

Spotting diseases? The eyes have it

As I was led into a darkened room to have my retina scanned, I worried about what the technician would discover. I knew that all sorts of problems could be detected, including obvious ones like retinal detachment and glaucoma, but also conditions like bowel cancer and diabetes, which are reflected by changes in the eye.

My colleague Joseph Harvey and I were visiting optometrist NF Burnett Hodd in central London to be examined with Optos' retinal scanning device, which produces an image called an Optomap. Neither of us has had problems with our eyes before (apart from slight short-sightedness on my part) but that didn't stop us from feeling nervous as we sat down in front of the machine.

But our host, contact lens technician Jason Huque, reassured us that these cases are rare. "Only around 2% of the people we examine using Optomap have a problem," he told us.

However, using the device to diagnose these patients early could save their sight, or even their life. "We saw a man who had suffered a head injury while playing basketball and was having problems with his eyesight," Jason said. "In one of his eyes, the retina had almost completely detached so it was too late to treat him – but in the other, we discovered early signs of detachment, and he was able to have laser surgery to prevent blindness in that eye."

Optomap can also pick up early warning signs of

colorectal cancer. "There can be a connection between large CHRPEs [congenital hypertrophy of retinal pigment epithelium] and colon cancer," he said. CHRPEs are patches of pigment in the retina similar to a freckle. Although they are usually harmless, any changes can reflect cancerous changes in the bowel. "In other words,

But in spite of our worries, our Optomap scans didn't uncover anything quite so dramatic. Joseph had a floater in his left eye – a harmless fleck that occurs when part of the jelly-like substance that makes up the eye detaches, Jason explained. There was also a CHRPE in my left eye, which

building up a profile of a patient's eye over time.

The practice has been using the machine since 2006, and upgraded to a new system with a better resolution around six months ago. On average, five people are scanned using Optomap each day, out of a total of about 20 patients per day. The practice doesn't force people to be scanned, but does recommend it, and strongly advises it in people with symptoms such as seeing flashing lights or people with obvious floaters – which can be signs of retinal detachment.

The £55 price tag may put some people off, but Jason believes the procedure is well worth it. "Personally, I would recommend having it done."

The main problems he has encountered don't concern the system itself, but instead the patients. "Getting them to sit still and not blink during the scan are my main issues," he told us. Joseph was one of these problem patients, with a particularly strong blink reflex! Although the bright green light used in the device does make you feel like you've stared at the flash of a camera, the procedure isn't uncomfortable, and is "completely harmless", he reassured us.

He was also keen to endorse Optos' customer service, and said that the few hitches they have had with the device or software have been resolved quickly.

"All in all the system's brilliant, I can't fault it," he said. "It's definitely one of the best machines we've got recently."



A close-up view of Joseph Harvey's left eye

Optos looks to cement leadership position in "\$2-3bn" retinal imaging market (By Joseph Harvey, 8 December 2009)

you can get similar lesions in the colon that are pigmented, which can turn nasty later. If they grow or multiply in the eye, they might be doing the same elsewhere," Jason explained.

Unlike a fundus camera, which only images a small portion of the retina, Optomap generates an ultra-widefield image, meaning it is more likely to pick up these kinds of issues.

Jason said was nothing to worry about, unless it becomes larger or multiplies. "That's why we need to re-do the Optomap at regular intervals," he added.

"I'd recommend both of you to come back in two or three years, just to check that nothing's changed," he said – which was a relief. Any future images can be compared with existing ones,