Vector

Diabetic Eye Screening

hisl

Health Information Systems (UK) Limited

Proud to have been selected as the single software provider for the Scottish Diabetic Retinopathy Screening Programme, serving 300,000+ patients across 14 health boards.

- *Common Pathway Compliant*
- *Can be integrated with Vector Diabetes Management & Vector Medical Retina (or linked to Medisoft)*
- *Comprehensive failsafe techniques*
- *Patient Workflows making system intuitive to use*
- *Team experienced in importing legacy data and images from other systems*
- *Full national reporting capability*
- *Powerful Query Engine for ad-hoc reporting requirements*

Vector Diabetic Eye Screening is part of the Vector Long Term Care / Chronic Disease Management EPR platform.

Other disease areas include Diabetes Management, Medical Retina, AMD, Endocrinology, Lipids, Sickle Cell, Hypertension, Rheumatology, Podiatry and Cardiac Rehab.

For more information, please contact Steve Courtney
steve.courtney@hisvector.com
07768 964689

Assessment of suitability for Diabetic Eye Screening for patients from Nursing Homes

Zoe Tobin and Alison Byatt from West Sussex DESP

You may have seen Alison Byatt and I present at the BARS conference in September 2016 in Birmingham. Our presentation was called, *"Patient Experience – The Worthing Way"* and can be viewed by accessing the BARS website. This was the first presentation we have undertaken and we appreciate all of the positive feedback we have received, Thank you.

The West Sussex DESP dtabase has approximately 30,000 patients who are registered with one of 49 GP practices across West Sussex. Our programme has 10 screening locations. These include 2 sites that screening equipment is transported to on a quarterly basis, to ensure that patients living in remote areas are able to access their screening appointments and also includes an open Prison which is visited every 6 months.

One of the main features of our presentation was the introduction of the Nursing Home Assessment Form (NHAF).

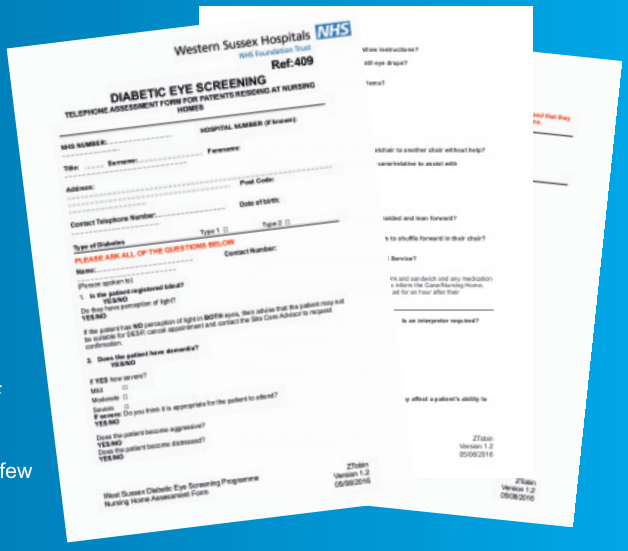
As there seemed to be an increase in patients being sent to their screening appointment without a carer or relative, without suitable clothing and with varying additional needs, such as Dementia, these patients frequently became confused, upset and incoherent. We therefore realised that we needed to introduce a process to assess patients that reside at Nursing Homes, prior to their attendance at a screening appointment.

What did we do?

At our monthly team meeting we created a mind map of all of the teams' ideas on what was important when assessing a patient who resided at a Care /Nursing Home.

The main concerns were:

- **Does the patient have dementia? If so, what is the severity**
- **Is the patient able to understand instructions and cooperate?**
- **Is the patient able to give consent?**
- **Is the patient able to hold their head up and move their upper body?**
- **Will the patient be accompanied?**
- **Will the patient require a language/deaf interpreter?**


Western Sussex Hospitals NHS
NHS Foundation Trust
Ref:409
DIABETIC EYE SCREENING
TELEPHONE ASSESSMENT FORM FOR PATIENTS RESIDING AT NURSING HOMES

With the most important issues identified we devised Version 1 of the Nursing Home Assessment Form (NHAF). A procedural document was created to support the NHAF and all Administration Staff trained.

Adjustments were made to this form over the following months and what started as a few questions has now become a two page assessment document.

The patient residing at a Nursing/Care Home is identified by the address when a recall is run or when the patient is added to the database. The Nursing Home is telephoned as soon as the patient is identified and the NHAF is completed whilst on the telephone with a member of the Nursing Home staff.

The Administration Team have received comprehensive training and are now able to make the decision as to which pathway the patient should follow or whether the patient in question is no longer suitable to attend. A flow diagram has been created to support the Administration Team in decision making for each patient.

If the patient is deemed no longer suitable for any appointment, a template letter that the programme have devised is loaded on to the patient's record. This letter is sent to the patients GP Practice and informs them that a NHAF has been carried out and that the patient is not suitable to attend any further appointments with the programme. The letter also states that if this information is not correct the GP must inform the programme so that the patient's records can be updated and the patient is then categorised accordingly.

We started using this form in October 2015. As of January 2017, we have undertaken 414 Assessments. Of these;

8 patients passed away before the NHAF could be completed

99 were classed as medically unfit

6 had moved out of the area

14 opted out of the screening programme

210 were suitable for an RDS appointment

10 were referred to the Hospital eye service as were not suitable to attend screening

67 patients were referred to an SLB clinic within DES

Although we did not involve any Nursing/Care Homes in devising this form, we have never had a Nursing /Care Home refuse to help or provide the relevant information required in order to assess the suitability of the patient.

The introduction of the NHAF has enabled the West Sussex DESP to;

- Determine the patients suitability to attend a DES/SLB clinic prior to attendance and to assess whether a direct referral to Ophthalmology would be more suitable
- Provide the Programme with additional information regarding the Nursing Home patients
- Reduce the number of patients attending an appointment that they are not able to participate in
- Enable the database to be as up-to-date as possible
- Ensure staff are aware of the patients additional needs

If you would like more information or would like to receive an electronic copy of the Nursing Home Assessment Form, please contact Zoe Tobin at *zoe.tobin@nhs.net*

Engaging people with diabetes from Black, Asian and Minority Ethnic Communities – meeting the challenge

Both Type 1 and Type 2 diabetes are more common among Black, Asian and Minority Ethnic (BAME) groups. Some of these individuals are missing out on their regular checks, including retinal screening. **Dr Susan Aldridge**, Editor of Diabetes Update, describes what Diabetes UK is doing to address this issue – and how the retinal screening community can get involved.

