Drs Joubert & Rautenbach
OPHTHALMOLOGISTS

DIABETIC EYE DISEASE

Diabetic eye disease is a major cause of blindness worldwide. It is important to screen or look for this, as the damage that can be seen in the back of the eye (the retina) is similar to the damage happening in other parts of the body (the heart, kidneys and legs/feet).

Diabetic eye disease can cause:

- **Intermittent blurred vision**
  Fluctuating blood sugar levels can cause intermittent blurring of vision.
- **Double vision (paralysis/weakness of nerves controlling eye movements)**
  More common in middle-aged diabetics, and fortunately it usually resolves by itself in 3-6 months.
- **Cataract (thickened/cloudy lens)**
  Cataracts are more common and occur at an earlier age in diabetics.
- **Glaucoma (high eye pressure)**
  Diabetics have a higher risk of developing glaucoma; the early diagnosis and treatment of glaucoma is very important to prevent further loss of vision.
- **Diabetic retinopathy/maculopathy**
  High blood sugar levels cause damage to the blood vessels in the back of the eye (the retina). It can cause permanent visual loss and blindness if left undiagnosed and untreated.
  It usually takes years for diabetic retinopathy to reach a stage where it could threaten your sight.
  To minimise the risk of this happening, people with diabetes should:
  - Ensure good control of their blood sugar levels, blood pressure and cholesterol.
  - Attend diabetic eye screening appointments – yearly screening is recommended in order to diagnose and treat any problems early on.

  Early detection and treatment of diabetic retinopathy can reduce blindness by more than 50%.

DIABETIC RETINOPATHY/MACULOPATHY

The retina is the light-sensitive layer of cells at the back of the eye that converts light into electrical signals. These signals are sent to the brain, which turns them into the images that you see. The retina needs a constant supply of blood, which it receives via a network of tiny blood vessels. Over time, a persistently raised blood sugar level can damage these tiny blood vessels. This damage results in poorer blood supply to the retina, with swelling and/or bleeding in the retina. In advanced diabetic retinopathy the vision can be severely affected due to haemorrhage in the eye, retinal detachment from scar tissue formation, and glaucoma.

If these changes are picked up early; lifestyle changes, changes to your medication, and treatment can stop it from getting any worse.

Symptoms of diabetic retinopathy/maculopathy

You won't usually notice diabetic retinopathy in the early stages, as it doesn't tend to have any obvious symptoms until it's more advanced.
Early signs of this condition can be detected or picked up by taking photographs of the back of the eye (retina); this is done at diabetic eye screening examinations.

You should seek help if you experience any of the following symptoms:

- gradually worsening vision
- sudden loss of vision
- shapes or shadows floating/moving in your field of vision (floaters)
- blurred or patchy vision
- eye pain or redness

These symptoms don't necessarily mean that you have diabetic retinopathy, but it is important to get them checked out. Don't wait until your next screening appointment.

Reduce your risk of diabetic retinopathy/maculopathy

You can reduce your risk of developing diabetic retinopathy, or help prevent it from getting worse, by:

- Controlling your blood sugar, blood pressure, and blood cholesterol/lipid levels
- Taking your diabetes medication as prescribed
- Attending your screening appointments
- Getting medical advice quickly if you notice any changes to your vision
- Maintaining a healthy weight, eating a healthy balanced diet, exercising regularly and stopping smoking

Treatment of diabetic retinopathy/maculopathy

Treatment for diabetic retinopathy/maculopathy is only necessary if screening finds significant problems that mean that your vision is at risk.
If the condition has reached this stage, the above advice on managing your diabetes is recommended.
The main treatments for more advanced diabetic retinopathy/maculopathy are:

- **Retinal laser treatment/photocoagulation**
  This is the mainstay of treatment for diabetic retinopathy, and is sometimes necessary for diabetic maculopathy. Focal or grid laser to the macula is used to seal areas where the blood vessels are leaking, and therefore reduce swelling. Panretinal photocoagulation (PRP) is used to reduce the stimulation of new blood vessel growth. If diabetic retinopathy is detected early and laser treatment is done timeously, the risk of severe visual loss is greatly reduced.
  **** Laser treatment prevents further visual loss; it does not necessarily improve vision.***
- **Eye injections**
  The injection of certain medications (anti-VEGF agents and/or steroids) into the back of the eye are useful in some patients. This is the mainstay of treatment for diabetic maculopathy or diabetic macular oedema. These injections almost always need to be repeated, and patients often require many injections before there is improvement or stabilisation.
- **Surgery (vitrectomy)**
  The vitreous is a clear gel-like substance that fills the space between the lens of the eye and the retina. This can become clouded with blood if there is bleeding from the retina. A vitrectomy is a surgical procedure during which the vitreous is removed. This is sometimes necessary to clear haemorrhage or remove scar tissue from the surface of the retina and treat retinal detachment.

- **Good control** of the **diabetes** is essential especially in the early stages of the disease as this can delay and slow down the development of retinopathy. **Blood pressure** and **blood lipids** (cholesterol) should also be well controlled.