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Kristin F. Miller
Pacific University

Stephanie R. Eiken
Pacific University

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Cosmetic contact lenses; Is it worth the risk?

Abstract

Currently, the use of mail order contact lenses is on the rise, and the use of cosmetic contact lenses (+ 0.50 or less power) is also becoming more common. A closer look at optometric views on this issue was needed. Many risk factors are associated with contact lens wear and there are different views on whether or not it is worth the risk to prescribe contact lenses solely for cosmetic purposes. A survey of 21 yes/no type questions focusing on contact lens prescribing methods, patient compliance, and care solutions was mailed to 150 optometrists practicing in the United States. The number of replies received was 91, representing graduates from 12 schools of optometry. The results showed consistencies in the areas of prescribing methods and care regimens. Generally, optometrists will prescribe contact lenses with +0.50 or less power, foresee many more contact lens complications with mail order contact lenses, and prescribe chemical disinfection to all patients wearing contact lenses. Inconsistencies arose in their views of patient compliance. The views of these optometrists surveyed give insight as to future changes in vision care.

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Katherine Hinshaw

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COSMETIC CONTACT LENSES;
IS IT WORTH THE RISK?

By

KRISTIN F. MILLER
STEPHANIE R. EIKEN

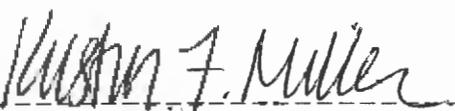
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Doctor of Optometry
May, 1994

Advisor:

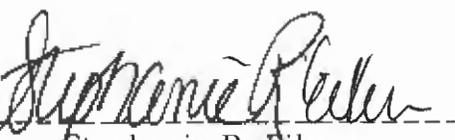
Dr. Katherine Hinshaw, O.D.

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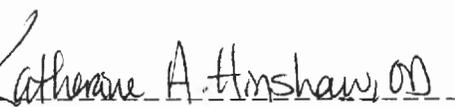


Kristin F. Miller



Stephanie R. Eiken

Advisor:



Dr. Katherine Hinshaw, O.D.

Kristin F. Miller

Kristin was born and raised in Moorhead, Minnesota and graduated from Moorhead High School in 1986. She then went on to the University of North Dakota in Grand Forks, North Dakota where she graduated with a B.S. in Biological Sciences in August of 1990. Kristin began optometry school at Pacific University College of Optometry in the fall of 1990 and is currently a candidate for graduation in May of 1994. Kristin received honors in her third year clinical courses and was involved in community athletics as a coach at Forest Grove Gymnastics and Fitness.

Kristin would like to eventually practice optometry in the midwest. A partnership practice or associateship is what she is seeking. She is also considering a career in the military as an officer and optometrist. Kristin has interest in primary care, contact lenses, pediatrics, and sports vision.

Stephanie R. Eiken

Stephanie was born and has lived in North Dakota most of her life. She graduated from Bismarck High School in Bismarck, North Dakota in 1987. She continued her education at the University of North Dakota in Grand Forks, North Dakota and graduated in August of 1991 with a B.S. in Natural Science. Stephanie began her graduate studies at the Pacific University College of Optometry in the fall 1991. She is currently a third year student and plans to graduate in May of 1995. While in optometry school, she was actively involved in student government as a class officer and a member of the Student Optometric Association executive council.

Stephanie would also eventually like to practice in the midwest as a partner or associate. She is interested in primary care and contact lenses.

ACKNOWLEDGEMENTS:

We would like to thank our thesis advisor, Dr. Katherine Hinshaw for all her help and patience.

We would would like to dedicate this thesis project in memory of our dear friend Brian L. Hill.

ABSTRACT:

Currently, the use of mail order contact lenses is on the rise, and the use of cosmetic contact lenses (± 0.50 or less power) is also becoming more common. A closer look at optometric views on this issue was needed. Many risk factors are associated with contact lens wear and there are different views on whether or not it is worth the risk to prescribe contact lenses solely for cosmetic purposes. A survey of 21 yes/no type questions focusing on contact lens prescribing methods, patient compliance, and care solutions was mailed to 150 optometrists practicing in the United States. The number of replies received was 91, representing graduates from 12 schools of optometry. The results showed consistencies in the areas of prescribing methods and care regimens. Generally, optometrists will prescribe contact lenses with ± 0.50 or less power, foresee many more contact lens complications with mail order contact lenses, and prescribe chemical disinfection to all patients wearing contact lenses. Inconsistencies arose in their views of patient compliance. The views of these optometrists surveyed give insight as to future changes in vision care.

