Retinal vascular disease

Diabetic retinopathy

- **Chronically high blood sugar** from diabetes is associated with damage to the blood vessels in the retina (leak fluid or bleed)

Diabetic retinopathy may progress through four stages:

- **Mild nonproliferative retinopathy**: small areas of swelling in the retinal blood vessels (microaneurysms) occur at the earliest stage of the disease – may leak fluid
- **Moderate nonproliferative retinopathy**: as the disease progresses, blood vessels may swell and distort. They may also lose their ability to transport blood and may contribute to diabetic macular edema.
- **Severe nonproliferative retinopathy**: many more blood vessels are blocked, depriving blood supply to areas of the retina. These areas secrete growth factors that signal the retina to start growing new blood vessels.
- **Proliferative diabetic retinopathy**: at this advanced stage, growth factors secreted by the retina trigger the proliferation of new blood vessels, which grow along the inside surface of the retina and into the vitreous gel. **The new blood vessels are fragile** that makes them more likely to leak and bleed. Accompanying scar tissue can contract and cause retinal detachment. Retinal detachment can lead to permanent vision loss.