



**SCHOOL OF OPTOMETRY**

**INDIANA UNIVERSITY**

# **Cornea and Contact Lens Optometry Residency Program**

## **Information Manual**

**INDIANA UNIVERSITY  
School of Optometry  
744 East Third Street  
Bloomington, IN 47405**

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# Cornea and Contact Lens Residency Program

## **Key Personnel**

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### **Director of Residencies**

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### **Residency Program Coordinator**

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## **Mission, Vision and Goals**

The mission of the School of Optometry is to protect, advance and promote the vision, eye care and health of people worldwide by preparing individuals for careers in optometry, the ophthalmic industry and vision science and by advancing knowledge through teaching, research and service. This will be accomplished through the Doctor of Optometry, Optician/Technician, Residency, and Graduate Programs.

The vision of the School of optometry is to be at the leading edge of vision care for the people of the world. The goals of the School of Optometry focus on six areas:

1. Teaching. To be recognized for excellence and leadership in teaching.
2. Patient Care. To supply students with sufficient numbers, diversity and quality of patient experiences that will provide them with the clinical education to become proficient in performing patient care. At the same time, the goal is to provide timely, appropriate and quality care to the patients.
3. Research. To increase the research activity of our faculty and students, to improve the research profile of the faculty and school, and to be a recognized leader in vision science and vision health research.
4. Service. To increase the service activity of our faculty, staff and students; to be recognized nationally/internationally as a leader in service to the profession and vision science; and to have a level of service within the university and community to be recognized as outstanding citizens.
5. Facilities. To have state-of-the-art physical facilities and equipment that creates an integrative approach to education, research, training and service delivery.
6. Finances. To maintain funding that allows for sufficient faculty and staff continued growth, up-to-date facilities and the ability to take advantage of opportunities that arise.

## **Indiana University Cornea and Contact Lens Residency Background**

A Residency in Cornea and Contact Lens at the Indiana University (IU) School of Optometry was initiated on July 1, 1991, with one residency position. In light of the ACOE request that all residencies have standardized titles, this residency is now designated a Residency in Cornea and Contact Lens. In these fifty-three postgraduate clinical education programs, the resident is considered an employee of Indiana University and a faculty member with the rank of Visiting Clinical Faculty. The title is used for Indiana University benefit purposes only. The resident is based in the Cornea and Contact Lens Clinic of the IU School of Optometry Atwater Eye Care Center. The resident also spends clinical time at the IU Student Health Center.

# Cornea and Contact Lens Residency Mission Statement and Goals

## Mission Statement

The mission of the Residency program in Cornea and Contact Lenses is to provide advanced competency in the areas of contact lenses, cornea and anterior segment treatment and management, through education, patient care experiences, and scholarship.

## Program Goals

### Goal 1

To provide the highest quality of cornea and contact lens care utilizing currently accepted standards of care, techniques, and technology.

Objectives:

1. The resident will provide patient care consistent with the American Optometric Association clinical care guidelines and other current evidence-based guidelines.
2. The resident will learn to use current contact lens materials and solutions and employ up-to-date technology to aid in contact lens fitting and myopia management including use of topographers, digital anterior/posterior segment photography and anterior/posterior segment OCT; and the diagnosis and management of cornea and anterior segment disease, including corneal crosslinking and dry eye management with use of contemporary treatment and management methods and technology.

### Goal 2

To provide a diverse clinical patient base to assure advanced clinical competency in cornea and contact lenses, including myopia management and ocular surface disease, the diagnosis and management of ocular conditions, the management of ocular emergencies and trauma, and advanced clinical competency in primary care optometry.

Objectives:

1. The resident will examine and treat approximately 1500 patients throughout their residency. Approximately 1000 of those patients will be contact lens patients, 150 will be red eye patients, 150 will be primary care exams, and 50-100 dry eye examinations.
2. The resident will see approximately 10-30 patients in the walk-in IU Health Center Eye Clinic. At the center the resident will advise optometry interns and see their own patients with emergent red eye situations as well as ocular trauma.
3. The resident will see approximately 150 patients in the primary care setting while advising interns and helping them diagnose and manage the patient.
4. The resident will be expected to provide after-hours call coverage a maximum of one week for every three-to-four-week period.
5. The resident will become proficient with therapeutic agents used to manage and treat cornea and anterior segment disease.
6. The resident will have the opportunity to interact with a variety of corneal specialists and observe a variety of surgical procedures.
7. The resident will learn standard protocols for treatment of refractive and anterior segment conditions with contact lenses and the treatment of cornea and anterior segment disease.

### **Goal 3**

To expose the resident to didactic and teaching experiences which will serve to prepare the resident for careers in advanced areas of optometric practice and/or academics.

Objectives:

1. The resident will be required to provide clinical supervision of optometric interns in a primary care setting under the mentorship of primary care clinical faculty.
2. The resident will be required to organize and participate in weekly Case Conference Seminars for fourth year IUSO optometric interns for a quarter of the residency.
3. The resident will be required to give one lecture in the Case Conference Seminars to the fourth year IUSO optometric interns.
4. The resident will remain current with the cornea and contact lens specialty by attending continuing education classes and seminars related to cornea and contact lens topics, reviewing pertinent articles and books, and actively engaging in discussions of relevant topics with program faculty.
5. The resident will attend at least one scholarly meeting with lectures dedicated to contact lenses and anterior segment care, such as the AAO, AOA, or the Global Specialty Lens Symposium (GSLs).
6. The resident will be encouraged to attend contact lens specific residency workshops such as the GPLI and other Contact Lens Residency Workshops when possible.
7. The resident will organize and serve as a workshop instructor for Contact Lens Workshops held at IUSO. These may include the STAPLE Toric and Multifocal Workshops, among others.

### **Goal 4**

To attract a qualified applicant pool, and to select the best applicant from that pool

Objectives:

1. To inform all fourth-year students in the schools and colleges of optometry in the United States and Canada about the residency program.
2. To have an IUSO representative available to answer questions and discuss the program at national meetings, such as the AOA and the Academy, attended by optometry students
3. A brochure will be created to highlight the program's characteristics and to allow potential applicants to achieve a better understanding of the residency. This brochure will be updated annually.
4. The residency program will be promoted in the AOA Newsletter and other appropriate optometric publications each year.
5. The residency program will be listed and described on the Indiana University School of Optometry web site.
6. To be considered for the program, each candidate must apply through the National Matching Service, (ORMATCH) and submit the following by the application deadline:
  - a. Letter of intent stating reasons for applying to the program
  - b. Curriculum vitae or resume
  - c. Official transcripts from all optometric education and other graduate school work.
  - d. Scores from Parts I and II of the National Board of Examiners in Optometry
  - e. Letters of reference from three faculty or adjunct faculty members who have been most familiar with the applicant's clinical performance, and the applicant's professional abilities and academic performance.
7. To be considered for selection, all qualified applicants must be interviewed by the Coordinator of the Cornea and Contact Lens Residency, and selected contact lens faculty. After consultation, the Coordinator will rate each applicant in the areas of didactic/clinical experience, interpersonal skills, knowledge, patient management skills, integrity and motivational status.

8. To allow candidates the opportunity to visit Indiana University School of Optometry, tour the clinical facility, become more familiar with the program and speak directly with the resident currently enrolled in the program.
9. To rank the applicants following review of all application materials and the interview, to submit the rankings to ORMatch and to accept the ORMatch matched resident.

### **Goal 5**

To provide the resident with the opportunity to learn about and participate in scholarly activities in cornea and contact lenses

Objectives:

1. The resident is required to submit an abstract for a poster or paper to a national optometry meeting of their choosing. The resident is required to complete a research paper, literature review or a case report of publishable quality by the end of the program, with the goal of presenting the results as a paper of publishable quality during the program year, or within one year of the program's completion.

### **Goal 6**

To stimulate a commitment to service in the resident

Objectives:

1. The resident will be encouraged to become actively involved in the optometric community by encouraging membership and participation in national, state, and local optometric organizations.
2. The resident will participate in various volunteer activities such as various community health fairs and screenings, community educational opportunities, and other similar events.

### **Goal 7**

To provide facilities and equipment appropriate to meet the needs of the program

Objectives:

1. To provide office space including a telephone (computer) for the resident's exclusive use.
2. To provide a networked computer and printer access for the resident.
3. To provide clinical equipment appropriate to achieve the goals the program.
4. To provide full use of and easy access to the IUSO digital library and all its resources.

<https://guides.libraries.indiana.edu/optometry>

### **Goal 8**

To provide faculty and administrative support appropriate with the needs of the residency program

Objectives:

1. To provide clinical faculty who will be available at all times for consultation, case discussion and assistance for the resident's entire patient care experiences. This includes availability after regularly scheduled clinic hours for emergency cases.
2. To make available all support services and staff who are typically available for the faculty.
3. To meet weekly with the Program Coordinator to discuss issues of concern.

### **Goal 9**

To provide adequate record-keeping to help document the performance of the program in meeting the above goals and objectives, as well as any other basic record-keeping requirements of the program

Objectives:

1. The resident will perform a semi-annual review of the residency coordinator.

2. The resident will perform a semi-annual review of each non-coordinator faculty member.
3. The resident will perform a semi-annual review of the residency program.
4. The residency coordinator will perform a quarterly review of the resident.
5. The residency program will conduct an annual program review.
6. The residency coordinator will perform a semi-annual quality assurance review of the resident to ensure the resident is providing quality patient care.
7. The resident will provide a quarterly listing of all patient encounters.
8. The resident will provide a quarterly listing of the resident's teaching and didactic experiences.

### **Goal 10**

To evaluate and enhance the residency program on an on-going basis and to conduct a program of such quality as to merit accreditation by the Accreditation Council on Optometric Education (ACOE)

Objectives:

1. For the Program Coordinator and Director of Residencies to continuously monitor and evaluate the program to review and discuss the status of the program and proposed changes.
2. For each resident to complete an evaluation of all aspects of the residency program at mid-year and at the end of the program.
3. For the Program Coordinator and Director of Residencies to meet at the end of each program year to review the recently completed year, determine if the program is meeting ACOE's Optometric Residency Standards, and to address any deficiencies.

## **Curriculum Description Indiana University School of Optometry Cornea and Contact Lens Residency**

This is a full-time, 53-week residency program, beginning on the last week of June and ending on the following June 30th of each residency year. The first four weeks of the program are devoted to resident orientation. The focus of the program is on clinical care, but also includes didactic education and scholarly activity. The resident is involved in direct patient care a minimum of 4 days each week. The remainder of the resident's time is devoted to academic interests such as student case conference supervision, independent study and lecturing. The resident is also required to be available for after-hours emergency care on a rotating basis (one week out of every three to four weeks). The typical weekly schedule for the resident may be found below. Below is a description of the curriculum.

