

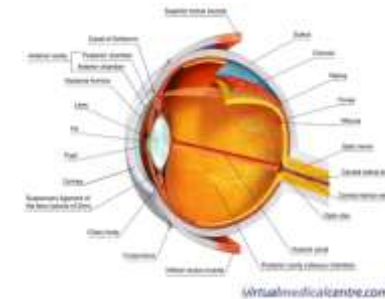
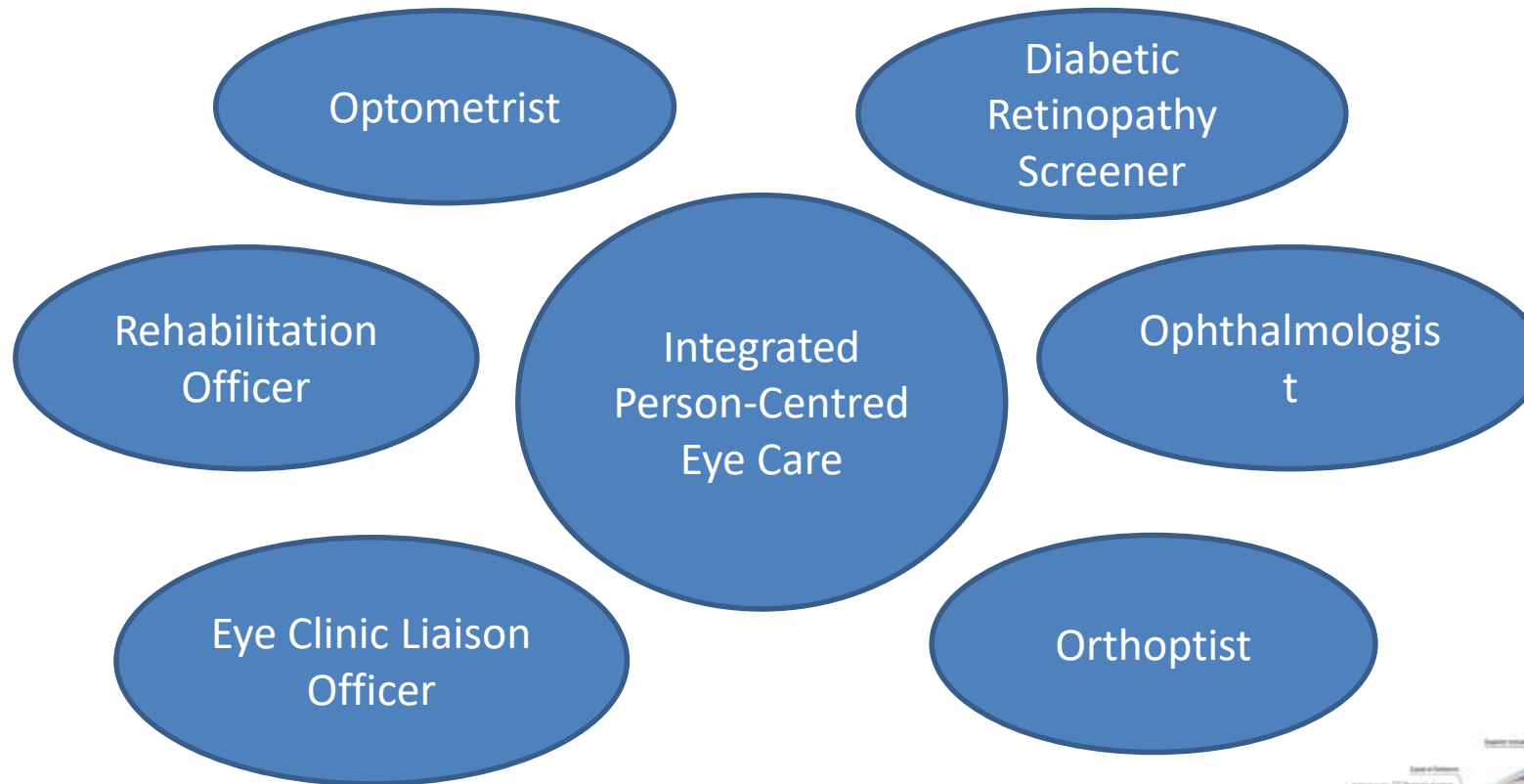
The Diabetic Eye Health Pathway



