The Contact Lens Cavalier

A case analysis

By

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A cavalier attitude (marked by or given to offhand and often disdainful dismissal of important matters – Merriam-Webster's 11th Collegiate Dictionary) towards contact lens fitting and patient education leads to a secondary but just as cavalier an outlook on the part of the patient towards his eyes, his contact lenses, and the relationship between them.

In contact lens care, as in the entire realm of medicine, the care provider – in this case the eye care practitioner (ECP) – must determine the most efficacious care protocol; he must clearly explain this protocol and the principles it involves. If, as in the case of contact lens usage, care of the lenses and therefore the eyes is continuing, the ECP must review and repeat his instructions periodically in order to co-opt the patient's compliance in pursuing the goal of optimum care.

I feel it to be an imperative of our profession that we use the time given us with our patients to encourage them to follow our prescriptive instructions for the healthy use of their contact lenses. Without this basis the likelihood of the development of lens related eye-health issues grows quickly.

My case involves a referred nineteen year old student with four years of soft contact lens experience; fit in another country and coming to me because I am far more local. Since he is a new patient to me I requested that he come in wearing his glasses for his first visit. He was to bring with him his current pair of spherical, HEMA, two week disposable, soft contact lenses and their original package. His current pair has been in use for three or four weeks, he is not certain.

Some patient history

His last eye examination was around two years ago and at that time he had his spectacle correction updated. His contact lens prescription dates from some four years ago. He claimed that there had been no significant changes in his prescription over the intervening years. I neglected to ask him the identity of his most recent lens supplier. He reported no allergies, headaches or medications. He also denied pus, pain, itch or redness.

Contact lens wearing time was generally sixteen or more hours each day with a brief nap (lenses *in situ*). The patient reported some end of day ocular dryness. Lens care consists of soaking without rubbing in a name brand Polyquad/Aldox multi-purpose solution which he reportedly totally changes every day.

The examination

Visual acuity and refraction show his current glasses to be a bit weak, but a small change sharpens his vision. Corneal topography is regular with around a diopter of toricity.

The slit lamp exam was very instructive. Around his lashes I noted some matted tear material. His palpebral conjunctiva showed me a follicular response.

His corneae, though, provided me with much more information that I was able to use in understanding the nature of this patient and many of the points in which it was necessary to educate him. His presentation consisted of superficial neovascularization; swollen peri-limbal bulbar conjunctiva; and to me the most important finding, at four o'clock on the right cornea and at eight o'clock on the left were areas of desiccation that lit up with fluorescein dye with adjacent areas of injected conjunctiva. This was after eighteen hours without his lenses. I wondered how much worse the state his eyes had been when he removed his lenses the night before.

Central fundus examination was normal.

Analysis

What has this patient told me about himself and his continuing abuse of his eyes and contact lenses? I have two sources of information with which to work: that which the patient has admitted openly and clearly and that which I understand through my evaluation of this information and what I observe while examining his eyes.

The fact that the patient was unclear as to when his current lens prescription was given to him or even when his last eye examination took place showed me immediately how little emphasis his previous practitioner placed on the relationship of contact lenses to eyes. Neither, it seems, did the fitter seem interested in the possible ramifications upon ocular health a contact lens can have, nor did he make basic efforts to teach his patient to respect his eyes.

I have found that follow-up visits reinforce the relationship between my patients and myself. They allow me the opportunity to review contact lens care; to probe the patient for small contact lens induced irritations that might in fact be harbingers of large problems in the making. These, if caught and remedied early, can, in many cases, improve tolerance and comfort of contact lenses and help to keep patients in their lenses. My doctrine is that no one is born knowing everything there is to know about contact lenses and their care. Learning the basics is a continuing process that requires time, patience, and dedication. Each contact lens fitter is in every sense an educator. We must take the time to teach our patients how to most healthfully live with their ocular prosthetics.

Most likely the previous doctor was following the suggestions given by practice management gurus to delegate and reduce professional chair time with his patient. Admittedly delegation can help to build a practice, but the doctor's instructions must

be reinforced and repeated by his ancillary staff in order to complete the cycle or care. The patient was happy to receive his contact lens prescription and probably provided refills for himself through less professional sources. He was also relieved of the necessity to present himself for any sort of follow-up care. Life is so simple! Or, not…

My patient has overworn and overused his two week disposables for some years. He was either not cleaning them between usages or was minimally cleaning them. Somehow he stumbled onto the importance of using a recognized name brand solution and changing it everyday.

The effects of overwear, overuse, and under care of these HEMA lenses were evident from the condition of his corneae: superficial neovascularization. But, more dramatic than the neovascularization were the areas of corneal fluorescence and nearby conjunctival injection.

The ramification of these areas of corneal erosion is localized drying induced by partial blinking. Full blinking is required to insure that the lower third of the cornea is properly wetted with tear fluid. Without this protective surface of tears the areas known as "three and nine o'clock" will dry; the epithelial cells will die leaving the lower layers of the cornea unprotected. It seems that this happens even when a "bandage" contact lens is in place as in this case. The bandage as well as the cornea needs to be kept hydrated. On a normal eye -- one with enough tears of proper constituency -- wetting occurs through frequency and completeness of blinking. Frequent and unhealed erosions can lead to localized thinning and dellen formation besides opening the cornea to infection. Dellen are treated by frequent rewetting of the desiccated surface. If action is not taken to promote healthier corneal epithelium, problems may arise in the short term.

On the other hand neovascularization is a long term complication. Neovascularization comes in two types: superficial and deep. My patient's eyes show superficial corneal neovascularization more in the right eye than in the left. The importance of this finding is that it confirms my impression of soiled contact lens overwear and the consequent corneal suffocation. The implication for continued contact lens usage is also twofold: new blood vessels laid down into corneal tissue cannot be removed, but with a reduction in contact lens usage, improved oxygen transmissibility, and better contact lens hygiene they can be emptied and their growth curtailed, but they will refill spontaneously when conditions again deteriorate.

The best treatment plan for both conditions is stopping the abuse of contact lenses and corneal health.

Treatment plan

All my patient really wanted was more contact lenses. He wanted them on the terms that he was used to. He wanted no questions. But, he made two mistakes. He came to me and brought his parents with him. So, in alliance with the patient's parents I prescribed first and foremost a week away from his lenses in the hopes that his corneal epithelia would resurface. In addition I instructed him in blink improvement

exercises. My next step is refitting him into a silicone hydrogel lens and training him in their proper care. I shall also be certain to schedule his return visits in advance.

Prevention

Primum non nocere – First and foremost: Do no harm. All of us who work in the medical professions should value this piece of advice and maxim. Our obligation to our patients and clients is based on the teachings imbued in these three words. Our relationship to our patients and clients is defined by the advice we give and the prescriptive devices that we recommend. Contact lenses are medical devices. They require prescription; they require instruction (application, removal, and care); their use requires periodic follow-up re-evaluation.

As much as I would love to claim that none of my patients ever develops a contact lens related problem, I can not. Basically, I have found that I can not claim such success because of the ultimate unknown factor: the patient. As much as I try to educate, cajole, and even warn of the problems likely to be encountered, I still receive the occasional request from patients for emergency appointments from time to time; or worse, as in the case I have described here, the problem exists and gradually worsens, but the patient is oblivious.

Nonetheless, it is our responsibility to invest the time required in patient education. I believe that I must use the time that the patient has bought in showing him how contact lenses, while proven to be safe, must be used carefully and according to instruction in order to achieve that state. This instruction begins during the history taking with questions designed to prove to me that the patient before me understands and practices good lens care.

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