OPHTHALMOLOGY
GOALS AND OBJECTIVES

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PROGRAM MISSION STATEMENT AND PROGRAM AIMS

Mission Statement

To serve our patients and community by educating physicians in an outstanding academic environment that offers the best health services in a respectful and caring environment.

Program Aims

The program's prime directive is to train physicians to become compassionate, life long learners with a broad knowledge of contemporary ophthalmology and a repertoire of both surgical and nonsurgical management tools in which they are well versed. The broad spectrum environments including private practice, Veterans Administration, University Level 1 trauma center, outpatient referral practices and undeserved community primary care clinics provide a rich exposure to many healthcare systems, cultural diversity and medical records

POSTGRADUATE YEAR GOALS AND OBJECTIVES

1. **First Year (PGY-1) and Second Year (PGY-2) Resident**

   a. *Goals*

   During the first and second year of residency, the resident is expected to become a member of the eye care team at the University of Arizona and to establish a reputation for reliable and trustworthy behavior in all aspects of their professional life.

   In the clinic, during the first year, the resident will learn recognize the normal eye examination and to be able to reliably describe deviations from normal. It is not expected that a first/second year resident will accurately diagnose all manner of eye conditions, but they should recognize deviations from normality and be reliable in bringing them to the attention of others.

   In the operating room, the resident will become a skilled assistant, will read about the surgeries that they are assisting in, and will assist in the preoperative evaluation and postoperative care of the patients whose surgeries they are assisting in.

   In the hospital and while on call, the first/second year resident will develop confidence in their ability to serve as a member of a team that will provide all levels of eye care for all presenting eye emergencies and urgencies.

   During the first year of residency, the resident will develop a base of basic knowledge through the study of the American Academy of Ophthalmology Basic and Clinical Science curricula, and will develop in-depth knowledge in focal areas through preparation of grand rounds.

   b. *Objectives*

   Competency-based objectives during the first/second year of residency relate specifically to the rotation in which the residents participate.

   Patient Care
   Global aspects of patient care that are not rotation-specific include:
   - Development of emergency department specific eye care skills and knowledge, where a patient presenting with either global trauma or eye specific complaints are properly evaluated and managed.
   - Development of telephone communication skills with patients and attendings, as often the second year eye resident is the first line of communication when a patient calls after hours.
   - Initial development of communication skills required to allow the efficient establishment of a consulting relationship to meet a patient's eye care needs.

   Medical Knowledge
   - Global medical knowledge objectives during the first year of residency can be summarized by the expectation that Basic and Clinical Sciences Course material of the American Academy of Ophthalmology is the reading expectation for the first year.
   - It is not expected that first/second year resident will have time for broad reading of textbooks; that is expected during the third year of residency.

- The PGY-2 resident is expected to have read the *Wills Eye Manual* from cover to cover by the end of the first week of residency, and to be able to quickly and efficiently use this text in its current edition as the primary guide for protocol-driven care in the emergency room and after hours consultations. The PGY-1 resident is expected to have read the *Wills Eye Manual* by the end of their first week on the ophthalmology rotation.

Professionalism
- Demonstrate compassion, integrity, and respect for others, including patients, their families, and all fellow employees regardless of their job classification.
- Respect patient privacy and autonomy.
- Be sensitive and responsive to a diverse patient. In particular, if a resident is not fluent in Spanish, it is expected that appropriate translators will be used so that effective doctor/patient communication can occur.
- Conduct themselves in a courteous, neat and professional manner at all times. Residents are expected to acquaint themselves with the dress code requirements of the hospitals that they are rotating through and respect the requests of the parent institution.
- Be available at all times on after-hours call duty, whether primary or back-up call. This includes getting a cell phone that is a local number that does not require a long distance call to access the resident.
- Complete all dictations and paperwork in a timely manner. Discharge dictations must be completed by the time of discharge and operative dictations immediately following the surgical procedure.
- Attend all educational activities including conferences, lectures, and journal clubs. Attendance is taken, this is a small program and your participation is essential for the experience to be good for all parties.
- Demonstrate timeliness in arrival to clinics, ORs and lectures. If you are not early, you are late!
- When disagreements arise as they will, seek a respectful solution. For issues between residents, it is best to involve the Chief Resident first to mediate a solution.

Practice-Based Learning and Improvement
- Make a point of each day, writing down the medical record number of a patient that you have seen, and then reading something about that diagnosis.
- Each exam room has internet connectivity. Learn the library on-line resources and access those resources while the patient is in the room.
- Review key findings with your attending after each patient encounter, and when you do not see a key finding, try to get the patient back into a room.
- As a general rule, we have plenty of exam rooms and more patients than you can hope to see during the course of a day. It is preferable that you learn as much as possible from each patient whom you see, than learn little from many patients. There will be time in your later years of residency to develop rapidity; during the third year concentrate on developing diagnostic skills.
- Use your time with patients to develop your portfolio.

Interpersonal and Communication Skills
- Develop methods to communicate effectively with patients and their families across the spectrum of our community.
- Become proficient at rapidly and effectively presenting the eye history and exam to your fellow residents and attendings.
- Work effectively as a member of a health care team or other professional group.
- Act in a consultative role to other physicians and health professionals.

- Maintain comprehensive, timely, and legible and intelligible medical records. Your responsibilities in documenting patient visits have medicolegal implications. Learn your charting responsibilities.
- Each hospital has different charting requirements and methods for order entry. Avoid verbal orders; you must sign them anyway within 24 hours, so take the time to enter any orders extemporaneously and you will save time overall.

Systems-Based Practice
- Work effectively in various health care delivery settings and systems relevant to their clinical specialty.
- Ophthalmology is a consultative service and your future success will be determined in large measure by how well you communicate with your referring physicians. Learn now how to communicate effectively.
- Advocate for quality patient care and optimal patient care systems.
- Maintain medical records in a timely manner.

2. **Third Year (PGY-3) Resident (in addition to PGY-2 requirements)**

   a. *Goals*

   During the third year (PGY-3), expectations are placed on the resident to develop competency at readily identifying the most common eye diseases, identifying the pathology accurately, and being able to develop a plan for care.

   The third year resident is to assist in surgery, developing surgical skills and competences in preparation for extensive surgical experience in the third year.

   During the third year of residency, the didactic education goals center upon developing in-depth knowledge on a daily basis by focal reading on the subspecialty rotation that the resident is participating in, while reviewing the BCSC core material on an ongoing basis. By doing so, the resident is expected to develop a broad knowledge of the breadth of the ophthalmic literature.

   b. *Objectives*

   Patient Care
   - During the third year emphasis shifts from learning general ophthalmology to developing a nuanced education in the various specialties.
   - During the third year, you will have increased patient care expectations from the faculty.
   - In the third year, residents are expected to be sufficiently skilled that they can serve as effective teachers to medical students and other health care providers.
   - In the third year, it is expected that residents will learn to recognize more than one presenting problem and develop a coherent management plan that addresses all the problems of a given patient.

   Medical Knowledge
   - While the primary educational source material remains the AAO BCSC, on each rotation there will be a secondary reading list that utilizes both journal articles and reference texts. It is your responsibility to obtain these materials and study them in a timely manner.
   - The expectation is that reading the *BCSC* should now be a review process, and references that are presented in the *BCSC* can now be explored.
   - The sophistication of Rounds presentations is expected to increase as a result of the greater level of intellectual sophistication.
   - In the operating room, evidence of wet lab practice should be evident.

   Professionalism
   - Demonstrate an ability to confidently communicate the risks and benefits of surgery to a patient in preparation for the VA experience.
   - Manage angry patients and their families in a respectful and calm fashion.
   - Manage the patient with non-organic disease in an appropriate fashion.
   - Demonstrate sensitivity with patient confidentiality issues being judicious in their choice or words and choice of timing in discussion of patient issues.

   Practice-Based Learning and Improvement
   - Develop a portfolio of patient encounters that link reading with specific diagnoses on a recurring basis.

- Begin to differentiate care that is practiced on the basis of evidence from care that is delivered empirically. When evidence-based care recommendations can be made, make care recommendations accordingly.

Interpersonal and Communication Skills
- Communicate complications compassionately and clearly to patients and their families.
- Work effectively as a leader of a health care team or other professional group.

Systems-Based Practice
- Incorporate considerations of cost awareness and risk-benefit analysis in patient care.
- Demonstrate flexibility in clinical care balancing patient financial needs with the clinical situation at hand to ensure the best possible outcome.
- Understand how conclusions within the medical literature if implemented will impact the larger medical climate.

3. **Fourth Year (PGY-4) Resident (in addition to PGY-2 and PGY-3 requirements)**

   a. *Goals*

   The fourth year resident education is intended to be a time of skill and knowledge consolidation, and a time where surgical confidence develops. Basic skills are trained on a repetitive basis. The ability to develop a differential diagnosis and develop a management plan matures. Leadership skills are emphasized and confidence to establish an independent practice is instilled.

   A major goal for fourth year residents is employment or continued training upon completion of the fourth year. Thus, time is dedicated to career counseling and time off is provided for job and fellowship interviews.

   During the fourth year of residency, the resident is expected to develop and polish their surgical skills and interpersonal skills for patient management by managing a practice at SAVAHCS. Additionally, during the final year of residency, the resident is expected to demonstrate leadership and administrative skills during their rotation as Chief Resident.

   During Chief Residency, the resident will serve as administrator for the residency program in many respects and will be the assistant to the Program Director for the day-to-day operations of the residency program. The Chief Resident is directly involved in dealing with the problems encountered during the routine operation of a clinical service.

   b. *Objectives*

   Patient Care
   - Recognize the difference between the routine and the challenging patient, and learn to use VA teaching staff for the challenging patient while effectively communicating the care of the routine patient.
   - Spend time reviewing cataract surgery recordings to develop an appreciation for the earliest time a problem might have been recognized. Use the recordings to improve the next case.
   - Continue to utilize the wet lab for surgical practice.
   - Facilitate patient care in the operating room as well as in the pre- and post-operative areas.

   Medical Knowledge
   - Develop a vocabulary that will allow an accurate portrayal of the eye findings of an individual basis that is sufficiently nuanced to describe the incremental improvement or worsening of a patient.
   - Manage or supervise the more junior trainees (e.g., medical students or medical residents) in the management ocular emergencies (e.g., central retinal artery occlusion, giant cell arteritis, chemical burn, angle closure glaucoma, endophthalmitis).
   - Perform more advanced external and adnexal surgical procedures (e.g., lacrimal gland procedures, complex lid laceration repair, e.g., canalicular and lacrimal apparatus involvement).

   Professionalism
   - Model respect, compassion, and integrity in interactions with surgical patients.
   - Model a commitment to excellence and on-going professional development.

- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

<u>Practice-Based Learning and Improvement</u>
- Track your own surgical results to identify trends in your practice.
- Develop vigilance for complications, and as they arise, review the recordings to see when they might have been avoided.
- Participate in the department quality improvement and patient safety process to allow others to learn from your experience.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.

<u>Interpersonal and Communication Skills</u>
- Demonstrate ability to disclose medical errors and complications to patients and families in a compassionate manner.
- Maintain a calm and rational demeanor in dealing with angry patients, staff, fellow residents and faculty.

<u>Systems-Based Practice</u>
- Participate in identifying systems errors and in implementing potential systems solutions.
- Understand third party payers and practice management issues, including billing and coding, cost containment, and quality assurance and improvement.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

PGY-1 ROTATION GOALS AND OBJECTIVES

1. **Emergency Medicine**

   a. *Goals*
      - Be able to take a history and physical for the emergency/urgent care patient.
      - Be able to show evidence for clinical reasoning in the work-up of emergency/urgent care patients.
      - Manage internal medicine patients in an emergency room setting.
      - Develop the skills necessary to utilize digital healthcare information.
      - Attain the medical knowledge necessary to manage emergency/urgent care patients.
      - Understand patient safety and quality improvement for emergency/urgent care patients.
      - Develop a routing for reflection and a commitment to personal growth.
      - Develop a personal culture of professionalism.
      - Develop patient and family centered communication.
      - Understand acceptable means for communication within the healthcare system.

   b. *Objectives*
      - Be able to provide care that is compassionate, appropriate, and effective in the treatment of health problems and promotion of health in the critically ill assault patient.
      - Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge.
      - Demonstrate the ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.
      - Demonstrate an awareness of and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal healthcare.
      - Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.
      - Demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates.
      - Be able to manage acute medical emergencies.
      - Be able to triage a variety of conditions.
      - Understand the role that the emergency room plays in coordinating care between services.

   PGY-1 residents are expected to meet the objectives for level 1.