### **Patient Care (approximately 85% of the program)**

The resident is required to complete rotations in the Cornea and Contact Lens Service, the Indiana University Student Health Center Eye Clinic as well as the Primary Eye Care Service, Advanced competency achievement goals for each rotation are listed below.

### **Goals for Cornea and Contact Lens Service:**

1. To enhance the resident's skills and efficiency in the fitting of contact lenses and the diagnosis and management of cornea and anterior segment disease including:



- Soft contact lens fitting including hydrogel and silicone hydrogel lenses in spherical, toric and multifocal designs
  - Rigid contact lens fitting including spherical, aspheric, bitoric, multifocal, specialty keratoconic designs, large diameter lenses, reverse geometry lenses, and postsurgical lenses
  - Hybrid contact lenses
  - Myopia management, primarily with orthokeratology
  - Treatment of cornea and anterior segment disease, including corneal crosslinking dry management (see below)
2. To become proficient in the testing and interpretation of the following advanced diagnostic equipment:
- Topography, including Pentacam ACL Wave
  - Aberrometry
  - Anterior/posterior segment OCT
  - Anterior/posterior segment photography
  - Axial length
3. To enhance decision making for appropriate referrals to ophthalmic and non-ophthalmic medical providers, and for appropriate laboratory tests.

These goals are met through regular resident patient encounters in the Cornea and Contact Lens. This is a full-year rotation of 6 to 8 half-days of Cornea and Contact Lens Clinic per week, supervised by Susan Kovacich, OD, FAAO, Jason Jedlicka, OD, FAAO and Neil Pence OD, FAAO. These goals may be further met through supervised patient encounter one half day per week for one semester in the Primary Care Clinic while supervised by Primary Care Consultants.

### **Goals for Indiana University Student Health Center**

1. To enhance the resident's skills in the diagnosis and management of:
- ocular trauma
  - anterior segment infections
  - foreign bodies
  - ocular allergies
  - neuro-ophthalmic emergencies (including neurological exam screenings)
  - contact lens related problems
2. To become proficient in the interpretation of laboratory and imaging studies
3. To enhance the intra and inter-professional communication with nurse practitioners, physician assistants and family practice physicians

These goals are achieved through a 6 month to year long rotation of one half-day rotation at the Indiana University Student Health Center. The resident is supervised by the attending optometrist. The resident also works in coordination with the family practitioners, nurse practitioners, physician assistants, and pharmacists employed at the student Health Center.

### **Goals for Ophthalmology Sub-specialty Clinic Rotations (optional)**

1. To enhance the resident's skills in the diagnosis and management of advanced corneal diseases including:
  - Keratoconus
  - infectious keratitis
  - hereditary corneal diseases
  - auto-immune related anterior segment disease
  - anterior segment trauma
  - dry eye
  - refractive surgery management

### **Goals for Primary Care Clinic**

1. To enhance skills in diagnosis and management of:
  - refractive disorders
  - binocular vision and accommodative disorders
  - contact lens fitting and management
  - ocular disease

### **Goals for Ocular Surface Disease Service (Dry Eye Clinic)**

1. To enhance the resident's skills and efficiency in the diagnosis and management of dry eye with current diagnosis and management techniques
2. To become proficient in the testing and interpretation of the following advanced diagnostic equipment used in the diagnosis and management of dry eye by use of:
  - MiBoFlow
  - Lipiview
  - IPL
  - RF
3. To enhance decision making for appropriate referrals to ophthalmic and non-ophthalmic medical providers, and for appropriate laboratory tests.

These goals are met through an 8 week or longer, one to two half-days per week of regular patient encounters in the Ocular Surface Disease Service. The resident is supervised by Anna Tichenor, OD, PhD or other Ocular Surface Disease faculty at all times.

### **Goals for On Call Service**

1. To enhance the resident's skill in triage of patients based upon presenting complaints
  - Indications for immediate vs. scheduled evaluation
  - Indications for immediate referral
2. To enhance the resident's skill in the diagnosis and immediate management of:
  - ocular trauma
  - anterior segment infections

- foreign body removal
- retinal and neuro-ophthalmic emergencies
- ocular allergies
- contact lens related problems
- ocular chemical burns.

These goals are achieved by a year long rotation of after-hour on-call service of which the resident is responsible one week out of every three week period. This is supervised by the attending optometrist Dr. Kovacich or other available faculty.

**Teaching/Didactic/Scholarly Program** (overlaps with patient care; lecturing and case conference, and other non-patient related activities is approximately 15% of the program)

The resident gains experience in teaching not only by consulting with 3rd and 4th year students throughout the residency program, but also through regular case conference and grand round presentations.

### **Goals for Teaching:**

1. To enhance the resident's skills in clinical consulting with optometry students:
  - Early in the residency year, prior to beginning 3rd year primary care clinic consulting, the resident participates in an orientation meeting lead by a consultant in the Primary Care Clinic. The resident is given a hand out of expectations, policies and procedures (including grading) for consulting in primary care clinic.
2. To enhance the resident's skills in preparing and delivering lectures
  - Prepare and deliver a minimum of two presentations to the 4th year Case Conference lecture series, or lecture in the didactic courses including Grand Rounds
3. To enhance the resident's skill in leading small group discussions:
  - Supervise and critique all 4th year student case conference presentations
  - Lead case conference discussions on patient care, diagnosis and management, at the end of each 3rd year primary care clinic day.

### **Didactic Program**

It is the goal of the didactic portion of the curriculum to enhance the other aspects of the program. The resident spends the equivalent of one half day in didactic studies. For one quarter of the year the resident is in charge of leading the 4th year Case Conference, and may participate during other quarters. A discussion of each component is listed below.

#### 1. 4th Year Student Case Conference

Meets every Thursday morning 8am-12pm. The Case Conference includes a lecture series on various topics including: contact lens lectures, binocular vision/pediatric lectures, medical malpractice and other insurance lectures, billing and coding lectures, grand round slide quizzes from guest lectures, ophthalmic company presentations (ex: Alcon, Allergan, Vistakon etc.).

Each 4th year student must give a 10 minute presentation on a subject related to optometry and the resident is in charge of supervising and critiquing these presentations each week. The resident also organizes slide quizzes for the 4th year students to be administered at least two times during each 12 week student rotation.

Finally, the resident is required to give a minimum of one, 30 minute grand round presentation to the 4th year class during Case Conference.

### **Scholarly Activity**

The resident is required to write a research paper or a case report of publishable quality as part of their completion of the residency to be presented as a paper, poster or publication. The resident is required to submit an abstract for a poster or paper to a national optometry meeting of their choosing. The resident also has the opportunity to work with faculty members who are involved in research projects and are encouraged to come up with their own research project. To facilitate this development the resident has full access to the Borish Center, the School's library and computer facilities. The resident may choose and are encouraged to present their work at professional meetings, such as AAO, AOA, SECO, and/or ARVO meeting or IUSO CE programs.

### **Selection Process for Residents**

All fourth-year students in the schools and colleges of optometry in the United States and Canada are informed about the residency program.

IUSO representatives are available to answer questions and discuss the program at national meetings, such as the AOA and the Academy, attended by optometry students.

A brochure is created to highlight the program's characteristics and to allow potential applicants to achieve a better understanding of the residency. This brochure will be updated annually.

The residency program is promoted in the AOA Newsletter and other appropriate optometric publications each year.

The residency program is listed and described on the Indiana University School of Optometry web site.

To be considered for the program, each candidate must apply through the Optometry Residency Matching Service (ORMATCH) and submit the following by the application deadline:

- Letter of intent stating reasons for applying to the program

- Curriculum vitae or resume

- Official transcripts from all optometric education and other graduate school work.

- Scores from Parts I and II of the National Board of Examiners in Optometry

- Letters of reference from three faculty or adjunct faculty members who have been most familiar with the applicant's clinical performance, and the applicant's professional abilities and academic performance

To be considered for selection, all qualified applicants must be interviewed by the Coordinator of the Cornea and Contact Lens Residency, and selected contact Chief of the Cornea and Contact Lens Service and faculty. After consultation, the Coordinator will rate each applicant in the areas of didactic/clinical experience, interpersonal skills, knowledge, patient management skills, integrity and motivational status.

All candidates are allowed the opportunity to visit Indiana University School of Optometry, tour the clinical facility, become more familiar with the program and speak directly with the resident currently enrolled in the program.

The candidates are ranked following review of all application materials and the interview, by the Coordinator of the Cornea and Contact Lens Residency, Director of Residencies and selected contact lens faculty and the Coordinator submits the rankings to ORMATCH.

Indiana University is an equal employment and affirmative action employer and a provider of ADA services. All qualified applicants will receive consideration for employment without regard to age, ethnicity, color, race, religion, sex, sexual orientation, gender identity or expression, genetic information, marital status, national origin, disability status or protected veteran status.

## **Requirements for Residency Completion and Awarding of Certificate**

The academic term of the residency is fifty-three weeks beginning the last week of June and ending June 30<sup>th</sup> of the following year.

The resident is expected to work a minimum of 40+ hours per week. The resident is also expected to provide emergency on-call services at a maximum of every other week.

The resident's annual compensation is \$45,000 and is not contingent upon the productivity of the resident.

Health, professional and leave benefits provided to the resident are equivalent to those provided to all faculty members of Indiana University. These include medical and dental insurance, life insurance, disability insurance, retirement contributions, paid time off and sick time. The Faculty Human Resources Policy is available on the web (<https://hr.iu.edu/>) and will also be available on site. In addition, the School provides the resident with \$2,000 travel stipend and time off for attendance at professional optometric organization meetings and continuing education courses.

Full professional liability insurance protection is provided to the resident for both internal and external clinical settings through the school.

The resident must complete the requirements listed on the Curriculum Description in order to successfully complete the residency. A certificate of completion is awarded upon satisfactory completion of these requirements.

## **Requirements of Completion of Residency**

1. Provide optometric care to a large and diverse group of patients in the Indiana University School of Optometry Cornea and Contact Lens Service, with emphasis in contact lenses and anterior segment conditions.
2. Acquire clinical experience in primary, specialized, and advanced contact lens fitting techniques, including and toric and bifocal soft contact lens fittings, and aspheric, scleral, bitoric, bifocal, keratoconic, corneal reshaping/myopia management and post-refractive rigid gas permeable contact lens fittings.
3. Gain clinical experience in the management of emergency eye care and anterior segment conditions with a rotation through the dry eye service, an external rotation at the Indiana University Student Health Center's Urgent Eye Clinic, provision of emergency eye care services at the Cornea and Contact Lens Service, and after-hours emergency on-call responsibility.
4. Acquire proficiency in the use of therapeutic agents used to manage and treat anterior segment conditions including dry eye management.

