

Living with Diabetes and Visual Impairment

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WHO World Report on Vision

- Globally 146 million people living with diabetic retinopathy
- Global prevalence of any diabetic retinopathy 34.6% (Yau et al)
- Potential to prevent sight loss
- Routine eye checks and good diabetes control can protect people's vision from this condition.
- Late detection: poorly integrated eye care services, lack of access, lack of follow up
- WHO World Report on Vision Executive Summary

<https://apps.who.int/iris/bitstream/handle/10665/328721/WHO-NMH-NVI-19.12-eng.pdf>

Carol's Story

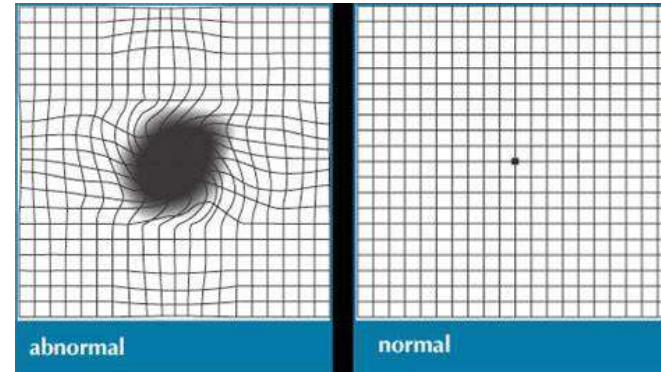
- <https://www.youtube.com/watch?v=Nh2W6J0CjD0#action=share>
- Outline challenges of routine daily activities
- Medicine adherence
- Glycaemic Control
- Support, Strategies and Rehabilitation

Different Types of Vision Loss

Loss of Contrast Sensitivity



Diabetic Macular Oedema



Peripheral Vision Loss



Proliferative Diabetic Retinopathy



SAME SCENE VIEWED BY A PERSON WITH DIABETIC RETINOPATHY

Certificate of Vision Impairment

- Irreversible vision loss
- Timing
- Eye Clinic Liaison Officer
- Certification and Registration Process: bridge to rehabilitation and social care support
- Tiers of certification:
- Sight Impaired (Partially Sighted)
- Severely Sight Impaired (Blind)

