

## **CHILDREN, THE DUDLEY ORTHOPTIC DEPARTMENT AND HOSPITAL OPTOMETRY SERVICE – August 2021 update**

Back in 2015, the Head Orthoptist and I produced some guidelines for optometrists in practice, to help with managing children and their presenting vision problems. This documentation was made available on the Dudley LOC website, but we feel it was not accessed or acted on by many, so it's been rewritten to include up to date advice on orthoptic problems issued by the British Orthoptic Society. For clarification, this isn't compulsory, or in any way endorsed by the LOC, but simply guidelines to make yours, ours, and the patient's journey as smooth as possible.

Orthoptics has very little coverage in optometry degree programme, but actually, it's not all that scary! These guidelines set out to simplify the minefield that is paediatrics and orthoptics, and to give you the confidence to tackle things in practice, without referring un-necessarily. Increasing pressure on ophthalmology has only been exacerbated by the Covid19 outbreak, and more is going to be have to be kept 'in house' at your practices, rather than referring in to us for an opinion, just for us to discharge the patient on their first visit.

We would appreciate it if you cascade this information to all of your optometry colleagues, pre-regs, and students alike! But know that we are always at the end of the phone if you have any clinical dilemmas, or we are happy for you to email us, details are at the end of this leaflet.

### **WHAT HAPPENS TO YOUR REFERRALS**

Every referral we receive is triaged by the Head Orthoptist or a Paediatric Ophthalmologist. Based on the information provided they are split into two groups. Those that can be seen by an Orthoptist and Specialist Optometrist in our 'combined clinic', or those that need to be seen by an Orthoptist and Paediatric Ophthalmologist.

Patients assessed in the combined clinics are generally squints, refractive errors, and potential amblyopes aged between the ages of 1 and 10 years. The Paediatric Ophthalmologist then sees all referrals under 1 and over 10 years old and those with other ophthalmological conditions. If any patients seen in the combined clinic and followed up by an Orthoptist require additional tests such as electro diagnostics or squint surgery then an appointment is arranged with the Paediatric Ophthalmologist.

### **WHAT WE NEED TO KNOW IN A REFERRAL**

You probably think you do this – but you'd be surprised what is often missing!

1. Who was worried – you or the patient?
2. If you ask for an urgent appointment – please say why. Your "urgent" may not be a stretched hospital clinic's top priority.
3. Are you concerned that it is a new problem?

4. In a child, what the full correction is, or would be.
5. In a child – what you have prescribed, i.e. working distance and why?
6. Did you dilate the child before refraction?
7. Have you given the full or partial correction – and why?
8. How long have they been given to adapt to a full correction?
9. What test you used to test VA? Was it an age/ability appropriate test? See below for an appropriate method.
10. Was a thorough fundus and media check possible and normal?
11. Cover test results to an ACCOMMODATIVE target, not just a pen torch.

## WHAT WE CARE ABOUT MOST IN THE HISTORY OF A CHILD

1. Does the child think there is anything wrong?
2. The child volunteering symptoms before anyone asked them about their eyes.
3. New symptoms.
4. Diplopia that is not physiological.
5. New shutting of one eye.
6. Family history of glasses before age 7.
7. Recent virus / head trauma prior to squint onset.
8. When do headaches occur? Sinister / ocular / migrainous?
9. Strangers / non-family being concerned.
10. Developmental or general health issues. This is so important to mention, we can prepare the environment in advance. It also explains why VA may be reduced; it may be cognitive rather than a true reduction.
11. State the obvious please. We recently had a referral in with no mention that the child was probably albino. He was seen in the wrong clinic as the referral only mentioned 'his vision was a bit reduced'. He required very special tests, referral to other departments, and to other hospitals.

