Successful fitting of contact lenses to children

by Nick Black FBDO CL (Hons) LVA

The Contact Lenses in Paediatrics (CLIP) Study concluded that practitioners should consider offering contact lenses as a treatment option, even for children as young as eight years of age. Depending on the personal requirements, children younger than this may be considered, although often this may be in the hospital setting. This need not be the case, as discussed in ‘Contact lenses in children: Getting it right – Lens, age and need’.

This article will explain what properties can be used to optimise success and minimise risks for the individuals and practitioners. This is a world of knowledge, with patients more informed than ever before. The essential philosophy is to educate patients about the full breadth of options available to them in all elements optical. Be that in a low vision capacity and ensuring personalised signposting to all sectors, recommendation of appropriate UV protection, smoking/health, spectacle corrections and dispensing or contact lenses. If contact lenses might be appropriate, then the practitioner’s responsibilities are threefold:

• Ensure any product supplied is healthy, well performing visually and has no long-term ill effects
• The wearer function is met or exceeded
• The developmental period of the child is not compromised in any way

With the range of prescriptions and modalities available in the marketplace, opticians have never been better positioned to optimise comfort, performance, versatility and suitability to cover many prescriptions and wearing requirements.

Fitting a child is no more time-consuming than fitting an adult, particularly with the benefit of properly trained staff to provide teaching. The CLIP Study demonstrated that the chair time when fitting children was 15 minutes more than teens, but this could be attributed to the additional application and removal training.

Where to start?
The practitioner must ensure they are communicating with both the patient and parent or guardian. The initial assessment will allow an understanding of where the drive for the contact lens fitting has occurred. Is it the parent guardian or is it the child? If the child...
is the driver then it must be ensured that all the parental concerns and questions are answered as early in the process as possible so they are supporting, removing the risk of scepticism. Any successful child contact lens wearer will require parental support and financial involvement.

If it is the parent who is eager then the child needs to be reassured and questioned to understand whether they do wish to pursue this option. The child must have a ‘voice’, so it should be accepted that the practitioner is their advocate if required. It may be that the child is not ready at this point and that a sensitively handled introduction can reassure them that contact lenses may be a valid addition or option now, or in the future.

The ‘touch and be amazed’ concept is recommended by the contact lens industry to introduce a contact lens and reduce apprehension ahead of possible application. By feeling and handling a lens, it reassures the patient of what the lens is and allows an understanding of what the application of the lens may be. If presented with any concerns from either party, deal with them now before ploughing on regardless – when the outcome may be less successful and everyone’s time may be wasted.

What are the costs? All practice frameworks are different; how and why things are done and when any charges may be due. Regardless of the contact lens practitioner’s individual inclination, it is strongly recommended to get these out in the open at the outset. Nobody likes surprises, so any trial and fitting costs should be discussed in conjunction with lens options and their costs.

**What types of lenses?**

Contact lens practitioners may have personal preferences of what modalities they like to use to fit children, whether that be dailies on an occasional wear basis or a UV absorbing lens etc., but understanding the patient is the starting point. What is it that they are looking for, and what lenses will give them the desired result? If new to contact lenses then it is important that soft and rigid lenses are discussed, with their pros and cons. Unfortunately, there are no magic lenses, so to think that these needs can always be met would be unrealistic.

By considering the individual’s goals, and the implications of prescription and fitting necessities, actual options for the patient can be identified. In determining these options, practitioners often elect from their sphere of competence, ie. lenses and fittings that they are comfortable with and confident in the outcome. This range of options will vary from person to person, but realistically no-one knows all and, if required, a referral for the optimum result might be recommended. If this is the case, then the best advice and experience will have been offered, and the patient will usually be very grateful for the honesty and integrity shown.

Is there myopic progression and should orthokeratology (ortho-K) or other myopic control be considered? Unfortunately, in the UK at present, there are no evidence-based myopia control contact lenses available other than the clinically evidenced ortho-K. Although practitioners have differing views on these lenses, the information is in the public domain and with a knowledgeable patient base it can be useful to understand all the options.

Ortho-K has been available in the author’s practice for 18 months and although there is some interest, it is not for everyone. With all the developments that occur it is important to understand and respect them; the world will not change that quickly. Looking back to the threat and opportunity of laser surgery, it is fantastic for some, but it has not taken off in the way many thought it might.

What are the activities to be undertaken during lens wear? If they are to be outdoors, then consideration should be given to UV, or if near water appropriate disposability might need to be considered. Public health recommendations are that the young and old should be protected from unnecessary exposure to UV. For youngsters, this is important due to the nature of absorption of UV being cumulative and that melanocytes in the young cells absorb more UV. The result is that an estimated 80 per cent of a lifetime’s UV exposure occurs before the age of 18. Chandler, Reuter, Sinnott and Nichols confirmed that using a UV absorbing contact lens can reduce the ocular damage caused by UV. In a world where UV is increasing, it is worth having this conversation with the patient and parent.

