

**A MULTIMEDIA TUTORIAL TO ENHANCE HEALTHCARE PROVIDER KNOWLEDGE
AND SKILLS TO TREAT STRABISMUS DISORDERS**

by

**Sarah M. Weeks
Meagan K. Baker**

**This paper is submitted in partial fulfillment of the
requirements for the degree of**

Doctorate of Optometry

**Ferris State University
Michigan College of Optometry**

May, 2010

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**Ferris State University
Doctor of Optometry Senior Paper
Library Approval and Release**

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AND SKILLS TO TREAT STRABISMUS DISORDERS**

We, Sarah M. Weeks and Meagan K. Baker, hereby release this paper as described above to Ferris State University with the understanding that it will be accessible to the general public. This release is required under the provisions of the Federal Privacy Act.

ABSTRACT

Objective: The focus of this project is to create a multimedia educational website containing information on strabismic disorders. Each disorder investigated comprises a specific learning module and includes a summary of well-documented information as well as digital photos and video recordings of patients depicting common clinical findings specific to that disorder. **Methods:** A website titled "*The Business of Strabismus*" was created using Dreamweaver software. Data and images for each strabismic condition are presented in a simulated clinical case format along with information about the epidemiology, pathophysiology, and clinical management of the condition within this interactive site. The data and images collected for the website were gathered from participants at the Michigan College of Optometry. Approximately 5 participants were recruited and examined. **Conclusions:** The completed educational website will provide healthcare providers with background information, medical record case information, and digital and video images that illustrate various conditions that affect eye muscle coordination, categorized as strabismus. The site also contains information on treatment of strabismic disorders and provides links to other related sites.

ACKNOWLEDGEMENTS

We would like to acknowledge and thank Dr. Mark Swan for his assistance in the success of this project, his interest in our education, and for sharing his knowledge in the area of binocular vision.

TABLE OF CONTENTS

	Page
INTRODUCTION.....	1
METHODS.....	1
CONCLUSION.....	6
DISCUSSION.....	7
APPENDIX	
A. APPLICATION FOR APPROVAL OF A PROJECT INVOLVING HUMAN SUBJECTS.....	9
B. LETTER OF INTENT RECEIVED BY PARTICIPANTS.....	19
C. AGREEMENT TO PARTICIPATE.....	22
D. STRABISMUS POSTER.....	25
E. CERTIFICATE FOR PARTICIPATION.....	27

A Multimedia Tutorial to Enhance Healthcare Provider Knowledge and Skills to Treat Strabismus Disorders

Introduction

The objective of this project is to create a multimedia educational website containing information on common strabismic disorders. This site was created with intention for use by healthcare providers and current optometric students and provides viewers with background information, medical record case information, and digital and video images illustrating various conditions which affect eye muscle coordination, categorized as strabismus. This online tutorial also contains information on treatment options of strabismic disorders and provides links to other related sites.

Methods

I. Collection of Informative Data to be Incorporated into the Website

The information provided on the website about strabismus and each associated disorder was accurately researched and referenced. A link to the references utilized is provided on the website and a hard copy has been provided within this document. This tutorial currently provides information on comitant horizontal ocular deviations only. Provisions of the site include links and information about vertical deviations as well.

II. Collection of Patient Data to be Incorporated into the Website

a. Obtaining Permission to Conduct Research Involving Human Subjects

Due to the nature of this project, we were collecting and publicly sharing the personal information of patients, mainly exam data and video footage. This project was evaluated by the Institutional Review Board and received approval. The completed application for approval as well as the letter of approval can be found in Appendix A.

b. Locating Candidates and Requesting Participation

i. The University Eye Center at the Michigan College of Optometry at Ferris State University maintains a database of patient diagnosis codes. This database was queried to find participants who have the desired strabismic conditions. From the list of patient names provided by the database, each patients chart was reviewed for prior examination findings. Potential candidates were selected based on prior diagnoses given by the Michigan College of Optometry.

ii. Posters were placed in common areas of the Michigan College of Optometry to further aid in recruiting willing participants. A copy of the poster is provided in Appendix D.

