More than 93 million people suffer some sort of eye damage.

More than One in three living with diabetes will develop diabetic retinopathy.
Everyone with Diabetes is at risk of Diabetic Retinopathy

Increasing need for health professionals to consider the possibility of diabetic eye disease before symptoms begin.

Diabetic retinopathy is asymptomatic.

People with diabetes need to be supported to play an active role in managing their diabetes.
Diabetes Eye Health

• Produced by The Fred Hollows Foundation and the International Diabetes Federation

• Co-written by a working group of professionals from the diabetes and eye health sectors

• A practical Guide for health professionals

• Supported by Bayer Pharma AG and Novartis Pharma AG (No influence on the scope or content)
Builds on existing diabetic retinopathy guidelines

- Existing DR Guidelines available for eye health professionals
- Audience for the Guide are those caring for people with diabetes
- Guide highlights right time and right place for eye health interventions for a range of healthcare professionals
Key Messages of the Guide
## Timing of eye screening

<table>
<thead>
<tr>
<th></th>
<th>Type 1 diabetes</th>
<th>Type 2 diabetes</th>
<th>Gestational diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>Five years after diagnosis of diabetes</td>
<td>As soon as possible after diagnosis of diabetes</td>
<td>As soon as possible after diagnosis of diabetes</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Every one to two years</td>
<td>Every one to two years</td>
<td>If diabetes resolves after pregnancy, no further screening needed</td>
</tr>
</tbody>
</table>
Ideally all people with diabetes should have at least an initial comprehensive eye examination by an eye care professional.

Screening and photo grading services, Indonesia. Photo: Dwi Ananta, HKI. CC BY-NC 2.0 CEHJ
Eye Screening

Medical history
Visual acuity test
Retinal screening
Retinal screening

Non-mydriatic retinal photography

Binocular indirect ophthalmoscopy

Mydriatic retinal photography

Slit-lamp biomicroscopy
Normal retina

Diabetic retinopathy

Macula
Fovea
Optic Disc
Retinal Arterioles
Central Retinal Vein
Central Retinal Artery
Retinal Venules

Aneurysm
Hard Exudates
"Cotton wool" spots

Haemorrhages
Abnormal growth of blood vessels

Venous beading

Haemorrhages
"Cotton wool" spots

Source: Singapore Eye Research Institute

Severe non-proliferative diabetic retinopathy with severe diabetic macular edema
# Grading of Diabetic Retinopathy (DR)

<table>
<thead>
<tr>
<th>No apparent DR</th>
<th>No abnormalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild non-proliferative DR</td>
<td>Microaneurysms only</td>
</tr>
<tr>
<td>Moderate non-proliferative DR</td>
<td>More than just microaneurysms, less than severe non-proliferative DR</td>
</tr>
<tr>
<td>Severe non-proliferative DR</td>
<td>No signs of proliferative DR</td>
</tr>
<tr>
<td></td>
<td>Any:</td>
</tr>
<tr>
<td></td>
<td>• Intraretinal haemorrhages</td>
</tr>
<tr>
<td></td>
<td>• Venous beating</td>
</tr>
<tr>
<td></td>
<td>• Intra-retinal microvascular abnormalities</td>
</tr>
<tr>
<td>Proliferative DR</td>
<td>Any:</td>
</tr>
<tr>
<td></td>
<td>• Intraretinal haemorrhages</td>
</tr>
<tr>
<td></td>
<td>• Venous beating</td>
</tr>
<tr>
<td></td>
<td>• Intra-retinal microvascular abnormalities</td>
</tr>
<tr>
<td></td>
<td>One or more:</td>
</tr>
<tr>
<td></td>
<td>• Neovascularisation</td>
</tr>
<tr>
<td></td>
<td>• Vitreous/pre-retinal haemorrhage</td>
</tr>
</tbody>
</table>
Referral Criteria

• No problems detected – regular screening
• DR detected – referral
Ophthalmic Assessment of Diabetic Eye Disease

- Record of medical history
- Assessment of visual acuity
- Slit-lamp biomicroscopy
- Measurement of intraocular pressure
- Gonioscopy (in certain cases)
- Fundus examination
Treatment options

- Laser photocoagulation
- Intravitreal anti VEGF
- Intravitreal steroids
- Vitrectomy

Ophthalmic staff preparing to see patients, Ethiopia. Photo: Lance Bellers/Sight Savers. CC BY-NC 2.0 CEHJ
Post Treatment Support

• Discuss clinical findings using patient’s own retinal images

• Communicate eye screening results to other health professionals

• Provide education and support on controlling blood glucose, blood pressure, and lipid levels
Managing Diabetes

Social support
Nutritional support
Medication
Medical examinations and treatment
Managing Diabetes to Manage Eye Health

- Communicate need for ongoing eye screening
- Encourage lifestyle modification
- Develop individual plans
- Provide support for ongoing self-management
- Ensure regular contact with health professionals
- Ensure access to education programmes, including education on eye health.
www.idf.org/eyehealth