

# LENSES

## A design scooping up plaudits

While clinical trials are under way, **Bill Harvey** finds that the eScoop lens is already benefiting macular degeneration sufferers

**L**irst came across the eScoop lenses (Figure 1) at a training day run by Norville (the UK supplies of the lenses) some two years ago.<sup>1</sup> The lens, newly introduced from the Netherlands, caught my attention, not because of its bright yellow hue (I had previously had some success with visually impaired patients by supplying them with selective yellow or brown tints), but because of its incorporation of base up prism in both lenses as a means of moving the central scotoma off the direction of gaze to allow for better acuity.

I was initially sceptical, I have to admit, and had some questions about how a binocular prism would actually shift the scotoma rather than merely influence ocular gaze axis. Also some of the marketing literature appeared to imply the peripheral acuity outside the scotoma would be crisp, clear and colourful.

On the other hand, there were several practitioners present at the meeting with considerable experience of dispensing the eScoop even then. Without exception, all had persuasive anecdotes of the lenses changing patient's lives. AMD sufferers often will positively respond to even the most ineffective attempt to help, but I was persuaded that the reports were genuine. I concluded that, in the absence of clinical trial data, as long as patients were fully informed and chose freely, I could see no disadvantage in people being dispensed with a lens that seemed to make most AMD patients feel better about their vision.

The eScoop is back in the news again. There have been media stories about optometrists and opticians 'changing lives' (Figure 2) and many practitioners are now curious about the lens. Also, some clinical trials are under way and likely to report later this year.

**FIGURE 1** Patient wearing eScoop lenses



### THE eSCOOP DESIGN

The lens is a 'patented loupe spectacle lens' with the following features:

- The lens form provides six times magnification for distance viewing
- There is a yellow tint providing some improved contrast for maculopathy patients as well as protecting from shorter wavelength visible and ultraviolet light. Brown and clear options are also available and some patients prefer these.

- eScoop is available with three different prism options incorporated binocularly. Type 1 has 4 Δ base up; type 2 has 6 Δ base up and type 3 has 8 Δ base up. Figure 3 shows the three types as well as the range of final options, such as glazed and over-

**FIGURE 2** One of several media stories about the eScoop recently published



**FIGURE 3** Demonstration overspecs for the three prism values (left) and a range of dispensing aids (right)

specs (see in greater detail in Figure 4)

- eScoop is available in single vision lenses as well as bifocals and varifocals with additions available up to 3.50DS.

### THE PRISM

The basic theory behind the prism is that it shifts the direction of incident light to a point eccentric to the central diseased retina (see Figure 5). Interestingly, though base up is the default setting to match the typical positioning of atrophy in AMD relative to the usual visual environment, any base direction can be specified. I wonder whether accurate preferred retinal locus measurement (as with, say, microperimetry) might offer a yet more precise way of making the lenses personalised to each individual maculopathy.

### CLINICAL TRIALS

A small scale study was set up by the lens manufacturer (held on company file) in 2010 at the Medical Centre in Rotterdam. 144 →

### CHRIS SKELTON FBDO

'I'm a qualified dispensing optician and practice manager at Henry Smith & Hamylton opticians in Leicester. I am currently organising two trial days where patients with AMD can come in and try these new eSCOOP lenses to see if they actually work.

I'm currently working with Vista (our local charity for low vision) and have so far 11 people (and counting) interested in trying them. Some come from as far as North Wales, Cambridge and Leeds as there is no one near them with the knowledge of such a lens or willing to put on such a trial.

For the trial I'm inviting patients to come in for an hour appointment to try them, walk around and for us to go over to the Vista shop to see how they would get on in real life. They can try watching a TV, making a cup of tea, making a phone call etc. to see how they would benefit patients in 'real life' situations as well as making them aware of every option available to them and any extra aids to help them cope better.

By doing this trial I'm hopefully going to see how much they actually work on a varied amount of people with all different levels of AMD. With this knowledge I'll be able to help advise my patients with AMD and hopefully bring some of their vision back to them.'



# LENSES

**JERRY SALMON, ROBERT STANLEY OPTICIANS, OXFORDSHIRE**

'Since seeing the presentation at Norville, I have demonstrated eScoop to seven AMD sufferers and have dispensed 4 pairs. Having demonstrated eScoop both in the practice and at the patient's home, it seems to be of much more benefit to try and improve things in their own environment, with their own TV and looking out of their own window.

The first pair supplied allowed the patient to view the newscaster on the TV without the nose and mouth being distorted. The view from her window was improved, with the brown roof of the bungalow opposite having the details of the tiles and telegraph wires becoming visible.

Watching the sports report she was able to see stadium seating rather than just a red background. The next day she wore her new lenses on a family weekend to the coast where she could see the houses across the headland and fishing boat in the bay that she couldn't see before.