	Level 1
PATIENT CARE	
PC-1: Emergency Stabilization	• Detects when a patient's vital signs are abnormal • Assesses a patient's ABCs and performs basic interventions
PC-2: Performance of a Focused History and Physical Exam	• Elicits and communicates a reliable comprehensive patient history and performs a physical exam
PC-3: Diagnostic Studies	• Determines the need for diagnostic studies • Demonstrates understanding of diagnostic testing principles
PC-4: Diagnosis	• Constructs a list of potential diagnoses based on the patient's chief complaint and initial assessment
PC-8: General Approach to Procedures	• Identifies indications for a procedure and pertinent anatomy and physiology • Performs basic therapeutic procedures (e.g., suturing, splinting)

	Level 1
MEDICAL KNOWLEDGE	
MK-1: Scientific Knowledge	• Demonstrates scientific knowledge of common presentations and conditions
MK-2: Treatment and Clinical Reasoning	• Demonstrates knowledge of treatment of common conditions • Identifies types of clinical reasoning errors within patient care, with substantial guidance
SYSTEMS-BASED PRACTICE	
SBP-1: Patient Safety	• Demonstrates knowledge of common patient safety events • Demonstrates knowledge of how to report patient safety events
SBP-2: Quality Improvement	• Demonstrates knowledge of basic quality improvement methodologies and metrics
SBP-3: System Navigation for Patient-Centered Care	• Demonstrates knowledge of care coordination • Identifies key elements for safe and effective transitions of care and hand-offs • Demonstrates knowledge of population and community health needs and disparities
PRACTICE-BASED LEARNING AND IMPROVEMENT	
PBLI-1: Evidence-Based and Informed Practice	• Demonstrates how to access and use available evidence
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates an openness to performance data (feedback and other input)
PROFESSIONALISM	
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates professional behavior in routine situations and in how to report professionalism lapses • Demonstrates knowledge of the ethical principles underlying patient care
PROF-2: Accountability/ Conscientiousness	• In routine situations, performs tasks and responsibilities with appropriate attention to detail • Responds promptly to requests and reminders to complete tasks and responsibilities
PROF-3: Self-Awareness and Well-Being	• Recognizes, with assistance, the status of one's personal and professional well-being
INTERPERSONAL AND COMMUNICATION SKILLS	
ICS-1: Patient and Family-Centered Communication	• Uses language and non-verbal behavior to reflect respect and establish rapport while accurately communicating one's own role within the health care system • Identifies common barriers to effective communication (e.g., language, disability) • With insight gained through an assessment of patient/family expectations coupled with an understanding of their health status and treatment options, adjusts one's communication strategies
ICS-2: Interprofessional and Team Communication	• Respectfully requests a consultation • Uses language that reflects the values all members of the health care team • Receives feedback in a respectful manner
ICS-3: Communication within Health Care Systems	• Accurately documents information in the patient's record and safeguards the patient's personal information • Communicates through appropriate channels as required by institutional policy (e.g., patient safety reports, cell phone/pager usage)

2. **Internal Medicine**

   a. *Goals*
   - Be able to take a history and physical for internal medicine patients.
   - Be able to show evidence for clinical reasoning in the work-up of internal medicine patients.
   - Manage internal medicine patients in an inpatient setting.
   - Develop the skills necessary to utilize digital healthcare information.
   - Attain the medical knowledge necessary to manage internal medicine patients.
   - Understand patient safety and quality improvement for internal medicine patients.
   - Develop a routing for reflection and a commitment to personal growth.
   - Develop a personal culture of professionalism.
   - Develop patient and family centered communication.
   - Understand acceptable means for communication within the healthcare system.

   b. *Objectives*
   - Elicit and report a hypothesis-driven history and physical for common patient presentations and independently obtain data from secondary sources and interpret common findings.
   - Integrate information from all sources to develop a basic diagnosis for common patient presentations and identify clinical reasoning errors within patient care, with guidance.
   - Develop and implement management plans for common conditions, recognizing acuity, and modify based on the clinical course. With guidance, promote plans that maintain and promote health.
   - Use EHR for routing patient care activities and identify the component for telehealth visit. Reconcile the secondary data sources in the EHR and provide telehealth visit.
   - Explain the scientific knowledge for normal function of common and complex medical conditions.
   - Explain the indications and contraindications, risks, and benefits of common therapies and diagnostic testing.
   - Identify system factors that led to patient safety events, how these events are reported and describe the local quality improvement initiatives.
   - Become proficient in practicing evidence-based medicine.
   - Be able to coordinate care of patients by effectively engaging interprofessional teams, perform effective transitions of care/handoffs and identify specific populations and community health needs and inequalities for the local population.
   - Identify key components of the healthcare system, the basic healthcare payment system and how this affects patient care.
   - Articulate clinical questions and elicit patient preferences and valuation to guide evidence-based care.
   - Demonstrate openness to performance data (feedback and other input), analyze and reflect on areas that could be improved and seek opportunities for improvement.
   - Be able to identify potential triggers for professionalism lapses and accept responsibility for one's own lapses.
   - Demonstrate knowledge of basic ethical principles and apply to straightforward ethical situations.
   - Perform administrative tasks and patient care responsibilities in a timely fashion in routine situations.
   - Recognize the important of getting help when needed to address personal and professional well-being.

- Use language and non-verbal behavior to demonstrate respect and establish rapport. Identify common barriers to effective communication.
- Document accurately comprehensively and safeguard PHI.

PGY-1 residents are expected to meet the objectives for level 1.

	Level 1
PATIENT CARE	
PC-1: History	• Elicits and reports a comprehensive history for common patient presentations, with guidance • Seeks data from secondary sources, with guidance
PC-2: Physical Examination	• Performs a general physical examination while attending to patient comfort and safety • Identifies common abnormal findings
PC-3: Clinical Reasoning	• Organizes and accurately summarizes information obtained from the patient evaluation to develop a clinical impression
PC-4: Patient Management - Inpatient	• Formulates management plans for common conditions, with guidance • Identifies opportunities to maintain and promote health
PC-6: Digital Health	• Formulates management plans for acute common conditions, with guidance • Identifies the required components for a telehealth visit
MEDICAL KNOWLEDGE	
MK-1: Applied Foundational Sciences	• Explains the scientific knowledge (e.g., physiology, social sciences, mechanism of disease) for normal function and common medical conditions
MK-2: Therapeutic Knowledge	• Explains the scientific basis for common therapies
MK-3: Knowledge of Diagnostic Testing	• Explains the rationale, risks, and benefits for common diagnostic testing • Interprets results of common diagnostic tests
SYSTEMS-BASED PRACTICE	
SBP-1: Patient Safety and Quality Improvement	• Demonstrates knowledge of common patient safety events • Demonstrates knowledge of how to report patient safety events • Demonstrates knowledge of basic quality improvement methodologies and metrics
SBP-2: System Navigation for Patient-Centered Care	• Demonstrates knowledge of care coordination • Identifies key elements for safe and effective transitions of care and hand-offs • Demonstrates knowledge of population and community health needs and disparities
SBP-3: Physician Role in Health Care Systems	• Identifies key components of the health care system • Describes basic health payment systems
PRACTICE-BASED LEARNING AND IMPROVEMENT	
PBLI-1: Evidence-Based and Informed Practice	• Demonstrates how to access, categorize, and analyze clinical evidence, with guidance
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Accepts responsibility for personal and professional development by establishing goals • Identifies the factors that contribute to gap(s) between ideal and actual performance, with guidance
PROFESSIONALISM	
PROF-1: Professional Behavior	• Demonstrates professional behavior in routine situations
PROF-2: Ethical Principles	• Demonstrates knowledge of basic ethical principles
PROF-3: Accountability/Conscientiousness	• Performs administrative tasks and patient care responsibilities, with prompting
PROF-4: Knowledge of Systemic and Individual Factors of Well-Being	• Recognizes the importance of getting help when needed to address personal and professional well-being

	Level 1
INTERPERSONAL AND COMMUNICATION SKILLS	
ICS-1: Patient and Family-Centered Communication	• Uses language and non-verbal behavior to demonstrate respect and establish rapport
ICS-2: Interprofessional and Team Communication	• Respectfully requests and responds to a consultation • Uses verbal and non-verbal communication that values all members of the interprofessional team
ICS-3: Communication within Health Care Systems	• Accurately documents comprehensive and current information • Communicates using formats specified by institutional policy to safeguard patient personal health information

3. **Neurology**

   a. *Goals*
      - Be able to take a history and physical for the neurology patient.
      - Be able to show evidence for clinical reasoning in the work-up of neurology patients.
      - Manage neurology patients in an inpatient setting.
      - Manage neurology patients in an outpatient setting.
      - Develop the skills necessary to utilize digital healthcare information.
      - Attain the medical knowledge necessary to manage neurology patients.
      - Understand patient safety and quality improvement for neurology patients.
      - Develop a routing for reflection and a commitment to personal growth.
      - Develop a personal culture of professionalism.
      - Develop patient and family centered communication.
      - Understand acceptable means for communication within the healthcare system.
      - Understand the deductive logic of neurology.
      - Understand the neurological examination and the rationale for each step.

   b. *Objectives*
      - Be able to perform a full neurologic examination, and appropriately interpret diagnostic tests such as lab studies, including CSF analysis, EEG, radiologic studies (CT, MRI, etc.).
      - Perform lumbar punctures or other procedures if available during the rotation.
      - Accurately document clinical encounters on daily progress notes.
      - Be prompt, cooperative, and behave in a professional manner. If unable to work a shift, inform the senior resident, the rotation coordinator, and program coordinator.

   PGY-1 residents are expected to meet the objectives for level 1.

	Level 1
PATIENT CARE	
PC-1: History	• Obtains a basic neurologic history
PC-2: Neurologic Exam	• Performs some components of a neurologic exam
PC-3: Formulation	• Summarizes history and exam findings
PC-4: Diagnosis and Management of Neurologic Disorders in the Outpatient Setting	• Identifies typical presentations of commonly encountered neurologic conditions
PC-5: Diagnosis and Management of Neurologic Disorders in the Inpatient Setting	• Identifies typical presentations of commonly encountered neurologic conditions
PC-6: Diagnosis and Management of Neurologic Emergencies	• Describes the typical presentation of neurologic emergencies • Seeks assistance and conveys pertinent details during a neurologic emergency
PC-8: Interpretation of Neuroimaging	• Identifies basic neuroanatomy on brain and vascular anatomy of the head and neck magnetic resonance (MR) and computed tomography (CT)
PC-9: Electroencephalogram (EEG)	• Identifies patients for whom EEG is appropriate
PC-10: Nerve Conduction Study/Electromyogram (NCS/EMG)	• Identifies patients for whom NCS/EMG is appropriate
PC-11: Lumbar Puncture	• Lists the indications, contraindications, and complications for lumbar puncture
MEDICAL KNOWLEDGE	
MK-1: Localization	• Recognizes the role of localization in neurologic diagnosis
MK-2: Diagnostic Investigation	• Discusses a general diagnostic approach appropriate to clinical presentation
SYSTEMS-BASED PRACTICE	
SBP-1: Patient Safety	• Demonstrates knowledge of commonly reported patient safety events • Demonstrates knowledge of how to report patient safety events

	Level 1
SBP-2: Quality Improvement	• Demonstrates knowledge of basic quality improvement methodologies and metrics
SBP-3: System Navigation for Patient-Centered Care	• Demonstrates knowledge of care coordination • Performs safe and effective transitions of care/hand-offs in routine clinical situations • Demonstrates knowledge of population and community health needs and disparities
PRACTICE-BASED LEARNING AND IMPROVEMENT	
PBLI-1: Evidence-Based and Informed Practice	• Demonstrates how to access and use available evidence, and to incorporate patient preferences and values to care for a routine patient
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Accepts responsibility for personal and professional development by establishing goals • Identifies the factors that contribute to gap(s) between expectations and actual performance • Actively seeks opportunities to improve
PROFESSIONALISM	
PROF-1. Professional Behavior and Ethical Principles	• Identifies and describes potential triggers for professionalism lapses and how to report • Demonstrates knowledge of ethical principles related to patient care
PROF-2: Accountability/ Conscientiousness	• Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future • Responds promptly to requests or reminders to complete tasks and responsibilities
PROF-3: Well-Being	• Recognizes sense of personal and professional well-being, with assistance
INTERPERSONAL AND COMMUNICATION SKILLS	
ICS-1: Patient and Family-Centered Communication	• Uses language and non-verbal behavior to demonstrate respect and establish rapport • Identifies the need to individualize communication strategies based on the patient's/patient's family's expectations and understanding
ICS-3: Interprofessional and Team Communication	• Respectfully requests a consultation • Recognizes the role of a neurology consultant • Uses language that values all members of the health care team
ICS-4: Communication within Health Care Systems	• Documents accurate and up-to-date patient information • Communicates in a way that safeguards patient information

4. **Ophthalmology**

   See General Ophthalmology/Continuity Clinic, page 45.

5. **Otolaryngology – Head and Neck Surgery (ENT)**

   a. *Goals*

   During the first year of residency, the resident is expected to become a member of the ENT care team at the SAVAHCS and to establish a reputation for reliable and trustworthy behavior in all aspects of their professional life.

   In the clinic, the first year resident will learn to recognize the normal ENT examination and to be able to reliably describe deviations from normal. It is not expected that a first year resident will accurately diagnose all manner of ENT conditions, but they should recognize deviations from normality and be reliable in bringing them to the attention of others.

   In the operating room, the resident will become a skilled assistant, will read about the surgeries that they are assisting in, and will assist in the preoperative evaluation and postoperative care of the patients whose surgeries they are assisting in.

   In the hospital and while on call, the first year resident will develop confidence in their ability to serve as a member of a team that will provide all levels of ENT care for all presenting ENT emergencies and urgencies.

   During the first year of residency, the resident will develop a base of basic knowledge in ENT.

   b. *Objectives*

   Competency-based objectives during the first/second year of residency relate specifically to the rotation in which the residents participate.

   Patient Care
   Global aspects of patient care that are not rotation-specific include:
   - Development of emergency department specific eye care skills and knowledge, where a patient presenting with ENT-specific complaints are properly evaluated and managed.
   - Development of telephone communication skills with patients and attendings.
   - Initial development of communication skills required to allow the efficient establishment of a consulting relationship to meet a patient's ENT care needs.

   Medical Knowledge
   - Global medical knowledge objectives during the first year of residency by completing reading suggestions from the ENT attendings.
   - It is not expected that first year resident will have time for broad reading of textbooks
   - The PGY-1 resident is expected to have read the faculty *suggested ENT*.