At present, around 14 per cent of the population of England and Wales belong to non-white groups. By 2050, BAME groups will account for around one-third of the UK population. Around 80 per cent of our population growth is from BAME groups. The challenge for diabetes care, including retinal screening, is that BAME people have a higher risk of both Type 1 and Type 2 diabetes. Around one million of the UK BAME population have diabetes and there will be millions more who are at risk and will go on to develop the condition.

There is a complex interplay of genetic and environmental factors going on that increases the risk of diabetes in these groups. **Among these are:**

- *a more sedentary lifestyle, with more driving, busy lives and less exercise*
- *the popularity of sugary and starchy foods and the use of highly saturated fats, like ghee*
- *socio-economic deprivation which, among other issues, leads to purchase of cheaper, unhealthy foods*
- *language barriers, which means that health messages are often missed, or misunderstood*
- *being less likely to engage with healthcare professionals, including retinal screeners.*

Examining the challenges in BAME diabetes

Diabetes UK has found that there is a big issue around food in BAME communities when it comes to understanding key concepts and changing some traditional habits and customs, which may be less healthy. Low levels of exercise and physical activity are another key concern, particularly among South Asian women. Then there are problems with adherence to diabetes medication – particularly insulin – which often arise from not understanding the need, or rejecting it. Finally, cultural beliefs – such as thinking diabetes isn't all that serious really, or that it's good to 'feed up' family and friends – don't help promote good diabetes management.

Community Champions - **Leicester**

And we need to take on board the sheer diversity of BAME communities in the UK. We have so many different countries of birth, languages, backgrounds, histories and generations living here now. There is never going to be a 'one size fits all' solution to preventing and managing diabetes in BAME groups. Rather, we have specific challenges in tailoring our engagement efforts to take into account the needs of diverse groups.

Diabetes UK's engagement strategy

We are led by our Engaging Communities team in our work in BAME diabetes. We aim to secure better self-management and reductions in complications and to prevent Type 2 diabetes through education, information, options for action and support in the communities. The team's approach is to achieve all this through engagement with BAME communities, as well as with clinical commissioning groups and public health agencies.

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

The Engaging Communities team has internal and external roles. Internally, we build organisational capacity, insight and engagement within the Diabetes UK family. We have a Reaching Diverse Communities Working Group, working across departments to build up capacity and understanding, making what we do more effective. It also helps build a diverse workforce within the charity itself and to guide, shape and influence our working, making it reflective of the communities we serve.

Externally, we have our Community Champions programme, the Insight Advisory Group and the BAME Knowledge Network.

Community Champions

The Community Champions programme consists of recruiting and training, to the highest standards, exceptional individuals who work closely with their communities. **The mission is to:**

- raise awareness of diabetes and its complications, and encourage people to have a diabetes test if they are at high risk
- signpost people to healthcare services
- bridge the gap between communities and healthcare settings
- create community hubs through faith and community centres.

Community Champions - **Birmingham**

Community Champions - **London**

We offer our Community Champions a two-day training course on prevention and management of diabetes and behavioural change. The programme is made sustainable by having our Champions embedded within the local infrastructure. As key stakeholders, Community Champions share good practice and acts as ambassadors to influence change at a local level.

Our target was to have 1,000 Community Champions trained in 2016, and 700 of the roles have now been filled. The programme set up five commissioned projects in 2016 in target areas around the country and there will be new projects coming up this year. Brent, London, is a really good example of where our Champions are having a real impact. In the one-year programme in 2015, 36 Community Champions were involved in 65 community events, reaching 75,000 people and engaging with 6,500 people from target communities.

This is what two healthcare professionals had to say about the programme's work:

"On returning a month after a talk at a Bangladeshi Community Champions event, the Community Champion asked what had happened as a result of the talk…and over half the women in the group had made changes to their diet and most had discussed the talk with their family," says Sunder Chita, Health Service Research Manager at a North West London Hospitals Trust.

"The benefits of commissioning Diabetes UK to do the project showed clear expertise with their tried and tested methods. Impressed that they were able to make connections with the local organisations and delivered quality groups in such a short time than they would have been able to do internally. We were given more than we had signed up to," says Margaret Chawke, Diabetes Service Redesign Project Manager, Lewisham Clinical Commissioning Group.

The Insight Advisory Group and the Ethnicity and Diabetes Knowledge Network

The Insight Advisory Group was set up to make sure the Community Champions Programme remains relevant to the communities it works with. It helps to identify current and future needs and makes decisions based upon evidence, experience and expertise. Membership of the Group is open now – to individuals who have expertise on diabetes and diversity and can apply these insights for the benefit of the communities we serve. Recruitment has begun and we are looking for people with expertise in nutrition, diet, endocrinology and physical activity.

Healthcare professionals involved in retinal screening would be welcomed here. There are challenges in getting BAME people with diabetes to retinal screening and it is important that good practice in this area is shared.

Meanwhile, the Ethnicity and Diabetes Knowledge Network is designed to connect and identify what works and identify research findings and applicability. It also identifies where the gaps in research lie. We think the work of the Network is key, because currently relevant evidence that might help in BAME diabetes is scattered across stakeholders and is not being systematically compiled or shared. Nor is it readily accessible to everyone who needs it. The Network is providing the necessary infrastructure for this information sharing, learning, networking and facilitation of partnerships.

Come and join us!