Many parents are keen on dailies as an introduction to lenses as this offers flexibility in terms of wearing patterns and convenience. This may be the case, but care is needed to ensure optimised visual correction during the developmental period in children. With the current access to high performing toric lenses for astigmatism, these should be considered for anything over a 0.75DC. Daily lenses have a

---

**Case 1 from the author’s practice**

Recently in practice, a parent of a 10-year-old had several concerns. They had had regular examinations elsewhere and contact lenses had never been mentioned; was this a sales-based recommendation or a patient-based one? We explained that there was no ‘age limit’ on supplying children with contact lenses, and that we were looking to identify if the child appeared responsible enough, and to understand the reason as to why contact lenses may be a justifiable alternative. Two weeks on at the return from trial appointment, I asked the child’s mother how she felt about the whole experience and if there was any feedback. She advised me that her daughter was now allowed to be ‘normal’ and that her surge in self-confidence was phenomenal. This was in part the contact lenses, but also part responsibility and personal growth in taking on a new challenge and succeeding.
wide range of stable and reproducible lens fittings from -10.00D to +4.00D, with cylinder corrections of 0.75DC, 1.25DC, 1.75DC and even 2.25DC, but the axes are not all around the clock. If oblique cylinders are required, a two-weekly or monthly lens may offer more options as a first fit.

At this point, sufficient information has been gathered to continue as the drivers are understood, the target outcome and recommended contact lenses have been established and the costs involved have been openly discussed.

**On-eye experience**

No amount of preparation or explanation can remove the nervousness or anxiety of the first lens application for any wearer, but even more so with a child. The previous discussions have allowed a rapport to be built with the child and parent, leading to a better understanding of the child and how confident or nervous they may be. It is very helpful to explain and show how the lens will be applied without the lens in the practitioner’s hand. This way the pressure required to control the lids can be evaluated and the defences required to overcome for insertion can be assessed. The parent should be encouraged to watch, allowing them to see exactly how the lens is applied so they are better equipped to provide support later and also to reduce any concern or raise potential questions.

If it is not possible to have a predetermined trial lens, then it is recommended to use this opportunity for on-eye experience with a lens as close to the prescription and trial lens as possible. It is important for the practitioner to be able to weigh the chances of success in wear. The on-eye serves three functions:

- It allows practitioners to evaluate the fit, prescription and performance
- It allows the patient an understanding of what a contact lens feels like and if this is something they wish to pursue on a comfort level
- It allows the patient to understand how a contact lens can perform visually. This may be not accurate if a specific ‘trial lens’ needs to be subsequently ordered, but discussing this and managing the initial expectations easily overcome this.

Multifocal fitting development has encouraged people to understand eye dominance better and, in particular, sensory and sighted dominance and the implication this has to performance with multifocal lenses. This also needs consideration in generalised fitting and was highlighted recently in the practice when fitting a child.

**Instruction and compliance**

A number of people have presented or written about fitting children with contact lenses. Dr Cameron Hudson6 discussed compliance and success in children, with children as young as eight demonstrating the ability to care and be successful in contact lens wear.

The priorities are to ensure that the child and parent have a structure in place to ensure appropriate understanding of all elements of compliance and care. At the author’s practice, it is ensured at the point of supplying lenses for a trial following a successful teach that the child/parent has video animations of lens application and removal (**Figure 1**) to reference outside of the practice, and that the parent has signed a ‘Do’s and don’ts’ sheet covering all aspects of lens care, handling, wearing times and emergency numbers for out-of-hours contact. If animations are not available then manufacturers

---

**Case 2 from the author’s practice**

The prescription was RE +6.00/-0.75 x 180 6/6 LE +7.00/-0.25 x 180 6/6. Mother and child were interested in dailies for dancing and performing on an occasional basis. With daily spherical lenses we achieved 6/6 right and 6/5 left, better than spectacles, but after one week of trial the feedback was that although things were clear, it didn’t feel as good as with spectacles. Was it spectacle magnification or something else? Sensory and sighted dominance indicated she was RE dominant, and although I had achieved a better acuity than spectacles, the right eye was not as happy due to the LE vision having a better VA. With a cylindrical correction in the right eye of 0.75DC, the visual comfort improved. We refitted in a monthly lens, which allowed 6/5 performance R&L, but more importantly restored a dominance balance and satisfaction.

---

*Figure 1: Handling instructions using Captiv8 software*
have picture diagrams, text files and other formats to provide. Whichever options are considered, it is helpful to have something to refer to after leaving the practice.

The importance of this component cannot be underestimated, as ensuring a structured framework at this point, including a frank discussion of risks, increases the likelihood of compliance and reduces risk for both the patient and practitioner. The advantage of inclusion of the parent in the process to date is that they can be an advocate of what has been covered, so if needed at home they can reinforce compliance or handling instruction.

The CLAYS Study\(^7\) indicated that risks of infection increased after a change of environment, such as going off to university, holidays or other life changes where the ‘normal’ environment is different and patterns of behaviour are altered. The advantage of fitting children is that we have an opportunity to reinforce positive habits and behaviour long before these life changes come into force, such as regular hand-washing before handling the lenses [Figure 2].

My belief is that a well-conditioned youngster may be less at risk than a teenage wearer who has a changing environment while they are still formulating their wearing patterns. Consider those who are conditioned to clean their teeth twice a day; if this is regimental in routine then it is more likely to be consistent.

Changing lives is what this is all about. A successful child may be more confident and happy, so consider whether the success and happiness of the patient is being maximised. Providing the building blocks and framework are in place, fitting children with contact lenses is an amazing, rewarding, successful and financially beneficial experience.

References

Nick Black is a dispensing optician and CEO at BBR Optometry in Hereford. He is a director of the Herefordshire LOC, part of the ABDO Continuing Education and Low Vision Committees and an ABDO representative on the England Implementation Group of the UK Vision Strategy.