   Professionalism
   - Demonstrate compassion, integrity, and respect for others, including patients, their families, and all fellow employees regardless of their job classification.
   - Respect patient privacy and autonomy.
   - Be sensitive and responsive to a diverse patient. In particular, if a resident is not fluent in Spanish, it is expected that appropriate translators will be used so that effective doctor/patient communication can occur.

- Conduct themselves in a courteous, neat and professional manner at all times. Residents are expected to acquaint themselves with the dress code requirements of the hospitals that they are rotating through and respect the requests of the parent institution.
- Be available at all times on after-hours call duty, whether primary or back-up call. This includes getting a cell phone that is a local number that does not require a long distance call to access the resident.
- Complete all dictations and paperwork in a timely manner. Discharge dictations must be completed by the time of discharge and operative dictations immediately following the surgical procedure.
- Attend all educational activities including conferences, lectures, and journal clubs. Attendance is taken, this is a small program and your participation is essential for the experience to be good for all parties.
- Demonstrate timeliness in arrival to clinics, ORs and lectures. If you are not early, you are late!
- When disagreements arise, as they will, seek a respectful solution. For issues between residents, it is best to involve the Chief Resident first to mediate a solution.

Practice-Based Learning and Improvement
- Make a point of each day of writing down the medical record number of a patient that you have seen, and then reading something about that diagnosis.
- Each exam room has internet connectivity. Learn the library online resources and access those resources while the patient is in the room.
- Review key findings with your attending after each patient encounter, and when you do not see a key finding, try to get the patient back into a room.
- As a general rule, we have plenty of exam rooms and more patients than you can hope to see during the course of a day. It is preferable that you learn as much as possible from each patient whom you see, than learn little from many patients. There will be time in your later years of residency to develop rapidity; during the third year concentrate on developing diagnostic skills.
- Use your time with patients to develop your portfolio.

Interpersonal and Communication Skills
- Develop methods to communicate effectively with patients and their families across the spectrum of our community.
- Become proficient at rapidly and effectively presenting the eye history and exam to your fellow residents and attendings.
- Work effectively as a member of a health care team or other professional group.
- Act in a consultative role to other physicians and health professionals.
- Maintain comprehensive, timely, and legible and intelligible medical records. Your responsibilities in documenting patient visits have medicolegal implications. Learn your charting responsibilities.
- Each hospital has different charting requirements and methods for order entry. Avoid verbal orders; you must sign them anyway within 24 hours, so take the time to enter any orders extemporaneously and you will save time overall.

Systems-Based Practice
- Work effectively in various health care delivery settings and systems relevant to their clinical specialty.

- Ophthalmology is a consultative service and your future success will be determined in large measure by how well you communicate with your referring physicians. L earn now how to communicate effectively.
- Advocate for quality patient care and optimal patient care systems.
- Maintain medical records in a timely manner.

PGY-1 residents are expected to meet the objectives for level 1.

	Level 1
PATIENT CARE	
PC-1: Airway Emergency and Management	• Identifies potential airway emergencies as part of an evaluation team • Escalates care of emergency airway (e.g., alerts airway team)
PC-2: Facial Trauma	• Performs a history and physical examination in patients with a facial trauma • Assists with routine perioperative care for facial trauma patients • Recognizes common complications
PC-3: Head and Neck Neoplasm	• Performs a history and physical examination in patients with head and neck neoplasm • Assists with routine perioperative care for patients with head and neck neoplasm • Recognizes common complications
PC-4: Otologic Disease	• Performs a history and physical examination in patients with ear disease and/or hearing loss • Assists with set-up, performs placement of ventilation tubes, and opens and closes postauricular incisions • Interprets routine audiograms
PC-5: Rhinologic Disease	• Performs a history and physical examination in a patient with rhinologic disease • Assists with routine perioperative care for patients with rhinologic disease • Recognizes common complications associated with rhinologic disease
PC-6: Laryngologic Disease	• Performs a history and physical examination in a patient with laryngologic disease • Assists with routine perioperative care for patients with laryngologic disease • Recognizes common complications associated with largyngologic disease
PC-8: Facial Plastic and Reconstructive Surgery	• Performs a history and physical examination in patients with aesthetic/functional concerns • Assists with routine perioperative care for patients receiving head and neck aesthetic/functional surgery • Recognizes common complications
PC-9: Sleep	• Performs a history and physical examination in a patient with sleep concerns • Assists with routine perioperative care for sleep surgery patients • Recognizes common complications of sleep surgery and sleep disorders
MEDICAL KNOWLEDGE	
MK-1: Anatomy	• Identifies normal anatomy during common operations • Articulates the steps of common operations
MK-2: Allergy	• Demonstrates knowledge of allergic hypersensitivity and resulting clinical manifestations • Explains common clinical manifestations of hypersensitivity and allergic disease • Describes the potential severity of severe allergic responses
MK-3: Pathophysiology	• Demonstrates knowledge of normal physiology, pathophysiology, and clinical findings for otolaryngologic conditions routinely managed by non-otolaryngologists
SYSTEMS-BASED PRACTICE	
SBP-1: Patient Safety and Quality Improvement	• Demonstrates knowledge of common patient safety events • Demonstrates knowledge of how to report patient safety events • Demonstrates knowledge of basic quality improvement methodologies and metrics

	Level 1
SBP-2: System Navigation for Patient-Centered Care	• Demonstrates knowledge of care coordination • Identifies key elements for safe and effective transitions of care and hand-offs • Demonstrates knowledge of population and community health needs and disparities
PRACTICE-BASED LEARNING AND IMPROVEMENT	
PBLI-1: Evidence-Based and Informed Practice	• Demonstrates how to access and use available evidence, and incorporate patient preferences and values to take care of a routine patient
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Accepts responsibility for personal and professional development by establishing goals • Identifies the factors which contribute to gap(s) between expectations and actual performance • Actively seeks opportunities to improve
PROFESSIONALISM	
PROF-1. Professional Behavior and Ethical Principles	• Identifies and describes potential triggers for professionalism lapses • Demonstrates knowledge of the ethical principles underlying patient care, including informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics
PROF-2: Accountability/ Conscientiousness	• Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely tasks completion in the future • Responds promptly to requests or reminders to complete tasks and responsibilities
PROF-3: Knowledge of Systemic and Individual Factors of Well-Being	• Recognizes the importance of getting help when needed to address personal and professional well-being
INTERPERSONAL AND COMMUNICATION SKILLS	
ICS-1: Patient and Family-Centered Communication	• Uses language and nonverbal behavior to demonstrate respect and establish rapport • Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating own role within the health care system • Identifies the need to adjust communication strategies based on assessment of patient/family expectations and understanding of their health status and treatment options
ICS-2: Interprofessional and Team Communication	• Respectfully requests/receives a consultation • Uses language that values all members of the health care team
ICS-3: Communication within Health Care Systems	• Accurately records information in the patient record • Safeguards patient personal health information

6. **Rheumatology**

    a. *Goals*
    - Gain a rheumatologist perspective of patient care and what roles they play in management.
    - Become familiar with the ocular and non-ocular manifestations of rheumatological diseases.
    - Be able to take a history and physical for the rheumatology patient.
    - Be able to show evidence for clinical reasoning in the work-up of rheumatology patients.
    - Manage rheumatology patients in an inpatient setting.
    - Manage rheumatology patients in an outpatient setting.
    - Develop the skills necessary to utilize digital healthcare information.
    - Attain the medical knowledge necessary to manage rheumatology patients.
    - Understand patient safety and quality improvement for rheumatology patients.
    - Develop a routing for reflection and a commitment to personal growth.
    - Develop a personal culture of professionalism.
    - Develop patient and family centered communication.
    - Understand acceptable means for communication within the healthcare system.

    b. *Objectives*
    - Learn how to work-up rheumatological conditions through deductive reasoning, laboratory, radiology, and tissue sampling.
    - Learn how a variety of rheumatological conditions present, affect a person's life and how the diseases are managed.
    - Elicit and report a hypothesis-driven history and physical for common patient presentations and independently obtain data from secondary sources and interpret common findings.
    - Integrate information from all sources to develop a basic diagnosis for common patient presentations and identify clinical reasoning errors within patient care, with guidance.
    - Develop and implement management plans for common conditions, recognizing acuity, and modify based on the clinical course. With guidance, promote plans that maintain and promote health.
    - Use EHR for routing patient care activities and identify the component for telehealth visit. Reconcile the secondary data sources in the electronic health record and provide telehealth visit.
    - Explain the scientific knowledge for normal function of common and complex medical conditions.
    - Explain the indications and contraindications, risk, and benefits of common therapies and diagnostic testing.
    - Identify system factors that led to patient safety events, how these events are reported and describe the local quality improvement initiatives.
    - Become proficient in practicing evidence-based medicine.
    - Be able to coordinate care of patients by effectively engaging interprofessional teams, perform effective transitions of care/handoffs and identify specific populations and community health needs and inequalities for the local population.
    - Identify key components of the healthcare system, the basic healthcare payment system and how this affects patient care.
    - Articulate clinical questions and elicit patient preferences and valuation to guide evidence-based care.
    - Demonstrate openness to performance data (feedback and other input), analyze and reflect on areas that could be improved and seek opportunities for improvement.

- Identify potential triggers for professionalism lapses and accept responsibility for one's own lapses.
- Demonstrate knowledge of basic ethical principles and apply to straight forward ethical situations.
- Perform administrative tasks and patient care responsibilities in a timely fashion in routine situations.
- Recognize the important of getting help when needed to address personal and professional well-being.
- Use language and non-verbal behavior to demonstrate respect and establish rapport. Identify common barriers to effective communication.
- Document accurately comprehensively and safeguard PHI.
- Learn the basics for historical and physical examination for a variety of rheumatological conditions.

PGY-1 residents are expected to meet the objectives for level 1.

	Level 1
PATIENT CARE	
PC-1: Gathers an Essential and Accurate Patient History	• Acquires a basic rheumatic history • Reviews available medical records
PC-2: Physical Examination	• Identifies the elements of a comprehensive physical examination • Identifies the elements of a musculoskeletal examination
PC-3: Comprehensive Management Plan Development	• With supervision, formulates a differential diagnosis for a patient • Demonstrates an awareness of disease activity measures • With supervision develops a management plan
PC-4: Therapeutics, Including Immunomodulatory Agents	• Identifies indications and adverse effects of medications used to treat patients with common rheumatic conditions
PC-5: Procedures	• Identifies indications for joint and soft tissue aspirations and injections, and discusses principles of informed consent
PC-6: Provides Consultative Care	• Respectfully receives a consultation request • With supervision, recognizes disease acuity
MEDICAL KNOWLEDGE	
MK-1: Possesses Clinical Knowledge	• Identifies key features of common rheumatic conditions • Demonstrates basic knowledge of anatomy, physiology, and other basic sciences
MK-2: Knowledge of Diagnostic Testing	• Explains the rationale, risks, and benefits for common diagnostic testing in patients being evaluated for rheumatic conditions
SYSTEMS-BASED PRACTICE	
SBP-1: Patient Safety and Quality Improvement	• Demonstrates knowledge of common patient safety events • Demonstrates knowledge of how to report patient safety events • Demonstrates knowledge of basic quality improvement methodologies and metrics
SBP-2: System Navigation for Patient-Centered Care	• Demonstrates knowledge of care coordination • Identifies key elements for safe and effective transitions of care and hand-offs • Demonstrates knowledge of population and community health needs and disparities
PRACTICE-BASED LEARNING AND IMPROVEMENT	
PBLI-1: Evidence-Based and Informed Practice	• Formulates clinical questions and elicits patient preferences to inform care
PBLI-2: Commitments to Reflective Practice and Personal Growth	• Establishes personal and professional goals, identifying gap(s) between goals and current performance
PROFESSIONALISM	
PROF-1. Professional Behavior	• Describes when and how to appropriately report professionalism lapses, including strategies for addressing common barriers
PROF-2: Ethical Principles	• Demonstrates knowledge of basic ethical principles

	Level 1
PROF-3: Accountability/ Conscientiousness	• Performs tasks and responsibilities, with prompting • Takes responsibility for failure to complete tasks and responsibilities
PROF-4: Self-Awareness and Help-Seeking	• Recognizes status of own and others' well-being, with assistance • With assistance recognizes personal gaps in knowledge, skills, and attitudes
INTERPERSONAL AND COMMUNICATION SKILLS	
ICS-1: Patient- and Family-Centered Communication	• Uses language and nonverbal behavior to demonstrate respect and establish rapport • Recognizes common barriers to effective communication (e.g., language, disability) while accurately communicating own role within the health care system
ICS-2: Interprofessional and Team Communication	• Uses language that is respectful and values all members of the health care team • Accepts feedback from team members
ICS-3: Patient-Center Interprofessional Communication within Health Care Systems	• Accurately records information in the patient record • Safeguards patient personal health information in direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) communications

1. **Chief Resident**

   a. *Goals*

   The goals of the Chief Resident rotation are to develop leadership skills and to develop experience in administration and practice management in preparation for the transition from a resident to an independent practitioner. During the Chief rotation, the senior (PGY-4) resident is expected to develop insight into practice management from both the human resources and financial stance.

   While the academic setting does not mirror the private practice environment, there are management skills to be developed in terms of making expectations clear, assignment of responsibility, and management of financial systems. Additional skills required beyond medical knowledge include schedule management and patient flow, as well as those administrative tasks required for credentialing and insurance. Many financial operations of billing and collections involve a specialized vocabulary, and a goal is to develop this vocabulary for later use in practice.

