

Pleasing Emily

Emily, an awkward 13-year-old, wears glasses for myopia. According to her mother, she has gotten a stronger prescription every year since she started wearing glasses in the third grade. In addition to blurred vision, she's also complaining of headaches. Emily's grades are fluctuating, but her parents contribute that to being a teenager.

Sound familiar? If you see children and teens in your practice, then you probably see many cases similar to Emily's. As her new optometrist, what would be your plan of treatment? Cool new frames with the increased power change? Disposable contact lenses like her best friend is wearing? Tinted lenses to accentuate her blue eye color? In recommending any of these traditional options, you're likely allowing Emily's vision to further deteriorate because all of these options are similar to what others have already done.

As a developmental optometrist, my suggestion would include extensive testing of Emily's nearpoint accommodation and fusion ranges. With her symptoms, it's highly probable these skills are inadequate, but also changeable, depending on the lens power in place. Quite frequently, the improvement in visual skills is directly proportional to the reduction of minus in the refractive error. So, if I were Emily's optometrist, I'd recommend reducing or eliminating her myopia to improve her visual skills and to stop the downward spiral by using corneal reshaping and fitting her with Paragon CRT. The design and material of the Paragon CRT lenses allow for fast adaptation and easy handling by children and teenagers.

-- Susan Jong, OD

CASE #1: All in the Family

JL, a 9-year-old student, presented with frontal headaches and dizziness. She was wearing a spectacle prescription of OD 0.50 0.75 x 085, OS 0.50 0.75 x 080. With the new refraction of OD 1.50 0.75 x 090, OS 1.75 1.00 x 090 in place, accommodation ranges could focus only at 40cm with +1.50 add and fusion ranges were poor. Because JL's older sister was successful in wearing Paragon CRT, her mother chose CRT for JL over filling the new spectacle prescription. K readings were OD 41.12 @ 101, 41.37 @ 011 and OS 41.37 @ 110, 41.75 @ 020. The Paragon CRT lenses dispensed were OD 8.5 BC, 0.525 RZD, 31 LZA and OS 8.7 BC, 0.525 RZD, 31 LZA. At her last progress evaluation (three weeks post dispensing), unaided acuities were OD 20/20, OS 20/20, OU 20/20 and refraction of OD plano, OS plano. Her mother also reported that since JL started wearing the CRT lenses she hadn't experienced any headaches.

CASE #2: Astigmatic AW

AW, a progressive myope who has astigmatism, started wearing eyeglasses in 1995 at age 5 with an initial

prescription of OD 1.50 1.50 x 150, OS 1.50 1.00 x 025. Because of her poor accommodative facility and increasing myopia, I initiated bifocals, which kept her prescription relatively stable for four years (1996 to 1999). Between 2000 and 2001, a significant myopic shift occurred and I recommended corneal reshaping, but her mother decided to continue with the bifocal spectacle prescription. AW's prescription in 2001 was OD 4.00 1.00 x 160/+1.50 add, OS - 3.50 1.00 x 020 /+1.50 add.

Because her annual eye exam on September 24, 2002 revealed another myopic shift, I decided to make the case presentation for corneal reshaping more compelling. I presented her mother with a written summary of all the prescription changes from 1995 to 2002. Seeing it in black and white gave her mother the initiative to start corneal reshaping with Paragon CRT. AW's prescription was now OD 4.50 1.25 x 165, OS 4.50 1.00 x 015 with K readings OD 42.37 @ 174, 44.75 @ 084, OS 42.87 @ 008, 44.50 @ 098. The Paragon CRT lenses I dispensed were OD 9.0 BC, 0.550 RZD, 32 LZA, OS 8.9 BC, 0.550 RZD, 32 LZA. Her last progress evaluation (six weeks after dispensing) showed unaided acuities OD 20/25, OS 20/25, OU 20/20 with refraction OD 0.25D sph, OS 0.50D sph. Both AW and her mother are pleased with the outcome of CRT and purchased a spare pair so AW "will never have to wear her eyeglasses long term again".

JL and AW are just two of the many young patients we've been able to help with corneal reshaping and Paragon CRT. The changes, other than refractive, have been remarkable. We've seen personalities blossom, confidence levels soar and grades turn around. You can easily prescribe lenses for a healthy eye to achieve 20/20 vision, but shouldn't you also be responsible for giving your patients the best care possible? Be willing to go beyond the norm and not only improve your patient's vision but also his life.

Corneal Reshaping: CL Practitioners' Braces?

From the first time I heard about the concept of reducing myopia using contact lenses, I've been fascinated with the idea. I heard the ortho-k pioneers speak while I was in optometry school, and I read all the available articles on the subject. However, I lost much of my enthusiasm with the older ortho-k techniques when it became apparent that the amount of myopia reduction was significantly limited, the time frame to achieve results too long and I couldn't reliably predict who would respond favorably.

