

Contact Lens Safety In Kids

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A key barrier to contact lens wear in children is parental and practitioner concern about safety. The research indicates, though, that children may be the safest contact lens wearers - here we describe the statistics and how to approach clinical communication.

In myopia control we have to both correct and control myopia. While new spectacle lens designs for myopia control are showing efficacy similar to contact lens options, they are not yet as widely available as contact lenses are. This makes contact lenses the readily available first choice for both correcting and controlling myopia as a monotherapy. But are they safe for kids?

Mark Bullimore¹ recently published a meta-analysis of pediatric soft contact lens studies (SCL) which indicated that children (aged 8-12) and teens (aged 13-17) are no more risky contact lens wearers than adults, with no higher rates of microbial keratitis (MK) or inflammatory complications - importantly, evidence indicated a lower rate of infection in children than teens and adults, which he attributed to better compliance and closer parental supervision. This key paper (full text available) should give both practitioners and parents confidence in considering childhood SCL wear - if the practitioner and parent are comfortable with fitting a teenager with SCLs, there is no safety reason to not consider the

same for a younger child. Adding to this the functional and psychological benefits of childhood contact lens wear,² the myopia managing practitioner should discuss contact lens correction from the outset and plant the seed for future uptake, even if the child and parent aren't ready in the short term.

Prescribing daily disposable contact lenses to children, where possible, minimises the risk of microbial keratitis (MK) to 2 per 10,000 wearers per year. Daily wear of a silicon hydrogel appears to increase risk to 12 per 10,000, which could be due to material or wearer characteristics, and extended wear approximately doubles this risk again.³ Orthokeratology (OK) by comparison has demonstrated a risk profile in children similar to daily wear of a silicon hydrogel of 13 per 10,000 paediatric wearers per year.^{4, 5} This may be surprising given its modality as overnight wear but can be considered in view of daily wear RGP contact lenses holding the lowest MK risk of all contact lens modalities, at 1 per 10,000 wearers per year.³

This is a key safety concept to get clear in your mind – that the risk of MK with a reusable soft lens, such as a monthly multifocal, is similar to that with OK.

Observation of your potential young contact lens wearer for signs of poor hygiene, and discussion with parents on their expectations of their child's competence, will help you to select suitable candidates. Some parents may be concerned that their child will carry a higher risk for infection than an adult, however the scientific data simply does not affirm this. Children and teens demonstrate higher levels of compliance with lens disinfection and hand washing than their adult counterparts.^{6, 7} Children may require more reinforcement of lens care and maintenance instructions than teens, though – a small drop in the percentage of children answering contact lens care questions after three months of wear has been observed compared to their teenage counterparts.⁸

For parents or practitioners unsure of the ideal age of commencement, data has shown that after 10 years of contact lens wear, no difference in the frequency of adverse events between those fit as children (8-12 years) compared to those fit as teens.⁹

Infiltrative keratitis has been shown to occur with a frequency of 1.3% in children aged 7-14 wearing daily wear monthly disposable silicon hydrogel lenses for two years, and 0.6% in children wearing overnight orthokeratology over a similar average time period.⁴ Asymptomatic infiltrative events can occur with a 4-5% incidence in paediatric monthly disposable silicon hydrogel contact lens wear. Other mechanical issues such as superior epithelial arcuate lesions (SEALs, 1.3% incidence) and corneal erosions (2% incidence) can also occur¹⁰ – this data set evaluated Chinese children who arguably may have an increased frequency of mechanical contact lens wear concerns due to differential eyelid anatomy¹¹ and pressure compared to children of other ethnicities.

Contact lenses are safe for kids

The My Kids Vision blog translates this message about contact lens safety to parent-friendly language – you can use this resource to back up your clinical communication, and see how I explain the safety message to my patients and their parents. But firstly, it's imperative that you are comfortable fitting kids with contact lenses, and reassured about their safety. From a myopia control perspective, a daily disposable is always our safest option, however they aren't an option for our astigmatic myopes. When selecting a treatment option for these children, then, you can be reassured that if you are deciding between OK and multifocal SCL's, that the safety profile is similar. The bottom line is that kids are likely safer contact lens wearers than teens and adults, and in all cases, the risk of serious infection is remote.

Key references available for open access download:

The safety of soft contact lenses in children

The risk of microbial keratitis with overnight corneal reshaping lenses

The safety of orthokeratology: a systematic review



About Kate

Dr Kate Gifford is a clinical optometrist, researcher, peer educator and professional leader from Brisbane, Australia, and a co-founder of Myopia Profile.

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📁 Clinical management, Contact lenses, Eye health, Orthokeratology

1 thought on “Contact lens safety in kids”



Willie Eyer

August 5, 2020 at 9:31 am

So I took my time to read the entire post and i totally agree with every statement you made. I have to say I love this blog and will always visit again.

Reply

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