Children and teenagers – can CLs be part of their world?

Sarah Morgan argues that contact lenses should be an important option for children and teenagers

Historically, children under 16 have been discouraged from wearing contact lenses. However, with better lens designs and materials, and affordable disposable lenses, young ametropes of today can look forward to greater encouragement into trying contact lenses – or can they? This article reviews the opportunity that exists for both the practitioner and the young patient in addition to the research evidence, which indicates that contact lens wear can have a dramatic impact on younger patients.

Prescribing trends

In a recent survey of contact lens prescribing around the world,[1] data from over 100,000 fits were studied and this revealed that only 0.1 per cent of fits were infants (age 0 to 5 years), 1.6 per cent were children (age 6 to 12 years) and 11 per cent were teenagers. This varies across the world, with fits for the under 18s in the US around 17 per cent compared with 11 per cent in the UK.

Different categories defined by age

The prescribing behaviour of most practitioners with infants would be consistent with the very low rate found in the survey, not only reflecting the low prevalence of myopia in this age range, but also the more unusual clinical needs for contact lens wear in babies and very young children. For example, with unilateral aphakia, where fitting contact lenses as soon as possible greatly impacts on the final Snellen visual acuity achieved,[2] and such cases are more typically cared for in hospital contact lens departments. While there are over 15 times more children fitted with contact lenses in the next age range (6-12 years), this does correlate well with myopia still remaining of low prevalence in this age group although this varies considerably with race.[3] Epidemiological studies have shown myopia in the teenage group (age 13-17) to be around 34 per cent,[4] which is also reflected in the increased numbers of wearers in this older age group in the prescribing trends survey.

Rex Features

Fitting young myopes with contact lenses can affect their self-perception of athletic competence

The impact of contact lens wear on minors

Contact lenses offer children and teenagers the same benefits to vision correction as for adults. The stage in life of a teenager may be considered a more 'needy' time with respect to self-image and a desire to align with peers. This may lead to younger patients, aged 6-12 years, being treated more conservatively and potentially overlooked. A recent important study examined the impact of contact lens wear on both children and teens, and both age groups expressed improvements in quality of life, appearance and participation in activities.[5] The age of onset of myopia can be during the latter years of primary school, and fitting these children with contact lenses has been shown to affect their self-perception of physical appearance, athletic competence and social acceptance.[6]

When is the best age to start contact lens wear?

There are several factors involved when deciding to fit a child or teenager with contact lenses. While age plays an important part, elements that relate only to the individual patient will be the greatest influence. For example, a 10-year-old myopic boy who opens the batting in his school cricket team (whose father is a high myope and experienced contact lens wearer) is a clear case for discussing contact lens wear as an option. There is a wide range of maturity in pre-high school children, so the recommendation from the eye care professional along with the parental view is key. Clearly, the child involved must also want to try contact lenses.

Moderate to high degrees of hyperopia in the pre-high school child can also be troublesome in spectacles, especially if the child is involved in extra curricular activities such as dance, gymnastics and sport, where plus-powered spectacles are inherently prone to slipping down the nose. Discussions about a future in contact lens wear can

begin with the parent at the time of prescribing. Indeed, the first time a child is prescribed spectacles can be met with some degree of sadness by the parent knowing that the child is going to need vision correction for the rest of their life. Parents often reflect on their own experiences (as a spectacle wearer themselves) or perhaps their memories of children they were at school with who had to wear spectacles and the accompanying taunting by fellow pupils. Research has shown that children who wear spectacles have a 35 per cent increased risk of being bullied at school either physically or verbally compared with those children who do not wear spectacles.[7] From this standpoint, eye care practitioners, when prescribing for school-age children, should be mindful of this element and apply consideration to the child's suitability for contact lens wear.

Anecdotally, the average age for fitting a young patient with contact lenses is around 13 years. Myopia development and progression is also more prevalent at the time[3] and may be considered a key driver in the desire to wear contact lenses. The onset of puberty around this time in both girls and boys, with the inherent accompanying physical changes, makes this an awkward time to be a spectacle wearer with another physical difference. Moving out of spectacles and into contact lenses can be viewed very positively in order to appear more like their spectacle-free emmetropic friends. While parents may not be enamoured with the latest fashion trends, and their children conforming to certain brands and styles, it is a very natural human tendency.[8] Therefore, being seen in spectacles at school does not conform with their peer group, which may be one of the motivating factors.

Is it just the visual benefits?

While there are very obvious practical benefits to contact lens wear for the average active 8 to 17 year old, there are also less tangible effects that can have a significant impact on quality of life – even at the younger extreme of this age. The pioneering research work of Jeff Walline has revealed that both children and teenagers when fitted with contact lenses experience an overall lifestyle improvement akin to that experienced by adults compared with their spectacle wearing peers.[5] Intuitively, it seems obvious that teenagers would experience enhanced self-confidence from moving into contact lens wear, but this was also experienced by the children of primary school age. These findings indicate that when advising parents on the vision correction needs of their child and the contact lens option, references can be made to the impact contact lenses have been shown to have in terms of enhanced confidence in their appearance and how they feel about participating in activities.

Do children and teenagers take up more chair-time?

Children certainly need different handling to their adult equivalents which applies not only to explaining procedures during the eye examination, but also to contact lens fitting. Where teenagers may be treated in a similar way to adult patients, children are more likely to require more time to be spent in the area of lens application and removal.[6] This may amount to only 15 more minutes for an appointment that is commonly conducted by a member of support staff. As with their adult equivalents, much of the additional time can be related to challenges such as a small palpebral aperture size and the necessary lid control involved in lens application.

Are broken/lost spectacles a sign of irresponsibility?

