

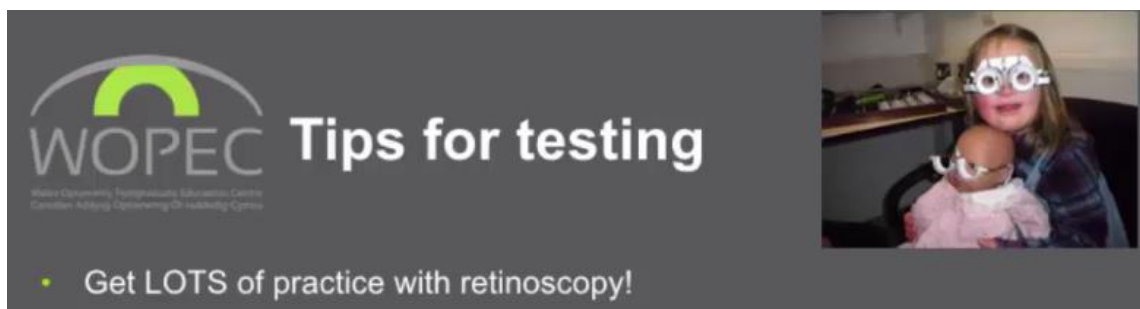


## RETINOSCOPY, KERATOCONUS, CHILDREN AND COMMUNICATION

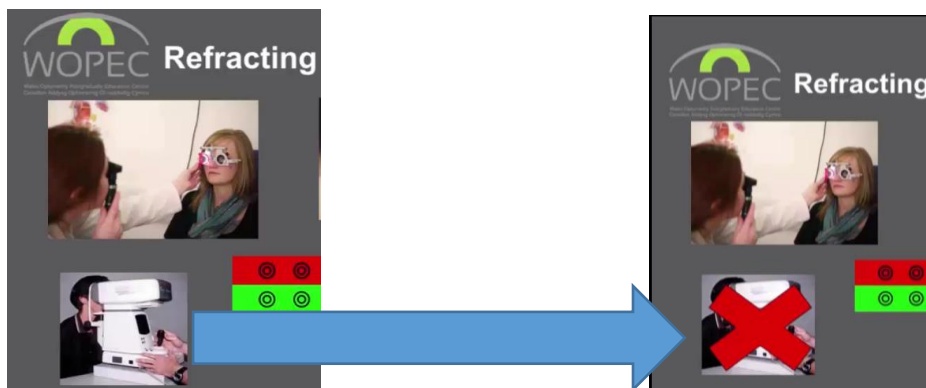


### **The Clinical Skill of Retinoscopy**

Professor J Margaret Woodhouse of Cardiff University states categorically in her lecture 'Assessment of Refractive Error and Prescribing for Children' (WOPEC 2018) that unless proficient in retinoscopy optometrists should NOT test children.



Professor Woodhouse, in the same lecture, further stresses Auto-refractors have no place in the assessment of children.



This represents a significant rebuttal of the increasing practice, particularly in larger companies, of relying on Auto-refractors to quickly assess a patient's refractive status.

Retinoscopy is used to determine refractive error in children or in individuals whose behaviour limits the ability to be cooperative with a subjective refraction. Retinoscopy is also a check for the subjective refraction. Further, it is a vital diagnostic tool for certain corneal conditions.

However, while this is a really important skill it has little WOW factor with patients. Auto-refractors on the other hand look impressive but in reality are simply employed to speed up the test rate so more patients can be seen and more revenue generated. Auto-Refractors certainly do not fulfil the clinical requirements of a thorough examination, particularly for children.



Auto-Refractors may impress but skill at Retinoscopy is vital and mandatory at Aarons.

Auto-Refractors: Unskilled Technician's role. Of limited clinical value but does add 'Bling'.



Retinoscopy: An essential Clinical Skill. Not simply 'another light'!

Retinoscopy is a vital Diagnostic instrument, not just a refractive aid. Not only are Auto-refractors less accurate than retinoscopy they cannot identify Keratoconus and other corneal ectasias, nor do they identify accommodative spasm, accommodative lag or latent hyperopia (hidden long sightedness).

