

Figure 4

It is also important to test your peripheral vision as a lot of what we do (such as driving) depends on being aware of things that are happening 'off centre'. These tests depend on you staring straight ahead into a white bowl whilst spots of light are presented to your peripheral vision (Figure 5). This quickly builds up a map showing any 'blind spots'. This is a particularly useful test in detecting and monitoring the disease glaucoma, a condition which selectively affects peripheral vision and may therefore only be spotted when significant damage has been done.



Figure 5

Beautiful to behold

So far, everything has been about measuring vision - what you see. But when there is a problem – such as pain, reduced vision or a red eye – then we need to look at the structure of the eye itself. To do this we use our most precious instrument, the slit-lamp (Figure 6). This cross between a set of binoculars and a



Figure 6

microscope allows us stunningly beautiful views into almost every important part of the eye (Figure 7). With it we can watch the flicker of red blood cells dashing through the tiny blood vessels on the surface of the eye. With it we can detect the white blood cells that are drawn into the eye during episodes of inflammation inside the eye (a condition known as 'uveitis').

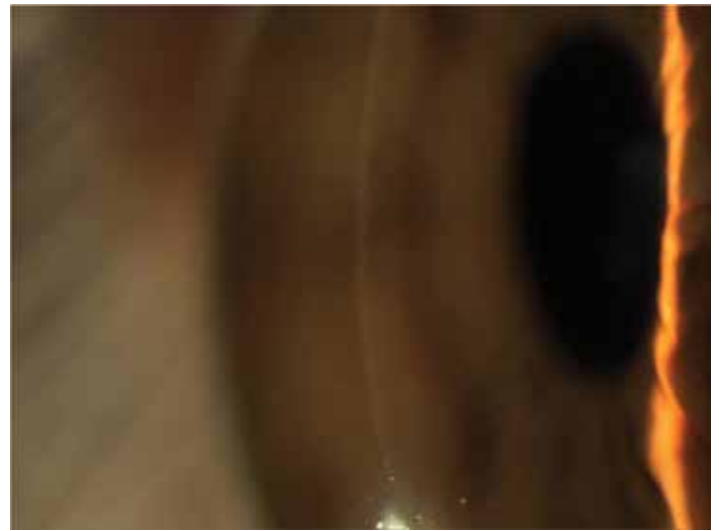


Figure 7

Looking further back we see the pupil responding to every infinitesimal change in light, the beautiful branching pattern of the retinal blood vessels and the wonderful transparency of the retina (Figure 8). But we are always on the watch, looking for signs of disease.



Figure 8

Window to the soul

Examining your eyes often gives us clues to your general health. It might be the misbehaving pupil that warns us of serious nerve disease. Or the narrowed vessels that are the first sign of your raised blood pressure. Or the tiny retinal blood spots that warn us of your diabetes. We can even sometimes tell what medication you are taking! These days many opticians have special cameras that can take pictures of the back of the eye to act as a permanent record, and importantly these can be sent for a second opinion (to an ophthalmologist, a grading optometrist or other experienced eye professional).

Beyond sight

And now things have just got even better. Over the last few years new technologies have become available that take us to a whole new level of detail. Chief amongst these is Optical Coherence Tomography, or OCT for short. This instrument provides three dimensional views through the retina and can detect changes of about one thousandth of a millimetre (Figure 9). OCT is especially useful in assessing retinal diseases such

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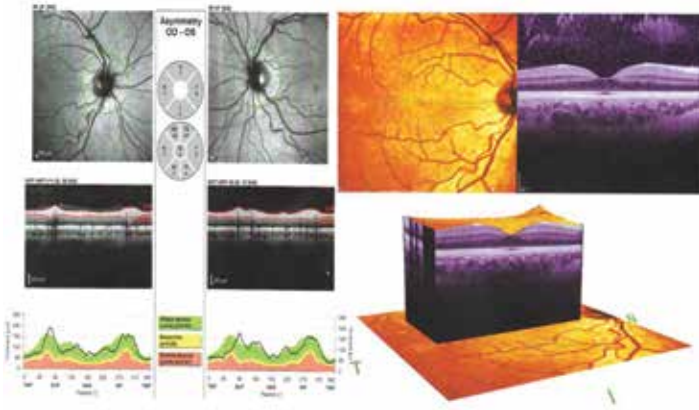


Figure 9

as the very common age-related disease, macular degeneration. Another type of scan we can do in clinic is ultrasound (the same as used to check the unborn baby during pregnancy). This is particularly useful when our normal view to the back of the eye is blocked by blood or cataract as ultrasound can 'see' through these.

Looking to the future

So whether in health or disease, we never get bored of examining your eyes. These days, eye examinations include both the traditional visual acuity tests and the beautiful magnified views from the slit-lamp, but are supported by sophisticated instruments that can give greater clarity and precision than we could ever have imagined. It is hard to picture what the next few years will bring, but we can be sure that we'll still be lost in wonder as we look into your eyes.