I had made her some near vision specs a few weeks before and, on her return, she called in the practice to try the eScoop clip over these. Again the distortion was pushed further down and the improvement was great enough that she has ordered a near vision pair.

My second eScoop patient was in tears when first dispensed at her home and then again when the new specs were delivered (she immediately gave me a running commentary on what she was seeing on Emmerdale).

She almost ran around the room looking at the patterns on her husband's collection of china plates many of which she had not seen before.

It is very difficult to take the trial clip away again when you find it makes so much difference to some – the "wow" factor. With care this lens can help some people but I feel if used in the test room and pointing someone at the chart is not doing this lens justice.'

patients with AMD were assessed and visual acuity was measured with previous correction and then eScoop correction. For each of the three prism categories there was an improvement in acuity measured (type 1 giving 49% improvement, type 2 improved acuity by 40% and type 3 by 30%'. Overall improvement averaged at 40% improvement, typically representing an improvement from around 6/24 to 6/14. Patients were also found to report improved subjective ratings relating to questions about daily activities, reading, negotiating kerbs and so on.

Another trial was initiated by Norville and looked at patients with wet AMD, dry AMD and other ocular disease (see Figure 6 top). Self-graded visual estimates all increased with the new lens (Figure 6 middle) and there were significant percentage improvements in visual acuity (Figure 6 bottom).

A much larger trial is currently under way in Rotterdam. An initial pilot study compared 5 research questionnaires and concluded that the EQ5D and the VFQ-25 most suited eScoop assessment. A large scale monitoring of eScoop wearers is currently underway in liaison with the Erasmus Eye Hospital in Rotterdam and is assessing quality of life, contrast sensitivity and visual acuity. The study is looking at 80 patients and is controlled. We will report them as they are available next year. ◉

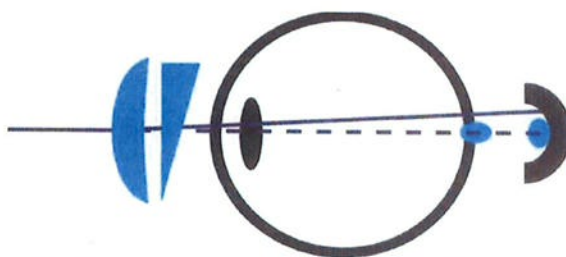
**REFERENCES**

1 Harvey B, Lenses as therapy. *Optician* 13.06.2014

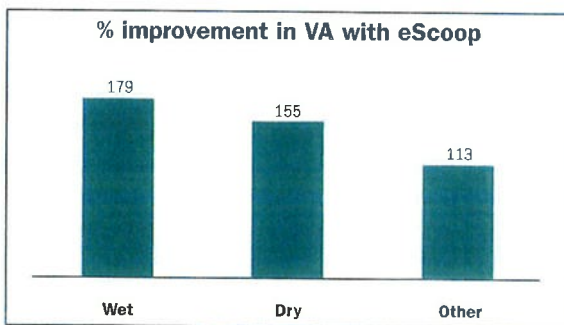
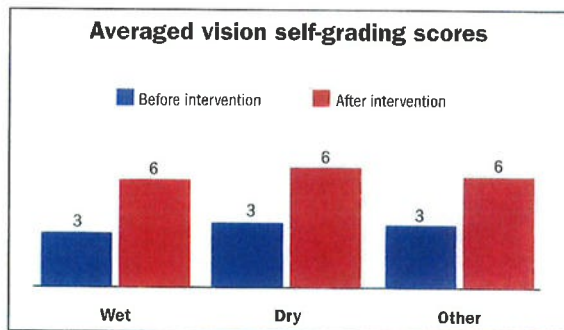
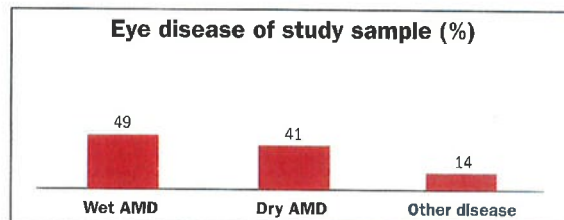
- *Optician* will report the results as they become available later in the year
- For further information go to [www.e-scoop1.com](http://www.e-scoop1.com) or [www.norville.co.uk](http://www.norville.co.uk)



**FIGURE 4** Yellow and brown tints, available as clip-ons. Lenses with no tint mat also be ordered.



**FIGURE 5** Base up prism is claimed to shift the incident light to a point above any area of macular atrophy (the blue ellipses)



**FIGURE 6** The ongoing Rotterdam study comprises a range of patients with wet AMD, dry AMD and other disease (top). Patients graded their vision before and after use of the lenses (middle) and there were average improvements in all three groups (bottom)