Why should a patient value our skills if we don't explain? Just another light while large companies have a big impressive machine! **As a profession we must never just Do Retinoscopy! We need to Educate, Educate, Educate ensuring patients value our clinical skills not simply 'bling'.**

Retinoscopy is included in the time line of our **The Aaron Challenge Fact Sheet** as well our '**Home Truths**' powerpoint. Click on the images below to go to our **Aaron Fact Sheet** or **Powerpoint**.



**THE AARON CHALLENGE**  
**Technology versus Advanced Qualifications.**  
While both are important, technology in isolation is of limited value without the advanced qualifications to interpret!



Many companies want to speed up testing. It is not unusual for optometrists to be expected to do 20 minute 'Sight Tests' as opposed to our 40 minute 'Eye Exams'. Auto-refractors look impressive while actually achieving less than a retinoscope.

We have found several instances of increasing astigmatism repeatedly prescribed elsewhere when the child needed referral for Riboflavin Crosslinking for developing Keratoconus (click on the image below to go to our **Keratoconus Leaflet**).

## Keratoconus

The word Keratoconus (KC), comes from the Greek words :Kerato (cornea), and Konos (cone). The cornea is the clear window of the eye which starts focussing light onto the retina.

**Signs and Symptoms**

The first indication of KC for the patient is blurry, distorted vision. People may simply think they need glasses. It can come as a shock to hear that their vision problem is not quite as straight-forward as they expected. In the early stages KC can be managed with glasses, although they often require frequent changes as the corneal shape alters.

**Contact Lens Management of KC**

Because the cornea becomes distorted in an irregular way, its' curves cannot be corrected adequately with regular spectacle lenses or soft contact lenses. The most effective way to give acceptable vision is to fit rigid gas permeable (RGP) contact lenses. An RGP lens maintains its' shape, tears pool between it and the cornea, and the corneal distortion is neutralised. The RGP lens creates an artificial spherical front curve for the eye. We use more advanced lenses such as Sealed Sclerals and Duets which give excellent vision quality, comfort and stability.

## Surgery

Until recently there was no treatment for KC and management goals were simply to try to correct vision. If spectacles and contact lenses fail to correct vision adequate as the condition progresses corneal transplants may be necessary.

**Cross Linking: Earliest Detection to STOP Progression**

Corneal collagen cross-linking with riboflavin (Vit B<sub>2</sub>) is a treatment to STOP Keratoconus progressing. Results are best when KC is detected at the earliest stage; Ideally even before the patient is aware of visual problems. How is this possible? Via the use of Corneal Topographers to map very accurately the 3D corneal shape.

**The Aarons Policy:**

**Advancing clinical care not just sales!**

Prior to Cross-Linking, waiting for symptoms to appear was acceptable. With the introduction of Cross-Linking this is no longer the case. The earlier we detect KC the better the visual outcome. 'Retinoscopy', vital for accurate prescribing and preliminary diagnosis of keratoconus, is time consuming. Apparently to increase testing speed many practices no longer do this essential technique. It remains absolutely a routine technique at Aarons. Further, we have made Corneal Topography available as a screening process for all young people. This 3D mapping of the cornea allows the earliest detection of KC before symptoms arise.

Auto-refractors also over minus (because the patient is focussing at a near target their true distance prescription is misread by the machine). If the 'Refracting Optician' doesn't do other checks as simple as recording unaided vision then mistakes will happen.

This is a True Example:

We had a new patient who, when we checked unaided vision before commencing the refraction saw 6/6 (20/20) on the chart. This immediately indicates an insignificant spectacle prescription! We were happy to give her the encouraging news she was legal for driving without spectacles. At this point the patient explained to us her previous, high speed, optician had told her she had to wear spectacles and was absolutely illegal to drive without!

When we checked, her spectacles were

R -1.00 DS

L -1.00 DS

If this power was correct for her, she would certainly need to wear correction for driving BUT unaided vision would be much poorer, in the region of 6/19 rather than 6/6!

How could this have happened? Obviously the optician did not check unaided vision, Auto-refracted, did not do Retinoscopy or blur back to check accuracy and then sold spectacles – how do these groups get away with this service!

We must:

EDUCATE EDUCATE EDUCATE .....remember.....

We must explain as we go so the patient can value our skills.