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The Different Eye Care Professionals



Types of Eye Checks

Eye Examination: every 1-2 years

- More than a check for spectacles!
- Essential Eye Health Check: all ocular health conditions
- Muscle Palsies
- Hypertension
- Hypercholesterolemia
- Glaucoma

Eye Examination

- Symptoms/No Symptoms
- Early Detection
- Fluctuating or blurred vision: unstable glycaemic control, unstable refractive status
- Glycaemic shifts: cataracts and retinal microvascularisation
- Primary Eye Care: pivotal role to play in the early detection and diagnosis of diabetes mellitus.

Types of Eye Checks

Diabetic Retinopathy Screening Programme:

- Annual photographs with a retinal screener every year for everyone with diabetes from age 12.
- National Screening Programme: UK only country globally with fully comprehensive screening programme:

Diabetic Retinopathy Screening Programme

- Introduced in 2003, with roll out in 2007
- Uptake rates: Across England 82.7% in 2017-18.
- However, overall uptake rates can mask large variations between certain areas or population groups
- Data Sources!

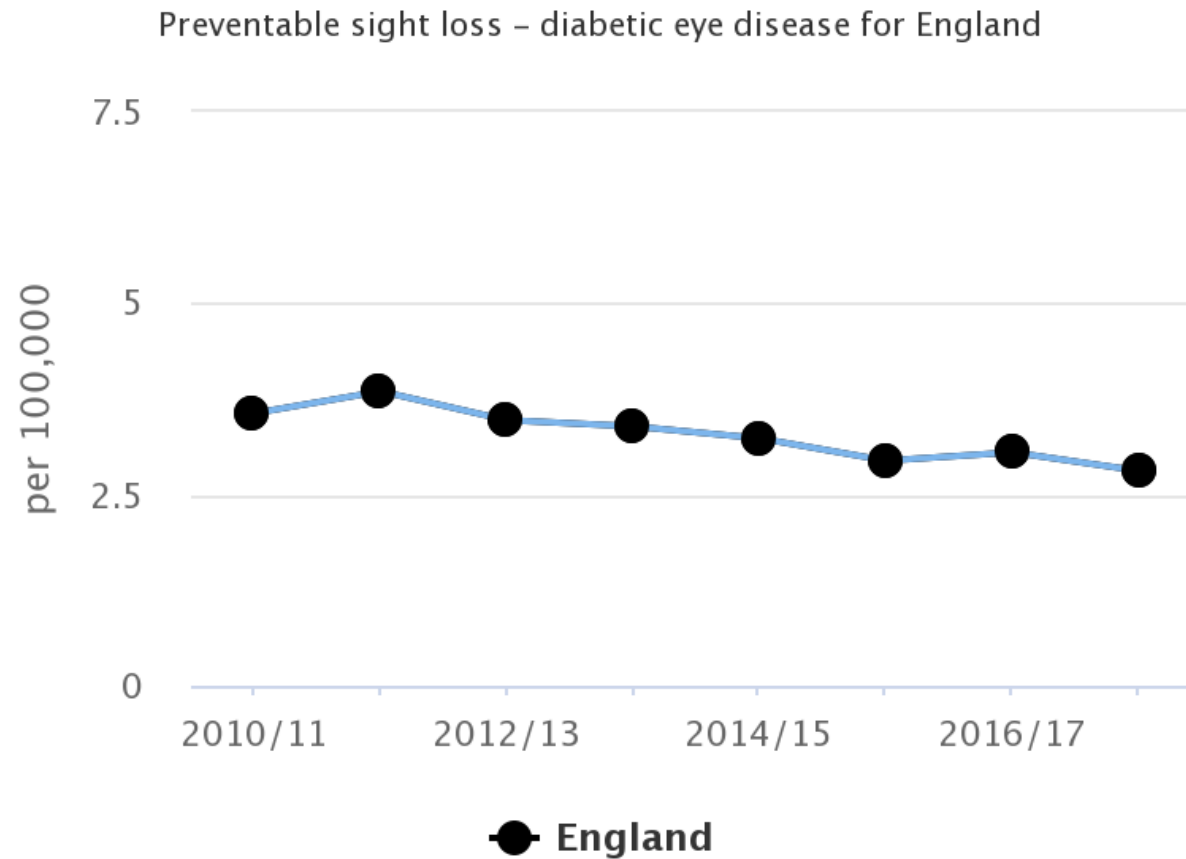
Linda's Story

Diabetic Retinopathy Screening

