diabetic Retinopathy Screening [3]. Treatment may include the following:
  - Neovascularization of the disc (NVD) – pan-retinal photocoagulation (PRP)
  - Neovascularization of the retina elsewhere (NVE) – PRP
  - 300-400µm burns, 10-50 ms duration spaced 1-1.5 burn widths apart over 1-3 sessions Primary PRP 1200-1800 burns with further laser dictated by level of activity of neovascularisation.
  - Extensive neovascularisation, vitreous/preretinal haemorrhage, tractional retinal detachment increase number of burns up to 3000 for primary PRP.
  - Neovascularization of iris (NVI) no NVA or NVG – PRP
  - NVI + NVA/NVG consider intravitreal anti-VEGF agent soon after diagnosis in addition to PRP

5.1.7 Review post completion of pan-retinal photocoagulation (PRP)

- 8-12 weeks, dependent on severity at presentation

5.1.8 Indications for referral for assessment for vitrectomy

- Non resolving vitreous haemorrhage
- Tractional retinal detachment
- Rhegmatogenous retinal detachment
- Symptomatic epiretinal membrane
- Non resolving DME with vitreo-macular traction

5.2 Management of stable treated proliferative diabetic retinopathy

Record as R3 on OptoMize and select stable treated retinopathy in advanced eye disease option Annual review if no DME, nondiabetic eye disease requiring more frequent review or significant systemic risk factors present.

5.3 Management of referrals for preproliferative diabetic retinopathy

Initial assessment should take place within 78-108 business days after notification of screening result.[3]

5.3.1 History

- Control blood glucose and blood pressure.
- Preproliferative diabetic retinopathy in pregnancy should be referred to the eye clinic for urgent assessment and ongoing management.

5.3.2 Examination

- Visual acuity (preferably LogMAR)
- Slitlamp assessment

5.3.3 Imaging

- OCT in presence of coexisting DME
- FFA if indicated to assess extent of ischaemia

5.3.4 Management

- Address control of systemic risk factors:
  - Blood glucose
  - Hypertension

5.3.5 Follow-up

Consider ocular and systemic risk factors when scheduling follow-up appointment, which should be made no later than six months later.

5.3.6 Photocoagulation

- Consider in the following situations:
  - Where there is a history of poor clinic attendance
  - At the clinician's discretion in exceptional cases deemed to be at high risk of progression to PDR, particularly if an eye has been lost as result of PDR

5.4 Management of referrals for diabetic macular oedema (DME)

Maculopathy referrals from Diabetic RetinaScreen are deemed non-urgent and should be seen within 78-108 business days of notification.[3]

5.4.1 History

- Control blood glucose and blood pressure.

5.4.2 Examination

- Visual acuity (preferably LogMAR)
- Slitlamp assessment

If any one or more of the four criteria listed below is present in an eye on clinical examination, maculopathy level on the OptoMize clinical system must be entered as M1 to assess the appropriateness of the screening programme referral.

- The presence of exudate within a radius of 1 disc diameter of the center of the fovea.
- The presence of a group of exudates within the macula.
- The presence of any microaneurysm or haemorrhage within a radius of 1 disc diameter of the centre of the fovea only if associated with a visual acuity (VA) of</= 6/12 (if no stereo).
- Retinal thickening within 1 disc diameter of the centre of the fovea (if stereo available).

5.4.3 Investigations

OCT

- Fluorescein angiography where in the presence of proliferative of preproliferative diabetic retinopathy where ischaemia is suspected

5.4.4 Management

- Address control of systemic risk factors, namely:
  - Blood glucose
  - Hypertension

5.4.5 Photocoagulation

- Treatment to commence within 60 days of initial assessment.
  - Non centre involving CSME (clinically significant macular oedema) regardless of the visual acuity level - Modified EDTRS focal/grid laser.
  - Centre involving CSME and visual acuity >20/40(6/12) - Modified EDTRS focal/grid laser. In cases where there is centre involving CSME and visual acuity > 6/12 with no defined source of leakage observation is indicated.

5.4.6 Review

- Review is required four months after the laser treatment has been performed.
  - Intravitreal Anti VEGF injection
  - Centre involving CSME and visual acuity ≤ 20/40 (6/12)

5.4.7 Injection schedule

Three initial injections should be given at four week intervals followed by review. Injections should be continued at four week intervals while visual acuity continues to improve until visual acuity is stable over three consecutive visits, regardless of persistent thickening[5]. The addition of laser should also be considered in all patients receiving treatment with intravitreal anti VEGF agents.

