

# Current trends in pediatric eye examinations and contact lens prescribing in the US

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## Background

The importance of early eye examinations in pediatric populations cannot be overstated, since they facilitate the timely detection and management of various visual impairments, including myopia.

## Purpose

To estimate the proportions of:

- pediatric patients receiving eye examinations by age group
- myopes, astigmats, and pre-myopes
- pediatric patients prescribed contact lenses (CLs)
- contact lens categories prescribed

## Methods

Pediatric eye examination data were retrospectively collected for the calendar year 2022 from a random sample of 100 US practice sites.

To be eligible for inclusion, a practice had to meet the following criteria for at least 11 months of the year:

- ≥3 unique pediatric CL prescriptions
- ≥3 unique pediatric spectacle prescriptions
- ≥5 unique pediatric prescriptions of either CLs or spectacles
- ≥50% of CL prescriptions have a brand specified in at least one eye

To facilitate a representative sample, the sample was balanced for geographic location and participation in programs that may influence prescribing.



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## Results

Data were collected for 70,380 children aged 0–17 years (Figure 1):

- 21 (0.03%) <1 year
- 1,808 (2.6%) 1–4 years
- 8,708 (12.4%) 5–7 years
- 25,910 (36.8%) 8–12 years
- 33,933 (48.2%) 13–17 years

Proportions of refractive errors were:

- 43.5% (30,619/70,380) with ≥-0.50DS myopia in at least one eye (Figure 2)
- 7.4% (5,175) with astigmatism ≥1.00DC in at least one eye

Proportion with pre-myopia (+0.50 to -0.25DS) in at least one eye was:

- 53.2% (4,631/8,708) in 5–7-year-olds
- 45.2% (11,712/25,910) in 8–12-year-olds

Contact lenses were prescribed to 10,639 (15.1%) children, with 2% (218/10,639) being monocular wearers.

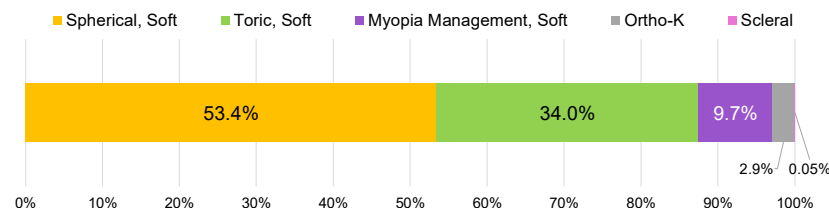
Of the pediatric contact lens patients:

- 0.16% (17) were aged 6 and 7 years
- 99.83% (10,621) were aged 8–17 years

Proportions of contact lens prescriptions (Figure 3):

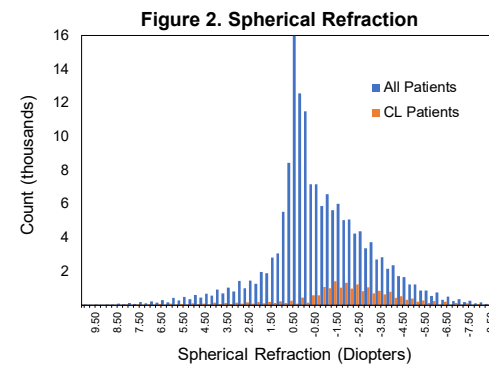
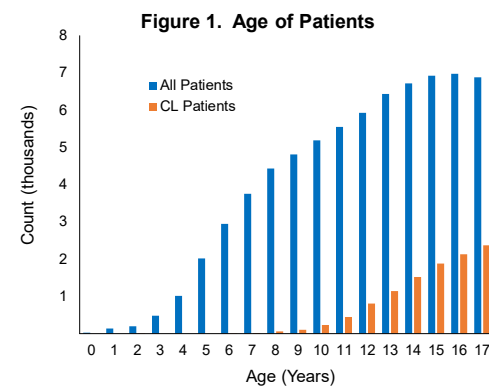
- 53.4% (11,242) spherical soft lenses
- 34.0% (7,166) soft torics
- 9.7% (2,033) myopia management soft contact lenses
- 2.9% (609) ortho-K
- and 0.05% (10) scleral lenses

Figure 3. Contact Lens Prescriptions



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## Discussion

This large, randomized retrospective review found that almost half of pediatric patients are teenagers, with progressively smaller proportions of younger age groups represented.

This current trend may mean that many children do not receive timely management of their refractive error and/or ocular disease.

## Conclusions

Only a small proportion of children receiving eye examinations are aged 7 years or younger.

While a relatively small proportion have 1 diopter of astigmatism or more, many children have myopia or pre-myopia.

Contact lens (CL) wear is substantially underutilized in the pediatric population, with 15% of children prescribed CLs.

Approximately one in eight pediatric CL prescriptions are intended to help slow myopia progression.



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