Paragon Vision Sciences renewed my interest in using corneal reshaping to reduce myopia with the advent of Paragon CRT, which appeared to address the five issues that previously had dampened my enthusiasm:

1. the amount of myopia that I could correct

2. the amount of time needed to reduce the myopia
3. Paragon CRT is intended (and FDA approved) for overnight wear
4. the broad range of those who may benefit most from the procedure
5. the professional control I had with the completely understandable fitting/dispensing system

I incorporated Paragon CRT into my practice in May 2001. At the time, overnight wear with Paragon CRT was still off label, so I intentionally worked exclusively with adults. While my practice and success grows with Paragon CRT, I continue to primarily fit adults. However, it appears to me that the age group most likely to contribute to the growth of corneal reshaping and Paragon CRT is teenagers. These young people want to eliminate their need for glasses in their active lives and enhance their appearance. Corneal reshaping addresses both of those concerns while minimizing the risk of lost lenses because patients primarily wear Paragon CRT lenses when their eyes are closed.

Parents spend thousands of dollars on braces to straighten their children's teeth. They understand how braces reshape the alignment of the teeth and how a retainer maintains the effect. It's a natural progression for parents to see how Paragon CRT lenses reshape the cornea and how a retainer lens maintains the effect on the eye. I'm also hoping that longitudinal studies will show that Paragon CRT will not only eliminate teens' myopia, but reduce or eliminate myopic progression during the teenage years. This would be an additional benefit of Paragon CRT to teenagers who have progressive myopia.

-- Clark Jensen, OD

CRT for CW

CW is a 12-year-old seventh-grade student. He's involved with a variety of activities, including sports and music. CW's parents wanted to reduce the risk of his prescription getting worse, so I recommended and initially fit him with GP lenses.

His initial manifest refraction was OD 1.50 sph, OS 1.00 sph; corneal curvatures: OD 43.25/43.00 @ 90 OS 43.25/43.12 @ 90. Topographical maps were normal and the shape factor was OD 0.26 and OS 18. CW adapted well to his contact lenses, but managed to lose two lenses in the course of his first seven weeks of wear. This was frustrating to CW and his parents. I offered corneal reshaping as an alternative to reduce or eliminate his dependence on glasses or contact lenses during the day and to minimize the chances of losing contact lenses. Everyone seemed eager to give this alternative a try. After evaluating the fit, I dispensed the

following lenses:

OD BC 8.3 RZD 0.500 LZA 33 PWR +0.50 OD 10.50; OS BC 8.2 RZD 0.525 LZA 33 PWR +0.50 OD 10.50. CW returned the day after his fitting and dispensing for an early morning appointment wearing his Paragon CRT lenses, after having slept in them overnight. His visual acuity with the contact lenses on was OD 20/20 and OS 20/15. His over-refraction was OD 0.25 and OS +0.25. His lenses centered well with a round central bearing area greater than 4mm and adequate edge lift. There was no lens adhesion and he showed no corneal staining or edema. Visual acuity after lens removal was OD 20/15 and OS 20/15 and his refraction was OD 0.25 - 0.25 x 135 20/15; OS plano 0.25 x 45 20/15. K readings were OD 42.00/42.25 @ 90; OS 42.00/42.00 @ 90.

At his one-week follow-up visit, CW's unaided visual acuity was OD 20/20+ and OS 20/15 with a refraction of plano sphere OU. Corneal curvatures were: OD 41.37/41.87 @ 90; OS 42.12/42.25 @ 90. He reported that he could go through an entire day without his vision deteriorating.

I specifically asked CW to return late in the afternoon for his next follow-up exam to see if his vision or refraction differed later in the day. His unaided visual acuity was OD 20/15 and OS 20/15. His refraction was OD plano 0.25 x 165 20/15; OS 0.25 sph 20/15. Corneal curvatures were OD 41.87/42.25 @ 90 and OS 42.00/42.37 @ 90.

Visual acuity with the lenses on was 20/15 OU and the over-refraction was 0.25 OU. The lenses centered well with the typical central bearing area greater than 4mm with adequate edge lift.

CW, his parents and I are happy with his outcome using Paragon CRT. Lost lenses are no longer an issue, and CW enjoys his activities even more without wearing eyeglasses or contact lenses. Eliminating eye wear or contact lenses during daily activities is a perfect fit for a teenager's active lifestyle. Teens are natural candidates for Paragon CRT, and that's why I send the message out to them and their parents.

Try it and See

Practitioners can feel confident that with Paragon CRT, they'll see continued growth in their contact lens practice demographic ages 12 to 20. Just as Paragon CRT has worked well in our practices, by communicating the option to patients, it can work in your practice as well.

Dr. West is chief optometric editor of Optometric Management magazine and a graduate of Southern College of Optometry. Through his company, Prism Management and Consulting, he provides leadership and management consulting for private practitioners.

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