5. Learn in the use of state-of-the-art diagnostic equipment including the latest digital imaging, corneal topography, dry eye management and computer technology.
6. Clinical and didactic instruction of optometry students including clinical supervision in the Contact Lens Clinic and during various health screenings throughout the year.
7. Give lectures and organize presenters for the weekly Case Conference Seminar for optometry interns, during their 12-week assignment.
8. Organize specialized training workshops for advanced contact lens fittings; attendance at lectures and workshops in optometric pre- and post-refractive surgical care.
9. Attend continuing education classes and seminars.
10. Participate in clinical research in contact lens or anterior segment related conditions, including the completion of a research paper or poster, literature review, or case report of publishable quality by the end of the program.
11. Attend at least one scholarly meeting devoted to specialty contact lens care.
12. Actively participate in the optometric community through membership and participation in optometric organizations.
13. Resident must receive at minimum satisfactory evaluations by residency supervisors at the final quarterly review.

### **Standards for Didactic and Clinical Optometric Education**

The mission of Indiana University School of Optometry is to produce graduates, including residents, who are fully qualified to provide quality comprehensive eye care services to the public. To fulfill this mission, I.U. School of Optometry and its affiliated External Rotation Sites must ensure that students demonstrate satisfactory knowledge and skills in the provision of optometric care.

The functional standards as outlined by the Association of Schools and Colleges of Optometry (ASCO), January 12, 1998, require that the student possess appropriate abilities in the following areas: 1) observation; 2) communication; 3) sensory and motor coordination; 4) intellectual-conceptual, integrative and quantitative abilities; and 5) behavioral and social attributes. Each of these areas is described in this document.

In any case where a student's abilities in one of these areas are compromised, he or she must demonstrate alternative means and/or abilities to meet the functional requirements. It is expected that seeking and using such alternative means and/or abilities shall be the responsibility of the student. Upon receipt of appropriate documentation, the school or site will be expected to provide reasonable assistance and accommodation to the student.

#### **Observation Abilities**

The student must be able to acquire a defined level of required knowledge as presented through lectures, laboratories, demonstrations, patient interaction and self-study. Acquiring this body of information necessitates the functional use of visual, auditory and somatic sensation enhanced by the functional use of other sensory modalities. Examples of these observational skills in which accurate information needs to be extracted in an efficient manner include:

Visual Abilities (as they relate to such things as visual acuity, color vision and binocularity):

1. visualizing and reading information from papers, films, slides, video and computer displays.
2. observing optical, anatomic, physiologic and pharmacological demonstrations and experiments.

3. discriminating microscopic images of tissue and microorganisms.
4. observing a patient and noting non-verbal signs.
5. discriminating numbers, images and patterns associated with diagnostic tests and instruments.
6. visualizing specific ocular tissues in order to discern three-dimensional relationships, depth and color changes.

#### Auditory Abilities:

1. understanding verbal presentations in lecture, laboratory and patient settings.
2. recognizing and interpreting various sounds associated with laboratory experiments as well as diagnostic and therapeutic procedures.

#### Tactile Abilities:

1. palpating the eye and related areas to determine the integrity of the underlying structures.
2. palpating and feeling certain cardiovascular pulses.

### **Communication abilities**

The student must be able to communicate effectively, efficiently, and sensitively with patients and their families, peers, staff, instructors and other members of the health care team. The student must be able to demonstrate established communication skills using traditional and alternative means. Examples of required communication skills include:

1. relating effectively and sensitively to patients, conveying compassion and empathy.
2. perceiving verbal and non-verbal communication such as sadness, worry, agitation and lack of comprehension from patients.
3. eliciting information from patients and observing changes in mood and activity.
4. communicating quickly, effectively and efficiently in oral and written English with patients and other members of the health care team.
5. reading and legibly recording observations, test results and management plans accurately.
6. completing assignments, patient records and correspondence accurately and in a timely manner.

### **Sensory and Motor Abilities**

Students must possess the sensory and motor skills necessary to perform an eye examination, including emergency care. In general, this requires sufficient exteroception sense (touch, pain, temperature), proprioceptive sense (position, pressure, movement, stereognosis and vibratory) and fine motor function (significant coordination and manual dexterity using arms, wrists, hands and fingers). Examples of skills required include:

1. instillation of ocular pharmaceutical agents.
2. insertion, removal and manipulation of contact lenses.
3. assessment of blood pressure and pulse.
4. removal of foreign objects from the cornea.
5. simultaneous manipulation of lenses, instruments and therapeutic agents and devices.
6. reasonable facility of movement.

### **Intellectual-Conceptual, Integrative and Quantitative Abilities**

Problem solving, a most critical skill, is essential for optometric students and must be performed quickly, especially in emergencies. In order to be an effective problem solver, the student must be able to accurately and efficiently utilize such abilities as measurement, calculation, reasoning, analysis, judgment, investigation, memory, numerical recognition and synthesis. Examples of these abilities include being able to:

1. determine appropriate questions to be asked and clinical tests to be performed.
2. Identify/analyze significant findings from history, examination and other test data.
3. demonstrate good judgment and provide a reasonable assessment, diagnosis and management of patients.
4. retain, recall and obtain information in an efficient manner.
5. identify and communicate the limits of one's knowledge and skill.

### **Behavioral and Social Attributes**

The student must possess the necessary behavioral and social attributes for the study and practice of optometry. Examples of such attributes include:

1. satisfactory emotional health required for full utilization of one's intellectual ability.
2. high ethical standards and integrity.
3. an empathy with patients and concern for their welfare.
4. commitment to the optometric profession and its standards.
5. effective interpersonal relationships with patients, peers and instructors.
6. professional demeanor.
7. effective functioning under varying degrees of stress and workload.
8. adaptability to changing environments and uncertainties inherent in patient care.
9. positive acceptance of suggestions and constructive criticism.

### **Patient Care Standard of Practice**

The residency site subscribes to the tenants of evidence-based patient care as expressed the AOA Clinical Practice Guidelines. We also use such references as The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of Eye Disease, the Massachusetts Eye and Ear Infirmary Illustrated Manual of Ophthalmology, and current optometric and ophthalmologic texts and journal articles. Training sessions for faculty, residents, and students are given on blood borne pathogens and hazardous materials management. Clinical faculty is required to maintain current CPR certification according to the American Heart Association training guidelines.

Additionally, the resident is bound by the protocols and policies outlined in the Indiana University School of Optometry Clinic Policy and Protocol manual, located online at <https://www.opt.indiana.edu/intranet/Clinics/Manual.aspx>.

The residency Program Coordinator reviews 5 of the resident's first patient encounters and discusses the charting with the resident. The Program Coordinator is typically assigned some clinic sessions with the resident to give instruction and feedback and monitor progress throughout the year. The Program Coordinator reviews charts for quality assurance on a semi-annual basis. Quality assurance (QA) is accomplished by review of records and providing written or verbal feedback in the form of notes to the resident if any deficiencies are noted. If there are urgent deficiencies, then the Program Coordinator will meet with the resident in person to discuss the concerns right away. In addition, informal feedback regarding skills, knowledge, communication, etc. is provided to the resident, as needed, by attendings who consult with the resident.

The resident undergoes a Routine Case Review that is done by the Coordinator of the Residency. The Quality Assurance Committee will select randomly records the resident has worked on and the Program Coordinator will evaluate the information. The records will be evaluated qualitatively according to the



Clinical Practice Guidelines. Once the charts are reviewed the Coordinator will give the evaluations to the resident and they will discuss any problems found within the records.

In order to assure that the School of Optometry is delivering patient care according to acceptable standards, an ongoing process of quality assessment and monitoring has been developed. It is monitored in all of our clinics for all faculty, residents, staff, and students. The Chair of the Quality Assurance Committee and the Director of Clinics work together to continually update the Quality Assurance Program. The QA is done by using two protocols. The first is a Routine Case Review. Each chart is qualitatively assessed according to the published Clinical Practice Guidelines, reviewing the quality of care provided and determines if the accepted standard of clinical care was provided. All faculty undergo the review process by having 10 records randomly selected and examined. The second protocol is an Incident Review. This is built in for an unexpected occurrence or variation involving serious physical or psychological injury, or the risk thereof. A root Cause Analysis will be done to investigate such an incident. A copy of Indiana University School of Optometry's Quality Assurance Program is located online at:

<https://www.opt.indiana.edu/intranet/Clinics/Manual.aspx>.

### **Supervision Policy**

Supervision refers to the dual responsibility that the Program Coordinator and/or faculty attending (Drs. Kovacich, Jedlicka, Pence, Tichenor) have to enhance the knowledge of the resident and to ensure the quality of care delivered to each patient by a resident. Supervision is provided by observation, consultation and direction, and includes the imparting of knowledge, skills and attitudes by the practitioner to the resident. Progressive responsibility for the care of the patient is a part of the resident's training program. The level of responsibility is commensurate with their acquisition of knowledge and development of judgement and skill. The resident's knowledge and skills are assessed through the quality assurance process and formal evaluations of patient care. Initially the resident is required to consult with their Program Coordinator or assigned attending faculty for their first five patients, or more if necessary. When the Program Coordinator determines that the resident's knowledge, skills, and judgement are appropriate, the resident will no longer be required to consult with the Program Coordinator or assigned attending faculty for all cases, but as needed.

### **Consultation**

The resident will be encouraged to continually increase their independence in patient care throughout the residency. However, the opportunity for consultation with the Program Coordinator or an attending faculty member is always available to the resident.

The resident has independent privileges identical to those of faculty. However, he/she is supervised in a controlled and graduated manner. There is close, full-time supervision at the onset of the program gradually giving way to full autonomy monitored by the regular Quality Assurance protocol of the clinic. The orientation of the resident involves observation only in the first weeks of the residency year to fully orient the resident to patient care services of the residency. The Program Coordinator or other faculty members are always accessible for consultation when patient care is rendered. The resident is allowed an increasing amount of independence throughout the academic year as his or her clinical skills develop. Because the program is set in a teaching clinic environment, the organization and design are conducive to the support and development of optometric practitioners.

## Indiana University School of Optometry Clinic Dress Code Policy

The purpose of the Dress Code Policy is to provide a uniform guideline that reflects an appropriately professional atmosphere as a health care facility to all patients and other visitors.

This Dress Code Policy applies to all clinic personnel in all service units/areas during posted hours of clinic operation. This policy includes all faculty, students, staff, and work studies whenever on the clinic premises. If you enter any of our clinics for any reason i.e., research, discussion, checking on schedules, looking for classmates or colleges, etc, you must conform to the clinic dress code.

### Name Tags

All faculty, staff, students and work studies must be identified by a name tag while on the clinic floor. The name tag should be kept current

### Lab Jackets/Coats

General Comments: Scrubs may be worn. Lab coats should be cleaned and pressed regularly.