Healthcare professionals are very welcome to contribute to the Community Champions programme. We can work together to support the Programme by inviting you to create new partnerships in your area. You can also link up with the Community Champions in areas where we are already working to make the services accessible to patients. Finally, we want healthcare professionals to advocate to clinical commissioning groups and Public Health England to support the Community Champions programme. Interested? Then get in touch with Krishna Sarda, Engaging Communities Manager and his team at *Communitychampions@diabetes.org.uk*

The South Asian Health Foundation

People of South Asian (Indian, Pakistani or Bangladeshi) origin are particularly vulnerable to developing Type 2 diabetes. Migrant South Asians have a two to six times higher prevalence of the condition compared with the background population of the country they migrate to. Studies have also shown that South Asians suffers up to 50 per cent higher coronary heart disease compared with indigenous White Europeans in the UK.

The South Asian Health Foundation (SAHF), a registered charity founded in 1999, aims to promote good health in the UK's South Asian communities, and that includes tackling the diabetes challenge. It has provided input into 67 NICE guidelines. And, as part of the South Asian Community Health Education (SACHE) programme over the last seven years, SAHF has been running community education patient empowerment programmes. In 2015, SACHE won the BMJ award for best community care diabetes project.

To promote its aims, SAHF has been running a successful diabetes conference every year for the past 12 years, bringing together healthcare professionals, academics and policy makers.

For more information, visit *www.sahf.org.uk*

This article is adapted from the special issue of Diabetes Update on BAME diabetes (Winter, 2016). For more on this topic, go the www.diabetes.org.uk and select **'Diabetes Update'** *from the Professional area.*

Photos courtesy of Diabetes UK

Screeners in Diabetic Eye Careers

From Screener/Grader to Intravitreal Nurse Injector,

Jane Cansfield from Portsmouth Hospital NHS Trust

Q: WHAT MADE YOU GO INTO A DIABETIC RETINOPATHY CAREER?

A: When I qualified as a nurse in 1984, my interest was to work on a medical ward. After a year working in elderly medicine, I was lucky enough to get a job on a medical ward that specialised in diabetes. Little did I know at the time, this would mark the start of my future in diabetic retinopathy and led in January 2016 to become the first nurse in our hospital to become an intravitreal nurse injector. Whilst working on the ward, a new Diabetes day care centre was opening, Professor Ken Shaw was the consultant specialising in diabetes and he approached me to ask if I would be interested to take on the role of Diabetic Retinal Screening Nurse for all the patients attending secondary care. I accepted this exciting role and there began my future career in the Diabetes centre and Diabetic Retinopathy. I photographed, graded and referred all the patients attending secondary care within the hospital until 2007.

Around 2006 the National Diabetic Retinal Screening programme evolved. April 2007 our local National Retinal Screening Programme was implemented. Within the Diabetes centre my role in this programme was to provide second disease grading for the screening provider and eventually arbitration and ROG grading; supporting the clinical lead Mr Hunter Maclean (an Ophthalmologist in the hospital eye service). We also provided within the department, “frequent screening” (now known as digital surveillance clinics), these I graded and referred sight threatening retinopathy to the eye department.

In 2012, with contractual changes to the screening provider, I transferred to Ophthalmology and was able to continue with arbitration, ROG and digital surveillance grading and supporting the new clinical lead, Ophthalmologist, Sarah Meredith. With my expertise and knowledge in diabetic retinopathy I started to see new patients referred from the screening programme to the eye department with R1M1.

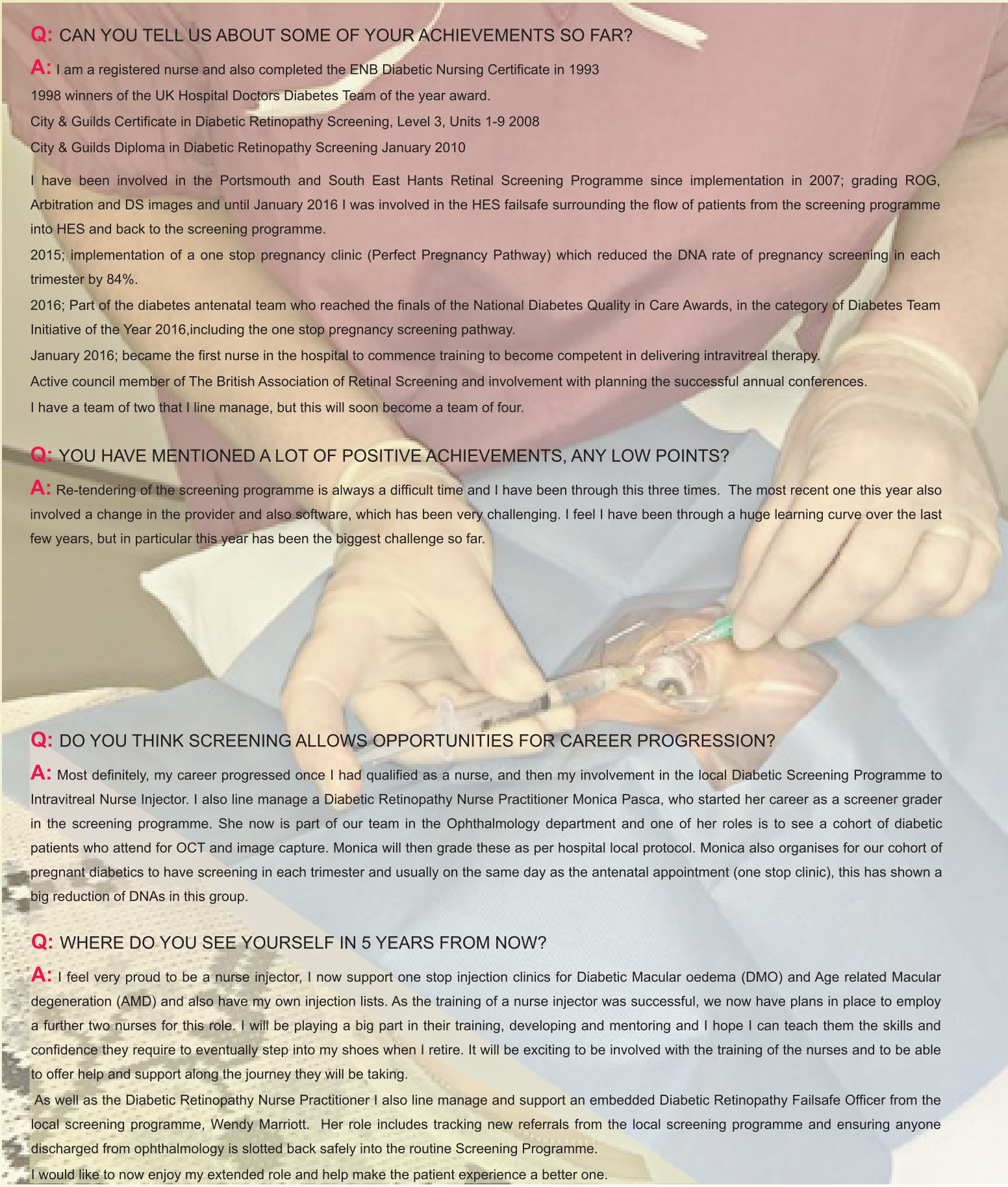
In 2015, I was given the opportunity by my managers to become the eye departments’ first intravitreal nurse injector. When Sarah Meredith first asked me the question a few months before this, I said, “no and please don’t ask me that again”, why? - Because who on earth would want to take on the responsibility of injecting into an eye, and anyway I would probably faint! But I went away and thought about it and actually felt excited it would be a challenge that I would love to take on, and a fantastic opportunity to add to my skills.