iii. Potential participants located through the database of the Michigan College of Optometry were contacted by phone and invited to participate. A copy of the phone script is provided in Appendix A.

iv. Interested participants were sent additional information about the project and an agreement to participate form to be returned to the investigators. The letter of intent

received by participants can be found in Appendix B. The agreement to participate form can be found in Appendix C.

v. Willing participants were then contacted to schedule a time to come to the Michigan College of Optometry.

c. Accrument of Patient Data to be Incorporated into the Website

i. Examination procedures were conducted in a typical exam room at the University Eye Center of the Michigan College of Optometry using routine clinical instruments and following instrument manufacturer procedures. The following clinical data was collected from each participant:

Visual Acuity (corrected) at distance and near

Refractive Error at distance and near

Eye Alignment at distance and near both with and without correction

Near Point of Convergence

Extraocular Muscle Testing

Horizontal Vergences

Stereopsis/Suppression Testing

ii. Participants were required to sit in a typical examination chair or stool.

iii. The entire testing time took less than 60 minutes.

iv. No ophthalmic drops were used for this project.

v. The camera used for video imaging was a Canon Digital Video Camcorder NTSC ZR300 and was set to record directly onto a Secure Digital (SD) non-volatile memory card in Audio Interleave (AVI) format. The original video was edited to delete redundant or irrelevant footage using iMovie. The formatted video was compressed into Moving Picture Experts Group (MPEG-4) format.

vi. In return for participation, subjects were given a monetary certificate to be used toward the future purchase of optical materials at the University Eye Center at the Michigan College of Optometry. A copy of the certificate for participation can be found in Appendix E.

III. Creating the Website

i. A website titled "The Business of Strabismus" was created using Macromedia Dreamweaver3 software.

ii. The site can be accessed by students, faculty and guests on the MCO Optonet, a password protected intranet operated by MCO.

iii. The homepage of the site provides a welcome statement and a summarized definition of strabismus.

iv. Every page of the site, including the homepage, provides links to the following:

Tutorial of Concomitant Strabismus Disorders

This link is further divided into eso and exo deviations. A separate page has been created for each strabismic disorder within its respective category. Each page provides information on the description of the condition, the prevalence and incidence of the condition, expected exam findings, treatment options, and clinical pearls.

Any information collected on a human subject participant and any digital or video supplement taken of the participant will be provided in a separate window found within the respective page of the specific condition of the patient. For example, video imaging of a patient with infantile esotropia can be found under Tutorial of Concomitant Strabismus Disorders > Eso Deviations > Infantile Esotropia.

Classification Schemes of Strabismus Disorders

This link will provide viewers with links to the following information:

[CEMAS – Classification of Eye Movement Abnormalities and Strabismus](#)

[ICD-10 Classification of Strabismus](#)

[American Optometric Association classification scheme of strabismus](#)

[Classification scheme used in creating the online tutorial website](#)

Diagnostic Tests of Strabismus Disorders

This link provides information about exam elements used in the diagnosis of strabismus and how to properly perform these procedures. Visitors to this site are provided with links to both the American Optometric Association Clinical Practice

Guidelines for Strabismus and a password protected link to the Optonet created by the Michigan College of Optometry.

Treatment Options of Strabismus Disorders

This link directly connects visitors to the treatment section of strabismus provided by the American Optometric Association Clinical Practice Guidelines for Strabismus.

Full Text Descriptions of Concomitant Horizontal Strabismus Disorders

This link is further divided into eso and exo deviations. Here, viewers will be linked to the pdf. files of our initial research. All of the information contained within these research papers can be found within the link "Tutorial of Concomitant Strabismus Disorders".

Homepage

This link brings users back to the homepage of the site.

References

This link contains a list of references utilized in the creation of this project. A hard copy of references has been provided within this document as well.