Interns and Technician Students: a lab jacket (short length, white) is required unless climate control problems are present in the clinic. This policy applies to activity in all patient care areas including the dispensary.

Staff: A lab coat or uniform is required unless climate control problems are present in the clinic. The shirt worn beneath the lab coat should be appropriately modest.

Faculty: Scrubs may be worn. A lab coat (long length, white) is required during patient care activities unless climate control problems are present in the clinic.

Work Study: A lab coat is strongly recommended.

**Proper Attire (Women):** Good common sense and professionalism should dictate daily attire.

Dresses and skirts should be of an appropriately modest length (no more than 2 inches above the knee). Mini-skirts, and revealing necklines, and spaghetti straps are not appropriate. Dress walking shorts are permissible when worn with appropriate hose and shoes. Dress slacks are appropriate. The style and fit should be appropriately modest. Sweatshirt material is not considered appropriate.

Dress blouses or tailored shirts are appropriate. T-shirts under cardigan sweaters are not considered appropriate. The blouse or shirt should be appropriately discreet. (No midriff showing) Sweatshirt material is not considered appropriate.

Shoes should be appropriate. Sport tennis shoes are not considered appropriate.

Hair should be clean and well groomed. Long hair should be tied back. Dramatic styles are not appropriate. Make-up should be kept light. Do not come in with wet hair. Be attentive to all aspects of your personal hygiene.

Jewelry should be kept to a minimum.

**Proper Attire (Men):** Good common sense and professionalism should dictate daily attire.

Dress slacks are appropriate. Baggy pants and sweatshirt material are not considered appropriate.

Dress shirts and ties are appropriate. T-shirts under cardigan sweaters are not considered appropriate. Casual shirts are not considered appropriate, even when worn with a tie.

Shoes should be appropriate. Socks must be worn. Sport tennis shoes are not considered appropriate.

Hair should be clean and well groomed. Long hair should be tied back. Dramatic styles are not appropriate. Do not come in with wet hair. Be attentive to all aspects of your personal hygiene.

Jewelry should be kept to a minimum.

## **Residency Term, Benefits and Completion**

The residency is a 53 week program that starts June 24<sup>th</sup> and runs through June 30 of the following year. There is a one day orientation which is followed by orientation to the Cornea and Contact Lens Service during the first week. Expectations of the program are described, including the expected weekly hours of the resident's program (approx. 40+ hours); on-call duties; compensation; health, professional and leave benefits; professional liability protection; and requirements for completion and awarding of certificate.

### **Facility Safety Policies**

This orientation is designed to orient the resident to clinical policies of the Indiana University School of Optometry, including clinical practice protocols, supervision policy, facility safety policies, and infection control and is conducted by the Director of Residencies and Program Coordinator. Additionally, all schedules, questions and concerns regarding the program are addressed at this time. More emergency and safety policies can be found on page 24.

The new resident receives the resident manual, the clinic policy and protocol manual, and during this week any other questions are answered about the orientation process and the policies of the School of Optometry. New residents are not allowed to participate in patient care until the Program Coordinator has oriented the resident, has determined competency, and the resident has completed the certification process.

The following documents contain the policies and procedures of the Indiana University School of Optometry with respect to the resident and residency program:

The Indiana University School of Optometry Bulletin (available online at)  
<https://bulletins.iu.edu/iu/optometry/2021-2023/policies/index.html>

The Indiana University School of Optometry Clinical Policy and Protocol manual (available online at)  
<https://intranet.optometry.iu.edu/administration/clinics/manuals.html>

The Indiana University Code of Student Rights, Responsibilities, and Conduct (available online at)  
<https://studentcode.iu.edu/>

## **Evaluation/Review Process**

At the beginning of the year the resident and the Program Coordinator (Dr. Kovacich) meet to set the goals for the residency. The Coordinator and faculty ((Drs. Kovacich, Jedlicka, Pence, Tichenor) evaluate the resident on a quarterly basis. The Coordinator and the resident meet half-way through the residency to review and discuss how well the goals are being met and whether or not any adjustments need to be made. The mid-year evaluation forms are filled out by both parties. They review the patient log and the activity log to make sure that all the information for the residency year is documented. They also discuss any problems with the residency and make adjustments to the program to ensure that all the goals and objectives are met by the end of the residency. The resident must receive at minimum satisfactory evaluations by residency supervisors at the final quarterly review. At the end of the year, the Coordinator and the resident evaluate the residency in terms of the mission, goals and objectives. The end of year evaluation forms are filled out by both parties. They will review the patient log and the activity log to make sure that all the information for the residency year is documented. The resident, the program coordinator, and the director of residencies for the program will take part in compiling the Annual Report. They will examine the mission statement, goals, and objectives of the program, looking specifically for program strengths, weaknesses, and deficiencies. Any weaknesses or deficiencies identified during this annual review process will be discussed by the reviewers, who will formulate and implement procedures to correct the shortcomings. Others may be included as deemed appropriate. The resident must receive at minimum satisfactory evaluations by residency supervisors at the final quarterly review.

### **Counseling, remediation, and dismissal of the resident**

A resident whose performance in any area is below the expected level should receive counseling from the immediate coordinator at the site. The counseling should be done as soon as the problem becomes apparent. Counseling may include information about outside resources if appropriate.

Specific performance problems may require remediation in addition to counseling. Performance problems shall be documented and reviewed with the resident. The nature and duration of the remediation must be specific to the problem, and must be at the convenience of the site itself. Design and implementation of the remediation plan is the responsibility of the resident's coordinator, in consultation with the resident and with any other appropriate personnel at the site. The IU School of Optometry's Director of Residencies should be informed and consulted in each situation requiring remediation. The plan, including the consequences of failure to meet expected levels, must be described thoroughly and understood by all those involved before the remediation begins. The plan must be in place within 15 days of the identification of the problem.

If the resident shows little or no improvement within the specified time, the resident will be dismissed. If the resident has shown improvement but has not raised performance to the expected level within the specified time, the remediation may be repeated. If the resident does not achieve desired performance levels after two sessions of remediation, the resident will be dismissed.

Residents may also be dismissed for falsification of records, patient endangerment, and for repeated violations of federal anti-discrimination laws – i.e., refusal to provide care to a specific population. In each instance, the offense must be carefully documented, the facts established, and the IU School of Optometry’s Director of Residencies consulted before the dismissal is finalized.

### **Receiving adjudicating and resolving resident complaints**

A resident must present a complaint in writing to the immediate coordinator. The coordinator and the resident will discuss the complaint; the discussion will be documented and the resident should review the documentation and agree to its accuracy before the coordinator proceeds. The coordinator should investigate the complaint, and document the steps taken and the findings that result; that documentation and the complaint, which prompted it, should be made available to all concerned parties. If the complaint is one of discrimination, the coordinator should seek the assistance of the site’s human resources person in planning any investigation.

In all cases, residents and personnel at Indiana University-affiliated sites are governed by the Equal Employment/Affirmative Action Policy of Indiana University.

Once the complaint has been investigated and judged by the immediate coordinator and by other appropriate people consulted by the coordinator the decision should be delivered in writing within 30 days of the filing date to the resident and to any parties named in the complaint. Complaints vary in nature, and the methods of resolution should be appropriate to the verified complaint. If the complaint is found to be based in misunderstanding, then the coordinator shall meet with the resident and the named party (or parties) and facilitate understanding by all concerned. In any case, action taken to resolve a substantiated complaint should be documented and made available, and the resident will be made aware of due process.

### **Due process provided to the resident on adverse decisions**

If a resident wishes to appeal a decision by the coordinator, whether regarding remediation/dismissal or the resolution of a complaint, the resident should present the appeal in writing within 15 days of the decision jointly to the person at the next level of authority at the site and to the IU School of Optometry’s Director of Residencies, with a copy to the immediate coordinator. Those parties will conduct an investigation on the handling of the situation; the investigation will be documented as well. A joint decision shall be issued in writing within 15 days to all parties involved.

A resident who wishes to appeal this joint decision should present the appeal in writing within 10 days to the Dean of the IU School of Optometry. The Dean shall conduct an investigation, with full record of documentation reviewed and steps taken. The decision of the Dean is final.

### **Physical Facilities:**

The Indiana University School of Optometry operates two separate clinics: Atwater Eye Care Center located at 744 East Third Street, Bloomington, Indiana and the Indianapolis Eye Care Center, located in Indianapolis, Indiana. The Cornea and Contact Lens Resident does not see patients at the Indianapolis location. Residents also see urgent care patients at the Indiana University Health Center, located on the Indiana University Bloomington campus.

### **School of Optometry Building, 800 East Atwater Avenue, Bloomington, IN**

The School of Optometry Building was constructed in 1967 and 1968 with grant support from the Department of Health, Education and Welfare and the National Science Foundation, along with funds from the State of Indiana. It occupies 80,519 square feet of gross space. The Optometry Building has twelve teaching laboratories, a basic research floor, a clinical patient-based research floor, four support laboratories and facilities, Faculty and Staff offices, Student Lounge and Study area, Staff Lounge, and an administrative complex. The patient-based research is located in the Borish Center for Ophthalmic Research. The Optometry Building provides the primary space for didactic and clinical education training labs for the Professional (OD) program and the Graduate (MS/PhD) program in Vision Science.

### **Atwater Eye Care Center - 744 E. Third Street, Bloomington, IN**

The Atwater Eye Care Center (AECC) is located across the street from the Optometry building. It was built in 2008 and opened its doors to patients in January of 2009. The building occupies almost 15,000 square feet and has approximately 30 examination lanes, which are utilized to provide clinical training and education for interns and residents in the areas of Primary Care, Pediatrics/Binocular Vision, Ocular Disease, Low Vision, Ocular Surface Disease, and Contact Lenses.

### **Indiana University Health Center, 600 North Eagleson Avenue, Bloomington, IN**

The Indiana University Health Center (IUHC) is a stand-alone, four-story, 66,000 square foot facility providing medical, mental health, and wellness services to the 42,000 students on the Bloomington campus of Indiana University. Within the IUHC, multiple services are provided including the following: Medical Clinic, Women's Health Clinic, Counseling and Psychological Services, and Health & Wellness Services providing health education outreach, nutrition services, massage therapy, smoking cessation, and sexual health education. Other services available on-site include: physical therapy, optometry, clinical laboratory, retail pharmacy, radiology, allergy and immunization clinic, and a travel clinic. The IUHC's medical staff includes 8 physicians, 6 psychiatrists, 2 psychologists, 1 physician assistant, and 11 nurse practitioners. The Accreditation Association for Ambulatory Health Care, Inc. (AAAHC), the International Association of Counseling Centers (IACS), the American Psychology Association, and COLA accredit the services and facilities of the IUHC.