   Each fourth year (PGY-4) resident will spend three months as Chief Resident. It is expected that during this time, they will demonstrate hands-on management of the residency under the direct supervision of the Program Director. The Chief Resident will assist the Program Director on the day-to-day operation of the residency program in serving as an administrator for the residency program in many respects. The Chief Resident will be directly involved in dealing with the issues encountered during the routine operation of a clinical service. The Chief will assist the program coordinator in determining that resident logs are appropriately maintained. The Chief will work with the junior residents in the development of their portfolios.

   The Chief Resident will monitor the clinical assignments of the second (PGY-2) and third (PGY-3) year residents, and will mediate problems regarding call and vacation as they arise. They will be responsible for tracking attendance of the residents at educational events. The Chief will also schedule assignments for medical students.

   The Chief Resident will be assigned patients with urgent problems and to follow up trauma-related surgeries performed at BUMC. The Chief Resident will have each patient staffed by an attending and may choose the attending based on availability and the subspecialty needs of the problem. As these clinics will not always be full, the Chief will also be assigned to an attending clinic where they will assist that clinician. Every effort will be made for the Chief Resident to see their own post-operative cases and to follow-up the ruptured globes and other BUMC surgical traumas.

   The Chief Resident will have input into which clinic they are assigned based on their subspecialty interests.

   The Chief Resident will also oversee the consults rotation.

   The Chief Resident will be expected to function as a typical resident in the clinic of each attending, except as otherwise required. In addition, the Chief Resident will continue to develop their surgical skills. They will spend time with the anterior segment and clinical cataract surgeons to refine

technique and patient management skills (see goals and objectives for comprehensive ophthalmology rotation.)

b. *Objectives*

PGY-4 residents are expected to meet the objectives for level 4.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight
PC-4: Cataract Surgery – Technical Skill	• Assesses patients for routine cataract surgery • Performs elements of cataract surgery in the hands-on surgical skills laboratory and in the operating room (OR) • Manages common post-operative complications (e.g., post-op pain, high intraocular pressure)	• Assesses patients for complex cataract surgery • Performs routine cataract surgery in the OR • Manages common intra- and post-operative complications (e.g., posterior capsule rupture, wound leak)	• Assesses patients who are candidates for refractive intraocular lenses to correct astigmatism and/or provide near correction • Performs cataract surgery requiring complex technical maneuvers (e.g., pupil expander, capsular tension ring) • Manages complex intra- and post-operative complications (e.g., endophthalmitis)
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions

	Level 2	Level 3	Level 4
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project
SBP-2: System Navigation for Patient-Centered Care	• Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams • Performs safe and effective transitions of care/hand-offs in routine clinical situations • Demonstrates knowledge of local population and community health needs and disparities	• Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams • Performs safe and effective transitions of care/hand-offs in complex clinical situations • Identifies specific local health needs and disparities related to ophthalmic care	• Teaches effective coordination of patient-centered care among different disciplines and specialties to junior members of the team • Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems • Uses local resources effectively to meet the needs of a patient population and community
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient

	Level 2	Level 3	Level 4
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers

	Level 2	Level 3	Level 4
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

a. *Required Reading*

Steinert RG, ed. *Cataract Surgery*, 3rd ed. Saunders, 2010. (Available online through Arizona Health Sciences Library, www.ahsl.arizona.edu.)
- Chang DF. *Phaco Chop and Advanced Phaco Techniques: Strategies for Complicated Cataracts*, 2nd ed. Slack Inc., 2013.

Operating senior residents should have read the following by deadline dates below (*Phaco Chop* can be checked out by the program coordinator.)

Reading Deadline: July 30
Chapter 16   Capsulorrhexis: Sizing Objectives and Pearls
Chapter 17   Conquering Capsulorrhexis Complications
Chapter 18   Pearls for Hydrodissection and Hydrodelineation
Chapter 27   Strategies for Managing Posterior Capsular Rupture
Chapter 30   Posterior Capsule Rupture and Vitreous Loss: Advanced Approaches

Reading Deadline: December 31
Chapter 1   Why Learning Chopping
Chapter 2   Horizontal Chopping: Principles and Pearls
Chapter 3   Vertical Chopping: Principles and Pearls
Chapter 4   Comparing and Integrating Horizontal and Vertical Chopping
Chapter 5   Transitioning to Phaco Chop: Pearls and Pitfalls
Chapter 8   Understanding the Phacodynamics of Chopping
Chapter 9   Optimizing Machine Settings for Chopping Techniques
Chapter 10   Optimizing the Alcon Infiniti for Chopping
Chapter 25-30   Complicated Cataract Surgeries (*Cataract Surgery*; online)

2. **Consults**

    a. *Goals*

    The overall goal of the consult rotation is to develop experience with managing the types of ophthalmological problems patients demonstrate in a tertiary care setting, either through admission to the eye service, consultation from another service for evaluation of an ophthalmological problem, or for the patients who present to the emergency department during non-call hours. The consult resident will work with, and be instructed by, the faculty member who is assigned to consults.

    The consult resident is responsible for the care of patients at the three sites where inpatient care is conducted: BUMCT, BUMCS, and SAVAHCS. The continued care of eye service inpatients at the three hospitals, and ongoing care that is required for consultations, as well as emergency room care during the hours of 7:00 a.m. to 5:00 p.m. Monday through Friday, are the responsibility of the consult resident. The consult resident is expected to be on-site of the three participating institutions during these hours. This is not a call activity and is not call from home.

    The consult resident must ensure adequate transition of care from the call team after hours, on weekends, and on holidays.

    The first goal of the consult rotation is to learn the care and management of patients in an inpatient setting, frequently who are admitted to the hospital following complex trauma, or who have been admitted to other services but who have ophthalmic manifestations of systemic disease.

    The second goal of the experience is to develop experience in the systems management of inpatients, and to develop collegial relationships with other services.

    A final goal is to provide the junior resident with opportunities to learn independent time management skills in a graduated manner and to learn the systems wide aspects of health care that follow from inpatient admission, including the development of a cost-effective care plan for a patient, and planning for outpatient services following discharge.

    This rotation also provides an opportunity for development of research projects and rounds presentations, as well as study for basic sciences. A study log is recommended.

     b. *Objectives*

    The consult service is conducted in an inpatient setting, frequently at the bedside of patients who are unable to travel to an eye examination room. As such, the objectives differ from those presented in the outpatient clinic environment.

    PGY-2 residents are expected to meet the objectives for level 2.
    PGY-3 residents are expected to meet the objectives for level 3.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-2: Hospital-Based Consultation	• Triages consult requests • Performs a complete examination • Recognizes ophthalmic emergencies and initiates non-surgical treatment plan, with indirect supervision	• Manages consultations (including coordination of care) requiring surgical intervention, including procedural options and timing; requests ophthalmic subspecialty advice, with indirect supervision • Manages ophthalmic emergencies with non-surgical and surgical treatment, with indirect supervision	• Manages consultations (including coordination of care) requiring surgical intervention, including procedural options and timing; requests ophthalmic subspecialty input, with oversight • Manages ophthalmic emergencies with non-surgical and surgical treatment, with oversight
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight
PC-4: Cataract Surgery – Technical Skill	• Assesses patients for routine cataract surgery • Performs elements of cataract surgery in the hands-on surgical skills laboratory and in the operating room (OR) • Manages common post-operative complications (e.g., post-op pain, high intraocular pressure)	• Assesses patients for complex cataract surgery • Performs routine cataract surgery in the OR • Manages common intra- and post-operative complications (e.g., posterior capsule rupture, wound leak)	• Assesses patients who are candidates for refractive intraocular lenses to correct astigmatism and/or provide near correction • Performs cataract surgery requiring complex technical maneuvers (e.g., pupil expander, capsular tension ring) • Manages complex intra- and post-operative complications (e.g., endophthalmitis)

	Level 2	Level 3	Level 4
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project

	Level 2	Level 3	Level 4
SBP-2: System Navigation for Patient-Centered Care	• Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams • Performs safe and effective transitions of care/hand-offs in routine clinical situations • Demonstrates knowledge of local population and community health needs and disparities	• Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams • Performs safe and effective transitions of care/hand-offs in complex clinical situations • Identifies specific local health needs and disparities related to ophthalmic care	• Teaches effective coordination of patient-centered care among different disciplines and specialties to junior members of the team • Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems • Uses local resources effectively to meet the needs of a patient population and community
SBP-3: Physician Role in Health Care Systems	• Describes how different system types require the physician to deliver care effectively with available resources • Identifies the documentation required for billing and coding compliance	• Optimizes patient care given available resources • Describes knowledge domains for effective transition to practice (e.g., information technology, legal, billing and coding)	• Advocates for patient care needs beyond patients' available resources (e.g., community resources, patient assistance resources, telehealth) • Demonstrates administrative knowledge needed for transition to practice (e.g., contract negotiations, malpractice insurance, government regulation, compliance)
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance

	Level 2	Level 3	Level 4
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors

	Level 2	Level 3	Level 4
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

b. ***Reading*** (*required)

The following are available online through the University of Arizona Health Sciences Library, www.ahsl.arizona.edu.

- *Kaiser P, Friedman NJ, Pineda R. *The Massachusetts Eye and Ear Infirmary Illustrated Manual of Ophthalmology*, 4th ed. Philadelphia: Saunders, 2014.
- *Liu GT, Volpe NI, Galetta SL. *Neuro-ophthalmology: Diagnosis and Management*. Philadelphia: Saunders Elsevier, c2010.
- *Singh A, Hayden BC. *Ophthalmic Ultrasonography*. Elsevier, c2012.
- *Kanski JJ. *Signs in Ophthalmology: Causes and Differential Diagnosis*. St. Louis: Mosby/Elsevier, 2010.
- Gault JA, Vander JF. *Ophthalmic Secrets in Color*, 4ed. Elsevier, c2016.
- Schuman JS. *Rapid Diagnosis in Ophthalmology: Glaucoma and Lens*. Philadelphia: Mosby Elsevier, c2008.
- Trobe JD. *Rapid Diagnosis in Ophthalmology: Neuro-ophthalmology*. Philadelphia: Mosby/Elsevier, c2008.
- Carter KD, Alford M. *Rapid Diagnosis in Ophthalmology: Oculoplastic and Reconstructive Surgery*. St. Louis, MO: Mosby Elsevier, 2008.
- Strominger MB. *Rapid Diagnosis in Ophthalmology: Pediatric Ophthalmology and Strabismus*. Elsevier, c2008.
- Roy FH, Fraunfelder FW, Fraunfelder FT. *Current Ocular Therapy*, 6th ed. Philadephia, PA; Edinburgh: Elsevier Saunders, 2008.
- Dutton JJ. *Radiology of the Orbit and Visual Pathway*. Philadelphia: Saunders Elsevier, c2010.
- Fraunfelder FT, Fraunfelder FW, Chambers WA. *Clinical Ocular Toxicology: Drugs, Chemical and Herbs*. Philadelphia, PA: Elsevier Saunders, 2008.

3. **Cornea and External Disease**

a. *Goals*

The primary educational goals of the residents on the cornea and external disease rotation is to develop facility in the examination of cornea and external disease patients, understanding in the basic physiology of the cornea, and ability to identify common pathological conditions and understand the judicious use of antibiotics, corticosteroids, non steroidal inflammatory drugs in the pharmacological regimen as well as understand the indications for surgical procedures.

b. *Objectives*

PGY-2 residents are expected to meet the objectives for level 2.
PGY-3 residents are expected to meet the objectives for level 3.
PGY-4 residents are expected to meet the objectives for level 4.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight
PC-4: Cataract Surgery – Technical Skill	• Assesses patients for routine cataract surgery • Performs elements of cataract surgery in the hands-on surgical skills laboratory and in the operating room (OR) • Manages common post-operative complications (e.g., post-op pain, high intraocular pressure)	• Assesses patients for complex cataract surgery • Performs routine cataract surgery in the OR • Manages common intra- and post-operative complications (e.g., posterior capsule rupture, wound leak)	• Assesses patients who are candidates for refractive intraocular lenses to correct astigmatism and/or provide near correction • Performs cataract surgery requiring complex technical maneuvers (e.g., pupil expander, capsular tension ring) • Manages complex intra- and post-operative complications (e.g., endophthalmitis)

	Level 2	Level 3	Level 4
PC-6: Intraocular Surgery (Cornea, Retina, Glaucoma)	• Assesses patients for routine intraocular surgery • Performs routine intraocular surgery in the hands-on surgical skills laboratory • Manages common post-operative complications (e.g., post-op pain, high intraocular pressure)	• Assesses patients for complex intraocular surgery • Assists in subspecialty intraocular surgery • Manages common intra-operative complications (e.g., flat chamber, wound leak, hyphema)	• Assesses patients for multispecialty intraocular surgeries • Performs routine intraocular surgery • Manages complex intra- and post-operative complications (e.g., re-bubble graft, blebitis)
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project

	Level 2	Level 3	Level 4
SBP-2: System Navigation for Patient-Centered Care	• Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams • Performs safe and effective transitions of care/hand-offs in routine clinical situations • Demonstrates knowledge of local population and community health needs and disparities	• Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams • Performs safe and effective transitions of care/hand-offs in complex clinical situations • Identifies specific local health needs and disparities related to ophthalmic care	• Teaches effective coordination of patient-centered care among different disciplines and specialties to junior members of the team • Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems • Uses local resources effectively to meet the needs of a patient population and community
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met

	Level 2	Level 3	Level 4
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

c. *Additional Delineation of Resident Responsibilities*

At the Alvernon Eye Clinic, the residents will evaluate patients with complete faculty supervision. They are to do complete examinations on new patients including formulation of diagnoses and treatment. On existing patients, the examination should be directed toward the appropriate problem with reaffirmation of diagnosis, estimation of progress of therapy, checking results (labs, cultures, biopsies, etc.), and recommendation for future therapy. The resident is responsible for seeing all emergency cornea patients and those referred by outside ophthalmologists or optometrists. The resident will contact faculty to discuss findings and management.

d. *Routine for New Patients*

Following check in at the front desk, patients are seen by the resident. Patient interviews will include identification of chief complaint, history of the current medical condition, a complete review of systems, a complete review of past medical and surgical history, a listing of known medical allergies, a

listing of current medications, past ocular history, past surgical history, family medical history, family ocular history and psycho/social analysis as is detailed in the new patient evaluation. Residents should neutralize the lenses, check the visual acuity and refract the patients that are less than 20/25. Recheck intraocular pressure, if abnormal. The residents should record all of the pertinent data and this is to be co-signed by the faculty. Patients that are coming in with a question of herpes simplex keratitis or keratitis of unknown ideology should have corneal sensation prior to administration of fluorescein or proparacaine for intraocular pressure assessment. Once the anterior segment is examined, the patient can be dilated and presented to the attending physician for completion of the examination or the patient may be completed by the resident and then the diagnoses entered as well as the treatment plan and then presented to faculty. For those patients who have the posterior pole exam done by the resident, the estimation of cup/disc ratio, macular and peripheral pathology should be identified both with a 78- or 90-diopter lens and a 20-diopter lens for the peripheral retina. A differential diagnosis should be formulated and discussed with faculty.