Discussion

The objective of this project was to create an online educational tutorial providing healthcare providers and current optometric students with background information, medical record case information, and digital/ video images illustrating specific strabismus disorders. With the completion of this stage of the project we were able to condense and present commonly accepted information on our website concerning only comitant horizontal deviations. We were also able to obtain four videos of patients with deviations currently described on this site. However, there continues to be a demand for expansion of this website. When the idea for this tutorial was created there were provisions for future growth and additions of more ocular conditions such as vertical strabismus conditions, non-comitant strabismus conditions, and the diagnosis and treatment of amblyopia and associated conditions. In addition to the need for added information there continues to be a need to obtain video/digital imaging of patients displaying the conditions currently described as well as conditions which may be added to the tutorial in the future. The intention of the tutorial is to further educate providers on strabismus so that they may more effectively manage and treat these conditions. This website condenses information from several reputable sources in one location making it easier to locate and navigate compared to using traditional textbooks and/or multiple sources to obtain the same information. The addition of video recordings of diagnostic testing of patient with the respective conditions also enhances the clinicians learning experience as they more closely simulate what will be observed in a real clinical setting.

REFERENCES

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APPENDIX A

APPLICATION FOR APPROVAL OF A PROJECT INVOLVING HUMAN SUBJECTS

**APPLICATION FOR APPROVAL OF A PROJECT
INVOLVING HUMAN SUBJECTS
INITIAL REVIEW (and 5 yr. renewal)
HSRC**

Dr. Connie Meinholdt, Chair
College of Arts & Sciences - ASC-2108
Ferris State University
Big Rapids, MI 49307
Phone: 231-591-2759
e-mail: connie_meinholdt@ferris.edu

1. Responsible Project Investigator:
(Faculty or staff supervisor)
Name: **Mark Swan OD, MEd**
Social Security Number: **xxx-xx-xxxx**

Additional Investigator(s):
Name: **Meagan Baker**
SS# or Student ID#: **xxx-xx-xxx**

Department: N/A
College: **Michigan College of Optometry**

Name: **Sarah Weeks**
SS# or Student ID#: **xxx-xx-xxx**

I accept responsibility for conducting the proposed research in accordance with the protections of human subjects as specified by HSRC, including the supervision of faculty and student co-investigators.
Signature: _____

Name: _____
SS# or Student ID#: _____
Name: _____
SS# or Student ID#: _____

2. Address: If there are more than two investigators, please indicate who should receive correspondence, and provide further addresses on a separate page.

Responsible Project Investigator
Mark Swan, OD, MEd
Pennock 417
1310 Cramer Circle
Big Rapids MI 49307
Phone #: 231.591.2184
Fax #: 231.591.2394
Email: mswan@ferris.edu

Additional Investigator(s)
Meagan Baker or Sarah Weeks
402 Pennock Hall
1310 Cramer Circle
Big Rapids MI 49307
Phone #: 231.250.3097
Email: mkreardo@mtu.edu
sarahw73@hotmail.com

3. Title of Project: **A Multimedia Tutorial to Enhance Healthcare Provider Knowledge and Skills to Treat Strabismus Disorders.**

FOR OFFICE USE ONLY Subcommittee _____ Agenda _____
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4. Funding (if any) **None**
FSU Contracts and Grants app. # _____ if applicable
5. Has this protocol been submitted to the FDA or are there plans to submit it to the FDA? **No [X]** Yes []
If yes, is there an IND #? No [] Yes [] IND # _____
6. Does this project involve the use of Materials of Human Origin (e.g., human blood or tissue)?
No [X] Yes []
7. When would you prefer to begin data collection? **September 2009**
Please remember you may not begin data collection without HSRC approval.
8. Category (Circle a, b, or c below and specify category for a and b.)
 - a. This proposal is submitted as EXEMPT from full review.
Specify category or categories: _____
 - b. This proposal is submitted for EXPEDITED review.**
Specify category or categories: 2-F
 - c. This proposal is submitted for FULL sub-committee review.
9. Is this a Public Health Service funded, full review, multi-site project?
No [X] Yes []
If yes, do the other sites have a Multiple Project Assurance IRB that will also review this project?
[] No. Please contact the HSRC office for further information about meeting the PHS/NIH/OPRR regulations.
[] Yes. Please supply a copy of that approval letter when obtained.
10. Project Description (Abstract): Please limit your response to 200 words.