**Optometry Services:** The IUHC Eye Clinic is located on the first floor and includes a waiting room and 2 exam lanes, each containing a chair and stand, slit lamp, BIO, and phoropter. There is one large office featuring room for four workstations for both faculty, resident, and two students to document encounters and for consultation.

**Clinical Staffing and Utilization:** The Health Center's medical clinics utilize a mix of 7 physicians, 11 nurse practitioners, and 2 physician assistants. Each of these providers works with a care team featuring a registered nurse and a shared medical assistant. Currently, there are 12 registered nurses and 10 medical assistants providing support for Health Center medical providers in both the Medical Clinic and Women's Health Clinic. The Health Center's mental health clinic or CAPS (Counseling and Psychological Services) features 2 psychiatrists, 9 psychologists, and 9 clinical social workers. The Health Center's other services

are provided by 1 physical therapist, 2 dietitians, 4 health educators, 4 massage therapists, and 2 registered nurses administering immunizations and allergy medications.

## **Equipment**

The professional equipment in all the IUSO Eye Care Clinics mentioned above is up-to-date and of good quality. At AECC, each examination room is fully equipped with standard refracting units including chair, stand, projector, phoropter, slit-lamp biomicroscope, and Goldmann style tonometer. Other state-of-the-art- equipment is available including corneal pachymeter, automated visual field units (Humphrey Field Analyzer and Octopus), Goldmann bowl perimeter, anterior segment and fundus cameras, corneal topographers/tomographers, scleral topographers, aberrometers, biometer, non-contact tonometer, autorefractor, B scan ultrasound units, Optos Silverstone with ultra-widefield swept-source OCT, and Heidelberg Spectralis spectral-domain OCT and OCT-A. The OSD service includes tear osmolarity, InflammADry, LipiView, LipiFlow, iLux, Blephex, MiBo Thermoflo, OptiLight intense pulse light system, and OptiPlus radio frequency facial device. Within the laser and surgical service, there are Nidek and Luminex lasers and a radio frequency unit.

## **Staff Support**

Across the IU clinics, the clinic staff is available to the resident for all clinical administrative duties such as scheduling, record keeping and filing, billing and equipment maintenance. The Staff Opticians/Technicians are also available to assist the Resident in the care of the patients. The Faculty secretary at the Optometry Building is available to provide administrative support to the residents. The residents also have access to IUSO's IT support team and Clinic IT support team.

## **Library Services**

The Optometry Library is a branch of the IU-Bloomington Libraries. Its mission is to support the teaching and research programs of the School of Optometry, including the Professional Optometry Degree Program, the graduate Program in Vision Science, the residency programs, and all vision-related studies at Indiana University. In addition, the Library serves as a visual science resource and information center for residents of the State of Indiana, for alumni of the School, and for vision professionals internationally.

The Optometry Library offers the same type of services as are offered in any conventional library – reference assistance, circulation, and reserves – as well as several progressive services. Residents are provided with assistance in broad-based electronic literature searches and full access to internet resources. The School of Optometry's website provides the resident with links to optometry and vision research resources on the Web, as well as links to other optometry schools and vision science libraries.

Neuro-Health Sciences Librarian – Amy Minix (alminix@iu.edu)

<https://guides.libraries.indiana.edu/optometry>

## Emergency and Safety

Facility safety is a priority for Indiana University and the School of Optometry. It is important for the safety of our faculty, staff, students, and patients in the clinics and in the workplace. The detailed emergency action plans can be accessed via the IUSO intranet with IU log-in credentials.

IUSO plan:

<https://intranet.optometry.iu.edu/administration/policies/1401-emergency-action-plan-iuso.html> IECC plan:

<https://intranet.optometry.iu.edu/administration/policies/1403-emergency-action-plan-iecc.html>

AECC plan:

<https://intranet.optometry.iu.edu/administration/policies/1402-emergency-action-plan-aecc.html>

### Telephone Numbers – Bloomington

In the case of an emergency, contact the IUB Police Department: 911

In the case of a non-emergency, contact the IUB Police Department: 812-855-4111

### Telephone Numbers – Indianapolis Eye Care Center

In the case of an emergency, call: 9-911

In the case of an emergency, contact the IUI Police Department: 9-274-7911

In the case of a non-emergency, contact the IUI Police Department: 317-274-7971

### IU-Notify

IU-Notify is Indiana University's mass communication tool for alerting students and IU employees to immediate dangers, such as severe weather or hostile intruders, and ongoing threats that could cause harm, such as unsolved robberies and sexual assaults. The messages can be sent to cell phones (voice and text) and land-line phones, email, digital signs and some desktop computers.

**Protect IU** - <https://protect.iu.edu/emergency-planning/procedures/index.html> Recommends the following protocol for individual situations:

**Active shooter/hostile intruder** – Run/Hide/Fight

Run: leave the building if safe evacuation is possible

Hide: in a concealed place; lock and barricade door, turn off lights; wait for law enforcement  
Fight: as a last resort, act with aggression and use improvised weapons to distract and/or disarm the shooter

### Medical emergencies

Do not move a seriously injured person unless they are in a life-threatening situation.

In the event of a serious injury or illness, immediately call 911 (9-911 will also work from campus).

Give as much information as possible regarding:

Nature of the illness or injury

Victim's location

Whether victim is conscious, breathing,  
bleeding  
Victim's injuries

Chemicals or radioactive materials involved



Only trained personnel should provide first aid or CPR. CPR training is required of those providing care in IUSO clinics.

Locate the nearest Automated External Defibrillator (AED)

Ambulance services can always be reached by dialing 911 (or 9-911 from an on-campus phone).

### **First Aid**

- First Aid/Band-Aids/EpiPen: technician office (room 128) and supply room (room 227)
- NSAIDS: supply room
- Low Blood Sugar (Apple juice or glucose tablets): technician office and supply room
- Angle-closure kit: technician office
- Medication samples, dilation drops, Prokera: supply room (check mini-fridge for Prokera or PF drops)
- AED: by back stairwell
- Portable oxygen: By the back stairwell (blue container) next to the AED and in supply room above the sink (teal bags)
  - oxygen: put tubing on oxygen tank and turn valve
- Chemical Burn: pH paper in technician office and supply room

### **Mental health emergencies**

If you are concerned about a member of the university community, call Counseling and Psychological Services (CAPS); see contact information for specific campuses below. CAPS is not a 24-hour facility. Please contact the emergency help numbers listed below or the IU Police Department for 24-hour assistance.

**Emergency help:** Crisis & Suicide Hotline at 317-251-7575 (IUI) or, 812-855-5711 (IU Bloomington). Additional resources may be found below by clicking on the specific campus.

### **Adverse Weather**

Severe weather, tornado warning: shelter-in-place; find an interior room, without windows, that is located on a lower level of the building.

Winter weather: Follow IU notify for announcements regarding class or campus closures. Clinics (AECC and IECC) will be closed only if the campus (IU or IUPUI) is closed.

## **Orientation**

During the first week of the residency year, the new resident is oriented to the program. This orientation is designed to adjust the resident to clinic policies of the Indiana University School of Optometry, including clinical practice protocols, facility safety policies, and infection control and is conducted by the Program Coordinator. Additionally, all schedules, questions and concerns regarding the program are addressed at this time. The new resident receives the resident handbook, access to the clinic policy and protocol manual, and during this week any other questions are answered about the orientation process and the policies of the School of Optometry. In addition, a residency orientation program is provided for all IU School of Optometry residents in a joint meeting with the Director of Residencies at the school that includes all the affiliated residency program coordinators.

The resident will meet with the Residency Coordinator (Dr. Kovacich), Chief of the Cornea and Contact Lens Service (Dr. Jason Jedlicka) or Associate Dean, Clinical and Patient Care Services (Dr. Pence) during their first week to discuss goals, scheduling, insurance certification and clinical policies and

procedures. In Bloomington during the first weeks the resident will be primarily shadowing the clinical faculty to learn how to appropriately consult and interact with students. The goal during this initial period is to allow the resident a transition between being a fourth-year student and a member of the faculty at Indiana University School of Optometry. During their year they will gradually be given more freedoms in diagnosing and treating patients. New residents are not allowed to participate in patient care until the Program Coordinator has oriented the resident, has determined competency, and the resident has completed the certification process.

During that first month Dr. Kovacich (or Drs. Jedlicka or Pence) and the resident will also discuss contact lens workshops. These workshops and the resident’s responsibilities will be discussed.

During their first day at the Indiana University Health Center the IUSO optometrist assigned to the health center will discuss the resident’s responsibilities and orient the resident to the facilities and the electronic medical records.

### Sample Weekly Resident Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Morning	Professional Dev./Ophth	Student Health Center Consulting (Spring)		Case Conference (Fall)	Cornea and Contact Lens Clinic Consulting	Primary care Consulting (3 <sup>rd</sup> year interns) 3 weeks/month
Afternoon	Cornea and Contact Lens Clinic Consulting	Cornea and Contact Lens Clinic Consulting	Cornea and Contact Lens Clinic Consulting	Contact Lens Lab (spring) or CL Clinic	Cornea and Contact Lens Clinic Consulting	
Evening			Cornea and Contact Lens Clinic Consulting			

**Monday-**     **a.m.** Professional development or Ophth. observation  
**p.m.** Need to arrive at AECC before 1:00 p.m., the last appointment is 4:00p.m., to consult in the Cornea and Contact Lens clinic

**Tuesday-**   **a.m.** Student Health Center to consult with interns. Arrive by 8:00 a.m.  
**p.m.** - Need to arrive at AECC before 1:00 p.m., the last appointment is 4:00p.m., to consult in the Cornea and Contact Lens clinic

**Wednesday-** **p.m.** - Need to arrive at AECC before 1:00 a.m., the last appointment is 4:00p.m., to consult in the Cornea and Contact Lens clinic. Evening clinic starts at 5:00.

**Thursday-**   **a.m.**-Assisting in managing fourth year case conference with the other residents  
**p.m.** – Contact Lens Lab (spring) or CL clinic

- Friday-**        **a.m./p.m.-** Need to arrive at AECC before 8:00 a.m., the last appointment is 4:00p.m., to consult in the Cornea and Contact Lens clinic
- Saturday-**    **a.m.-**Third year primary care clinic, clinic starts at 8:00 a.m., need to on the clinic floor, by 7:45 to be ready to assist interns.