For follow-up patients, the resident may check the patient in themselves or rely on the technician to check the patient in. Where the residents are checking the patients in, they should obtain chief complaint, interval ocular history, any changes in the interval medical history or review of systems, record the medications taken, record the allergies and then perform the appropriate ophthalmological examination including visual acuity, refraction where visual acuity is less than 20/25, intraocular pressure, pupil reaction, visual field by confrontation and extraocular motions and slit lamp examination. The diagnosis should be recorded as well as treatment planned. The patient should be dilated if it is deemed appropriate, i.e., visual acuity that cannot be corrected, no recent dilation (2 years for routine patients 65 or older or 5 years for patients less than 65 years of age) in the chart or post-operative patients that have not previously been dilated since intraocular surgery.

Any laboratory testing that is required should be noted by the resident on a daily appointment card or calendar and then followed up as appropriate within the time interval that the laboratory results will be obtained. These should then be recorded and communicated both to the faculty and to the patient. The lab results should be followed, as appropriate.

e. *Chart Review*

In general, the patients that a resident has any question on should be discussed with faculty before the patient is discharged. The resident should record the name of the patient and either hold the chart aside or request the chart at the end of the clinic so that this can be discussed. It is very important that residents bring up questions regarding patient management and care that they do not understand at the time of the examination.

f. *Reading List*

Rather than have assigned reading for each week, residents will be asked to keep a log of the assigned reading chapters. As they see patients that fit into the appropriate categories, they are expected to read the chapters from the basic science text that are appropriate, as well as the review articles that are provided. By the end of each year, they should have gone through the entire cornea and external disease book. In April of each year, they submit their logs so that any areas that are deficient can be completed by the end of the year.

g. *Surgery*

The residents who are assigned to the operating room with a corneal/external disease faculty member will act as first assistant. The resident is expected to review the chart prior to the day of surgery or prior to the actual surgical procedure so that they understand what procedure is to take place. The resident should introduce themselves to the patient prior to surgery together with the attending. In the case of cataract surgery, the resident should review what the IOL choice was based on and identify any unusual circumstances with the particular case. If there are any unusual procedures or events that have occurred during surgery, they are expected to discuss these with the attending before and after surgery. They are responsible for dictating the operating report. The faculty will always verify and co-sign the report if the resident dictated. They are also responsible for reviewing the tapes with the attending surgeon of any cases where a complication occurred and to be sure there are tapes available at the BUMCT Outpatient Surgery Center. The attending surgeons and the library have reference video tapes on phacoemulsification surgery, cornea transplant surgery, refractive surgery and reading materials on other anterior segment surgical procedures. The resident is expected to be up to date on the latest techniques of these surgical procedures and when patients are scheduled they are expected to be versed in discussing what the surgical techniques are and what the relative risks and benefits of each approach are. They are expected to review new procedures (book and video) prior to surgery.

Preoperative surgical patients require a complete medical history and physical form which should be completed on every patient by either the nurse practitioner or the resident. If the residents are performing these activities, they need to make sure that the reason for the visual disability is recorded, that the cataract's eye is identified and marked correctly, the expectations for improved visual acuity are recorded and realistic, the patient is made aware, and all their questions answered. Residents need to meet the patient before surgery, especially if they are involved in the case and obtain their consent to participate during the surgical procedure (together with and without the attending). The faculty will be responsible for the contact.

h. *Consent*

In general, the resident is asked to assure that the consent form has been signed by the patient and faculty. This should be performed by faculty.

i. *Emergency Coverage*

Occasionally corneal ulcers and anterior segment trauma will be referred in. These patients are followed by faculty and resident on the service during their complete hospital stay or during the acute phase of their illness.

j. *Research*

Residents are encouraged to participate in either basic or clinical research projects while on the service and during the year. Those who are interested should discuss this with faculty. There is no specific research expectation, however, and residents may satisfactorily complete this rotation without performing research.

k. ***Required Reading***

- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 8: External Disease and Cornea*. (This should be read in its entirety each academic year.)
- Spalton DJ. *Atlas of Clinical Ophthalmology*. Mosby, 2004.
- *McMannis MJ. *Cornea*. Elsevier, 2017.
- *Krachmer JH. *Cornea Atlas*. New York: Saunders/Elsevier, c2014.
- *Brightbill FS, ed. *Corneal Surgery: Theory, Technique and Tissue*. London: Mosby, c2009.

*Available online through the University of Arizona Health Sciences Library, www.ahsl.arizona.edu.

4. **General Ophthalmology/Continuity Clinic**

   a. *Goals*

The goal of the comprehensive ophthalmology experience is to develop the experience and knowledge required to competently and confidently enter into the general practice of ophthalmology upon graduation, and to learn the appropriate use of consultative services in ophthalmic care. Comprehensive ophthalmology encompasses the core of all subspecialties, and as such within each practitioner, a different level of expertise within each of the subspecialties is expected to develop. Recognizing your own strengths in patient care, and the appropriate time to refer, is a core objective in the practice of general ophthalmology.

   a. *Objectives*

Comprehensive ophthalmology skills encompass the common skills of our faculty and the types of patient care experiences encountered in a general ophthalmology practice. Specific objectives for clinic experience follow.

PGY-1 residents are expected to meet the objectives for level 1.
PGY-2 residents are expected to meet the objectives for level 2.
PGY-3 residents are expected to meet the objectives for level 3.
PGY-4 residents are expected to meet the objectives for level 4.

	Level 1	Level 2	Level 3	Level 4
PATIENT CARE				
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Acquires relevant problem-focused history, including outside medical records • Performs and documents a comprehensive ophthalmic examination; distinguishes between normal and abnormal findings	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Describes essential components of care related to office-based procedures (e.g., informed consent, indications and contraindications, anesthesia, sterile procedure prep)	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight

	Level 1	Level 2	Level 3	Level 4
PC-4: Cataract Surgery – Technical Skill	• Identifies visually significant cataract • Demonstrates ability to scrub, prep and drape patient for surgery; performs basic suturing skills	• Assesses patients for routine cataract surgery • Performs elements of cataract surgery in the hands-on surgical skills laboratory and in the operating room (OR) • Manages common post-operative complications (e.g., post-op pain, high intraocular pressure)	• Assesses patients for complex cataract surgery • Performs routine cataract surgery in the OR • Manages common intra- and post-operative complications (e.g., posterior capsule rupture, wound leak)	• Assesses patients who are candidates for refractive intraocular lenses to correct astigmatism and/or provide near correction • Performs cataract surgery requiring complex technical maneuvers (e.g., pupil expander, capsular tension ring) • Manages complex intra- and post-operative complications (e.g., endophthalmitis)
MEDICAL KNOWLEDGE				
MK-1: Pathophysiology	• Articulates knowledge of pathophysiology and clinical findings for ophthalmic conditions routinely managed by non-ophthalmologists	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Identifies resources to generate a focused differential • Generates a basic differential diagnosis based on patient symptoms and history	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Describes basic concepts of ophthalmic pathophysiology and pharmacology • Describes basic ophthalmic anatomy and categories of procedural interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions

	Level 1	Level 2	Level 3	Level 4
SYSTEMS-BASED PRACTICE				
SBP-1: Patient Safety and Quality Improvement	• Demonstrates knowledge of common patient safety events • Demonstrates knowledge of how to report patient safety events • Demonstrates knowledge of basic quality improvement methodologies and metrics	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project
SBP-2: System Navigation for Patient-Centered Care	• Demonstrates knowledge of care coordination Identifies key elements for safe and effective transitions of care and hand-offs • Demonstrates knowledge of the role of the physician in addressing community health needs and disparities	• Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams • Performs safe and effective transitions of care/hand-offs in routine clinical situations • Demonstrates knowledge of local population and community health needs and disparities	• Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams • Performs safe and effective transitions of care/hand-offs in complex clinical situations • Identifies specific local health needs and disparities related to ophthalmic care	• Teaches effective coordination of patient-centered care among different disciplines and specialties to junior members of the team • Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems • Uses local resources effectively to meet the needs of a patient population and community
PRACTICE-BASED LEARNING AND IMPROVEMENT				
PBLI-1: Evidence-Based and Informed Practice	• Demonstrates how to access and use available evidence, and incorporate patient preferences and values in order to take care of a routine patient	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Accepts responsibility for personal and professional development by establishing goals; actively seeks opportunities to improve • Identifies the factors which contribute to gap(s) between expectations and actual performance	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance

	Level 1	Level 2	Level 3	Level 4
PROFESSIONALISM				
PROF-1. Professional Behavior and Ethical Principles	• Identifies and describes potential triggers for professionalism lapses • Describes when and how to appropriately report professionalism lapses, including strategies for addressing common barriers • Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future • Responds promptly to requests or reminders to complete tasks and responsibilities	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met
PROF-3: Self-Awareness and Help-Seeking	• Recognizes status of personal and professional well-being, with assistance • Recognizes limits in the knowledge/skills of self and/or team, with assistance	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team

	Level 1	Level 2	Level 3	Level 4
INTERPERSONAL AND COMMUNICATION SKILLS				
ICS-1: Patient and Family-Centered Communication	• Uses language and nonverbal behavior to demonstrate respect and establish rapport • Identifies barriers to effective communication (e.g., health literacy, language, disability, cultural) while accurately communicating own role within the health care system	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers
ICS-2: Interprofessional and Team Communication	• Uses language that values all members of the health care team • Accepts feedback on performance from all members of the health care team (e.g., nurses, staff members, peers)	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Accurately records information in the medical record • Aware of the role of communication in patient safety and privacy; safeguards patient personal health information • Aware of responsibility to report system deficiencies	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

b. *Required Reading*

First and Second Year (PGY-1/2) Resident

- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 2: Fundamentals and Principles of Ophthalmology*.
- *Kanski JJ. *Signs in Ophthalmology: Causes and Differential Diagnosis*. Mosby/Elsevier, 2010.
- *Bowling B. *Kanski's Clinical Ophthalmology: A Systematic Approach*. Saunders, 2016.
- *Elliott DB. *Clinical Procedures in Primary Eye Care*. Edinburgh; New York: Elsevier/Butterworth Heinemann, 2007.

Third Year (PGY-3) Resident

- *Sadda SR. *Ryan's Retinal Imaging and Diagnosis*. Saunders Elsevier, c2013.
- *Levin LA, Albert DM, eds. Ocular Disease: Mechanisms and Management. Saunders/Elsevier, 2010.
- *Spaeth GL. *Ophthalmic Surgery: Principles and Practice*. Edinburgh: Elsevier, 2012.
- *Kanski JJ. *Synopsis of Clinical Ophthalmology*. Saunders, 2013.

*Available online through the University of Arizona Health Sciences Library,

5. **Glaucoma/General Ophthalmology**

   a. *Goals*

   Glaucoma is a disease characterized by slow progression over many years. Decision making for the glaucoma patient requires review of quantitative and qualitative data to detect changes in the patient's status that would necessitate a change in management. The goal of the glaucoma rotation is to develop expertise in the diagnosis and management (both medical and surgical) of glaucoma, including both primary open angle glaucoma and the more unusual glaucomas. Skill and expertise is expected to develop with experience.

   b. *Objectives*

   PGY-2 residents are expected to meet the objectives for level 2.
   PGY-3 residents are expected to meet the objectives for level 3.
   PGY-4 residents are expected to meet the objectives for level 4.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight
PC-6: Intraocular Surgery (Cornea, Retina, Glaucoma)	• Assesses patients for routine intraocular surgery • Performs routine intraocular surgery in the hands-on surgical skills laboratory • Manages common post-operative complications (e.g., post-op pain, high intraocular pressure)	• Assesses patients for complex intraocular surgery • Assists in subspecialty intraocular surgery • Manages common intra-operative complications (e.g., flat chamber, wound leak, hyphema)	• Assesses patients for multispecialty intraocular surgeries • Performs routine intraocular surgery • Manages complex intra- and post-operative complications (e.g., re-bubble graft, blebitis)

	Level 2	Level 3	Level 4
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project

	Level 2	Level 3	Level 4
SBP-2: System Navigation for Patient-Centered Care	• Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams • Performs safe and effective transitions of care/hand-offs in routine clinical situations • Demonstrates knowledge of local population and community health needs and disparities	• Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams • Performs safe and effective transitions of care/hand-offs in complex clinical situations • Identifies specific local health needs and disparities related to ophthalmic care	• Teaches effective coordination of patient-centered care among different disciplines and specialties to junior members of the team • Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems • Uses local resources effectively to meet the needs of a patient population and community
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met

	Level 2	Level 3	Level 4
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

c. *Additional Delineation of Glaucoma Service Resident Responsibilities*

Format for Patient Examination

PGY-2 Residents: PGY-2 residents shall shadow the glaucoma faculty, observing and learning examination and test interpretation. The resident will be questioned about the patient management and encouraged to ask questions when appropriate. Respect for the patient and their wishes must always be considered, as well as the efficiency with which the patient is examined. Ideally, questions that may be inappropriate during examination or thought of at a later time may be reviewed at a later time. The resident is responsible in this case for recording the patient's name, studies, etc., that would be helpful for later review. As the resident progresses in understanding and skill, they will progress toward the PGY-3 resident format.

