

Real World Perspective of Orthokeratology Efficacy and Patient Adherence to Treatment

Three-Year Retrospective Assessment

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Objective

The prevalence of childhood myopia has soared significantly in recent years. Treatment protocols for myopia progression warrants individualized approach to optimize clinical success. The goal of the study is to examine the clinical perspective of treatment success and patient adherence with orthokeratology in a real-world setting

Methods

The data analyzed the results of 342 children with myopia treated in a referral-based practice solely dedicated to myopia management in Washington, DC metro area over a three-year period. Children in this retrospective analysis were managed using a variety of treatment options, specifically orthokeratology, soft multifocal contact lenses, as well as atropine or in some cases a combination of these three with cost bias minimized. This poster is primarily focusing on a subset of data on Orthokeratology.

Cumulative Absolute Reduction in axial Elongation (CARE)

The Cumulative Absolute Reduction in axial Elongation (CARE) values for the three main treatment types were also determined in the report. CARE represents an empirically demonstrated, evidence-based articulation of myopia control effect over time.¹ (**Figure 1**)

For this analysis, only the children who had started and remained with monotherapy treatment were included. For the atropine CARE calculation, all concentrations and frequency of dosage were included even if they were changed but it does not include those children that had OrthoK or SMFCL in combination with drop therapy.

Cumulative Axial Length Change From Baseline

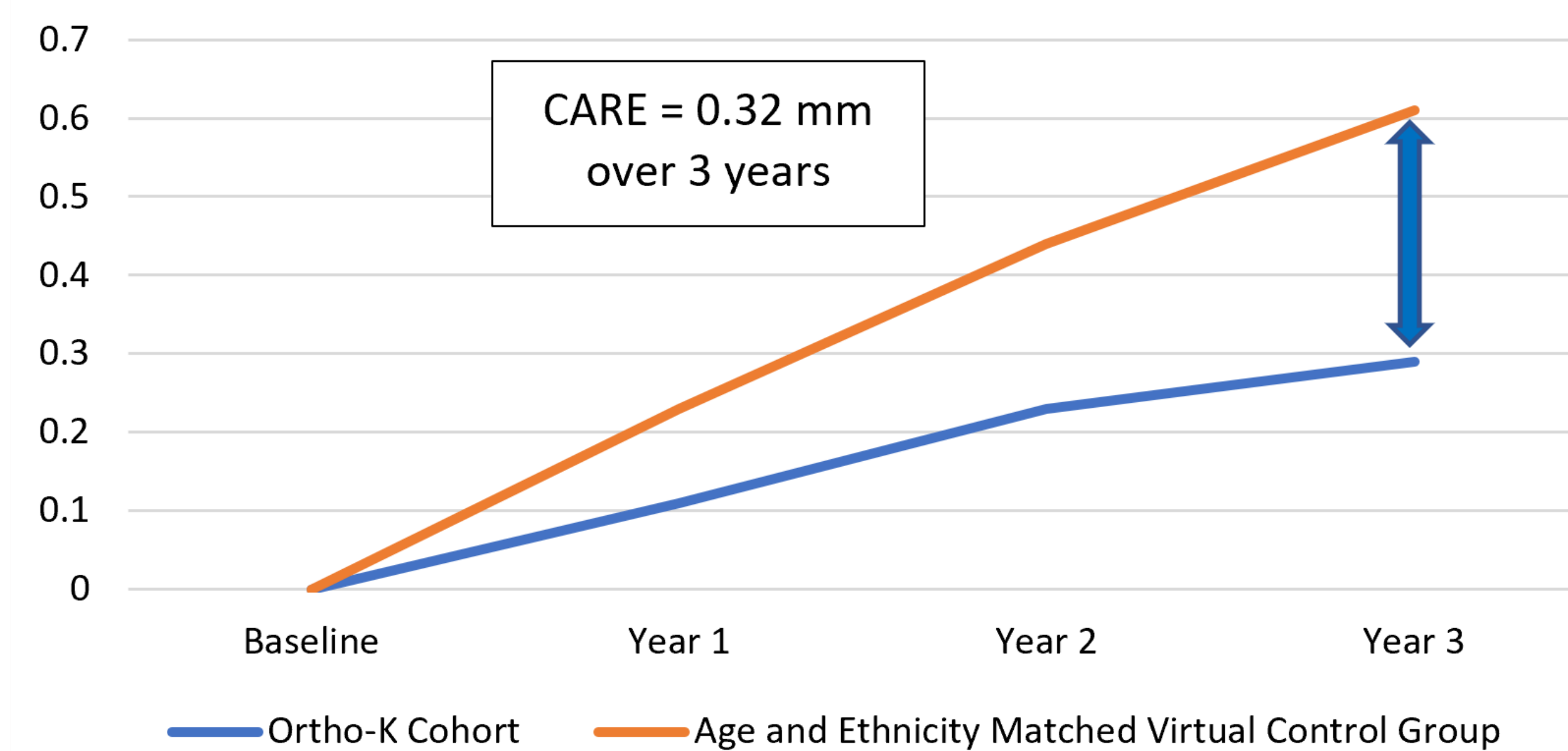


Figure 1: The Cumulative Absolute Reduction in axial Elongation (CARE) value for Ortho-K was 0.32 mm over 3 years.

Orthokeratology popularity

During this 3-year retrospective review, all modalities of treatment showed remarkable efficacy in myopia management. Orthokeratology was the most prescribed modality for the overall population (55% of the total population, or 188 of 342 children). The majority of the patients monitored in the study were fit into Euclid orthokeratology lenses (84% of all orthokeratology fits).