The objective of this project is to create a multimedia educational instrument containing information on strabismic disorders. It will have a summary of well-documented information as well as digital photos and video recordings of patients depicting common clinical findings specific to each disorder.

11. Procedures: Please describe all project activities to be used in collecting data from human subjects. This also includes procedures for collecting materials of human origin and analysis of existing data originally collected from human subjects
 - **The University Eye Center at the Michigan College of Optometry at Ferris State University maintains a database of patient diagnosis codes. This database will be queried to find patients who have the desired ocular conditions. (e.g., esotropia, exotropia, hypertropia, Duane's Syndrome, Brown's Syndrome, Moebius Syndrome, cranial nerve palsy, etc.)**
 - **Posters will be placed in common areas of the Michigan College of Optometry and on campus recruiting for participants.**

- Letters inviting qualified patients to participate in the project will be mailed.
- Participants who volunteer will be asked several questions about their condition and if they qualify for the project. If they are deemed to be good participants, they will be scheduled a time to come to the Michigan College of Optometry as a participant, sign an informed consent document and be assigned a random participant number.
- The project will be conducted in a typical exam room using routine clinical instruments and following instrument manufacturer procedures. The project requires subjects to sit in a typical examination chair or stool and look to different positions in the room as measurements are made. Images and video recordings will be recorded of their eye positions during this time using typical consumer cameras. The entire testing time will take less than 60 minutes. There will be no use of ophthalmic drops used for this project.

12. Subject Population: Describe your subject population. (e.g., high school athletes, women over 50 w/breast cancer, small business owners)

Appropriate patients will be selected based on their ocular history & specific strabismic disorder. For this reason patients may be of any age, race or gender.

- a. The study population may include (check each category where subjects may be included by design or incidentally):

Minors	<input checked="" type="checkbox"/>
Pregnant Women	<input type="checkbox"/>
Women of Childbearing Age	<input checked="" type="checkbox"/>
Institutionalized Persons	<input type="checkbox"/>
Students	<input checked="" type="checkbox"/>
Low Income Persons	<input checked="" type="checkbox"/>
Minorities	<input checked="" type="checkbox"/>
Incompetent Persons (or those with diminished capacity)	<input type="checkbox"/>

- b. Number of subjects (including controls) **~20 subjects, No controls**

- c. How will the subjects be recruited? (Attach appropriate number of copies of recruiting advertisement, if any.)

The Michigan College of Optometry patient database will be utilized to determine qualifying candidates. Selected candidates will be contacted by mail and asked to participate in the project. Participants will also be sought by posting an invitation in common areas of the Michigan College of Optometry and other campus locations.

- d. If you are associated with the subjects (e.g., they are your students, employees, patients), please explain the nature of the association.

Subjects may be current or past patients of the University Eye Center. The responsible project investigator is currently a licensed Optometrist, Professor and Chief of Pediatrics at the Michigan College of Optometry. The additional investigators are currently student interns at the Michigan College of Optometry.

- e. If someone will receive payment for recruiting the subjects please explain the amount of payment, who pays it and who receives it.

None

- f. Will the research subjects be compensated? [] No [X] Yes.
If yes, details concerning payment, including the amount and schedule of payments, must be explained in the informed consent.

Participants who complete the measurement and image recording session will receive a \$25.00 certificate to be used towards future ophthalmic materials including glasses, sunglasses, or contact lenses purchased at the University Eye Center.

- g. Will the subjects incur additional financial costs as a result of their participation in this study? [X] No [] Yes. If yes, please include an explanation in the informed consent.
- h. Will this research be conducted with subjects who reside in another country or live in a cultural context different from mainstream US society? [X] No [] Yes.
- (1) If yes, will there be any corresponding complications in your ability to minimize risks to subjects, maintain their confidentiality and/or assure their right to voluntary informed consent as individuals? [] No [] Yes.
- (2) If your answer to h-1 is yes, what are these complications and how will you resolve them?