The glaucoma faculty may assign various topics through the rotation for discussion during lulls. The resident should familiarize themselves with the topic beforehand.

The glaucoma faculty will supervise resident performed surgery on animal eyes in the wet lab. A trabeculectomy, express shunt, and tube shunt surgery should be attempted during each year. The resident should become familiar with the steps of surgery, the reason for each step, variation on the regimen and the instruments used to perform each surgery. The resident will be responsible for securing the animal eyes.

PGY-3 Residents: On new patients, the resident will review the chart and summarize the patient's history to-date, perform a complete anterior segment slit lamp exam, indirect ophthalmoscopy, and stereo disc biomicroscopy with a 78-diopter lens The resident will formulate an impression and plan, and then present a concise description of the pertinent findings and plan. The resident may type the information into the EMR.

Consent: The resident should be well versed in the indications, risks, and potential complications for all commonly performed glaucoma procedures.

d. ***Resources***
- Heijl A, Patella VM, Bengtsson B. *Effective Perimetry* (Zeiss Visual Field Primer), 4th ed., 2012. https://www.academia.edu/2183305/Effective_Perimetry_Zeiss_Visual_Field_Primer_4th_Edition._Heijl_Bengtsson_and_Patella_2012

- Racette L, Fischer M, Bebie H, Hollo G, Johnson CA, Matsumoto C. *Perimetry Digest*, 7th ed., 2018. (copy and paste address below into browser) https://www.haag-streit.com/fileadmin/Haag-Streit_UK/Downloads/HS_Diagnostics_downloads/Perimetry_downloads/Visual-Field-Digest_7th_edition_2018.pdf

- Watching assignments for glaucoma lecture.

- Wills Eye Knowledge Portal (https://willseye.cloud-cme.com/default.aspx). Free to sign up. Go the section: Glaucoma CME: Imaging and Testing – Jan 2019. It is in the right upper corner of the screen. Click on the link, and then scroll down to Course Content. All of these topics are excellent but for Friday we will look at:
  o Humphrey Visual Field Overview – Stephen Moster
  o Octopus Visual Field Overview – Anand Mantravadi, MD

- Practical Pearls for OCT and Visual Fields https://www.aao.org/annual-meeting-video/practical-pearls-oct-visual-fields

- Perimetry Quiz – Wallace Alward, MD, University of Iowa (cut and paste address below into browser) http://curriculum.iowaglaucoma.org/chapter/5.htm

- AAO Website
  o The Role of Perimetry in Severe Glaucoma – Kouros Nouri-Mahdavi, MD https://www.aao.org/annual-meeting-video/role-of-perimetry-in-severe-glaucoma
  o Artifacts in Perimetry – https://www.aao.org/annual-meeting-video/artifacts-nonglaucomatous-abnormalities-in-visual-

 e. ***Required Reading***

PGY-2 Resident
- American Academy of Ophthalmology. *Basic Clinical and Science Course, Section 10: Glaucoma*.

PGY-3 Resident
- www.gonioscopy.org

- Available online through the University of Arizona Library (www.ahsl.arizona.edu)
  - Kahook MY, Schuman JS, eds. *Chandler and Grant's Glaucoma*, 6th ed., 2021.
    https://ebookcentral.proquest.com/lib/uaz/detail.action?docID=6427397&query=glaucoma
  - Samples JR, Iqbal IKA, eds. *Current Developments in Glaucoma Surgery and MIGS*, 2020.
    https://ebookcentral.proquest.com/lib/uaz/detail.action?docID=6020548&query=glaucoma
  - Shaarawy TM, Sherwood MB, Hitchings RA, Crowston JG, eds. *Glaucoma*. 1st or 2nd ed. Baltimore: Saunders Ltd, 2015.

Reference Text for Glaucoma Imaging
- Humphrey-Zeiss. *Owner's Manual for HFAII Perimeters*.
- OCT Primer PDF, HFA Primer PDF

To be Read and Assimilated by Completion of PGY-4
- Quality of Care Committee, Glaucoma Panel. *Primary Open-Angle Glaucoma and Primary Angle Closure*. Preferred Practice Pattern. San Francisco: American Academy of Ophthalmology.
- Quality of Care Committee, Glaucoma Panel. *The Glaucoma Suspect*. Preferred Practice Pattern. San Francisco: American Academy of Ophthalmology.

Latest Reports on the Following Studies
- Glaucoma Laser Trial Research Group. The Glaucoma Laser Trial (GLT). 2. Results of argon laser trabeculoplasty versus topical medicines. *Ophthalmology*. 1990;97:1403-1413.
- Advanced Glaucoma Intervention Study (AGIS)
- Early Manifest Glaucoma Treatment (EMGT)
- Collaborative Initial Glaucoma Treatment Study (CIGTS)
- Ocular Hypertension Treatment Study (OHTS)
- Trabeculectomy vs. Tube Shunt Study (TVT)

6. **International Ophthalmology**

a. *Goals*

- To develop an understanding of healthcare delivery from a global perspective, and to learn of appropriate interventions for healthcare delivery in countries outside of the United States.
- To develop cultural competency with respect to the immigrant population from Central America and Mexico.
- To develop some facility with ophthalmic Spanish language skills through an immersion experience with a native Spanish-speaking ophthalmologist.
- Junior residents (PGY2 and PGY3) are expected to perform a full eye exam, determine candidacy for cataract surgery, and perform a refraction (manifest and by retinoscopy).
- Senior residents are expected to perform cataract surgeries from start to finish. Willingness and ability to adapt to a new environment and different instruments is a must.

b. *Objectives*

	Level 2	Level 3	Level 4
PATIENT CARE			
Greets Patient	Always greets patient in Spanish.	Always greets patient in Spanish.	Always greets patient in Spanish.
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential

	Level 2	Level 3	Level 4
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
MK-2. Reviews LALES		Reviews findings of Los Angeles Latino Eye Study (LALES)	
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met

	Level 2	Level 3	Level 4
INTERPERSONAL AND COMMUNICATION SKILLS			
Learn Spanish Phrases		Learns 20 Spanish phrases regarding the eyes and symptoms of eye diseases	
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors

7. **Neuro-Ophthalmology**

    a. *Goals*

The resident educational goal in neuro-ophthalmology is to develop knowledge and diagnostic skills in neuro-ophthalmology in order to diagnose and treat the types of conditions expected to be encountered during the general practice of ophthalmology. This educational goal is met through exposure to patients in the general eye service, in the pediatric eye service, and during a subspecialty rotation with a preceptor.

While neuro-ophthalmology is frequently encountered during the general ophthalmology rotation, subspecialty education in neuro-ophthalmology is provided by Tomas Tredici, MD. Because of the considerable overlap between the neuro-ophthalmology examination and the pediatric ophthalmology examination, many of the neuro-ophthalmology objectives in terms of patient skills are developed during the pediatric rotation. Consultations for neuro-ophthalmologic patients are obtained through consults in the hospital or in clinic, and may be presented to Dr. Tredici for assistance in patient care.

    b. *Objectives*

PGY-2 residents are expected to meet the objectives for level 2.
PGY-3 residents are expected to meet the objectives for level 3.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight

	Level 2	Level 3	Level 4
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project

	Level 2	Level 3	Level 4
SBP-2: System Navigation for Patient-Centered Care	• Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams • Performs safe and effective transitions of care/hand-offs in routine clinical situations • Demonstrates knowledge of local population and community health needs and disparities	• Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams • Performs safe and effective transitions of care/hand-offs in complex clinical situations • Identifies specific local health needs and disparities related to ophthalmic care	• Teaches effective coordination of patient-centered care among different disciplines and specialties to junior members of the team • Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems • Uses local resources effectively to meet the needs of a patient population and community
SBP-3: Physician Role in Health Care Systems	• Describes how different system types require the physician to deliver care effectively with available resources • Identifies the documentation required for billing and coding compliance	• Optimizes patient care given available resources • Describes knowledge domains for effective transition to practice (e.g., information technology, legal, billing and coding)	• Advocates for patient care needs beyond patients' available resources (e.g., community resources, patient assistance resources, telehealth) • Demonstrates administrative knowledge needed for transition to practice (e.g., contract negotiations, malpractice insurance, government regulation, compliance)
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk

	Level 2	Level 3	Level 4
			management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

c. *Resident Responsibilities for the Neuro-Ophthalmological Service*

The residents are encouraged to do complete examinations, assessments, suggestions for testing, and listing of therapeutic options. In general, any discussions of these options should be made with the attending physician, out of range of patients, prior to discussion with the patient and the family.

Format for Patient Examination: Following check-in, patients are screened by a technician, who will take a pertinent history, list medications, record intraocular pressure, list current glasses prescription, and take auto-refraction measurement. Generally, visual field examinations will be performed prior to the examination with the attending physician, and will be available for review with the chart.

With the attending physician, the resident reviews the chart and participates in the information gathering process. The resident will observe the complete neuro-ophthalmological exam as performed by the attending, with direct participation as directed by the attending. The examination will include assessment of pupillary reflex, ocular motility, color vision, stereoscopic vision, slit lamp examination, and dilated fundoscopy. At the completion of the exam, he attending and the resident will then discuss the assessment and plan with the patient, including prognosis and appropriate follow-up.

d. *Chart Review*

In general, no discussion of patients occurs in the examination room. At the end of the session, whenever possible, faculty, resident and students will discuss patients seen during the course of the day. Patients may be used as a starting point from which to delve into mechanisms of disease and treatment.

e. *Emergency Coverage*

Occasionally, neuro-ophthalmic problems present on both an inpatient and outpatient basis. It is the responsibility of the resident on-call to work-up such patients.

f. *Required Reading*

- American Academy of Ophthalmology. *Basic and Clinical Science Course*, *Section 5: Neuro-ophthalmology*.
- *Liu GT, Volpe NJ, Galetta SL. *Neuro-ophthalmology: Diagnosis and Management*. Saunders Elsevier, c2010.
- *Trobe JD. *Rapid Diagnosis in Ophthalmology: Neuro-ophthalmology*. Philadelphia: Mosby/Elsevier, c2008.
- *Dutton JJ. *Radiology of the Orbit and Visual Pathways*. Saunders Elsevier, c2010.

*Available online through the University of Arizona Health Sciences Library, www.ahsl.arizona.edu.

8. **Oculoplastics**

a. *Goals*

The goal of the oculoplastics rotation is to develop the knowledge of eye and orbit anatomy along with the required surgical skills, to address the most commonly encountered congenital and acquired structural lesions of the eye, and the proper management of eye adnexal trauma. The basic goals for the second year (PGY-2) residents are to become familiar with the basic anatomy of the eyelid, lacrimal apparatus and orbit, and to be able to recognize the deviations from normal and their anatomic origins. The third year (PGY-3) residents are expected to increase their knowledge base by awareness of congenital malformations, such as congenital ptosis, and to deal with progressive pathologies, such as thyroid ophthalmopathy. The fourth year (PGY-4) residents require much more complex knowledge of facial trauma and recognition of advanced reconstructive techniques that would be required subsequent to trauma.

b. *Objectives*

PGY-2 residents are expected to meet the objectives for level 2.
PGY-3 residents are expected to meet the objectives for level 3.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight
PC-5: Extraocular Surgery (Plastics, Strabismus)	• Identifies patients for routine extraocular surgery • Performs simple extraocular surgery (e.g., simple lid laceration repair, nasolacrimal duct probing) • Manages common post-operative complications	• Develops a pre-operative plan for routine extraocular surgery • Performs routine extraocular surgery (e.g., complex lid laceration repair, horizontal strabismus, ptosis) • Manages intra- and post-operative complications (e.g., bleeding, perforation)	• Develops a pre-operative plan for complex extraocular surgery • Performs complex extraocular surgery (e.g., vertical strabismus), with assistance • Manages complex intra- and post-operative complications (e.g., infection, retrobulbar hemorrhage)

	Level 2	Level 3	Level 4
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met

	Level 2	Level 3	Level 4
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

c. *Additional Delineation of Resident Responsibilities*

At the SAVAHCS, the residents are responsible to see patients in a manner similar to those at the the Alvernon Eye Clinic. However, the residents are expected to take more of a leadership role in the examination and treatment of patients. The residents act as the primary liaison between the patient and the attending physician. The residents are also responsible for the flow and scheduling of oculoplastics at the SAVAHCS, as well as scheduling of surgery and follow-up of these patients.

Format for Patient Examination: Following check-in, patients are screened by a technician, who will take a pertinent history, list medications, and note visual acuity. Some patients may require a visual field examination, which will be done at this time, prior to the resident examination.

The resident reviews the chart and summarizes the patient's history to-date and performs a complete refraction and assessment of visual acuity. This is followed by complete documentation of ocular motility.   An anterior slit lamp examination is performed, followed by dilated fundus microscopy.