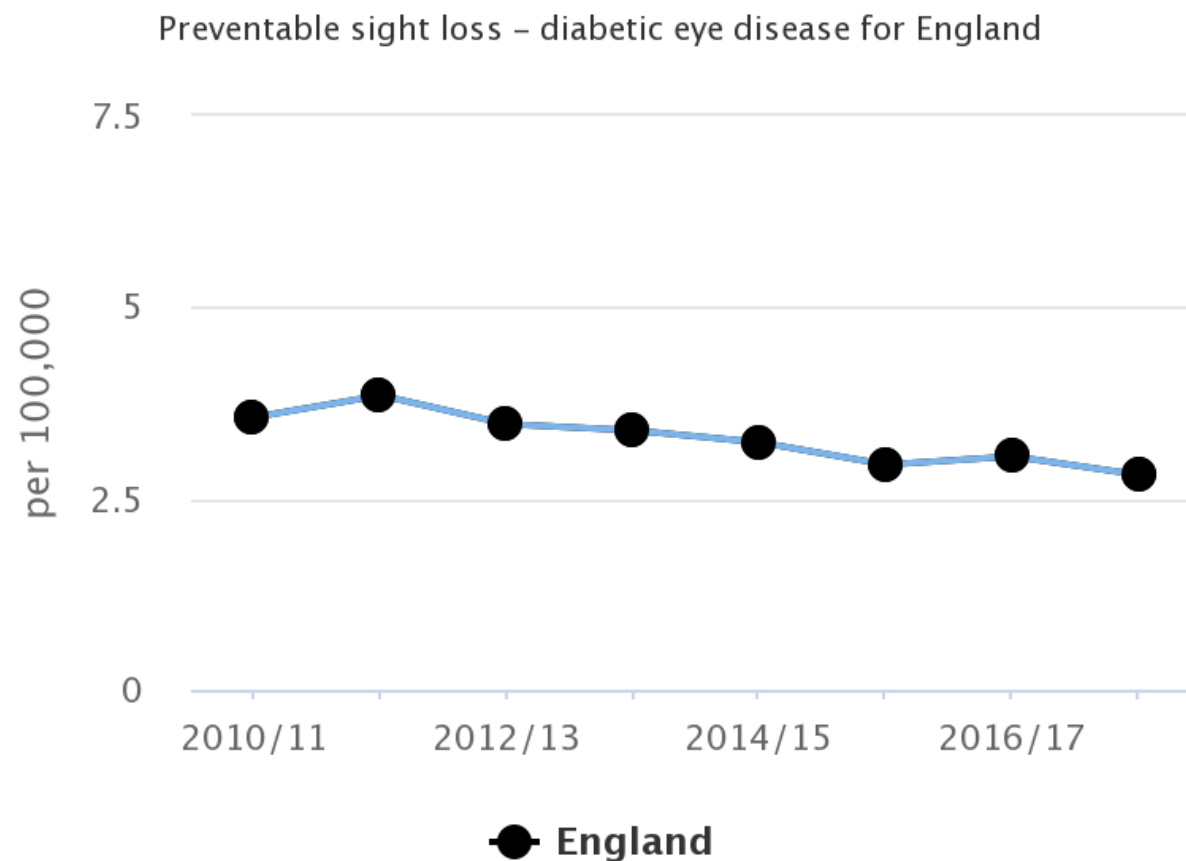
Certificate of Visual Impairment CVI

- **Registration:** with Local Authority as sight impaired (partially sighted) or severely sight impaired (blind)
- **Access to Support with LA:** Daily Living Skills
- **Bridging Health & Social Care**
- **Financial and welfare benefits**
- **Data Analysis:** service provision and service development

UK Context

- Incidence: 24,000 CVIs each year in England and Wales (Figures for CVIs, Public Health England, 2017)
- Prevalence: Around 350,000 people are registered blind or partially sighted in the UK in total. Half of these people are registered blind, and half are registered partially sighted

Public Health Indicator for Diabetic Eye Disease



Effectiveness of Diabetic Retinopathy Screening

- Data from DESP: Wales Retrospective Analysis
- New certifications for both sight impairment and severe sight impairment in Wales due to diabetic retinopathy & maculopathy between 2007 and 2015
- 2008-9 to 2014-15: 20.4% reduction
- During the same eight-year period: the number of people with diabetes in Wales increased by 52,229
- **DR No longer leading cause of visual impairment amongst working age people**

Modifiable Risk Factors and Prognosis

DURATION OF DIABETES

- Best predictor of diabetic retinopathy. Diagnosed before the age of 30 years, the incidence of DR after 10 years is 50%, and after 30 years 90%
- Diabetic age 20 years 99% of patients with Type I DM and 60% with type II have some degree of diabetic retinopathy.
- 5% of Type II diabetics have DR at presentation.

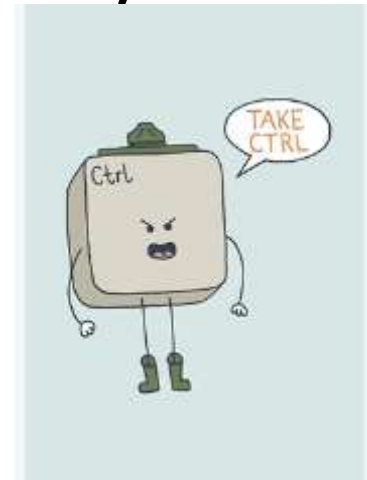
POOR GLYCAEMIC CONTROL

- Raised HbA1c increased risk of proliferative disease. This is because of increased oxygen-binding capacity of HbA1c leading to hypoxia.
- The severity of hyperglycemia
- Type I: The Diabetes Control and Complications Trial: intensive control reduced the risk of developing retinopathy by 76% and slowed progression of retinopathy by 54%.
- Type II: The UK Prospective Diabetes Study 25% reduction in risk.
- Sudden improvement in control may be associated with progression of retinopathy (Chantelau & Kohner).
- Type I diabetic patients appear to obtain greater benefit from good control than those with type II.
- **Target HbA1c level = 6.5-7 %.**