## **Clinical Administrative Rules of Engagement Information Given to Fourth Year Interns**

### **Bloomington clinics**

1.        Scrubs may be worn.
2.        Interns are required to remain available on assigned clinic days until **at least** 11:30 noon (Saturday), 4:30 p.m. (Tuesday, Wednesday, Thursday), or 7:30 p.m. (Wednesday).
3.        Interns must be set up in their exam rooms and ready to go at least 15 minutes **before** the first scheduled appointment, regardless of their own schedule load.
4.        Please remain on the clinic floor and available if you are not with a patient.
5.        Always put initials on schedule so that others can find you easily.
6.        Always return borrowed equipment and supplies in a timely manner.
7.        Keep a complete record of all patient encounters.
8.        Interns are responsible for the care of their patients from the initial evaluation, through all vision training and evaluation visits, until dismissal from care. If an intern cannot be available for a patient visit, proper arrangements must be made for a substitution.
9.        Any referral, be it from an OD or MD, needs a letter. This is your responsibility, and it should be done in a timely manner (i.e. less than a week).

### **Billing and Coding (below)**

Eye Exam Codes (92xxx)					
Eye Code NEW PATIENT: Not seen in last 3 years					
Code	History	Exam – items must be pertinent to R/V		TX	
92002	Pertinent ocular and medical history	General observation, external ocular & adnexa; other diagnostic procedures, mydriasis as indicated		Initiation/continuation of tx/diagnostic plan	
92004		General observation, external and ophthalmoscopic examination, gross VF, EOMs or CT; often includes, as indicated: SLE, cycloplegia/mydriasis, IOP			
Eye Code ESTABLISHED PATIENT					
Code	History	Exam – items must be pertinent to R/V		TX	
92012	Pertinent ocular and medical history	General observation, external ocular & adnexa, other diagnostic procedures, mydriasis as indicated		Initiation/continuation of tx/diagnostic plan	
92014		General observation, external and ophthalmoscopic examination, gross VF, EOMs or CT; often includes, as indicated: SLE, cycloplegia/mydriasis, IOP			
Evaluation and Management Exam Codes (99xxx)			E/M Modifiers		
NEW PATIENT: Not seen in last 3 years			24-Unrelated E&M during PO	25-Unrelated E&M same day	
Code	MDM LEVEL	OR	TIME (minutes)	Eyelids: E1 UL, E2 LL, E3 RR, E4 LR (e.g. Plugs, D&I, Epilation)	
99202	Straightforward		15-29	RT, LT- unilateral procedure (e.g. B-scan, FB, BCL, Amn Mem)	
99203	Low		30-44	26-Professional component	TC-Technical component
99204	Moderate		45-59	50-Bilateral procedure	51-Multiple procedure
99205	High		60-74	52-Reduced services (one eye)	55-PO management only
ESTABLISHED PATIENT			76-Repeat procedure, same Dr	77-Repeat procedure, diff. Dr	
			79-Unrelated procedure or service during PO (e.g. OCT, VF)		
Code	MDM LEVEL	OR	TIME (minutes)	57- Decision for Surgery (next or same day YAG, SLT, PI) GA-ABN on file	
99211	N/A		<10 min	<b>Global Periods (days)</b>	
99212	Straightforward		10-19	FB = 0	Amn Mem = 0
99213	Low		20-29	Plugs = 10	D&I = 10
99214	Moderate		30-39	Cat Sx = 90	YAG = 90
99215	High	40-54	SLT = 10	PI = 10	
			<b>Important Rules</b>		
			Ultrasound – Dr present	ABN for non-covered services	
			Genio – Dr performs (Medicare/caid)		

MEDICAL DECISION MAKING: 2 of 3 elements required for New or Established Patient			
LEVEL (need 2 of 3)	#/Complexity of Problems Addressed	Amt/Complex of Data	Risk of Today's Management
99211	N/A ("May not require presence of physician")		
<i>Straightforward</i> 99202/12	Minimal (1 self-limited/minor problem)	Minimal or None	Minimal risk from additional tests/tx
<i>Low</i> 99203/13	Low (≥2 self-limited/minor problems, OR 1 stable, chronic illness, OR 1 acute, uncomplicated illness/injury)	<b>Limited – Need 1 of 2 Categories</b> <ul style="list-style-type: none"> <li>Category 1: NEED 2: review external notes from each unique source, review results from each unique test, ordering of each unique test</li> <li>Category 2: Assessment requiring an independent historian(s) (ie caregiver)</li> </ul>	Low risk from additional tests/tx
<i>Moderate</i> 99204/14	Moderate (≥1 chronic illness with exacerbation, progression, or side effects of tx; OR ≥2 stable, chronic illnesses, OR 1 undiagnosed new problem with uncertain prognosis, OR 1 acute, complicated injury)	<b>Moderate– Need 1 of 3 Categories</b> <ul style="list-style-type: none"> <li>Category 1: NEED 3: review external notes from each unique source, review results from each unique test, ordering of each unique test, assessment requiring an independent historian</li> <li>Category 2: Independent Interpretation of Tests performed by another provider (e.g. VF billed by another provider not in our practice)</li> <li>Category 3: Discussion of management or test interpretation with external provider/qualified health care professional/appropriate source <u>not in our office</u></li> </ul>	Moderate risk from additional tests/tx (e.g. Rx drug, decision for minor surgery, diagnosis or treatment limited by social determinants of health)
<i>High</i> 99205/15	High (≥1 chronic illness with severe exacerbation, progression, or side effects of tx; OR 1 acute or chronic illness or injury that poses a threat to life or bodily function)	<b>Extensive– Need 2 of 3 Categories</b> <ul style="list-style-type: none"> <li>Category 1: NEED 3: review external notes from each unique source, review results from each unique test, ordering of each unique test, assessment requiring an independent historian</li> <li>Category 2: Independent Interpretation of Tests performed by another provider (e.g. VF billed by another provider not in our practice)</li> <li>Category 3: Discussion of management or test interpretation with external provider/qualified health care professional/appropriate source (e.g. lawyer, case manager, teacher) (not separately reported) Not in our office</li> </ul>	High risk of morbidity risk from additional tests/tx (e.g. risk for drug toxicity, decision to hospitalize, decision to de-escalate care due to poor prognosis)

# Infection control guidelines: An update for the optometric practice

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This report provides recommendations to optometrists for the prevention of in-office disease transmission. It is an update of "Infection Control: Guidelines for the Optometric Practice" that was published in the December 1993 issue of *Journal of the American Optometric Association*.<sup>1</sup>

Optometrists are now providing an expanded scope of service in the treatment and management of eye diseases and eye injuries. Some aspects of optometric practice may include the use of techniques and procedures that pose an increased risk for transmission of blood-borne and airborne infectious diseases. Although considerable attention has been directed toward the transmission of the human immunodeficiency virus (HIV) and the hepatitis B and C viruses (HBV and HCV), these are certainly not the only pathogens for which precautions need to be taken. Other associated pathogens include adenovirus, herpes simplex virus, and bacterial infections such as tuberculosis, pseudomonas, and staphylococcus. Transmission of pathogens can be prevented through the use of universal precautions and standard disinfection procedures in health care practice within optometric practices. Therefore, this report focuses on the use of appropriate office hygiene procedures and universal precautions to prevent exposure to and/or transmission of disease.

Most optometric procedures are considered to be extremely low risk for the transmission of disease. To place this in perspective, after nearly 25 years of surveillance by the Centers for Disease Control and Prevention (CDC), no scientific evidence or documented cases exist of HIV, HBV, or HCV transmission resulting from optometric care, from

either patient to doctor or doctor to patient.<sup>2,3</sup> Furthermore, although HBV is considered far more transmissible than HIV, there is no scientific evidence that either HBV or HIV can be contracted from tears, contact lenses, or routine patient contact. However, under some circumstances, e.g., when instruments come in direct contact with an infected patient, when exposure to blood occurs, or when cultures are taken, there is the potential for the transmission of disease. Thus, there is a need to treat all patient encounters in a uniform manner, including the use of universal infection control precautions.

This report is divided into 2 sections. Section One applies to all optometric practices. It provides basic recommendations for infection control to protect patients and optometric staff. Section Two applies to optometric practices in which there is risk of exposure to bloodborne pathogens. It provides a review of the requirements of the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard and a sample exposure control plan for use in optometric practices. A copy of the complete OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030, Directive number 02-02-069) is available at the OSHA Web site at [www.osha.gov](http://www.osha.gov) or from the American Optometric Association (AOA). Based on procedures in a particular practice setting, determination should be made as to whether only Section One (Universal Precautions) applies or if both Section One and Section Two (OSHA Standards) are applicable. If both sections apply, all aspects of this report including the OSHA Standard must be met.

## Section One

With the increased prevalence of acquired immune deficiency syndrome, hepatitis, and other bacterial and viral

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diseases in the United States, eventually some patients carrying these diseases will be encountered in the wide variety of settings in which optometry is practiced. It is impractical to try to identify all patients or health care providers who may be carrying infectious agents. As a result, the following universal protection control procedures should be used routinely by optometrists and their staff for all patients seen at each visit. These guidelines, known as "universal precautions," have been developed based on the recommendations of the CDC to prevent the transmission of disease within health care practices.<sup>2,4,5</sup>

### Hand washing

Proper hand washing represents one of the most effective means of preventing the transmission of disease. Many eye diseases are manually transmissible, and it is the responsibility of optometrists and their staff to practice effective hand washing before and after examinations and procedures. Hands should be thoroughly washed with soap and water and thoroughly dried with disposable paper towels or cleaned with an alcohol-based handrub. When using an alcohol-based handrub, the CDC recommends that the hands should be rubbed until dry, being careful to cover the entire skin surface of the hands and fingers. If the hands are visibly soiled, an alcohol-based handrub is not indicated, and the hands must be washed with soap and water.<sup>6</sup>

Fingernails should be of reasonable length and clean; wearing artificial nails is not recommended because they are a reservoir of gram-negative bacteria even after hand washing. Hands should be inspected frequently for cuts, abrasions, or breaks in the skin.

### Disposable medical gloves

All health care workers should routinely use appropriate barrier precautions to prevent skin and mucous membrane exposure when in contact with blood or other potentially infectious materials (this does not include tears, unless they contain visible blood). If an open wound or weeping lesion is present on the patient or the hands of optometrists or their staff, disposable gloves should be worn. Disposable gloves are available in latex or latex-free varieties as well as powdered or powder-free.

Disposable gloves should be readily available for use by optometrists and their staff when needed. All staff members should be instructed as to their proper use, particularly noting that:

1. Gloves are not a substitute for hand washing.
2. Gloves are for single-use only and are discarded after each patient use.
3. Hands should be washed after gloves are removed.

When choosing gloves, it must be remembered that both health care workers and patients may be allergic to latex. In those sensitive to latex allergens, either a type 1 or type 4 allergic reaction may occur, including an anaphylactic

reaction that can be fatal.<sup>7,9</sup> Additionally, the powder used in powdered examination gloves can be toxic to body tissue and is a documented carrier of latex allergen particles.<sup>9</sup> Many hospitals no longer allow the use of powdered gloves and instead mandate that all medical gloves are powder-free.<sup>7,10</sup>

### Gowns and masks

Gowns and masks are normally unnecessary for routine optometric procedures. In those cases in which optometrists or their staff may be in close contact with a patient with a known or suspected pathogen that may be transmitted by airborne means, masks should be used. If an optometrist or a staff member is infected with a pulmonary or other disease that is transmittable via airborne means, masking is necessary to protect the patient.