INTRODUCTION:

The term "cosmetic contact lenses" for the purposes of our study is used to describe contact lenses that are used only to change the eye color and are prescribed at a power of ± 0.50 or less. It has become very easy to drastically change one's eye color with the use of a tinted or opaque soft contact lens. With many new colors and advances towards more natural looking cosmetic lenses, the sale of these lenses is increasing.

Many risk factors are associated with wearing contact lenses such as; corneal neovascularization, corneal

infiltrates, giant papillary conjunctivitis, edema, allergic reactions to solutions or the contact lens, just to name a few. Patient awareness of these complications vary greatly, as some are informed of the risks of contact lens wear and others are left ignorant of any future complications of their lens wear.

There is also a question as to whether eye care professionals are taking steps to avoid over wear and non-compliance. New lenses have been developed along with changes in replacement schedules and care regimens used. But, even with changing materials and care, most of the compliance factors rely on the patient. Some care systems require more time and effort by the patient, as do some types of contact lenses. The goal of this project was to determine where optometrists stand on prescribing contact lenses, care regimens and patient education. With these results, the future of optometric contact lens prescribing may be predicted.

METHODS:

A survey of ODs was needed to obtain the most accurate representation of current contact lens trends as prescribed by optometrists. A list of 21 closed-ended questions was mailed to 150 doctors whose names were taken from the 1992 Blue Book of Optometrists. An effort was made to choose the survey recipients in a random matter; three surveys were mailed to each state. The initial list did not contain information regarding the optometrist's mode of practice, but the survey itself included a specific question about their current practice mode, as well as space for additional comments on the back. Responses were all anonymous, because it was felt that more accurate information would result.

The questions were organized into 4 groups: 1-general information, 2-prescribing methods, 3-patient compliance,

and 4-care regimens, and were written so as to elicit a response based on the doctor's personal opinion. Closed ended type questions were chosen so that the doctor would be more apt to fill out the survey, as it would be less time consuming, and a pre-stamped return envelope was enclosed to increase the amount of responses. The surveys were returned to the Pacific University campus mailboxes. (See Figure 1).

RESULTS:

The results were grouped into categories based on the majority of opinions either being in agreement or disagreement. A tabulation of the results is also shown. (See Figure 2).

A. General Information:

Of the 150 surveys mailed to optometrists, 91 were returned within a time span of three weeks from the initial mailing, a response rate of almost 60%. We feel that the high response rate, along with the large number of comments provided by the respondents, indicates that this is an area of concern to many practicing ODs. Twelve optometry schools were represented; the average number of years in optometric practice was 15. Those surveyed were predominantly in private practice(83%), although commercial(10%), HMO(4%),and group practices(3%) were represented.

B. Consistencies:

The results showed consistencies in many areas. Approximately 98% of responding optometrists agreed that they need to educate their patients on the risks associated with contact lens wear, consider the patient's motivation when prescribing contact lenses, and they believe that patients who visit their eye care provider on a regular basis

are better educated on proper eye health care. Almost all (95%) of optometrists surveyed prescribe more soft contact lenses than rigid gas permeable lenses, and have refused to prescribe contact lenses on occasion for a patient. It is interesting, although not surprising, that many more colored lenses are prescribed for females than males.

A large majority(74%) of doctors surveyed would not prescribe contact lenses to a patient prone to eye health problems, and consider the patient's motivation when determining which type of care regimen to prescribe. The type of care regimen used most frequently for all lenses is chemical(72%), followed by hydrogen peroxide (27%), and heat (1%). For patients wearing contact lenses for cosmetic purposes only (± 0.50 or less power), the most common care regimen is chemical (80%), followed by hydrogen peroxide (19%) and heat (1%).

C. Inconsistencies:

There were also many questions that elicited mixed responses. Optometrists views seemed to be mixed on whether they felt that contact lenses pose a threat to the health of the eye (46% yes, 54% no), who has more contact lens complications, males or females; if they believed that a patient wearing plano lenses would comply with their care regimen as well as a patient with a high refractive error(37% yes, 63% no), and lastly, if the doctor should discontinue a patient's contact lens prescription if he or she suspects that the patient is non-compliant with the prescribed care regimen(58% yes, 42% no).

D. Comments By Respondents:

The comments given on the back of the surveys mainly consisted of qualification of their yes or no responses. The majority of comments were about mail

order contact lenses, and the causes of contact lens complications.

Most practitioners who commented on mail order lenses had very negative comments; some wrote of how they financially couldn't compete with mail order prices and how mail ordering made the fitting process look much less important. One doctor commented how she had received phone calls from patients who had ordered contact lenses by mail and asked how they should insert them on their eyes.