<https://www.youtube.com/watch?v=uPIb97Oh9g4&feature=youtu.be>

- Screening does not replace regular eye examinations.
- It is important to attend both.

Public Health Indicator for Diabetic Eye Disease



At Risk Groups

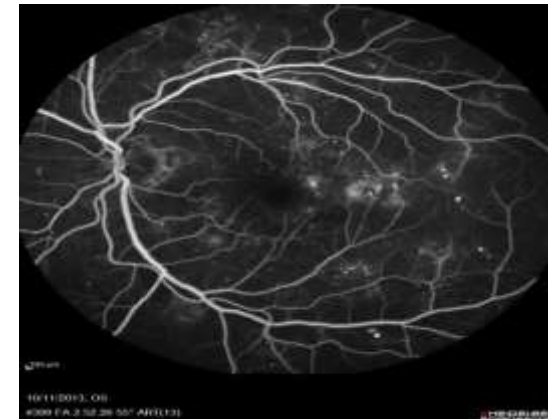
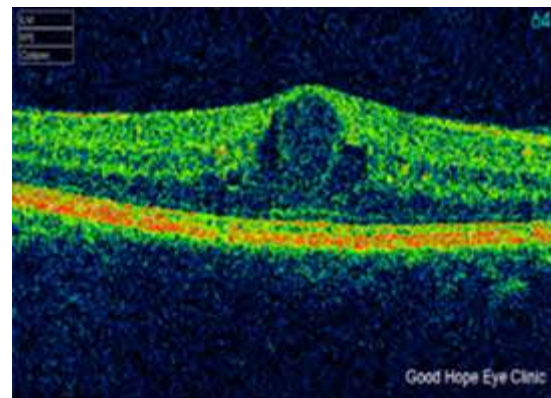
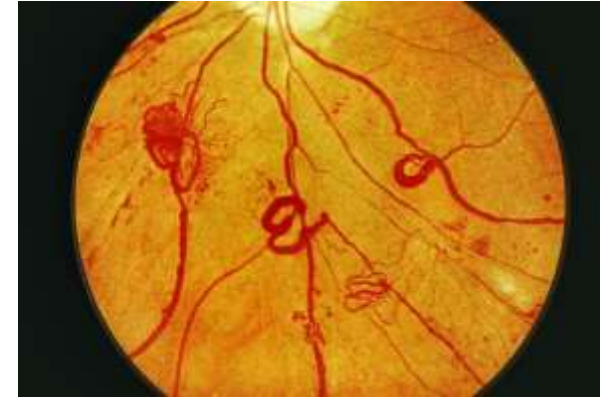
- Inequalities & increased risk of progressive visual loss
- Lower screening uptake amongst highest risk groups
- Socio-economic deprivation
- Younger age
- Learning Disabilities
- Black Asian and Ethnic Minority (BAME) groups. 3x greater in South Asian people compared to Caucasian communities (Pardhan et al, 2004),

Symptoms??

Cataract/Unstable Sugars



Ischaemia and Neovascularisation



Ocular Coherence Tomography

Fluorescein Angiography

Diabetic Macular Oedema

Secondary Care: Hospital Eye Services

- Referral from Optometry: via GP
- Urgency: 6 weeks for hospital appointment
- Referral from Screening: Monitoring for active retinopathy
- Patient Management and Education!
- Treatment: Laser Treatment and Anti-VEGF injections

Prevention!

- Glucose levels
- Blood pressure
- Health promotion
- Prevention
- Treatment and rehabilitation strategies,
- Feasible, cost-effective of all health care interventions to implement.