January 2016, I began my training and competencies to become a nurse injector, Spyridon Mourtzoukos was the lead DMO Ophthalmologist and he became my teacher/ mentor.

Q: HOW DID YOU FIND THE INTRAVITREAL INJECTION TRAINING?

A: I must admit I was very nervous and had many a sleepless night, but Spyros was a fantastic teacher and was constantly reassuring and guiding me. Following a few months of shadowing and observing, I then started to prep the patient up until the insertion of the eyelid speculum. I then progressed to inserting the speculum which, if I’m honest, is a tricky procedure. I did struggle slightly with finding a technique and some days took a few steps backwards, but soon and with the reassurance of Spyros and the help of Dr Dimitar Brankov, who helped me find a technique I soon became confident in inserting the speculum. The day of my first injection delivery arrived, I was very nervous but relieved that I had safely delivered the injection. From then on my confidence grew and I began to find my own technique. I did have a week of annual leave shortly after my first injection and was very worried I would forget the process and procedure. Everywhere I went on holiday I saw pictures of eyes, and in my mind I was practicing the procedure all the time.

By August, I had completed all my competencies which included an audit of post procedure casualty attendance regarding complications, a patient satisfaction audit and multiple choice questionnaire which required a pass rate of 80% . I am now competent to inject and gaining confidence with the “trickier” patients.



Q: CAN YOU TELL US ABOUT SOME OF YOUR ACHIEVEMENTS SO FAR?

A: I am a registered nurse and also completed the ENB Diabetic Nursing Certificate in 1993

1998 winners of the UK Hospital Doctors Diabetes Team of the year award.

City & Guilds Certificate in Diabetic Retinopathy Screening, Level 3, Units 1-9 2008

City & Guilds Diploma in Diabetic Retinopathy Screening January 2010

I have been involved in the Portsmouth and South East Hants Retinal Screening Programme since implementation in 2007; grading ROG, Arbitration and DS images and until January 2016 I was involved in the HES failsafe surrounding the flow of patients from the screening programme into HES and back to the screening programme.

2015; implementation of a one stop pregnancy clinic (Perfect Pregnancy Pathway) which reduced the DNA rate of pregnancy screening in each trimester by 84%.

2016; Part of the diabetes antenatal team who reached the finals of the National Diabetes Quality in Care Awards, in the category of Diabetes Team Initiative of the Year 2016,including the one stop pregnancy screening pathway.

January 2016; became the first nurse in the hospital to commence training to become competent in delivering intravitreal therapy.

Active council member of The British Association of Retinal Screening and involvement with planning the successful annual conferences.

I have a team of two that I line manage, but this will soon become a team of four.

Q: YOU HAVE MENTIONED A LOT OF POSITIVE ACHIEVEMENTS, ANY LOW POINTS?

A: Re-tendering of the screening programme is always a difficult time and I have been through this three times. The most recent one this year also involved a change in the provider and also software, which has been very challenging. I feel I have been through a huge learning curve over the last few years, but in particular this year has been the biggest challenge so far.

Q: DO YOU THINK SCREENING ALLOWS OPPORTUNITIES FOR CAREER PROGRESSION?

A: Most definitely, my career progressed once I had qualified as a nurse, and then my involvement in the local Diabetic Screening Programme to Intravitreal Nurse Injector. I also line manage a Diabetic Retinopathy Nurse Practitioner Monica Pasca, who started her career as a screener grader in the screening programme. She now is part of our team in the Ophthalmology department and one of her roles is to see a cohort of diabetic patients who attend for OCT and image capture. Monica will then grade these as per hospital local protocol. Monica also organises for our cohort of pregnant diabetics to have screening in each trimester and usually on the same day as the antenatal appointment (one stop clinic), this has shown a big reduction of DNAs in this group.

Q: WHERE DO YOU SEE YOURSELF IN 5 YEARS FROM NOW?

A: I feel very proud to be a nurse injector, I now support one stop injection clinics for Diabetic Macular oedema (DMO) and Age related Macular degeneration (AMD) and also have my own injection lists. As the training of a nurse injector was successful, we now have plans in place to employ a further two nurses for this role. I will be playing a big part in their training, developing and mentoring and I hope I can teach them the skills and confidence they require to eventually step into my shoes when I retire. It will be exciting to be involved with the training of the nurses and to be able to offer help and support along the journey they will be taking.

As well as the Diabetic Retinopathy Nurse Practitioner I also line manage and support an embedded Diabetic Retinopathy Failsafe Officer from the local screening programme, Wendy Marriott. Her role includes tracking new referrals from the local screening programme and ensuring anyone discharged from ophthalmology is slotted back safely into the routine Screening Programme.

I would like to now enjoy my extended role and help make the patient experience a better one.