78% of the patients treated with Ortho-K products required no change in treatment modality, indicating the Euclid products are a consistent treatment modality for myopia management for children. (**Figure 2**) In contrast, only 68% of patients in multifocal soft contact lenses (SMFCL), and 22% of patients prescribed atropine alone did not require any changes in treatment. This demonstrates high retention and adherence to treatment with Euclid Orthokeratology contact lenses.

Reliable Consistency Continuity of Treatment

Over 3-year period, percentage of patients who required no changes in treatment:

- 78% Orthokeratology
- 68% Multifocal soft contact lenses
- 22% Atropine

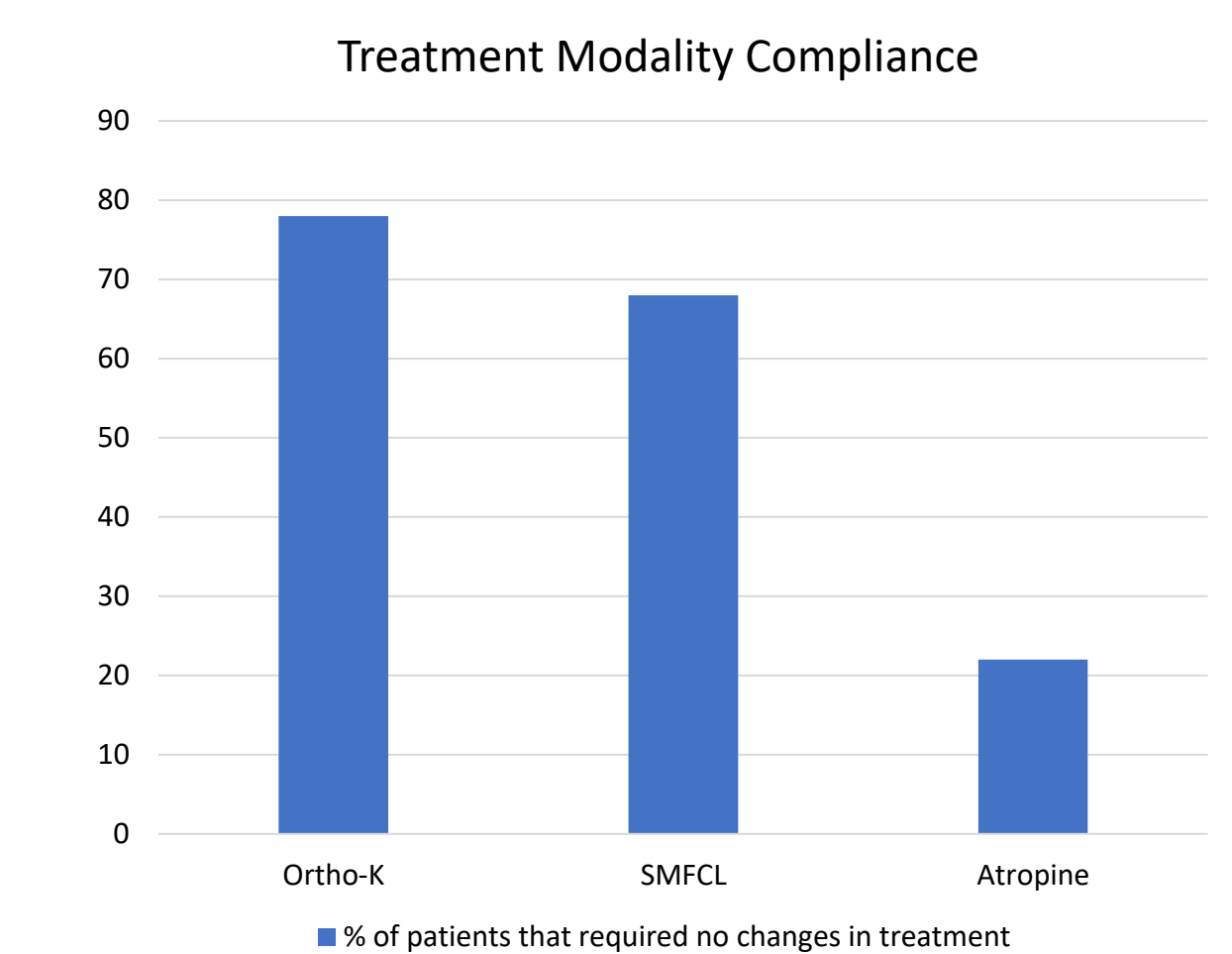


Figure 2: 78% of the patients treated with Ortho-K products required no change in treatment modality.

Conclusions

Within the population of patients treated and managed over this three-year period, orthokeratology showed a significant ability to manage a child's myopic progression with highly sustained efficacy and patient acceptance. This data supports that for orthokeratology, this effect was shown by a reduction in both refractive error progression and, more importantly, axial length elongation. As such, orthokeratology can be a life-changing treatment option for a patient's myopia management, when prescribed and monitored carefully.

Acknowledgement

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References

1. Brennan NA, Toubouti YM, Cheng X, Bullimore MA. Efficacy in myopia control. Prog Retin Eye Res. Published online November 2020:100923. doi:10.1016/j.preteyeres.2020.100923
2. Chan K, Smith E, Cooper J, Aller T, O'Connor B, Dillehay S; Assessing Effectiveness of a Clinical Algorithm for Myopia Progression (CAMP) Treatment Strategy in Real-World Practice Settings. GSLs Poster Jan 2022

*Minimal is defined as less than or equal to 0.10mm per year, data on file.