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Pacific eyes: A website for education on diagnosis and treatment of ocular diseases

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Pacific eyes: A website for education on diagnosis and treatment of ocular diseases

Abstract
As primary health care providers, optometric physicians need to be knowledgeable about the general anatomy and physiology of the whole human body, not just the eyes. With this emerging role, it becomes difficult to grasp every specific detail of signs, symptoms, etiology, treatment, and epidemiology of all the possible ocular diseases and their relationships to systemic diseases. Occasionally, a patient may walk into the office with a rare disease or a combination of signs and symptoms that just do not seem right. This would necessitate the need to use a reference text or consultation with a colleague in order to provide proper care for that patient. "Pacific Eyes," a Website for education on diagnosis and treatment of ocular diseases would be the perfect "on-line colleague" to consult. There is also the convenience of entering key signs and symptoms that the patient presents with and performing a search for all the possible ocular diseases that present with these characteristics. Another benefit of consulting this site rather than a reference text is that information on the selected disease can be printed and sent home with the patient for educational purposes. Patient education is an often forgotten portion of a comprehensive examination.

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Pacific Eyes:
A Website for Education on Diagnosis and Treatment of Ocular Diseases

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Advisor
Robert Yolton, O.D., PhD.
Pacific Eyes:
A Website for Education on Diagnosis and Treatment of Ocular Diseases

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Wendi Harada, B.A.

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BIOGRAPHY

Todd Nakagawa, a resident of Ewa Beach, Hawaii on the island of Oahu did his undergraduate work at Oregon State University and received a Bachelor of Science in General Science in the Spring of 1998. He was admitted into Pacific University College of Optometry in the Fall of 1998 and became a member of AOA and ASOA. While attending Pacific University he worked at the Reserve Golf Course. He is a second-generation optometrist, whose father Earle Nakagawa, O.D. graduated from Pacific University College of Optometry in 1973. Upon receiving his Doctor of Optometry from Pacific University in May 2002, Todd will join his father’s practice in Kaneohe, Hawaii on the island of Oahu.

Wendi Harada, a resident of Aiea, Hawaii on the island of Oahu did her undergraduate work at the University of Hawaii at Manoa and received a Bachelor of Arts in Japanese Language in the Fall of 1998. She was admitted into Pacific University College of Optometry in the Fall of 1999 and became a member of AOA and ASOA. She is also a member of the College of Optometry Admissions Committee and Beta Sigma Kappa. Wendi will receive her Doctor of Optometry from Pacific University in May 2003. She will then return to the island of Oahu and join the practice of Robb T. Shibayama, O.D., Inc.
ABSTRACT

As primary health care providers, optometric physicians need to be knowledgeable about the general anatomy and physiology of the whole human body, not just the eyes. With this emerging role, it becomes difficult to grasp every specific detail of signs, symptoms, etiology, treatment, and epidemiology of all the possible ocular diseases and their relationships to systemic diseases. Occasionally, a patient may walk into the office with a rare disease or a combination of signs and symptoms that just do not seem right. This would necessitate the need to use a reference text or consultation with a colleague in order to provide proper care for that patient. “Pacific Eyes,” a Website for education on diagnosis and treatment of ocular diseases would be the perfect “on-line colleague” to consult. There is also the convenience of entering key signs and symptoms that the patient presents with and performing a search for all the possible ocular diseases that present with these characteristics. Another benefit of consulting this site rather than a reference text is that information on the selected disease can be printed and sent home with the patient for educational purposes. Patient education is an often forgotten portion of a comprehensive examination.
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We would like to thank Mr. Matthew Shipman for assisting us in setting up our Website and search program. We would also like to thank Dr. Robert Yolton for taking the responsibility of being our advisor for this thesis project. His door was always open to all of our questions that arose during the course of this project. Without the generous support of Mr. Shipman and Dr. Yolton this thesis would not have been possible.
PROJECT RELEVENCE