Gowns and masks should be used as a barrier precaution whenever the possibility of splattering or splashes of blood or other body fluids contaminated with blood or other infectious materials may occur.

### Protective eyewear

Protective eyewear is normally unnecessary except in situations or procedures in which blood or contaminated fluids may be splashed into the eyes of optometrists or their staff. Either goggles or eyeglasses with solid side shields may be used for protection.

### Handling of tissue

In the course of a patient evaluation, it may be necessary to handle the eyelids or surrounding facial tissue, thus bringing the examiner into contact with potentially infected surfaces. Effort should be made to minimize contact with these tissues, by using gloves, finger cots, or "no touch" techniques involving the use of cotton-tipped applicators.

### Handling of sharp instruments

Precautions must be taken to prevent injuries caused by needles, syringes, or other sharp instruments. To prevent needle-stick injuries, used needles should not be bent, broken or recapped by hand. After they are used, disposable syringes, needles, and other sharp items must be placed in appropriate infectious waste containers for disposal. Non-disposable sharps should be placed in puncture-resistant containers for sterilization. These containers must be readily accessible.

### Instrument disinfection

All instruments that come in contact with the ocular adnexa of a patient, such as gonioscopy and fundus contact lenses,

should be wiped clean and thoroughly disinfected and/or sterilized as appropriate after each use per manufacturer guidelines. Most ophthalmic instruments can be disinfected by immersion for 10 minutes in one of the following solutions:

1. 3% hydrogen peroxide
2. 0.5% sodium hypochlorite solution (1:10 dilution of common household bleach)
3. 70% ethanol or isopropyl alcohol

They may also be soaked in any commercial germicidal solution that is registered with the Environmental Protection Agency (EPA) as a “sterilant” and is compatible with the instrument.<sup>11-15</sup> The device should be rinsed thoroughly with sterile saline and air dried before reuse.

Special care may need to be taken to protect tonometer tips from damage. Two reports have noted isopropyl alcohol, although effective in removal of viruses, may damage Goldmann applanation tonometer tips over time.<sup>11,17</sup> One study comparing all 3 primary disinfection solution procedures has recommended the use of 3% hydrogen peroxide as the method of choice for Goldmann tonometers.<sup>12</sup> Recently, Haag Streit has updated their recommendations for tonometer tip disinfection. These new instructions may be found at [www.haag-streit-usa.com/pdf/disinfect.pdf](http://www.haag-streit-usa.com/pdf/disinfect.pdf).<sup>18</sup>

The tip of a digital pneumotonometer or tonopen should be covered with a disposable latex cover that is discarded after use.

Although rarely used, the Schiötz tonometer must be disassembled between uses to clean and effectively disinfect the barrel.

Because the noncontact tonometer does not make contact with the cornea or tears, it does not require routine disinfection. However, the front surface may be wiped with an alcohol swab if it should accidentally touch the eye.

## Instrument sterilization

Any instruments used for procedures on sterile tissue or that come into contact with the vascular system must be sterilized. Instruments used for lid procedures, for example, must be properly sterilized.

The most efficient and cost-effective method of sterilization for the optometric office is via a small tabletop steam autoclave unit. Items sterilized should be properly prepared by wrapping in peel pouches before sterilization to maintain instrument sterility after processing. Manufacturer guidelines must be followed to properly maintain each system.

Recommendations for steam sterilization require a minimum of 15 minutes at 121°C. Instruments should be cleaned before sterilization and should be dry upon removal from the autoclave. Weekly monitoring of sterilization with a known biologic indicator is advised to ensure proper sterilization.<sup>19</sup> Needles are disposed of after use, and as such, are purchased sterile. To prevent infection, an injection site

should be disinfected before injection with an alcohol wipe. Although recommendations vary, the consensus for hospital or clinical injection protocol is that the injection site should be cleaned for 30 seconds with an alcohol wipe and allowed to air dry for another 30 seconds. Not allowing the injection site to air dry completely can contaminate the needle and will increase pain upon injection.<sup>13</sup>

## Contact lens disinfection

Optometrists and their staffs involved in the fitting and dispensing of contact lenses should be familiar with proper disinfection techniques for in-office use. Lenses should be applied or removed only after proper hand washing. All trial lenses must be disinfected after each patient use, using one of the following CDC recommended procedures.<sup>12</sup>

1. Gas-permeable (GP) lenses can be disinfected using a commercially available hydrogen peroxide system approved for use with soft contact lenses. GP lenses should not be heat disinfected because the lenses may warp.
2. Soft contact lenses can be disinfected with an approved hydrogen peroxide system. Some soft lenses have also been approved for heat disinfection.
3. Hard lenses (PMMA) can be disinfected with a commercially available hydrogen peroxide system currently approved for use with soft contact lenses. Additionally, most hard lenses can be disinfected using the standard heat treatment regimen used for soft lenses (78° to 80°C) for 10 minutes.

Hydrogen peroxide is the only disinfection system approved by the CDC for the disinfection of HIV.<sup>2</sup> A literature review found no studies that evaluate the ability of multipurpose solutions to kill HIV. *Acanthamoeba* can be difficult to kill for both multipurpose (MPS) systems as well as hydrogen peroxide, but resistance to disinfection varies depending on the strain.<sup>14</sup>

## Infectious waste disposal

The EPA and CDC, as well as many state, county and city governments have developed guidelines that govern the disposal of hazardous or infectious waste. Optometrists should be familiar with the requirements they may need to meet.

Infectious waste has been defined by the EPA as “wastes that in all probability contain pathogenic agents that because of their type, concentration, and quantity, may cause disease in persons exposed to the waste.”

Although a number of categories of infectious waste exists, optometric practices would most likely need to be concerned with the following items:

1. All used disposable gloves need to be discarded as hazardous waste.
2. All sharp instruments used in patient care should be considered potentially infectious waste and placed

in appropriate infection control containers for disinfection or disposal.

3. All disposable items (e.g., tissues, gauze) contaminated with blood or other infectious materials should be disposed of using clearly marked infectious waste receptacles.
4. All infectious waste must be placed in appropriate containers and disposed of according to federal, state, and local regulations.

### Infection control guidelines checklist

To assist in review of the universal precautions discussed above, [Appendix B](#) contains an infection control guidelines checklist. This can be a helpful guide for staff training and for delineating appropriate office procedures.

## Section Two

### OSHA Bloodborne Pathogens Standard

The infection control guidelines in Section One relate to general precautions that should be taken in the care of all patients within optometric practices. However, OSHA has also developed specific regulations that relate to the prevention of the transmission of bloodborne diseases to health care workers. The Bloodborne Pathogens Standard requires employers to ensure that any of their employees who may be at risk for exposure to blood and other potentially infectious materials are appropriately protected.<sup>4,15,20</sup>

The likelihood of exposure to bloodborne diseases in most optometric practices is limited. OSHA does not consider contact with tears an occupational exposure unless the tears contain visible blood. However, before dismissing these requirements as not relating to a practice, all staff duties and procedures should be assessed. If it can be reasonably anticipated that any employees may come into contact with blood or other potentially infectious materials (as defined in this regulation) as part of routine duties, then one must comply with all aspects of this standard.

### Exposure control plan

The standard requires that all employers whose employees may experience occupational exposure must develop and implement a written Exposure Control Plan. A copy of the plan should be accessible to employees, reviewed at least annually, and updated when needed. The following sections list the elements that must be included in the plan.

### Exposure determination

A list of all job classifications, tasks, and procedures having potential exposure must be developed.

### Methods of compliance

1. The use of universal precautions (as described in Section One) shall be observed to prevent contact with blood or other potentially infectious materials. Precautions include hand washing, wearing gloves (as appropriate) and sterilizing instruments.
2. Engineering and workplace controls shall be used to eliminate or minimize employee exposure. This may include:
  - a. Providing hand-washing facilities that are readily accessible to employees.
  - b. Ensuring that employees wash their hands immediately after removal of gloves or other personal protective equipment or come in contact with blood or other potentially infectious materials.
  - c. Ensuring that needles or other contaminated sharps shall not be bent or recapped except as allowed by the standard.
  - d. Prohibiting eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses in work areas where there is a reasonable likelihood of occupational exposure.
  - e. Ensuring that engineering controls and “safer medical devices” must be used if they can decrease employee exposure to potential infectious hazards through isolating, removing, or eliminating the hazard.
  - f. Documenting annually the consideration and implementation of “safer medical devices” where applicable in the workplace as required by federal law. OSHA requires the adaptation of new “safer medical technology” that would decrease the chance of a bloodborne pathogen exposure.
3. Personal protective equipment shall be used where occupational exposure remains after institution of engineering and workplace controls. Masks in combination with eye protection devices such as goggles or glasses with solid shields or chin-length face shields shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated, particularly when eye, nose, or mouth contamination can be reasonably expected. Gowns should be worn during procedures that are likely to generate splashes of blood or other potentially infectious materials.
4. Employers shall ensure that the worksite is maintained in a clean and sanitary condition. All equipment and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials. Waste materials containing liquid or semi-liquid blood or other potentially infectious materials shall be placed in containers that are closeable, constructed to prevent leakage, and labeled and color coded for identification.
5. Employers shall gather data to identify, evaluate, and select workplace-engineering controls that improve safety



in the workplace from nonmanagement employees who provide patient care services. This must be documented in the employer exposure control plan.

### Hepatitis B vaccination

Employers shall make available hepatitis B vaccinations to all employees who have occupational exposure. These must be provided at no cost to the employee. The vaccination must be started within 10 working days of the employee's initial assignment. Should an employee refuse the vaccine, a declination form using specific language requested by OSHA must be signed.

### Postexposure follow-up

Postexposure follow-up and evaluation must be made available to all employees who have had an exposure incident.

The evaluation and follow up should include:

1. Documentation of the route of exposure and circumstances under which the exposure occurred.
2. Testing of the individual's blood after consent to determine HBV, HCV, and HIV infectivity.
3. The prompt initiation of postexposure prophylaxis (PEP) as appropriate for HBV, HCV, and HIV.<sup>3</sup>

### Information and training

Employers shall ensure that all employees with occupational exposure participate in a training program that must be provided at the time of initial assignment to tasks where occupational exposure may take place and at least annually thereafter. The training shall include:

1. A copy of the OSHA standard and an explanation of its contents.
2. A general explanation of bloodborne diseases and their mode of transmission.
3. An explanation of the practice's exposure control plan.
4. An explanation of the appropriate methods of recognizing tasks that may involve exposure and the use and limitations of methods to prevent exposure.
5. Information on the selection and use of personal protective equipment.
6. Information on the hepatitis B vaccine.
7. An explanation of procedures to follow if an exposure incident occurs and for postexposure evaluation.