CARTOID ARTERY OCCLUSIVE DISEASE

Modifiable Risk Factors and Prognosis

- HYPERTENSION: Appropriate Blood-pressure Control in Diabetes (ABCD) Trial: target BP should be $<140/80$
- Tight BP control in type II diabetics with maculopathy
- NEPHROPATHY
- SMOKING: 20 a day triples/quadruples retinopathy
- HYPERLIPIDEMIA
- ANEMIA: leading to hypoxia
- OBESITY



Modifiable Risk Factors

PREGNANCY

- Greater pre-pregnancy severity of retinopathy
- Poor pre-pregnancy glycaemic control of diabetes.
- Rapid control in early stages of pregnancy.
- Development of pre-eclampsia and fluid imbalance

Low Vision Assessments

- Early Intervention: Sight Loss Journey
- Maximise residual vision
- Multidisciplinary tailored assessment
- Assess impact on mobility, medication management, daily living skills
- Rehabilitation
- Optical & non-optical aids

Bigger Brighter Bolder

- Large print (14 point)
- Magnification - electronic, hand held
- Felt tip pens
- Large screens and buttons



Bigger: Large Print Correspondence



- Accessible Appointment Letters & Clinical Letters
- Alternative Formats?

Brighter: Task Lighting

- Direction of Light
- Matt surfaces
- Glare
- Reduced contrast sensitivity



Bolder: Increased Contrast

- Use of colour
- Use of contrast
- Food Packaging



Support & Self Advocacy

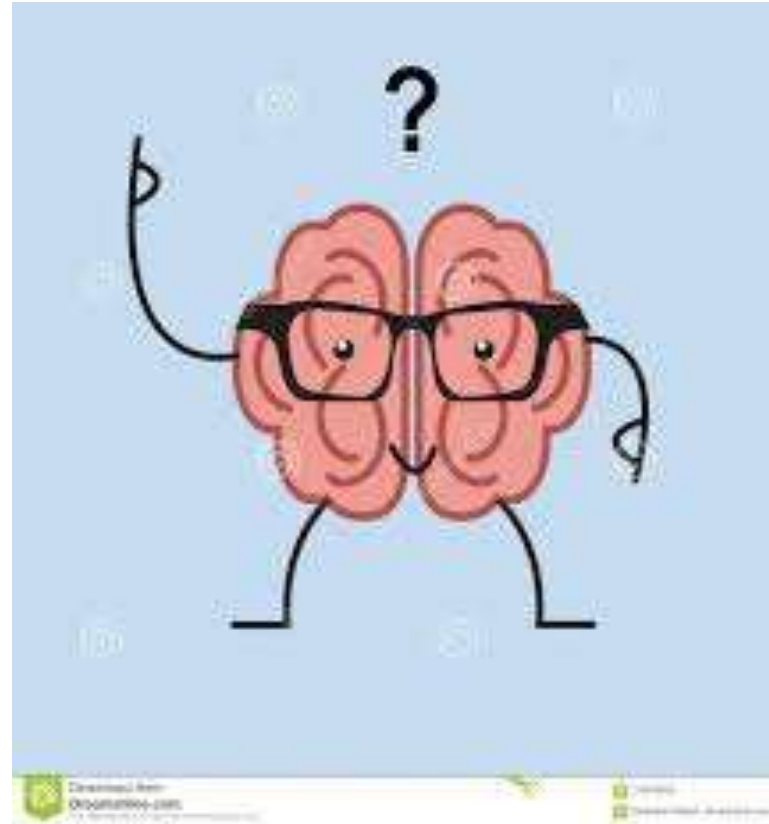
- **Local sight loss charity**
www.visionary.org
- **RNIB Helpline: 0303 123 9999**
www.sightlinedirectory.org.uk
- **Peer support: rnib connect, connect radio**
www.rnib.org.uk/connect
- Support for people with **Learning Disability:**
www.SeeAbility.org
- **Guide Dogs:** my guide: navigation/befriending
www.guidedogs.org.uk

Call to Action

- Collaboration
- Referral
- Patient Education
- Power of Prevention
- Management of risk factors
- Timely treatment



Questions



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