***If the referral doesn't contain enough information this can lead to the patient ending up in the incorrect clinic type, thus delaying appropriate treatment and increasing patient waiting times.***

## WHAT IS 'NORMAL' VISION?

The National guidelines that we follow in School vision screening mean that every child aged 4-5 years who achieves 6/9.5 or better using a crowded LogMAR based test passes their screening assessment.

## SCREENING SERVICE

Every child in the Dudley area has the opportunity to be screened at school by an Orthoptist during their reception year. Vision screening is also offered to children in private schools and home schooled children and hospital based clinics are set up to offer vision assessment to all those children absent when we attended their school. Any child who fails to achieve the required 6/9.5 visual acuity either eye is either referred to a Community based Orthoptist and optometrist clinic held at Brierley Hill HC, Cross Street HC, Halesowen HC, or one of our hospital clinics with an Orthoptist and Optometrist.

## AGE APPROPRIATE METHODS OF VISION TESTING

Birth – 12m – Keeler or Teller acuity cards (Forced choice preferential looking)

1-2 years – Cardiff cards (this does over estimate vision though)

2-3 years – Kay pictures (crowded if possible)

3 yrs and above – Keeler Crowded logMAR (comes with a lovely matching card for the shy ones!), other crowded LogMAR tests are available.

Please bear in mind that all children develop at a different rate, so these ages are merely a guide. We have 2 year olds that can easily do crowded log mar, and 7 year olds that can't. Be flexible.

Most children of toddler age and younger tend to come to us via the family Health Visitor, so there's no need for you to rush out and get Keeler acuity cards. I personally think the best thing you could invest in is a crowded logMAR set from Keeler. It's done at 3 meters and it's really easy to keep the child engaged and find out what you need to know.

***Please remember if you cannot assess their vision do not send them away until they are older/school age as this could delay vital treatment, refer to HES instead.***

## REFRACTIONS

Unfortunately, there seems to be a fear of using cyclopentolate. It really is very easy. It stings a bit, but generally the reward of a nice sticker is enough to win the child over. We appreciate that this potentially means the child takes up more chair time, but once the child has been dilated the tests are very quick, and you will easily catch up with the rest of your patients. It is also appreciated that the GOS fee is woefully inadequate when a patient takes up extra chair time, and that an official CCG funded pathway/process needs to be put in place.

If a young child (within the critical period) presents to you with reduced or unequal vision, or if there is the possibility of a squint, please would you consider a spot of cyclopentolate?

## **AMBLYOPIA**

We get lots of referrals in about 'amblyopic' children who are not. A difference of one line in vision does not an amblyope make. Amblyopia is a difference of 2 lines of vision between both eyes with visions poorer than 6/9.5 in one or both eyes. We will not patch a child with vision of 6/5 and 6/7.5 or those with 6/9.5 visual acuity. These levels are within normal limits.

## **WHEN TO GIVE INCORPERATED PRISM**

1. When you know it will do more good than harm
2. When you have experience with using prisms with similar patients
3. When you have asked advice if unsure – please ring your local orthoptist
4. When the cause and course of the diplopia has been investigated and monitored
5. When the prism correction has been stable for at least 6 months
6. When a trial with a temporary Fresnel prism has been successful – hospital eye services will tell you
7. When the patient does not have a deteriorating condition.
8. Very elderly patients with small distance eso deviations often do very well (once medically investigated)
9. Longstanding IVN palsies may do well with a small prism despite a large angle
10. Very few children or young adults need prisms. A new small prism might mean a lifetime of unnecessary prism dependence

## **WHAT TO ASK ABOUT DIPLOPIA**

1. When did it start?
2. Vertical / horizontal / torsional?
3. Worst position?
4. Gradual / sudden / intermittent?
5. Definite or vague onset? Are they even bothered about it because it is so longstanding?
6. Has it ever happened before?
7. Do they have an old squint?

8. General health issues – especially vascular risk factors.
9. Can it be controlled by any strategy – head posture/ effort / or only shutting an eye?
10. Have you told them they cannot drive with diplopia?