The "One Stop" Approach to Screening

Helen Bone, Programme Manager, Sunderland and South Tyneside Diabetic Eye Screening Programme

The Sunderland and South Tyneside Diabetic Eye Screening Programme was established in 2002 with the sole aim of screening the eyes of diabetic patients in order to detect diabetic retinopathy. At that time the programme had around 7,000 patients cared for by 4 staff, and clinics were delivered across 3 citywide screening locations.

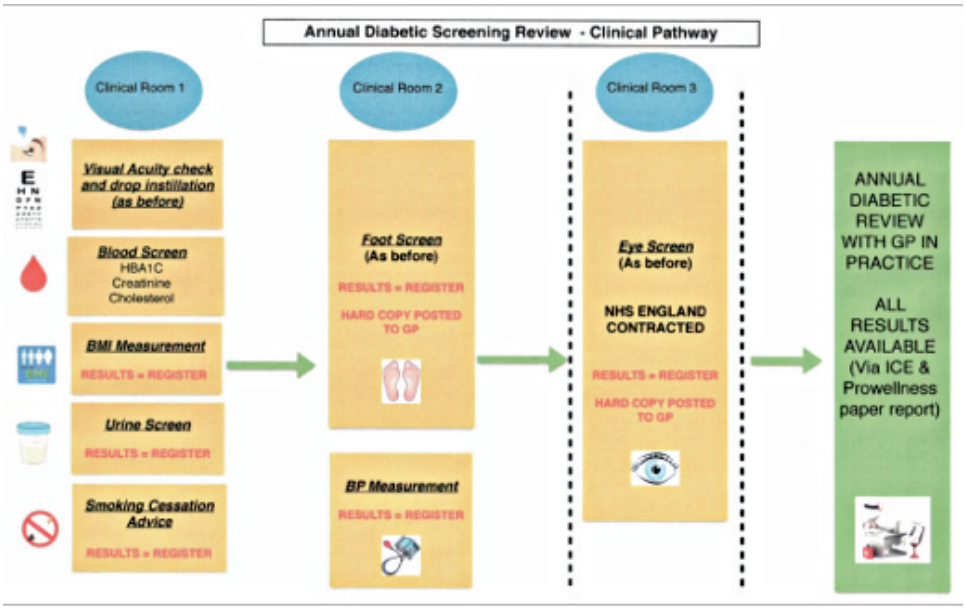
Fast forward to 2016, the programme now looks after 25,000 patients with 23 staff across 8 screening locations. Not only has the programme grown in size but it has also grown in complexity, with foot screening rolled out as standard across all sites and the introduction of a dietetic review to all encounters delivered in Sunderland.

The icing on the cake was the launch of a fully comprehensive, **"One Stop"** screening encounter in South Tyneside, wherein all patients attending for eye screening have the 9 NICE recommended health checks within a single appointment. For those not familiar with the full list of recommendations, this incorporates *Eye Screening, Foot Screening, BMI, BP, Smoking Status Check, Phlebotomy (incorporating Cholesterol, HbA1c, Albumin Creatinine) and Urinary Creatinine*. All of which is undertaken in a 45 minute appointment slot with 10 patients booked into every clinic session.

Back in 2014, South Tyneside Foundation Trust met with South Tyneside CCG and analysed the local uptake of all 9 healthcare processes. Results showed a variance between practices of 30-70% in uptake rates which were then compared to uptake of retinal screening at 84%. Therefore, it was anticipated that there could be an increase in overall uptake were the tests combined in one annual visit. The CCG was given a full costing of resources, equipment and timescales to implementation and agreed that this would be a worthy investment in enhancing the quality of patient care in the locality.

There were a fair few barriers to overcome, such as staff up skilling in new techniques such as phlebotomy, blood pressure measuring and BMI calculating. Additional equipment was purchased (bariatric scales, phlebotomy trollies) and access was required to the existing hospital diabetes register to record all the test outcomes. But little by little things took shape and as each new skill was mastered by the clinical staff, it was rolled out into live clinics over a 3 month period. By 7th April 2015 the brand new comprehensive service was launched.

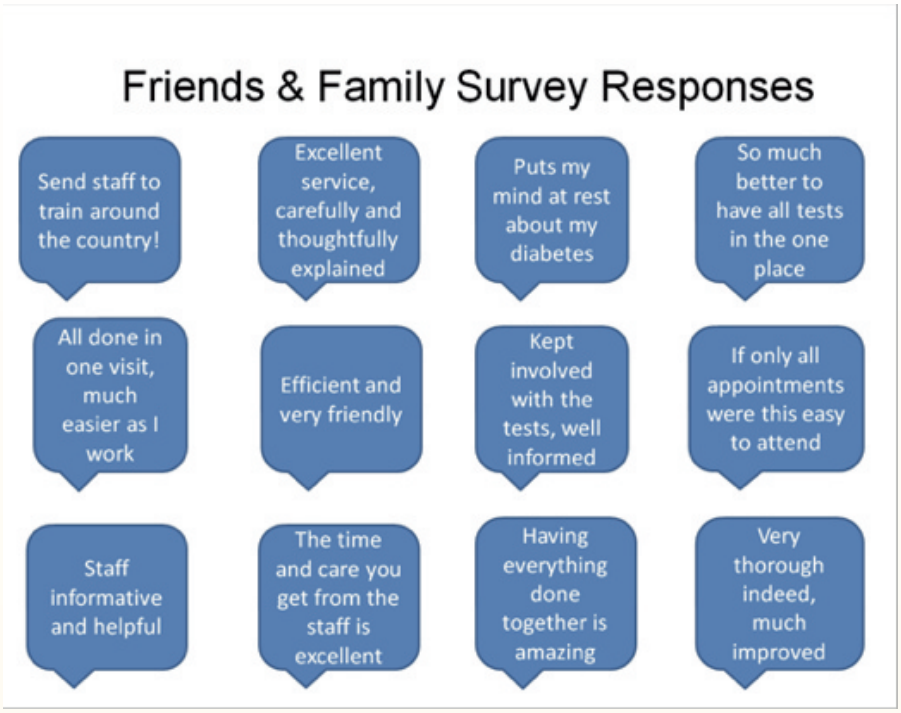
The New Diabetic Screening Clinical Pathway



The screening encounter is now delivered via 3 clinical rooms and by 3 staff. The patients are escorted from room to room until all 9 tests are completed. A one stop checklist is given to the patient at the end of the encounter to confirm all the tests were undertaken, the results of which are communicated by the GP following grading and laboratory testing. Eye screening results are forwarded to the patient via bespoke eye screening software, as before, but an additional "one stop" result letter is appended when all results are processed and available.