LOYALTY COMES FROM TRUST  
TRUST COMES FROM UNDERSTANDING  
UNDERSTANDING COMES FROM EDUCATION  
and.....  
EDUCATION TAKES TIME AND PATIENCE



‘With this light I am calculating your child’s prescription without them having any say in it’.  
 ‘This test also assesses for a rare condition called Keratoconus. This is treatable but it must be looked for. We routinely assess all young people’.

If we are suspicious we can also use a topographer which maps in 3D the corneal shape.



## Scout 3D Corneal Topographer.

Aarons is the only practice in Northumberland with this technology.

Also see our **Keratoconus Leaflet** ([click on Scout image to access the Keratoconus Leaflet](#))

Keratoconus is also mentioned in our **Children’s Leaflet** ([click on image to access](#)).

### Eye Examinations and Spectacles for Children and Young Adults

#### The Eye Examination via any optometrist

All children under 16 and everyone under 19, and still in full time education, are entitled to sight tests funded by the government. There is no limit to the number of sight tests each child can have per year as long as there is a clinical need for each examination.

#### TIME: Technical Sight Tests vs Clinical Eye Exams

A clinically thorough Eye Exam must include TIME to explain. Parents should be fully informed of all our procedures and why they are carried out. Time must be spent to clarify any concerns you have about your child’s sight.

What is Long sightedness (hyperopia)? Do you understand myopia (short sight), its progression and how it can now be controlled? Astigmatism and lazy eyes (amblyopia) are yet more mysteries we must explain when appropriate. When and how should the glasses be worn and why. Why can some spectacles be difficult to get used to and others don’t seem to make a lot of visual difference? We can not expect parents or young people to be compliant with a procedure if not explained.

If you have a worry or query though please ask. Your child’s sight is too important to accept anything without explanation.

#### Advanced tests, routine at Aarons

Keratoconus (KC) is a little recognised eye condition causing the cornea to distort. Importantly there is now treatment to STOP KC progressing. Results are best when the problem is detected at the earliest stage; ideally before the patient is aware. Detection is only possible with Retinoscopes and Corneal Topographers, expensive technology not part on an NHS eye exam. At Aarons we have made Corneal Topography available as a screening process for all young people. Usually costing £25.00 is now offered FREE. No other optometrists in the area offer this screening service.



### The Aaron Policy on Children’s Spectacles

If a child requires spectacles the government supplies a voucher toward the cost.

We believe ALL children should be able to go to school with a modern, trendy frame they will not be embarrassed to wear. It is vital children are happy with their frames and will wear them.

For this reason we have a large range of plastic and metal frames supplied FREE with the voucher. All frames are of modern designs, regularly changed to keep up with trends, so important to young people.

#### The importance of allowing choice.

Out of courtesy it is important not to presume what people value. Therefore, we also have a huge range of designer frames, including RayBan which are very popular. The NHS voucher is still valid for these spectacles but the cost of the frame is not covered by the voucher and small extra costs apply.

So, for those of you who want the ultimate in designer names for your children we have them.



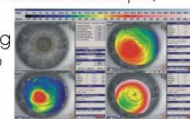
### Spectacle Repair Vouchers

A new voucher for spectacles is only available with an Eye Exam. Between scheduled checks however, if a child’s glasses are broken or lost repair vouchers can be issued. These can cover a repair or a totally new pair if the spectacles are lost or buckled beyond repair. These repair vouchers can be issued as often as required.

#### We will not reduce clinical care for sales

The availability of ‘Repair Vouchers’ makes the gimmick of 2 pairs unnecessary. We will not compromise clinical care for technical refractions. ‘Retinoscopy’, vital for accurate prescribing and preliminary diagnosis of keratoconus, is time consuming. The art is being lost; many practices no longer do this essential technique, presumably to enhance refraction speed.

Further, with the advent of Cross-Linking, waiting for treatable problems such as keratoconus to manifest as vision reduction is no longer acceptable. We would rather give your child enhanced clinical care, inherently the most valuable service.



It is important to stress we do these things to ensure patients value our commitment and clinical expertise rather than sales deals. If we do not educate patients to value us rather than deals then we must not be surprised if people follow the gimmicks rather than clinical skills.

**Loyalty only comes with trust and understanding.**

**We must consider ourselves educators.**