13. How will the subjects' privacy be protected?

The participant's name and contact information will be used only for administrative purposes (ie, contacting the participant to arrange an appointment). This information will be maintained in secured files, following the standard medical record procedures of the University Eye Center. Participants will be fully informed and required to sign an informed consent that allows them to withdraw their information from the project at any time.

14. Risks and Benefits for subjects:

Possible Risks

- **There is no physical risk to the participant beyond that typically encountered during a routine eye examination.**
- **There is a possible risk of personal identification by the healthcare students and providers accessing the information during educational presentations or independent study.**

Possible Benefits

- **Financial benefit in the form of a \$25.00 certificate to be used towards future ophthalmic materials including glasses, sunglasses, or contact lenses purchased at the University Eye Center.**
- **The knowledge that information collected will contribute to the education of healthcare providers about their condition.**

15. Consent Procedures

Participants will be invited on a volunteer basis. A consent form will be given to the volunteers to read and sign. The purpose of the study will be thoroughly explained and any questions asked will be answered to best of our ability. Each participant will be assigned a random number that will be used to track their data for the remainder of the project. Volunteers may feel free to discontinue the research at any time for any reason.

CHECKLIST: Check off that you have included each of these items. If not applicable, state N/A:

- Completed application
- The correct number of copies of the application and instruments, according to the category of review
- Consent form (or script for verbal consent), if applicable
- Advertisement, if applicable
- One complete copy of the methods chapter of the research proposal

**A Multimedia Tutorial to Enhance Healthcare Provider Knowledge and Skills
to Treat Strabismus Disorders: Methods**

The objective of this project is to create a multimedia educational instrument containing information on strabismic disorders. Each disorder will comprise a specific learning module and will include a summary of well-documented information as well as digital photos and video recordings of patients depicting common clinical findings specific to that disorder. The following methods will be used to complete this project:

Procedures:

- The University Eye Center at the Michigan College of Optometry at Ferris State University maintains a database of patient diagnosis codes. This database will be queried to find participants who have the desired ocular conditions (e.g., esotropia, exotropia, hypertropia, Duane's Syndrome, Brown's Syndrome, Moebius Syndrome, Cranial Nerve Palsy, etc.)
- Posters will be placed in common areas of the Michigan College of Optometry and on campus recruiting for participants.
- Potential participants from recruiting will be contacted by phone and invited to participate.
- Interested participants will be sent additional information about the project, a questionnaire, and an agreement to participate form to be returned to the investigators.
- Information from willing participants will be screened by the project investigators to determine if the patient qualifies for participation in the project. If they are deemed to be good participants, they will be contacted to schedule a time to come to the Michigan College of Optometry be assigned a random participant number.
- Procedures will be conducted in a typical exam room at the University Eye Center of the Michigan College of Optometry using routing clinical instruments and following instrument manufacturer procedures. The project requires subjects to sit in a typical examination chair or stool and look to different positions in the room as measurements are made. Images and video recordings will be recorded of their eye positions during this time using typical consumer cameras. The entire testing time will take less than 60 minutes. There will be no use of ophthalmic drops used for this project.
 - Specific examination procedures and clinical data to be collected
 - Visual Acuity (corrected)
 - Distance
 - Near
 - Refractive Error
 - Distance
 - Near
 - Measure Eye alignment (uncorrected and corrected)
 - Distance
 - Near
 - With and without glasses
 - Near Point of Convergence
 - Extraocular Muscle Testing
 - Horizontal Vergences
 - Stereopsis / Suppression Testing

- **Data and images for each condition will be presented in a simulated clinical case format along with information about the epidemiology, pathophysiology and clinical management of the condition in an interactive webpage.**

Strabismus Project Phone Script

Hello, I'm (Name) an optometry student at the Michigan College of Optometry at Ferris State University.

I am calling to invite you to participate in an educational project concerning strabismus.

Your name was identified from our database as a potential participant in our study.

This would require about an hour of your time to conduct several procedures which will be recorded and incorporated into a digital study guide.

We hope you will consider helping us educate doctors on conditions like yours.

If you are willing to participate, I will send you a packet of information about our project which will include some forms which you will need to fill out.