It was reported from a South Tyneside CCG meeting this March (via the 2015-16 National Diabetes Audit outcomes) that *the One Stop service has raised the percentage of patients in South Tyneside receiving all 8 care processes to 69.8% overall*, which is a terrific endorsement of the programmes goals. The team feels that year two's data will show an even higher response rate as the service gathered momentum in its second year and became fully embedded.

The feedback from our patients has been fantastic, with very positive responses to our Friends & Family Survey outcomes in South Tyneside. In March 2016, we were presented with a runner up award at the Patient Experience Network National Awards. The programme has also been presented with an Innovation Award by the Hospital Trust to reflect the hard work which went into enhancing the patient experience and working in partnership with the local CCG.



Suspected Retinal Detachments in the Retinal Screening Process: 4 cases and their outcomes

by Isla Knight, Screener/Grader at North and East Devon DESP

The four following cases were all queried at some point during the screening process as retinal detachments.

From my personal experience as a retinal screener/grader, acute retinal detachments are not commonly seen during screening. However, it is important to recognise one as the patient may require referral to Eye Casualty. These cases allow a direct comparison between similar looking conditions which affect slightly different layers of the eye.

Case One: Acute Retinal Detachment

In 2015, a 76 year old lady attended the hospital for her routine diabetic retinal screening (DRS). She gave a 10 day history of flashing lights, with a shadow across her vision.

Her visual acuity was 0.1 (6/7.5) for the right eye and 0.26 (6/12+2) in the left eye. This vision was similar to her screening in 2014, when her images were unremarkable (**Figure 1a**).

When triaging the images the screener noted the well demarcated leading edge and suspected a detached retina (**Figure 1b**). What can also be seen on this macular image is that the intra-retinal vessels still appear in focus. This suggests that the whole of the retina has detached, unlike retinoschisis where it splits. The patient was immediately advised by the screener to attend A&E.

She was diagnosed with an acute left macula-on retinal detachment, with a superior retinal tear. The patient underwent a retinal detachment repair on the same day. The overall outcome has been good and when she attended for her DRS in 2016 her vision was well maintained at 0.2 (6/9) and 0.1 (6/7.5) respectively. There were no significant findings on her most recent images (**Figure 1c**).

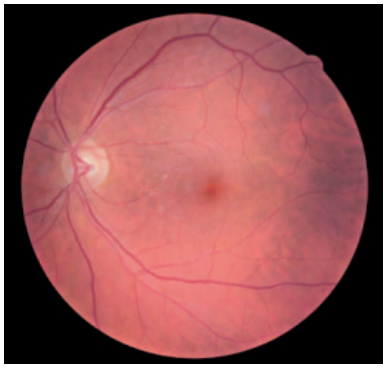


Figure 1a. Left eye macular view 2014 prior to Retinal Detachment

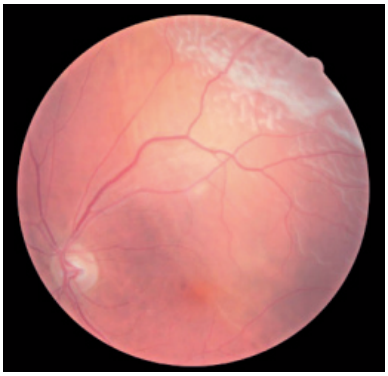


Figure 1b. Left eye macular view 2015 with Retinal Detachment

Figure 1c. Left eye macular view 2016 following Retinal detachment

Case Two: Chronic Retinal Detachment

In 2016, a 52 year old asymptomatic gentleman attended his GP surgery for routine DRS. His visual acuity was 0.1 (6/7.5) for the right eye and 0.14 (6/7.5-2) in the left eye.

At the primary grading stage the grader observed two white lines inferiorly (**Figure 2c**) which had changed when compared with the previous 2 years (**Figure 2a & 2b**). The patient was put straight through for referral outcome grading. The Referral Outcome Grader (ROG) referred urgently for non-DR querying a retinal detachment. The screening programme also rang the patient and advised him to attend A&E sooner if he became symptomatic.

He was seen by the hospital eye services (HES) 2 weeks after his screening episode. HES noted a thin atrophic retina with multiple high-water marks inferiorly (these are the lines seen in **Figures 2b & 2c**). He was diagnosed with a chronic, progressive macula-on retinal detachment and subsequently underwent vitrectomy, laser and gas. The patient remains under HES and subsequently had further complications including a recurrent retinal detachment requiring further vitrectomy, laser and oil.