Prior to dilation, the attending physician will repeat motility examination, as well as assessment of visual acuity. During this time, the resident should continue with the next patient.

d. ***Chart Review***

In general, no discussion of patients occurs in the examination room. At the end of the session, whenever possible, the attending, resident and students will discuss patients seen during the course of the day. Patients may be used as a starting point from which to delve into mechanisms of disease and treatment.

e. ***Emergency Coverage***

Occasionally, oculoplastics problems present on both an inpatient and outpatient basis. It is the responsibility of the resident on-call to work-up such patients.

f. ***Required Reading***

- American Academy of Ophthalmology. *Basic and Clinical Science Course*, *Section 7: Orbit, Eyelids, and Lacrimal System*.
- *Cantisano-Zilkha, Haddad A. *Aesthetic Oculofacial Rejuvenation*. Saunders Elsevier, c2010.
- *Kim P. *Asian Blepharoplasty and the Eyelid Crease*. Chen WPD. Edinburgh: Elsevier, 2016.
- *Dutton JJ. *Atlas of Clinical and Surgical Orbital Anatomy*. Elsevier/Saunders, 2011.
- *Chen WPD, Khan JA. *Color Atlas of Cosmetic Oculofacial Surgery*. Saunders Elsevier, c2010.
- *Tyers AG, Collin RJO. *Colour Atlas of Ophthalmic Plastic Surgery*. Butterworth-Heinemann/Elsevier, c2008.
- *Putterman AM. *Cosmetic Oculoplastic Surgery*. Philadelphia: Saunders, c1993.
- *Dutton JJ. *Radiology of the Orbit and Visual Pathways*. Saunders Elsevier, c2010.
- *Nerad JA, Carter KD. *Alford M. Rapid Diagnosis in Ophthalmology*: *Ophthalmic Plastic Surgery*. St. Louis, MO: Mosby Elsevier, 2008.
- *Long JA. Surgical Techniques in Ophthalmology: Oculoplastic Surgery. Elsevier, Inc., c2009.
- *Korn B, Kikkawa D, eds. *Video Atlas of Oculofacial Plastic Reconstructive Surgery*. Elsevier, 2017.

*Available online through the University of Arizona Health Sciences Library, www.ahsl.arizona.edu.

9. **Pediatric Ophthalmology and Strabismus**

a. *Goals*

The goal of the pediatric ophthalmology rotation is to develop facility at the diagnosis and management of the most commonly encountered pediatric ophthalmology and strabismus eye , problems.   Manual diagnostic skills that will be developed include assessment of ductions and versions, cover test, measurement of deviations by simultaneous prism and cover test, prism and alternate cover test and prism under cover test, sensory testing, measurement of visual acuity, and measurement of refractive error.

b. *Objectives*

PGY-2 residents are expected to meet the objectives for level 2 based on ACGME Core Competency Assessment.
PGY-3 residents are expected to meet the objectives for level 3 based on ACGME Core Competency Assessment.
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	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight
PC-5: Extraocular Surgery (Plastics, Strabismus)	• Identifies patients for routine extraocular surgery • Performs simple extraocular surgery (e.g., simple lid laceration repair, nasolacrimal duct probing) • Manages common post-operative complications	• Develops a pre-operative plan for routine extraocular surgery • Performs routine extraocular surgery (e.g., complex lid laceration repair, horizontal strabismus, ptosis) • Manages intra- and post-operative complications (e.g., bleeding, perforation)	• Develops a pre-operative plan for complex extraocular surgery • Performs complex extraocular surgery (e.g., vertical strabismus), with assistance • Manages complex intra- and post-operative complications (e.g., infection, retrobulbar hemorrhage)

	Level 2	Level 3	Level 4
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient

	Level 2	Level 3	Level 4
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers

	Level 2	Level 3	Level 4
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

c. *Pediatric Ophthalmology Specific Delineation of Resident Responsibilities*

The pediatric ophthalmology rotation differs from other rotations in that the resident seldom sees the youngest child (e.g., under 3 years of age) in the absence of Faculty due to the tendency for a child to "wear out" during an examination, thereby potentially thwarting collection of critical examination data by the Faculty. For this reason, the resident most often works at the elbow of faculty when seeing children under 3 years of age unless instructed otherwise by Faculty.

Despite the above guideline for the very youngest children, the Pediatric Ophthalmology Faculty expect you to learn how to work up pediatric patients on your own. The first days of the rotation will be starting to learn the pediatric exam, including stereo acuity testing, visual acuity testing, and alignment (assessment of ductions and version, cover test, simultaneous prism and cover test, prism and alternate cover test). The resident is expected to take the patient from the check-in area and initiate the work-up without prompting after this period and should grow comfortable with acuity measurements and assessment of motility and alignment. The resident should try and follow the patients through the clinic so that he/she can do the dilated and retinoscopy exams as well. The resident is encouraged to formulate an assessment and plan for each patient and properly document findings in the patient chart.

If the clinic is completely "caught-up," the resident may consult reference text while clinic is in session.

Often, the best learning is accomplished while a patient is reviewed at the same time as reference material is available, but there is an expectation that, after the clinic has finished, the resident will read about the conditions seen in the clinic that day, and return with questions to the Faculty.

The primary textbook for learning the basics of pediatric ophthalmology and strabismus is the *BCSC* from the American Academy of Ophthalmology. Reading has been broken into approximately 25-page segments, to be spaced over time that the resident is on the pediatrics service. Along with each reading assignment, there is a reference article for the resident to read. It is the resident's

responsibility to keep up-to-date on the reading, and ask the Pediatric Ophthalmology Faculty questions that demonstrate he/she has done some of this reading.

With regard to the operating room, the resident should be in the OR-suite at 7:00 a.m, dressed in appropriate surgical scrubs, so that the first patient can be seen by the resident in the pre-op area. If the resident does not arrive sufficiently prior to the start of the first case, the resident may not be given the opportunity to participate in the surgery! Although the cases are scheduled for starting at 7:30 a.m., the usual start time is around 7:15 a.m., because the anesthesia team needs to get two rooms started, and they like to start the ophthalmology room first. The resident should complete the required pre-op H and P, and establish whether a completed consent is on file. If a completed consent is not on file, a blank form should be found so that the Faculty can obtain consent. The resident is expected to have his/her surgical plan for each patient. The resident is encouraged to review the surgical technique prior to surgery using videos available on YouTube and other platforms. After the surgery, the resident is expected to take notes of the surgical technique and revise it the day prior to the next case. If the patient needs dilating drops before the surgery, the resident is expected to coordinate with the pre-op nurse in charge and ensure dilating drops are placed in the patient's eye on time.

For the pre-operative evaluations, the resident is expected to see the patients and repeat all motility measurement to confirm the surgical plan and what is hoped to be accomplished in the operating room. It is important to understand that any child with a cough or cold will need to be rescheduled because of the increased risk of general anesthesia complications under these conditions.

d. ***When the Pediatric Ophthalmology Faculty are Unavailable***

There are occasions when the Pediatric Ophthalmology Faculty are out of town, and during this time, telephone messages from patients will be directed to the resident's attention by the technicians. The resident should try and answer as many phone calls as possible. The doctors will add you to the inbox during times away, at which point you will be expected to manage simple problems and phone calls. If the resident needs to contact the Pediatric Ophthalmology Faculty, try their cell phone.

e. ***Reading Assignments*** (see public resident files in Box)

- View the videotape, "Anatomy and Embryology of the Eye" by Smollen
- *Pediatric Eye Evaluation*
  – Wallace DK, Morse CL, Melia M, Sprunger DT, Repka MX, Lee KA, Christiansen SP; American Academy of Ophthalmology Preferred Practice Pattern Pediatric Ophthalmology/Strabismus Panel: Pediatric Eye Evaluations Preferred Practice Pattern®: I. Vision Screening in the Primary Care and Community Setting; II. Comprehensive Ophthalmic Examination. *Ophthalmology* 2018 Jan;125(1):P184-P227.
- *Lid Disorders, Infectious and Allergic Ocular Diseases, Lacrimal Drainage System*
  – Kushner BJ: Early office-based vs. late hospital-based nasolacrimal duct probing. *Arch Ophthlamol* 1995;113:1103-1104.
  – Kassoff J, Meyer DR: Early office-based vs. late hospital-based nasolacrimal duct probing - a clinical decision analysis. *Ophthalmology* 1995;113:1168-1171.
  – Pediatric Eye Disease Investigator Group, Repka MX, Chandler DL, Beck RW, Crouch ER 3rd, Donahue S, Holmes JM, Lee K, Melia M, Quinn GE, Sala NA, Schloff S, Silbert DI, Wallace DK. Primary treatment of nasolacrimal duct obstruction with probing in children younger than 4 years. *Ophthalmology* 2008;115:577-584.

- *Diseases of the Cornea and Anterior Segment, Iris Abnormalities*
  - Idrees F, Vaideanu D, Fraser SG, Sowden JC, Khaw PT: A review of anterior segment dysgeneses. *Surv Ophthalmol* 2006;51:213-231.
- *Pediatric Glaucoma*
  - DeLuise VP, Anderson DR: Primary infantile glaucoma (congenital glaucoma). *Surv Ophthalmol* 1983;28(1):1-19.
- *Childhood Cataracts*
  - Hutchinson AK, Drews-Botsch C, Lambert SR: Myopic shift after intraocular lens implantation during childhood. *Ophthalmology* 1997;104:1752-1757.
  - Amaya L, Taylor D, Russell-Eggitt I, Nischal KK, Lengyel D: The morphology and natural history of childhood cataracts. *Surv Ophthalmol* 2003;48:125-144.
  - Repka MX, MX, Dean TW, Kraker RT, Li Z, Yen KG, de Alba Campomanes AG, Young MP, Rahmani B, Haider KM, Whitehead GF, Lambert SR, Kurup SP, Kraus CL, Cotter SA, Holmes JM; Pediatric Eye Disease Investigator Group: Visual acuity and ophthalmic outcomes 5 years after cataract surgery among children younger than 13 years. *JAMA Ophthalmol* 2022 Mar 1;140(3):269-276.
- *Uveitis, Vitreous and Retinal Diseases and Disorders*
  - Cryotherapy for Retinopathy of Prematurity Cooperative Group: Multicenter trial of cryotherapy for retinopathy of prematurity. *Arch Ophthalmol* 1993;111:339-344.
- *Optic Nerve Disorders, Ocular Tumors in Childhood, Phakomatoses*
  - Knudson AG: Mutation and cancer: statistical study of retinoblastoma. *Proc Natl Acad Sci* 1971;68(4):820-823.
  - Abramson DH, Schefler AC: Update on retinoblastoma. *Retina* 2004;(6):828-848.
- *Craniofacial Malformations, Ocular Findings in Inborn Errors of Metabolism, Ocular Trauma in Childhood*
  - Marcus DM, Albert DM: Recognizing child abuse. *Arch Ophthalmol* 1992;110:766-767.
  - Harley RD: Ocular manifestations of child abuse. *J Pediatr Ophthalmol Strabismus* 1980;17(1):5-13.
  - Aryan HE, Ghosheh FR, Jandial R, Levy ML: Retinal hemorrhage and pediatric brain injury: etiology and review of the literature. *J Clin Neurosci* 2005;12(6):624-631.
- *Decreased Vision in Infants and Children, Learning Disabilities, Dyslexia, and Vision*
  - Good WV, Jan JE, DeSa L, Barkovich AJ, Groenveld M, Hoyt CS: Cortical visual impairment in children. *Surv Ophthalmol* 1994;38:351-364.
- *Strabismus, Anatomy of the Extraocular Muscles, Motor Physiology, Sensory Physiology*
  - Hubel DH, Weisel TN: Binocular interaction in the striate cortex of kittens reared with artificial squint. *J Neurophysiol* 1965;28:1041-1057.
- *Amblyopia*
  - Holmes JM, Clarke MP: Amblyopia. *Lancet* 2006;367-1343-1351.
- *Introduction to Strabismus, Diagnostic Techniques for Strabismus*
  - Prism Adaptation Study Research Group: Efficacy of prism adaptation in the surgical management of acquired esotropia. *Arch Ophthalmol* 1990;108:1248-1256.
- *Esodeviations*
  - von Noorden GK: A reassessment of infantile esotropia (SLIV Edward Jackson Memorial Lecture). *Am J Ophthalmol* 1988;105(1):1-10.
- *Exodeviations*
  - Coffey B, Wick B, Cotter S, Scharre J, Horner D: Treatment options in intermittent exotropia: a critical appraisal. *Optom Vis Sci* 1992;69(5):386-404.
  - Donahue SP, Chandler DC, Holmes JM, on behalf of PEDIG. A randomized trial comparing bilateral lateral rectus recession versus unilateral recess-resect for basic-type intermittent exotropia. *Ophthalmology* 2019;126:305-317.

- *Vertical Deviations, A and V Patterns, Special Forms of Strabismus, Nystagmus*
  - Molarte AB, Rosenbaum AL: Vertical rectus muscle transposition surgery for Duane's syndrome. *J Pediatr Ophthalmol Strabismus* 1990;27:171-177.
- *Surgery of the Extraocular Muscles*
  - Guyton DL: Strabismus surgery. pp. 85-113.
- *Adult Strabismus*
  - *Martinez-Thompson* JM, Diehl NN, Holmes JM, Mohney BG. Incidence, types, and lifetime risk of adult-onset strabismus. *Ophthalmology* 2014:121:877-882*,*
  - Veverka KK, Hatt SR, Leske DA, Brown WL, Iezzi R Jr, Holmes JM. Causes of diplopia in patients with epiretinal membranes. *Am J Ophthalmol* 2017;179:39-45.
- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 6: Pediatric Ophthalmology and Strabismus*.
- *Lambert SR, Lyons CJ, eds. *Taylor and Hoyt's Pediatric Ophthalmology and Strabismus*, 5th ed. Edinburgh: Elsevier, 2017.
- *Strominger MB. Rapid Diagnosis in Ophthalmology: Strabismus. Elsevier, c2008.