Are you interested in participating?

If Yes – Please let me verify your address

Do you have any questions?

Thank you for your time and have a nice day.

If No – OK, thank you for your time and have a nice day.

Connie Meinholdt, Ph.D.
Human Subjects Research Committee
ASC 2072 - 820 Campus Drive
Ferris State University
Big Rapids, MI 49307
(231) 591-2759

To: Dr. Mark Swan, Ms. Meagan Baker & Ms. Sara Weeks
From: C. Meinholdt, HSRC Chair
Re: HSRC Applications #090804 (Title: A Multimedia Tutorial to Enhance Healthcare Provided Knowledge and Skills to Treat Strabismus Disorders)
Date: September 14th, 2009

The Ferris State University Human Subjects Research Committee (HSRC) has reviewed your application for using human subjects in the study, "A Multimedia Tutorial to Enhance Healthcare Provided Knowledge and Skills to Treat Strabismus Disorders" (#090804) and tentatively approved it in the category of expedited 2F. This approval has an expiration date one year from the approval date. As such, you may collect data according to procedures in your applications until September 15th, 2010. However, one reviewer noted that you should be sure NOT to contact patients in the database that have indicated they do not wish to participate in research. Also, complains can now be sent to:
HumanSubjectsResearchCommittee@ferris.edu

It is your obligation to inform the HSRC committee of any changes in your research protocol that would substantially alter the methods and procedures reviewed and approved by the HSRC in this application. Your application has been assigned a project number (#090804) which you may wish to refer to in future applications involving the same research procedure. Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let me know if I can be of future assistance.

APPENDIX B

LETTER OF INTENT RECEIVED BY PARTICIPANTS

(Insert Date)

Dear (insert patient name),

Please allow us to introduce ourselves. We are senior interns at the Michigan College of Optometry. We have chosen to develop a multimedia learning instrument as our senior project. A component of this project will include digital images and video recordings of conditions that effect the coordination of eye movements. The purpose of this project is to further educate healthcare students and providers on these conditions in hopes of providing improved patient care. You have received this letter because you have [insert condition here] and we are requesting your participation in our project.

Your name was found from a search of the database at the University Eye Center at the Michigan College of Optometry at Ferris State University. With your voluntary participation in this project we will arrange a time with you to record some images and video of your eyes, record data that pertains to your eye muscle condition, and combine this information with general information about the condition to form a comprehensive learning module. You may be one of several cases recorded in one of several learning modules. Learning modules will be used in educational presentations to healthcare students and providers and may be available as an independent instructional tool via the internet.

We understand that your participation may be inconvenient. We want to do everything that we can to make it easier for you to participate in this project and contribute to the education of future healthcare providers. You might even learn a little more about your own condition.

- We will need to process some paperwork before we can begin; we have included forms with this letter which you can fill out and mail or fax back to us. Or, just call us and we will help fill out the paperwork for you to sign when you come in for your appointment.
- We will need about a one-hour appointment to record the images and video. There is no charge for this appointment.
- We will provide you with a \$25.00 certificate to be used towards future ophthalmic materials including glasses, sunglasses, or contact lenses purchases at the University Eye Center.

If you are interested in participating in this project, please follow the directions on the attached forms. After receiving this paperwork we will contact you to schedule the appointment. If you have any questions regarding this project please don't hesitate to contact us. We thank you for considering our request.

Sincerely,

Meagan Baker
mkreardo@mtu.edu

Sarah Weeks
sarahw73@hotmail.com

Dr. Mark Swan, Responsible Project Investigator
231-591-2184
mswan@ferris.edu

This project has been reviewed and approved by the Ferris State University, Human Subjects Research Committee (HSRC).
Dr. Connie Meinholdt, Chair
Phone: 231-591-2759
E-mail: connie_meinholdt@ferris.edu

APPENDIX C

AGREEMENT TO PARTICIPATE

Agreement To Participate

Title: A Multimedia Tutorial to Enhance Healthcare Provider Knowledge and Skills to Treat Strabismus Disorders.