5.5 General assessment and treatment guidelines

- There should be information leaflets available detailing the procedure and associated risks and benefits. Leaflets are available to order free of charge **www.healthbrochures.ie**.
- For all procedures performed there must be informed consent obtained and recorded from the patient.
- All planned procedures must be recorded on the OptoMize system.
- All procedures performed must be recorded on the OptoMize system.
- Where there is no option in the 'drop down menu' for a specific procedure, the procedure must be recorded as 'other procedure' with details recorded in the comment field.

5.6 Management of non-diabetic eye disease referrals

Clinician review will determine those that may require a more timely assessment.

In general, all referrals found to have non-diabetic eye disease deemed to require further assessment and treatment should be discharged to an appropriate ophthalmology clinic close to the client's home. The client is re-called for annual screening by Diabetic RetinaScreen.

All clients with non-diabetic eye disease are discharged on the OptoMize system and returned for annual re-call.

5.7 Communication of results

It is the responsibility of the treatment clinic to communicate the result of the examination and all treatments performed to:

- Relative diabetes care clinicians in primary and secondary care.
- Current ophthalmologist if present.

6. Management of attendance

There should be a departmental attendance policy to include a 'did not attend' (DNA) /cancellation policy. The programme recommends issuing two reminders following initial non-attendance.

Medical records of patients who DNA or cancel appointments, should be reviewed by a clinician, to decide on the timing of future appointments.

Appointment non-attendance is recorded on the OptoMize system. Currently it is not possible to record a cancellation on the system. This can be recorded as a DNA with the details of the cancellation recorded in the comment field on the grading page. Details of the cancellation must include the reason for cancellation and whether initiated by the patient or the clinic.

7. Governance

The management of Diabetic RetinaScreen requires regular operational meetings between hospital administration, clinic nursing staff and clinical leads. Regular management reports include waiting times, capacity of the service, management of DNAs in addition to reports on administrative workloads, including backlogs or as required by the programme.

Quarterly multi-disciplinary team (MDT) meetings are required. These can take place virtually between the treatment center clinicians and Diabetic RetinaScreen to review referrals and the failsafe process.

8. References

[1] (KemptJH, O'Colmain B, Leaske M, Haffner S, Klein, Moss S. et al. The prevalence of diabetic retinopathy among adults in the United States. Archives of ophthalmology. 2004;122(4:552.3)

[2] Royal College of Ophthalmologists (2009) Guidelines for Intravitreal Injections Procedure Accessible at http://www.rcophth.ac.uk/core/core_picker/download.asp?id=167&filetitle=Guidelines+for+Intravitreal+Injections+Procedure+2009

[3] Standards for Quality Assurance in Diabetic Retinopathy Screening, First edition http://www.diabeticretinascreen.ie/_fileupload/Documents/DR-PUB-Q-1%20Rev%203%20Standards%20for%20Quality%20Assurance%20in%20Diabetic%20Retinopathy%20Screening%20First%20Edition.pdf

[4] Diabetic retinopathy is the leading cause of new cases of preventable blindness in the working age population (20-75) in developed nations (KemptJH, O'Colmain B, Leaske M, Haffner S, Klein, Moss S. et al. The prevalence of diabetic retinopathy among adults in the United States. Archives of ophthalmology. 2004;122(4:552.

[5] Diabetic Retinopathy Clinical Research Network (DRCnet).

Notes

An tSeirbhís Náisiúnta Scagthástála
National Screening Service

BreastCheck
An Clár Náisiúnta Scagthástála Goch
The National Breast Screening Programme

CervicalCheck
AN CLÁR NÁISIÚNTA SCAGTHÁSTÁLA CEIRBHEACS
THE NATIONAL CERVICAL SCREENING PROGRAMME

BowelScreen
An Clár Náisiúnta Scagthástála Putóige
The National Bowel Screening Programme

Diabetic RetinaScreen
An Clár Náisiúnta Scagthástála Reitini do Dhiaibéitigh
The National Diabetic Retinal Screening Programme

Cuid d'Fheidhmeannacht na Seirbhíse Sláinte. Part of the Health Service Executive.

DR/PUB/T-1 Rev1
ISBN: 978-1-907487-18-7