Records of training sessions need to be maintained for 3 years and shall include dates provided, summary of training, and names of person(s) conducting the training.

### Medical records

Employers shall establish and maintain confidential medical records for each employee with occupational exposure

to include name and Social Security number, employer hepatitis vaccination status, and results of any medical examinations or testing.

The methods by which an office will comply with these requirements must be included in a written Exposure Control Plan that should be available for all employees to review. A sample Exposure Control Plan is included in [Appendix C](#). Before finalizing the Exposure Control Plan, the practitioner should review and understand the complete OSHA Bloodborne Pathogen Standard (29 CFR 1910.1030). The complete standard along with the enforcement procedures are available on the OSHA Web site at [www.osha.gov](http://www.osha.gov).

### Responsibility to patients

Optometrists have a moral and ethical responsibility to care for all patients.<sup>21</sup> It is also a legal and ethical responsibility of health care providers to be knowledgeable about effective techniques to prevent disease transmission. By adopting universal infection control precautions as a routine aspect of eye care, optometrists, patients and staff are at extremely low risk of contracting bloodborne or air-borne infections.

An infection control plan to address the specific needs of an optometric practice, including staff education, should be developed and implemented. The OSHA Bloodborne Pathogen regulation is a crucial component of disease prevention for an optometric practice.

### Acknowledgment

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## Appendix A. Definition of key terms

**Bloodborne pathogens**Da pathogenic micro-organism that is present in human blood and can cause disease in humans.

**Exposure incident**Da specific eye, mouth, other mucous membrane, nonintact skin, or parenteral contact with blood or other potentially infectious materials.

**Occupational exposure**Dreasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

**Personal protective equipment**Dspecialized clothing or equipment such as gloves, gowns, masks, and eye protection worn by an employee for protection.

**Potentially infectious materials:**includes blood, semen, vaginal secretion, cerebrospinal fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and any bodily fluid visibly contaminated with blood. (Tears are not considered to be potentially infectious materials under the OSHA Standard unless they contain visible blood.)

**Universal precautions**Dan approach to infection control that treats all blood and body fluids as if they are infectious. Precautions include hand washing, the wearing of gloves (as appropriate) and the sterilizing of instruments.

## Appendix B. Infection control guidelines checklist

The following universal precautions should be followed for the care of all patients in an optometric practice.

### Hand Washing

- Wash hands and other skin surfaces before every patient contact and immediately after contact with blood or other potentially infectious materials.
- Wash hands immediately after gloves are removed.
- Note that alcohol-based handrubs are an equivalent substitute to hand washing in most instances.

### Protective Equipment

- Use appropriate barrier precautions to prevent exposure to blood or other potentially infectious materials.
- Use disposable latex gloves for touching blood, mucous membranes, or non-intact or infected skin of patients.
- Wear gloves if there are any open wounds or cuts on the hands.
- Dispose of gloves after contact with each patient.
- Wear protective eyewear during procedures that are likely to generate splattering of blood or other potentially infectious materials.
- Wear masks during procedures when the transmission of airborne diseases exists.
- Wear gowns during procedures that are likely to generate splashes of blood or other potentially infectious materials.

### Handling of Sharp Instruments

- Properly handle and dispose of all disposable needles, syringes, and other sharps to prevent injuries. Never try to bend, break, or recap a used needle by hand.
- Place all nondisposable sharps in puncture-proof containers and disinfect or sterilize after each use.

Note that proper puncture resistant containers must be available for use in disposal of sharps.

### Instrument Disinfection

- Wipe clean all instruments that come in contact with the patient, and disinfect or sterilize after each use.

### Contact Lens Disinfection

- Disinfect all trial contact lenses after each use by either a chemical (hydrogen peroxide) or heat disinfection system.

*Infectious Waste Disposal*

- Place all infectious waste in appropriate containers and dispose of according to federal, state, and local regulations.

**Appendix C. Infection Control Guidelines Checklist**

Practice Name: \_\_\_\_\_

Date: \_\_\_\_\_

In compliance with the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030, the following Exposure Control Plan has been developed. This plan shall be reviewed and updated annually or whenever necessary to accommodate new tasks or procedures or to reflect new OSHA standards.

**A. PURPOSE**

The purpose of this Exposure Control Plan is to:

1. Minimize or eliminate occupational exposure to blood or other potentially infectious body fluids; and
2. Comply with 29 CFR 1910.1030 OSHA Bloodborne Pathogen Standard.

**B. EXPOSURE**

OSHA requires each employer to develop a listing of all job classifications in which employees may incur occupational exposure to blood or other potentially infectious materials. This listing is to identify all at-risk employees so proper training in safe work practices and procedures can be completed. In this office, the following job classifications may incur occupational exposure to blood or other potentially infectious materials:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tasks and procedures that might cause employees to have occupational exposure include:

<u>Job Classification</u>	<u>Tasks/Procedures</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**C. METHODS OF COMPLIANCE**

The following procedures will be followed in this office to minimize or eliminate occupational exposure to blood or other potentially infectious materials:

**1. Universal Precautions**

Because not all individuals with infectious diseases can be identified, all human blood and certain human body fluids shall be treated as if infectious for HBV, HCV, HIV, and other bloodborne pathogens; therefore, the same infection control procedures and practices will be used with all individuals.

**2. Engineering and Workplace Controls**

Engineering and work practice controls will be utilized to eliminate or reduce exposure to infectious materials. If occupational exposure remains after institution of these controls, personal protective equipment shall be provided and used.

The following engineering and workplace controls will be used:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The above-mentioned controls will be examined and maintained on a regular schedule. In work areas in which there is reasonable likelihood of exposure to blood or other potentially infectious materials, employees will not eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses. Food and beverages will not be kept where blood or other infectious materials are present.

**3. Personal Protective Equipment (PPE)**

All personal protective equipment used will be provided without cost to employees. PPE will be chosen based on reasonably anticipated exposure to blood or other potentially infectious materials.

The following procedures will require the use of PPE:

\_\_\_\_\_

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All PPE will be cleaned, laundered, and/or disposed of without cost to the employee. Repairs and replacements will also be made at no cost to the employee. Any garments penetrated by blood or other infectious material shall be removed immediately or as soon as feasible. All PPE will be removed prior to leaving the work area. After removal PPE shall be placed in a designated and appropriate area or container for storage, washing, decontamination or disposal. Gloves will be worn when it is reasonably anticipated that the employee will have contact with blood or other potentially infectious materials or when handling or touching contaminated items or surfaces. Disposable gloves are not to be washed or decontaminated for reuse and are to be replaced as soon as practical when their function as a barrier to exposure is compromised.

Masks, eye protection or combination face shields are required whenever splashes, splatters, or droplets of blood or other potentially infectious materials may be anticipated and contamination may occur.

**4. Housekeeping**

All contaminated disposable equipment and/or supplies shall be discarded in appropriate containers that are labeled and color coded (fluorescent orange or orange-red). These containers shall be easily accessible and located as close as possible to the work area.

When moving regulated waste containers, the containers shall be closed prior to removal or replacement to prevent



spillage during handling, storage, transport or shipping. If leakage is possible, the container shall be placed in a properly color coded second container with a label attached to identify its contents. Reusable containers shall not be opened, emptied or cleaned in any manner which would expose the employee to the risk of injury or contamination.

#### D. HEPATITIS B VACCINE

Hepatitis B vaccinations shall be made available to all employees who may have occupational exposure, and post- exposure follow-up will be provided to employees who have had an exposure incident. All medical evaluations and procedures including the Hepatitis B vaccinations and post- exposure follow-up will be:

1. Available at no cost to the employee;
2. Available at a reasonable time and place;
3. Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and
4. Provided according to U.S. Public Health Service recommendations.

Hepatitis B vaccination shall be made available after the employee has received training in occupational exposure and within 10 working days of initial assignment for all employees who have had occupational exposure unless the employee has previously received the complete Hepatitis B vaccination series, antibody testing has revealed immunity, or a medical contraindication is indicated.

If an employee initially declines a Hepatitis B vaccination but at a later date decides to accept the vaccination, the vaccination shall then be made available. All employees declining the Hepatitis B vaccination shall sign the OSHA required waiver indicating refusal.

If a routine Hepatitis B vaccine booster is recommended by the U.S. Public Health Service at a future date, such booster injections shall be made available at no expense.

#### E. POSTEXPOSURE EVALUATION AND FOLLOW-UP

All exposure incidents shall be reported, investigated, and documented. When an employee incurs an exposure incident, it shall be reported to

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Following a report of an exposure incident, the exposed employee shall immediately receive a confidential medical evaluation and follow-up including at least the following elements:

1. Route of exposure documentation;
2. Circumstances under which the exposure incident occurred;
3. Identification and documentation of source individual, unless identification is infeasible or impossible.

If the source individual is known, then a blood test shall be done as soon as feasible to determine HIV, HBV, or HCV infectivity.

Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

Collections and testing of blood for HBV, HCV, and HIV serological status will comply with the following:

1. Exposed employee's blood shall be collected and tested as soon as feasible after consent is obtained.

Employee will be offered the option of having blood tested for HIV, HBV, or HCV serological status.

All employees who incur an exposure incident will be offered post-exposure evaluation and follow-up PEP in accordance with the OSHA standard.

#### F. INFORMATION AND TRAINING

Training will be provided at the time of initial assignment to tasks for which occupational exposure may occur and shall be repeated within 12 months. It should include:

1. A copy and explanation of the OSHA standard;
2. Discussion of the epidemiology and symptoms of bloodborne diseases;
3. Explanation of the modes of transmission of bloodborne pathogens;
4. Explanation of the Bloodborne Pathogen Exposure Control Plan and method for obtaining a copy;
5. Identification of tasks that may involve exposure;
6. Explanation of use and limitations of methods to reduce exposure, for example, work practices, engineering controls and PPEs;
7. Information on types, use, location, removal, handling, decontamination and disposal of PPE;
8. Information of the Hepatitis B vaccination, including efficiency, safety, administration and benefits;
9. Information and explanation for appropriate action if exposure incident occurs; and
10. Explanation and identification of appropriate signs, labels and color-coding systems. Additional training shall be provided when there is a change of tasks or procedures.

#### G. EVALUATION AND REVIEW

\_\_\_\_\_ shall be responsible for annually reviewing this program and its effectiveness and updating it as needed.

Editor's note

- This document is an example only. Consult the complete OSHA Bloodborne Pathogens Standard to assure compliance.