Many doctors mentioned that they did not feel that gender had much to do with the rate of contact lens complications, but that they were related more to noncompliance on systemic health conditions (diabetes was used as an example), or to personality and education. It was also apparent that more females are concerned with their eye color than men. Therefore, many more cosmetic contact lenses are worn by females.

Patient compliance brought forth a few responses, with many doctors believing that you must try to re-educate a patient on the importance of their care regimen and health of the eyes if you suspect they are non-compliant. Another common remark was to choose a chemical care regimen for those you suspect are non-compliant before actually discontinuing the contact lens wear. Two optometrists commented on how they had thrown a patient's contact lenses in the garbage when they were non-compliant.

DISCUSSION:

With mail order contact lenses increasingly available, and the use of contact lenses for cosmetic effect only, a closer look was taken at prescribing trends of optometrists. Many risk factors accompany contact lens wear, some minor, and some that cause discontinuation of contact lens

wear by the patient permanently. The majority of contact lenses are prescribed by optometrists, so the survey was directed towards 150 doctors of optometry.

The results of this study indicated that there is a definite trend towards chemical contact lens care systems, replacing the traditional hydrogen peroxide and heat. Also, most optometrists strongly felt that patients need to be educated on the risks of their contact lens wear, and may terminate wear if they suspect their patient is non-compliant. Determining which patients are suitable for contact lenses is another issue that optometrists seemed to agree on; most believed that the patient must be motivated and not prone to eye health problems.

There were also many areas with mixed opinion, especially in the prescribing of lenses of ± 0.50 or less power and/or colored lenses. With the increasing use of frequent replacement and disposable contact lenses, optometrists are taking steps to limit over wear and non-compliance by contact lens wearers. There is a definite inclination toward chemical care regimens and patient education.

The remarks section showed that optometrists are very concerned about mail order contact lenses and patient compliance. Some respondents wrote that they take many factors into consideration when prescribing lenses, and in dealing with non-compliant patients. Many feel that patient compliance has more to do with a patient's education and choosing the right contact lens candidates from the beginning other than gender. "Real World" examples were given in the areas of contact lens prescribing and dispensing with references to patient care videos and literature. Since we did not clarify in the questionnaire that we were only concerned with the wear of soft cosmetic contact lenses, many optometrists mentioned that they would prescribe ± 0.50 or less power in a rigid gas permeable and ortho-K type lens. Also, some patients prefer to have a lens in each

eye for equal comfort in an anisometropic situation where a corrective prescription is not needed for one eye.

The information from this survey gave a good indication of current contact lens prescribing considerations and care. These current trends will most likely continue to change with health care opinions, advances in technology and a desire for preventive eye care. Changes in the way health care, in general, will be provided in the future will undoubtedly have a major impact on optometry in many areas. Although, it is uncertain whether most patients will have insurance coverage for cosmetic contact lenses or not. It seems doubtful that any insurance plan will cover contact lenses when used for cosmetic purposes only. From the results obtained, it was very apparent that the majority of optometrists are willing to prescribe contact lenses of ± 0.50 power or less to a patient when requested, and do not feel that it causes an undue risk to their patient's eye health.

CONTACT LENS SURVEY

Please answer all Yes/No and Male/Female questions by circling the letter preceding the question. For all other questions, please circle the answer at the end of the question.

GENERAL INFORMATION: We would like to know about your optometric background.

1. In what type of practice are you currently employed? Private/
Commercial/Military/HMO or other _____
- How long have you been in practice? _____
- Which optometry school did you graduate from? _____

PRESCRIBING METHODS: We are interested in what considerations you take into account when prescribing contact lenses.

- Y N 2. Do you prescribe contact lenses in your practice?
- Y N 3. Do you prescribe more soft contact lenses than RGP's?
- Y N 4. Do you prescribe contact lenses of less than ± 0.50 power?
- Y N 5. If you said no to question #4, would you prescribe the same in colored lenses at the request of a patient?
- Y N 6. In your opinion, do contact lenses pose a threat to the health of the eye?
- Y N 7. Do you educate your patients on the risks associated with contact lens wear?
- Y N 8. Do you consider the patient's motivation when prescribing contact lenses?
- Y N 9. Have you ever refused to prescribe contact lenses for a patient?
- Y N 10. Would you dispense contact lenses to a patient who you thought was prone to eye health problems?
- M F 11. Do you prescribe colored contact lenses more frequently to males or females?
- M F 12. Do you see more contact lens complications with males or females?
- Y N 13. Do you foresee more contact lens complications with the use of mail order contact lens providers?
- Y N 14. Do you personally dispense all of the contact lenses that you order?