When considering fitting a child or teenager with contact lenses, one of the first elements both the eye care professional and the parents look for is whether or not the child/teenager is able to take the level of responsibility to wear and care for contact lenses. Typically, the condition of the spectacles is one aspect that may influence offering contact lenses as an option. Frequently broken or even lost spectacles may on the surface portray an air of carelessness, but this may also be a sign of detesting being seen in spectacles and a positive desire to have vision correction without them. In such scenarios, a seemingly careless child or teenager can be transformed into a very responsible contact lens wearer in order to remain spectacle-free among their peers.

Increasing demands on personal appearance with emerging technology

Children and teenagers fitted with contact lenses in practice today have grown up with the internet and wide availability of broadband connectivity and wifi. They do not know of a world before this level of communication was available. Teenagers in particular interact with their peers utilising the internet, and with programmes such as Skype with easy-to-use video conferencing and iPhone 4 apps such as Facetime, the important of appearance exists both in the real world and the virtual online world when they socialise and chat online with their school friends after school and college.

In older teenagers, learning to drive is another life stage which places very specific requirements on vision. This too can be the catalyst for greater interest in contact lens wear if they are yet to discover contact lenses. Night driving is perhaps more concerning for parents than the teenagers themselves, and with increased pupil size in these conditions it is even more important to strive for the best quality of vision in spherical lenses or torics where indicated. Research has shown that the teenage category keeps a marginally longer wearing time compared with children, at an average of 80 hours per week, with the younger wearers tending to use their lenses dependent on activities.[9]

Deciding on lens type

The majority of students currently studying to be eye care professionals were born in the 1990s. They will not remember a time when disposable lenses did not exist. The first silicone hydrogel lenses were launched when they were still in primary school. Time-served experienced contact lens practitioners recognise these product advances as significant, where new generations of professionals take them for granted. Notwithstanding such inter-practitioner differences, there exists a wide choice of daily disposable contact lenses and silicone hydrogel lenses offering young patients, their practitioners and their parents lots of choice. With regard to soft versus rigid lenses, the long-term success of lens wear is more likely with soft lenses.[10]

Parents typically have concerns about their child's ability to care for their lenses and may take the view that contact lens wear will be prohibitively complex. For this reason, daily disposable lenses are a very popular option and where reusable disposable lenses are preferable clinically for reasons of lens parameters, design and materials, parents can be reassured that children have been shown to be capable of compliantly following instructions.[11-12] Often the

practitioner is seen by the child in a similar way to their teacher, and this air of authority and knowledge helps establish the importance of following the contact lens wearing 'rules'.

What about safety?

Lens safety is an important issue to be able to address with parents who often ask the practitioner before making the decision on behalf of their child. It is important that both the parent and the child have received good instruction on hygiene and lens wear and care. The rare, but concerning adverse event of microbial keratitis (MK) can be devastating in anyone, and especially a young patient. Clear instructions must be given on the signs and symptoms to be aware of, so that in the event of emergency, the appropriate course of action can be taken. Much like the flotation vest instruction given routinely prior to take off on a flight, the analogy may be drawn with MK – in terms of these are instructions which you must have, but are unlikely to ever need.

Girls versus boys

As per the adult data where more females wear contact lenses than males,[13-14] a similar distribution is seen in child and teenage wearers.[1] Girls are typically more mature than boys of a similar age, and this may be an influencing factor for practitioners and parents alike.

Parental involvement

When fitting minors with contact lenses, it is important that parents are involved in the process and fully understand their supervisory role. Sometimes children and teenagers perform better when their parent is not hovering over them, so providing a suitable waiting area for parents helps in this regard and free wifi can help busy parents catch up with work or keep them suitably occupied. It is prudent to have both the patient and the parent sign the statement of informed consent. Once the child has gained reasonable confidence in the relevant lens application and removal techniques, the parent can then be included. In the case of the very young child, a parent may be taught to apply the lenses if the child finds this very difficult. It is important, however, that if this option is chosen, the child is able to remove the lens for themselves should they need to do this during the school day.

Another influencing factor in how motivated the parents are for their child to wear contact lenses is their personal experience of vision correction. If they themselves have a significant refractive error and have successfully worn contact lenses, they are probably more likely to want the same for their child. Conversely, if the parent is near emmetropia, it is helpful in the case of the myopic child, to demonstrate to the parents using plus trial lenses what the unaided vision of their child is like. From this experience, they can better appreciate that doing sports 'without glasses' is just not an option.

Occasionally, parents have significant refractive errors but have never had the opportunity to experience contact lenses for themselves. The direct offer to try contact lenses has, like for most non-wearers, felt too big a leap of change. Offering to put a lens on for them to see to choose new frames, as per the EASE study approach[14] may break down the barrier to them experiencing momentary lens wear which in turn will help when discussing the option for their child. With parental consent, the EASE approach can also be adopted as a 'softer' way to approach trying contact lenses in the slightly less confident younger patient and putting all the emphasis on 'being able to see to choose their new frames' rather than 'so you can see if you'd like to wear contact lenses'. The latter will become apparent from the experience – it's providing the comfortable opportunity to try that is important.

Conclusions

The social impact of increased confidence in the child who becomes a contact lens wearer should not be underestimated, in addition to the significant level of appreciation the child has for the eye care practitioner providing this 'image change'. Throughout the formative years at primary school and high school, there are many developmental demands placed on a child. Contending with refractive error is an additional burden, which may be lessened by 'normalising' their physical appearance with contact lens wear. The school bully sees the spectacles, not the child behind them, and such insight is another factor to consider when advising parents who themselves may not have required spectacles during their school years. Clearly, parental involvement is key once the clinical indications suggest contact lens wear to be a positive addition to vision correction. The help and advice given by the eye care practitioner has a lasting impact. Not only does the child become a long-term patient of the practice, but also parents greatly appreciate good care and attention for their children. ●

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