Modifiable Risk Factors and Prognosis

DURATION OF DIABETES

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

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

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

Modifiable Risk Factors

POOR GLYCAEMIC CONTROL

- Increased risk of proliferative disease.
- 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).
- **Target HbA1c level = 6.5-7 %**

Modifiable Risk Factors

SMOKING: 20 a day triples/quadruples retinopathy

HYPERLIPIDEMIA

OBESITY

ANEMIA: leading to hypoxia

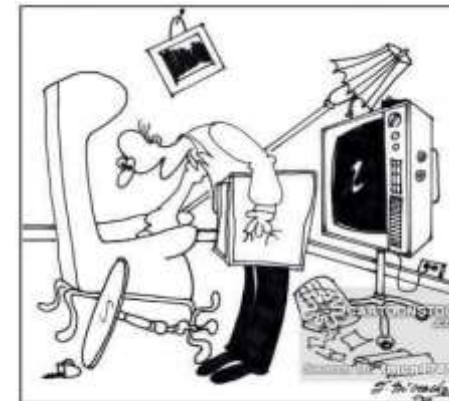
CARTOID ARTERY OCCLUSIVE DISEASE



Expected Vs Reality of vision Post-Laser Treatment

The Effects of Laser Treatment

- Loss of contrast sensitivity
- Loss of Visual Field
- Increasing difficulty with steps, curbs
- Constriction of visual field



"I had laser eye surgery and
I still can't find the remote."

Low Vision Assessment

- Early intervention: tailored multi-disciplinary assessment
- Support with daily living skills
- Support with glycaemic control
- Medication management
- Ingredients

Certificate of Vision Impairment

- Irreversible vision loss
- Timing
- Eye Clinic Liaison Officer
- Certification and Registration: Bridge to Rehabilitation and Social Care Support
- Tiers of Certification:
- Sight Impaired (Partially Sighted)
- Severely Sight Impaired (Blind)

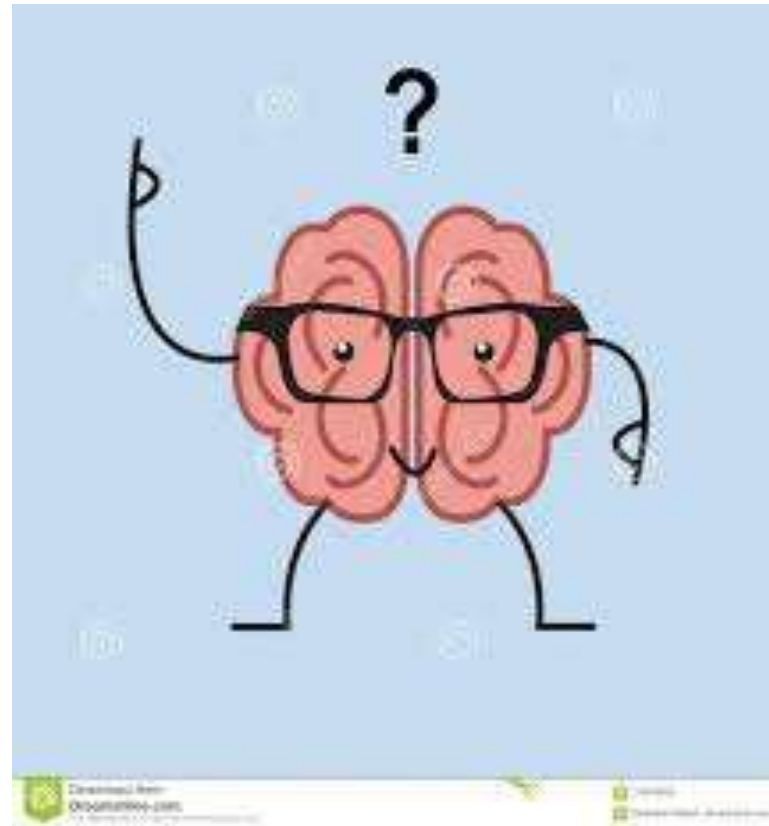
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Diabetic Eye Disease Key Points

- Timely Treatment: prevention of irreversible sight loss
- Patient Education
- Regular follow up, close monitoring
- Extent of retinopathy
- Collaboration and person-centred care
- Success of DESP?

Questions



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