Over the past 20 years, the role of optometrists has changed dramatically. Optometrists began without the legal rights to use diagnostic drops for dilation. Today, they are prescribing therapeutics, injectables, co-managing and moving into the realm of primary health care providers. With this new role, optometrists have to be knowledgeable about not only eye diseases but also systemic diseases that can ultimately affect the eyes. With the overflowing amount of information that optometrists have to master, it is becoming increasingly difficult or nearly impossible to memorize every detail. This dilemma, combined with increasing use and convenience of the Internet, provides the basis for the need of a unique computerized reference guide for optometric students, interns, and physicians. “Pacific Eyes” is a “knowledge bank” of diseases to use just in case there is a need for additional information on a certain disease. Our Website will allow optometric students, interns and physicians to have quick access to ocular conditions by performing a word search of key signs and symptoms. This eliminates the time it takes to search through various reference texts to review ocular conditions.

For the optometric student, this Website will be a very convenient resource while studying for exams. Interns will also find the program useful as a quick guide in clinical situations. More laptops are being used in exam rooms as Internet access becomes available in most exam rooms. As for practicing optometrists, it will be an excellent resource as an “on-line colleague” in the event that a patient with a rare disease walks into the office and the doctor is uncertain what the condition may be. Textbooks are always an excellent resource, but one big advantage of “Pacific Eyes” is that information on each condition is printable and can be sent home with the patient. Patient education is often lacking in many comprehensive vision examinations. Sending home printouts on a patient’s condition with information on treatment will ultimately increase patient understanding and compliance if medical treatment is necessary.

EXPERIMENTAL DESIGN

This project was divided into three parts. The first part was research. Some time was spent consulting computer specialists on different types of computer software that could be used to design the website and perform searches. There were many to choose from, but ultimately Go Live was selected. Once Go Live was purchased, additional time was put into reading the manual, installation, and learning how to use the program. The second part of the project was to decide on which ocular diseases should be included in the Website. The most important ones were determined to be the most common and sight or health threatening diseases. References used for researching diseases were Primary Care of the Anterior Segment by Louis J. Catania,
The research was completed part two began. Part two was the inputting of information into the computer. After carefully determining which diseases would be included in the search program, information on each disease was organized in an easy to read outline format which included “etiology,” “epidemiology,” “symptoms,” “signs,” “workup,” and “treatment.” On each page of the project a disclaimer stating, “The information on this page is believed to be accurate. However, it does not substitute a complete vision or medical exam,” would appear. The statement below was also included at the bottom of each page of the Website:

“Information on this page was derived from:


The final portion of this project was to design the homepage and to set up the search program. The homepage is the main page that users come to in order to begin the search. From this page the user has the option to view the ocular conditions that are included in the search by clicking on “Index.” In the middle of the homepage there is a box to enter “key words.” The user can enter as many words (e.g. signs and symptoms) pertaining to the patient’s condition as were found throughout the exam, then press the “search” key. Instantly a list of all the possible conditions that were associated with the “key words” will appear. The user can narrow the search by entering additional findings. At this point the user can select the condition most related to the chief complaint and exam findings. The information can then be printed for the patient to take home at the conclusion of the office visit. It is important to keep patients informed about their eye condition. Also, having written step-by-step directions on how to care for their eyes will help increase patient compliance.

GOALS AND FUTURE USE

The goals of this project were to provide an easily accessible database of ocular diseases and increase patient education.

As researchers keep moving towards finding new treatments for diseases, “Pacific Eyes” will continue to be updated.
CONCLUSION

Textbooks have been one of the main sources of reference in clinic and in practice when patients present with unusual signs and symptoms that do not add up. With the increasing use of computers and the unlimited amount of knowledge available on the Internet, having a program that will do a search of “key” signs and symptoms for all the possible diseases that match will prove to be invaluable. In addition to the easily accessible database, all information is printable as patient education; a benefit which is not achieved with a textbook.

The “Pacific Eyes” Website can be viewed at the address below:

pacificeyes.tripod.com