## **WHEN ORTHOPTISTS GIVE ORTHOPTIC EXERCISES**

1. Not that often!
2. Only when the patient thinks they have a problem – not if you have to tell them! Asymptomatic patients (especially children) will not be motivated, so we often watch and wait until it comes from them.
3. Symptomatic convergence insufficiency that has not responded to simple pencil push-ups / pen convergence.
4. Poor fusion range, the patient is actually trying to fuse, and has symptoms.
5. Moderate exophorias with symptoms but whose angle is less than approximately  $25\Delta$
6. Small symptomatic esophorias less than approx.  $5\Delta$
7. We would be very careful with suppression. Anti-suppression exercises are used only if we are sure there is potential for normal fusion once the suppression is eliminated.
8. Placebo and encouragement effects are strong – they work, but we all need to be humble about what the effect of the actual exercises has been.
9. Long courses of exercises can be very counter-productive – sometimes diverting attention away from the eyes altogether is the best treatment.
10. Occasionally pre- and post-operatively to improve outcomes or build fusion to allow the patient to adapt to residual angles

## **WHAT TO REFER A CHILD OVER 5 TO HOSPITAL SERVICES**

You probably think you do this – but you'd be surprised what is often missing!

1. Any new strabismus
2. Diplopia – but check it is not physiological!
3. Previously undiagnosed fundus or media anomalies
4. Symptom-producing heterophoria – not just because the angle is larger than you generally see
5. When you can't test them accurately but are concerned – and tell us why
6. When a full correction of bilateral hypermetropia, astigmatism and anisometropia has not improved VA to 6/9.5 (logMAR 0.2) in each eye or better.

7. Symptom-producing convergence insufficiency that has not responded to simple pencil push-ups.
8. Accommodative or convergence spasm
9. If a known amblyope under 8yrs of age discharged to your care has deteriorated by >2 lines. VA may improve after an hour of occlusion, so try that first.
10. Unexplained reduced VA or very inconsistent results
11. Always check with the child's parent/carer that the problem hasn't already been investigated in the hospital and the patient discharged. If the child is amblyopic, is over 7 and has been patched in the past, even if the vision has dropped a few lines, we won't re-occlude. It has limited clinical value.

## **HOW YOU CAN HELP US TO IMPROVE THE CARE OF CHILDREN IN THE AREA**

So you've got a vision, done a cover test, and put in some cyclo and left it for 30 minutes...the next bit is the crucial bit, and is the bit that very rarely gets done.

Retinoscopy... take off your working distance and PLEASE GIVE THEM THE FULL PRESCRIPTION FOR FULL TIME WEAR. It is much easier to reduce a prescription at a later date, than to increase it. Some people are in favour of increasing the prescription slowly over time. But this is wasting valuable time before the child reaches the end of the 'critical period'. In all of the refractions I've done over the years, it's very rare that I've had to reduce the prescription for a child to adapt.

Research shows that it can take at least 18 weeks for a child to fully adapt to a new prescription. We won't consider occlusion before these 18 weeks has passed, and VA has stopped improving. Full time wear means that they adapt much quicker than just wearing them for school work.

Our policy is to prescribe anything over a +1.50DS if there is a convergent squint or reduced vision.

Divergent squints are a bit trickier to manage. Uncorrected 'plus' does not help them to control an intermittent divergent squint, however, our primary concern is always the vision. So we do recommend still giving the full rx if there is a divergent squint and the vision is down. Then refer them in to us, and we will sort out the rest!

If they come to us wearing the full Rx based on a cycloplegic refraction, they are already on the right road. New referrals are currently taking up to 8 weeks to be seen, so this is 6 weeks out of the 18 week adaptation already done!

Thank you for taking the time to read this information, and helping us to streamline the care given to patients in the area.

Further useful information is also available on the British & Irish Orthoptic Society website <https://www.orthoptics.org.uk/>

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