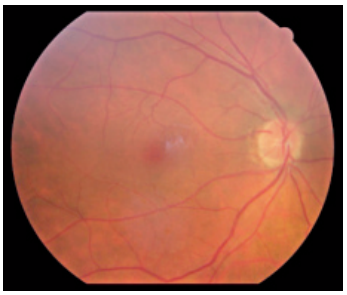


Figure 2a. Right eye macular view 2014 prior to Retinal Detachment

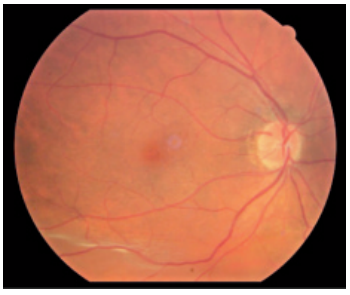


Figure 2b. Right eye macular view 2015

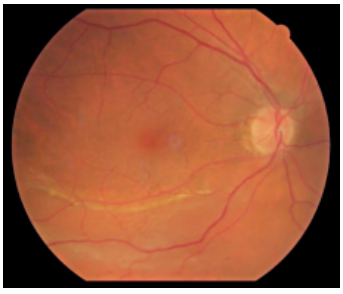


Figure 2c. Right eye macular view 2016

Figure 3a. Right eye nasal view 2014

Figure 3b. Right eye nasal view 2015

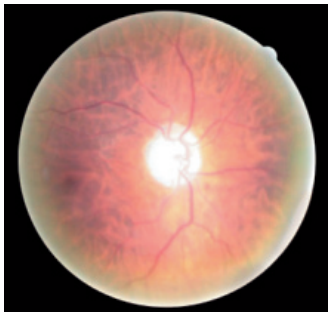


Figure 3c. Right eye nasal view 2016

Case Three: Choroidal Folds

In 2015, an 82 year old asymptomatic gentleman attended his GP surgery for his routine DRS. His visual acuity was 0.4(6/15) for the right eye and 0.24(6/9-2)in the left eye, which was similar to his screening in 2014 (**Figure 3a**) when his findings were grossly normal.

When triaging the images the screener noted the well demarcated lesion nasally (**Figure 3b**). The patient gave a history of operations related to glaucoma, but was unable to be more specific.

The screener rang the grading room for advice, as she had not seen this lesion before and was concerned it was a detached retina. At the time the most recent HES letter was not available to the screening programme, and so they advised the patient to attend A&E to rule out the possibility of any detachment.

A&E noted choroidal folds secondary to hypotony (The patient's IOP was 4). This was because the patient was post trabeculectomy surgery, which had been done 6 weeks prior to screening. The patient was already under the care of the glaucoma team and was advised to keep his upcoming appointment with them.

When the patient attended for his DRS in 2016 the appearance of his retinal photo had largely returned to normal (**Figure 3c**).

When directly comparing this case with the acute retinal detachment image (**Figure 1b**), the choroidal fold does look much thicker as more layers are involved.

Case Four: Retinoschisis

In 2017 a 72 year old gentleman attended for routine DRS. His visual acuity was 0.94 (6/48) and 0.34(6/12-2) in the right and left respectively. He gave a history of longstanding poor vision due to a stroke and chronic macular oedema in his right eye.

The primary grader noted the referable retinopathy, but was more concerned by the lesion superotemporal to the macula (**Figure 4**) and put it through for ROG grading, querying a retinal detachment. There were no previous images available to make a comparison as the patient had previously opted out of DRS and had been under the care of HES up to 2014.

The ROG grader found an old HES letter which confirmed that the patient had a diagnosis of longstanding chronic macular oedema in his right eye and bilateral retinoschisis. More specifically, the letter noted extensive right superotemporal retinoschisis. HES had reassured the patient that his peripheral retinal changes were due to this and that no specific treatment was required.

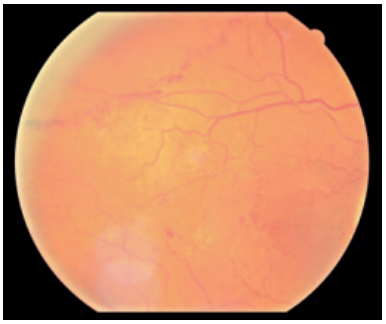


Figure 4. Right eye with Retinoschisis

From this image (**Figure 4**) it is difficult telling which layer has detached, as it is only two dimensional. One clue that it is retinoschisis is that the vessels appear out of focus; this is because the retina has split and the vessels have not come away with that section of the retina. Also this condition often occurs out in the periphery so would not normally be picked up on the two standard views, unless an extra image was taken, as in this case study.

The DRS outcome for this patient was that he was referred routinely to HES for diabetic retinopathy (R1M1 both eyes). The retinoschisis was noted as an incidental finding on the letter to the GP.

Haag-Streit UK Retina Symposium 2017

By Richard Bell

As Bars Webmaster, I was lucky enough to be given the opportunity to attend the Haag-Streit UK Retina Symposium; which took place at The Midland Hotel in Manchester. My place was kindly offered to me by the team at Haag Streit and sponsored by the BARS council.

This unique event brings together two main areas of interest:

1) Lectures from leading consultant ophthalmologists which included: OCT-Angiography, Diabetic Retinopathy & AMD, next-generation laser therapy, wide-field fundus imaging, including true colour & auto fluorescence and Microperimetry.

2) Hands-on workshops which enabled delegates to gain valuable practical experience with the latest state of-the-art equipment, including; the revolutionary AngioVue OCT-Angiography system, the Eidon AF confocal scanner, MAIA microperimeter, Integre Pro Scan multi-colour scanning photocoagulator and the new Haag-Streit Diagnostics FM300 slit lamp mounted fundus camera.

The day started with a formal introduction by Grant Duncan, clinical training manager for Haag-Streit UK, highlighting the day's event. There were a series of lectures throughout the day, with the addition of the various work shops between the talks.

The lectures were started off by Dr Pearse A. Keane MD FRCOphth, Consultant Ophthalmologist at Moorfields Eye Hospital. He introduced what OCT-A is, its history and examples, with practical applications of the system explaining how the scans work.

Dr Michel Puech gave an interesting talk on how OCT-A is used in glaucoma, by imaging the optic disc. With new scanning techniques, it is now possible to go through the layers to determine how intraocular pressure has damaged the optic nerve fibre layers. Further talks were given on how emerging injection therapies are being used in AMD in collaboration with OCT-A by Mr Nishal Patel, Consultant Ophthalmic Eye Surgeon at Kent & Canterbury Hospital. The Eidon AF Wide-field confocal camera is being utilised for the importance of multimodality analysis, combining true colour photography and Auto fluorescence in detecting eye disease, given by Professor Giovanni Staurenghi. Microperimetry techniques used in the analysis of functional changes during the progression of pathologies which can affect the central retina by Mr Marco Morales. The latest developments and new software from Angiovue OCT-A by Mr Serge Pierrache from Optovue Inc. and the keynote lecture was given by Professor John Marshall MBE, Frost Professor of Ophthalmology at the Institute of Ophthalmology in association with Moorfields Eye Hospital, on a revolutionary new laser technique called Retinal Rejuvenation Therapy (2RT) that treats degenerative retinal diseases.