PATIENT COMPLIANCE: We are curious as to what type of patient compliance you have observed in your practice.

- Y N 15. Do you believe that contact lens wearers, in general, comply with their care regimens?
- Y N 16. Do you believe that a patient wearing plano lenses would comply with their care regimen as well as a patient with a high refractive error?
- Y N 17. Do you believe that patients who visit their eye care provider on a regular basis are better educated on proper eye health care?
- Y N 18. Do you discontinue a patient's contact lens prescription if you suspect that they are non-compliant with their care regimen?

CARE REGIMENS: We would like to know what type of care regimen is used most frequently.

- Y N 19. Do you consider the patient's motivation when deciding which type of care regimen to prescribe?
20. What type of care regimen do you prescribe most frequently? Hydrogen Peroxide/
Chemical/Heat
21. What type of care regimen would you prescribe to a patient who was wearing contact lenses for cosmetic purposes only (less than $\pm .50$ D in power)?
Hydrogen Peroxide/ Chemical/ Heat

Please feel free to make comments on the back.

Figure 1

Stephanie Eiken
Kristin Miller
Pacific University
Forest Grove, OR 97116

January 15, 1994

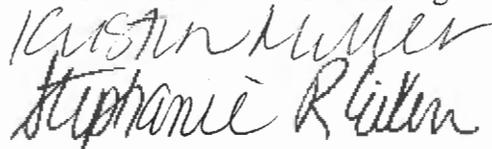
Dear Practicing Optometrist:

Hello! We are two students from Pacific University College of Optometry. We are requesting your participation in our thesis project, which is a general survey on contact lens prescribing. Our interest lies in some current trends in contact lenses and how they are utilized by optometrists.

Your name was chosen from a random list of practicing optometrists in the United States. Your answers and names will remain anonymous. We have enclosed the survey with a return envelope. Please answer as many questions as you can and return the survey as soon as possible. This survey should not take more than five minutes to finish.

Your help is greatly appreciated.

We look forward to hearing from you,

Handwritten signatures of Kristin Miller and Stephanie Eiken in cursive script.

Kristin Miller and Stephanie Eiken
2043 College Way, UC Box 1995
Forest Grove, Oregon 97116

CONTACT LENS SURVEY RESULTS:

	Y/M	N/F
Do you prescribe contact lenses in your practice?	99%	1%
Do you prescribe more soft contact lenses than RGPs?	95%	5%
Do you prescribe contact lenses of less than ± 0.50 power?	56%	44%
If you said no to the above question, would you prescribe the same in colored contact lenses at the request of a patient?	63%	2%
In your opinion, do contact lenses pose a threat to the health of the eye?	46%	54%
Do you educate your patients on the risks associated with contact lens wear?	99%	1%
Do you consider the patient's motivation when prescribing contact lenses?	100%	0%
Have you ever refused to prescribe contact lenses for a patient?	95%	5%
Would you dispense contact lenses to a patient who you thought was prone to eye health problems?	*21%	74%
Do you prescribe colored contact lenses more frequently to males or females?	*0%	95%
Do you see more contact lens complications with males or females?	*24%	55%
Do you foresee more contact lens complications with the use of mail order contact lens providers?	88%	12%
Do you personally dispense all of the contact lenses that you order?	45%	55%
Do you believe that contact lens wearers, in general, comply with their care regimens?	57%	43%
Do you believe that a patient wearing plano lenses would comply with their care regimen as well as a patient with a high refractive error?	37%	63%
Do you believe that patients who visit their eye care provider on a regular basis are better educated on proper eye health care?	98%	2%
Do you discontinue a patient's contact lens prescription if you suspect that they are non-compliant with their care regimen?	58%	42%
Do you consider the patient's motivation when deciding which type of care regimen to prescribe?	71%	29%
What type of care regimen do you prescribe most frequently? 27% Hydrogen Peroxide, 72% Chemical, 1% Heat		
What type of care regimen would you prescribe to a patient who was wearing contact lenses for cosmetic purposes only (less than ± 0.50 D in power)? 19% Hydrogen Peroxide, 80% Chemical, 1% Heat		

Total number of surveys received: 91
Number of schools represented; 12
Average number of years in practice: 14.5
Practice Modes Represented:

10%	Commercial
4%	HMO
3%	Group
83%	Private

*These questions had one more answer : Depends (5%), Equal (5%) and (21%) listed in this order.

Figure 2