Investigators: Mark Swan, OD, MEd, Meaghan Baker, Student Intern, and Sarah Weeks, Student Intern.

This project is being conducted at the Michigan College of Optometry at Ferris State University and is designed to provide healthcare providers with background information, medical record case information, and digital and video images that illustrate various conditions that effect eye muscle coordination, categorized as strabismus. Approximately 20 participants will be used to demonstrate common etiologies, variations, and severities of strabismus.

Pre-test activities for this project involve a brief questionnaire to determine participant eligibility. Provided all preliminary criteria are met, the participant will be assigned a random number which will be used to record and compare all examination data.

The project will be conducted in a typical exam room using routine clinical instruments and following instrument manufacturer procedures. The project requires subjects to sit in a typical examination chair or stool and look to different positions in the room as measurements are made. Images and video recordings will be recorded of their eye positions during this time using typical consumer cameras. The entire testing time will take less than 60 minutes. There will be no use of ophthalmic drops used for this project.

Participant images as well as some of their personal health information (only that which pertains to the condition) may be published on both internal and external servers that may be accessed via the internet. No information that personally identifies the participant (name, date of birth, address, etc.), other than digital images or video recordings of the participant's face, will be stored or used in educational presentations. All images and medical information will be stored and referred to within the database using the randomized numbering system. Your privacy will be protected to the maximum extent allowable by law.

Participation in this project is strictly voluntary and you may chose to discontinue at any time. If you choose to withdraw from the study, it will not affect your status as a student at Ferris State University. Additionally, it will not affect your future eye care at the University Eye Center at Ferris State University. All findings are confidential and any information used in publication will be coded to protect your privacy. As a participant who completes the measurement and image recording session, you will receive a \$25.00 certificate to be used towards future ophthalmic materials including glasses, sunglasses, or contact lenses purchased at the University Eye Center.

If you have any questions regarding this study, contact the responsible investigator – Dr. Mark Swan, Michigan College of Optometry at Ferris State University, (231) 591-2184.

ANY QUESTIONS REGARDING YOUR RIGHTS AS A RESEARCH SUBJECT MAY BE ADDRESSED TO THE FERRIS STATE UNIVERSITY COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (231.591.2177). ALL RESEARCH PROJECTS THAT ARE CARRIED OUT BY INVESTIGATORS AT FERRIS STATE UNIVERSITY ARE GOVERNED BY REQUIREMENTS OF THE UNIVERSITY AND FEDERAL GOVERNMENT.

I have read the information in this statement and agree to participate. I understand that this decision is voluntary and will not provide any favored consideration to my status as a student or applicant at the Michigan College of Optometry or Ferris State University, or any other advantage that could be offered by the investigators. I understand that my participation will not involve any additional costs to me or my health care insurance provider. I understand that my images as well as some of my personal health information (only that which pertains to my condition) may be published on both internal and external servers that may be accessed via the internet. I understand that the Michigan College of Optometry plans to use my image and information only for the purpose of enhancing the knowledge and skills of healthcare students and practitioners.

Name of Participant

Signature of Participant

Date: _____

Parent Signature (If Minor)

Date: _____

Signature of Investigator

Date: _____

APPENDIX D

STRABISMUS POSTER

APPENDIX E

CERTIFICATE FOR PARTICIPATION



University Eye Center

www.ferris.edu/mco

FERRIS STATE UNIVERSITY · MICHIGAN COLLEGE OF OPTOMETRY

2009-2010 Tutorial on Comitant Strabismic Disorders

In appreciation for your participation in this study at the Michigan College of Optometry, Ferris State University, this certificate entitles you to a \$25.00 credit. This credit is to be applied toward future materials in the University Eyewear dispensary, Michigan College of Optometry. This credit may not be used in conjunction with an insurance plan. If you wish, you may transfer this privilege to another individual by entering the person's name and signing the form where indicated below. Thank you for your participation!

Robert S. Buckingham, O.D.
Assistant Dean for Clinical Affairs

Only this signed original certificate may be redeemed

I hereby transfer this certificate to: _____
(please print)

Signature: _____

Date: _____