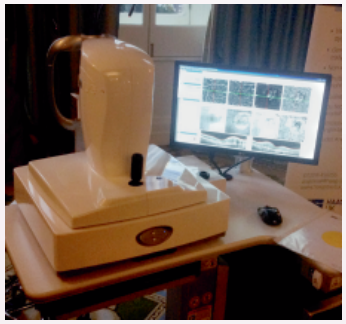
But for me, the lecture that was of greatest interest was by Dr Dawn A. Sim PhD FRCOpth, Consultant Ophthalmic Surgeon at Moorfields Eye Hospital on Diabetic Retinopathy macular oedema and how OCT-A is being used to detect the location of ischaemia.

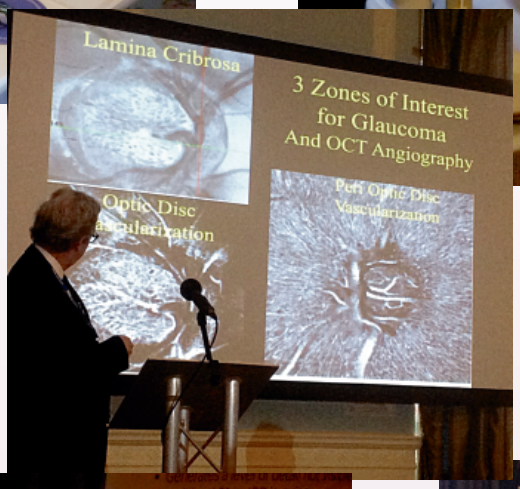
She began by explaining what Oedema, Ischaemia and Neovascularisation are within the retina and how retinal imaging is used to monitor and detect these conditions. She then went on to give the pros and cons of OCT-A versus FFA, the subject of a study by herself with other colleagues from Moorfields. The results highlighted that OCT-A gave more agreement between graders as it could detect the severity of diabetic macular oedema and ischaemia.

The results gained from OCT-A illustrated, "crisper" detail and additional depth information between the layers. Dr Sim went on to demonstrate how visual acuity is affected by macular oedema, again through a study, explaining papillomacular nerve fibre bundles and capillary non-perfusion can affect visual acuity. Everything illustrated through OCT-A. Her talk advanced with some examples of progression with diabetic macular ischaemia and neovascularisation through scans taken on the OCT-A. And finally she highlighted other eye conditions captured on the Angiovue, making diagnosis easier for consultants.

The workshops were provided to give a hands-on approach and everyone got the chance to view all six, with 15 minutes for each session. I managed to familiarise myself with the Angiovue, Eidon AF Wide-field scanner and the FM300 slit lamp camera as I use them everyday in my line of work. They are incredibly easy to use and well worth investing in, especially in diabetic eye screening.

To conclude, a very well organised, informative and educational learning day set in a relaxed atmosphere.



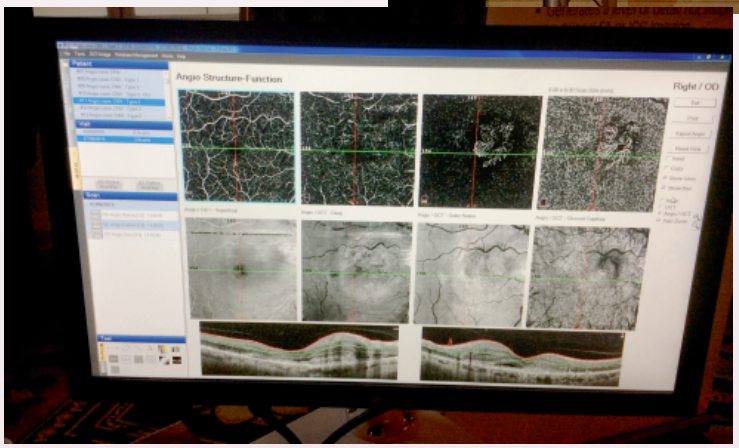


Top left: **OCT-A in action**

Top right: **Eidon AF Wide-field confocal scanner**

Middle left: A**ngiovue OCT-A system**

Bottom left: **OCT-A display example**



Your choice is clear when it comes to a combined imaging system

3D OCT-1 Maestro

COMPACT. RELIABLE. ROBUST.

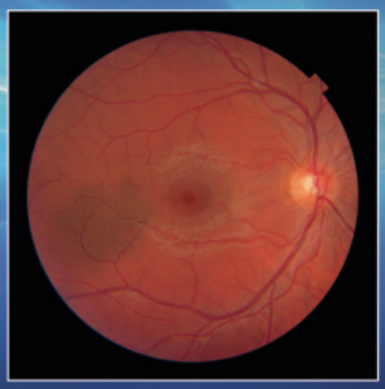
- Automatically captures full 3D OCT and Colour fundus of both eyes in under 60 seconds
- 50,000 A scans per second
- Pinpoint Registration™ for easy macular thickness analysis
- Linkable to any existing Topcon database
- Adjustable screen to maximise patient assistance
- Lightweight with small footprint
- 9 point adjustable internal fixation point matrix

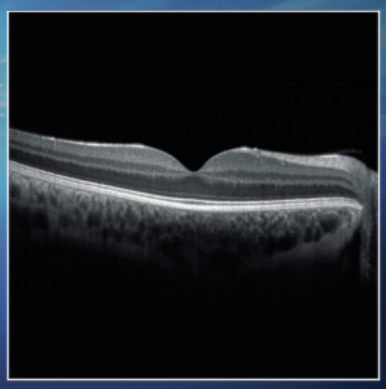
DRI OCT Triton

3D OCT-2000,
3D OCT-2000FA+

TRC-NW8, TRC-NW8FA+

TRC-NW400





All of our cameras are approved for diabetic screening by the NHS Diabetic Eye Screening (DES) programme

For more information, contact Topcon today

TOPCON GB Limited
- t: 01635 551120
- medical@topcon.co.uk
- www.topcon-medical.co.uk

TOPCON IRELAND
- t: +353 1 897 5900
- medical@topcon.ie
- www.topcon-medical.ie

TOPCON