Useful Online Simulators
- Strabismus
  https://www.aao.org/interactive-tool/strabismus-simulator

- Retinoscopy

  https://www.eyedocs.co.uk/ophthalmology-articles/optics-refraction/1508-retinoscopy-simulator

- Retinopathy of Prematurity

  https://www.aao.org/interactive-tool/retinopathy-of-prematurity-case-based-training

*Available online through the University of Arizona Health Sciences Library, www.ahsl.arizona.edu.

Useful link to a Surgical Eye Muscle Video

https://www.youtube.com/watch?v=hHnjV94YuDI

10. **Refractive Surgery**

a. *Goals*

The primary educational goals of the residents on the refractive surgery rotation are to understand the physiology of the cornea and anterior segment, the refractive errors, and to develop facility in the examination of patients, understanding the laser technology, the various refractive surgical procedures, and ability to identify common pathological conditions and understand the judicious use of antibiotics, corticosteroids, non-steroidal inflammatory drugs in the pharmacological regimen, as well as understand the indications for surgical procedures, and to learn how to manage possible complications. The goals are met through exposure to patients during a subspecialty rotation with a preceptor during the first year of residency.

b. *Learning Objectives*

- Underlying Concepts of Refractive Surgery
    - Contribution of the corneal layers and shape to the optics of the eye
    - Computerized corneal topography
    - Wavefront analysis
    - Biomechanics of the cornea
    - Corneal wound healing
    - Laser biophysics
- Incisional Corneal Surgery
    - Incisional correction of myopia
    - Incisional correction of astigmatism
- Photoablation
    - Photorefractive keratectomy, laser subepithelial keratomileusism, and epithelial laser in situ keratomileusis
    - Laser in situ keratomileusis
    - Wavefront-guided surface ablation and LASIK
- Intraocular Surgery
    - Phakic intraocular lenses
    - Bioptics
    - Clear lens extraction (refractive lens exchange)
    - Toric intraocular lenses
    - Multifocal intraoculenses
    - Accommodating intraocular lenses
    - Wavefront-designed intraocular lenses
    - Light-adjustable intraocular lenses
- Accommodative and Nonaccommodative Treatment of Presbyopia
    - Theories of accommodation
    - Nonaccommodative treatment of presbyopia
    - Accommodative treatment of presbyopia
- Considerations after Refractive Surgery
    - IOL calculations after refractive surgery
    - Retinal detachment repair after LASIK
    - Corneal transplantation after refractive surgery

PGY-2 residents are expected to meet the objectives for level 2.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)

c. *Reading List*

Rather than have assigned reading for each week, residents will be asked to keep a log of the assigned reading chapters. At the beginning of the rotation, they are to review the assignment with the attending. As they see patients that fit into the appropriate categories, they are expected to read the chapters from the basic science text that are appropriate, as well as the review articles that are provided. By the end of each year, they should have gone through the entire refractive surgery book. In April of each year, they are to submit their logs so that any areas that are deficient can be completed by the end of the year.

d. ***Required Reading***

- American Academy of Ophthalmology. *Basic and Clinical Science Course*, *Section 14: Refractive Surgery*. (This should be read in its entirety each academic year.)
- Azar DT, Gatinel D, Hoang-xuan T. *Refractive Surgery*, 2nd ed. Mosby, 2006.
- Wang M. *Corneal Topography in the Wavefront Era: A Guide for Clinical Application*. Thorofare, NJ: Slack, Inc., 2006.
- Agarwal S, Agarwal A, Agarwal A. *Step by Step Corneal Topography*. Maryland Heights, MO: Jaypee Brothers Medical Publishers, Inc., 2006.
- Krueger RR, MacRae S, Applegate RA. *Wavefront Customized Visual Correction*. Thorofare, NJ: Slack, Inc., 2004.
- *Hampton RF. *Surgical Techniques in Ophthalmology: Refractive Surgery*. Elsevier, c2008.
- *Brightbill FS, ed. Cornea Surgery: Theory, Techniques, and Tissue. London: Mosby, c2009.

*Available online through the University of Arizona Health Sciences Library, www.ahsl.arizona.edu.

11. **Vitreoretina**

a. *Goals*

The goal of the retina rotation is to master the diagnosis and either recommend or deliver appropriate therapy for disorders of the retina and vitreous, through mastery of the direct examination skills and through mastery of the ancillary testing that is performed

b. *Objectives*

PGY-2 residents are expected to meet the objectives for level 2.
PGY-3 residents are expected to meet the objectives for level 3.
PGY-4 residents are expected to meet the objectives for level 4.

	Level 2	Level 3	Level 4
PATIENT CARE			
PC-1: Data Acquisition – Basic Ophthalmology Exam and Testing	• Performs problem-focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings • Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	• Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders • Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)	• Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)
PC-3: Office-Based Procedures	• Administers anesthesia and performs procedure, with direct supervision • Recognizes and manages intra- and post-operative complications, with direct supervision	• Administers anesthesia and performs procedure, with indirect supervision • Manages intra- and post-operative complications, with indirect supervision	• Administers anesthesia and performs procedure, with oversight • Manages intra- and post-operative complications, with oversight
PC-6: Intraocular Surgery (Cornea, Retina, Glaucoma)	• Assesses patients for routine intraocular surgery • Performs routine intraocular surgery in the hands-on surgical skills laboratory • Manages common post-operative complications (e.g., post-op pain, high intraocular pressure)	• Assesses patients for complex intraocular surgery • Assists in subspecialty intraocular surgery • Manages common intra-operative complications (e.g., flat chamber, wound leak, hyphema)	• Assesses patients for multispecialty intraocular surgeries • Performs routine intraocular surgery • Manages complex intra- and post-operative complications (e.g., re-bubble graft, blebitis)

	Level 2	Level 3	Level 4
MEDICAL KNOWLEDGE			
MK-1: Pathophysiology	• Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	• Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	• Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions
MK-2: Differential Diagnosis	• Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely • Describes diagnostic tests to aid in the differential diagnosis	• Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions • Selects additional diagnostic testing to distinguish between conditions on the differential	• Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing • Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential
MK-3: Therapeutic Interventions	• Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy • Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	• Identifies and describes side effects of medical therapies and ways to minimize potential complications • Identifies and describes causes of complications and alternatives for routine procedural interventions	• Describes and articulates the rationale for using emerging alternative medical therapies • Describes and articulates the rationale for using novel alternative procedural interventions
SYSTEMS-BASED PRACTICE			
SBP-1: Patient Safety and Quality Improvement	• Identifies system factors that lead to patient safety events • Reports patient safety events through institutional reporting systems (simulated or actual) • Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	• Participates in analysis of patient safety events (simulated or actual) • Participates in disclosure of patient safety events to patients and families (simulated or actual) • Participates in local quality improvement initiatives	• Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual) • Discloses patient safety events to patients and families (simulated or actual) • Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project
PRACTICE-BASED LEARNING AND IMPROVEMENT			
PBLI-1: Evidence-Based and Informed Practice	• Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	• Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	• Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient

	Level 2	Level 3	Level 4
PBLI-2: Reflective Practice and Commitment to Personal Growth	• Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance • Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	• Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan • Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	• Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it • Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance
PROFESSIONALISM			
PROF-1. Professional Behavior and Ethical Principles	• Demonstrates insight into professional behavior in routine situations • Takes responsibility for own professionalism lapses • Analyzes straightforward situations using ethical principles	• Demonstrates professional behavior in complex or stressful situations • Recognizes need to seek help in managing and resolving complex ethical situations • Analyzes complex situations using ethical principles	• Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others • Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)
PROF-2: Accountability/ Conscientiousness	• Performs tasks and responsibilities in a timely manner with attention to detail in routine situations • Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	• Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations • Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	• Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner • Proactively implements strategies to ensure that the needs of patients, teams, and systems are met
PROF-3: Self-Awareness and Help-Seeking	• Independently recognizes status of personal and professional well-being • Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	• With assistance, proposes a plan to optimize personal and professional well-being • With assistance, proposes a plan to improve knowledge/skills of self and/or team	• Independently develops a plan to optimize personal and professional well-being • Independently develops a plan to improve the knowledge/skills of self and/or team
INTERPERSONAL AND COMMUNICATION SKILLS			
ICS-1: Patient and Family-Centered Communication	• Establishes a therapeutic relationship in straightforward encounters using active listening and clear language • Addresses barriers to effective communication	• Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news) • When prompted, reflects on personal biases while attempting to minimize communication barriers	• Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity • Role models self-awareness to minimize communication barriers

	Level 2	Level 3	Level 4
ICS-2: Interprofessional and Team Communication	• Communicates information effectively and uses active listening with all health care team members • Solicits feedback on performance as a member of the health care team	• Communicates concerns to the team and learners • Provides feedback and constructive criticism to peers and learners	• Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed • Provides feedback and constructive criticism to superiors
ICS-3: Communication within Health Care Systems	• Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record • Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy • Identifies appropriate channels to communicate system deficiencies	• Communicates clearly and concisely, including anticipatory guidance, in the medical record • Avoids creating or propagating errors in the medical record through accurate use of documentation tools • Uses appropriate channels to communicate system deficiencies	• Provides feedback to improve others' written communication • Provides feedback and constructive criticism regarding compliance with patient privacy and safety • Offers clear and constructive suggestions to address system deficiencies

c.   *Retina Rotation Specific Delineation of Resident Responsibilities*

The residents will be evaluating patients alongside the attending physicians. The residents are encouraged to do complete examinations, assessments, suggestions for testing, and listing of therapeutic options. In general, any discussions of these options for further diagnosis and management should be made with the attending physician, out of range of patients, prior to discussion with the patient and the family.

Format for Patient Examination: Following check-in, patients are screened by a technician, who will take a pertinent history, list medications and note visual acuity and dilate the patient.

On new patients, the resident reviews the chart and summarizes the patient's history to date, performs a complete anterior segment slit lamp exam and gonioscopy when necessary. The resident then places dilating drops. After dilation is complete, the resident performs a complete fundus examination with indentation, ophthalmoscopy when necessary. The patient is sent for photographs and fluorescein angiograms as indicated. Following the angiogram, the angiogram is reviewed with faculty and the impression is recorded in the chart. The fundus examination is completed and documented in the chart, as well. The patient is then left in the room and the attending completes the examination.

For follow-up patients, the resident reviews the chart and summarizes the patient's history to date. The resident performs a complete anterior segment and examines the fundus with 60- and 90-diopter lenses. A complete examination is performed with indirect ophthalmoscopy, as well. After the resident documents the findings in the chart, he will write the impressions and plan. The patient is left in the room to await the arrival of the attending physician.

d. ***Chart Review***

In general, no discussion of patients occurs in the examination room. At the end of the session, whenever possible, the attending, resident and students will discuss patients seen during the course of the day. Patients may be used as a starting point from which to delve into mechanisms of disease and treatment.

e. ***Surgery***

In general, the resident acts as a first assistant at surgery. The resident is expected to do a pre-op evaluation on any patient that the resident is to operate on. In addition, the resident follows all patients post-operatively.

Residents should review the records of the patient before surgery and be familiar with the planned procedure and therapeutic options. Surgical techniques and instrumentation should be reviewed even if the resident will not perform the surgery.

All pre-op surgical patients require the following:

- A complete retinal evaluation including drawings of pertinent pathology.
- Recording of the examination in the office chart.
- A medical history and physical form must be completed for every patient. If the patient has medical problems, then a medical consultation needs to be arranged. The surgical coordinator will assist in doing this.

<u>Consent</u>: In general, the resident is not asked to get informed consent for surgical procedures. This is typically done by the attending. The resident should, however, be well versed in the indications, risks and potential complications for all commonly performed glaucoma procedures.

f. ***Emergency Coverage***

Occasionally, retinal detachment, hemorrhages, and other problems with acute vision loss may occur. It is the responsibility of the resident on-call to work-up the patients with the assistance of the Chief Resident. The faculty on-call should be notified or consulted regarding any relevant findings.

g. ***Research***

The resident on the retina service is encouraged to participate in a clinical or basic science research project. There is no specific research requirement.

h. ***Fluorescein Angiography (FA) Conference***

Residents are expected to attend all FA conferences.

i. *Required Reading*

General Reference for Topical Reading on Selected Patients

*Schachat AP, Sadda SR, Hinton DR, Wilkinson CP, Wiedemann P. *Ryan's Retina*. Elsevier, Inc., c2018.

Second Year (PGY-2) Resident

Complete:
- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 12, Retina and Vitreous*.
- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 9, Intraocular Inflammation and Uveitis*.
- Berkow JW, Flower RW, Orth DH, Kelley JS. *Fluorescein Angiography and Indocyanine Green Angiography: Technique and Interpretation*. Ophthalmology Monograph 5, 2nd ed. Oxford University Press; 1997.
- Folk JC, Pulido JS: *Laser Photocoagulation of the Retina and Choroid*. Ophthalmology Monograph 11. Oxford University Press; 1997.

Others: Reference as necessary

Third Year (PGY-3) Resident

Repeat:
- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 12, Retina and Vitreous*.
- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 9, Intraocular Inflammation and Uveitis*.
- Berkow JW, Flower RW, Orth DH, Kelley JS. *Fluorescein and Indocyanine Green Angiography: Technique and Interpretation*. Ophthalmology Monograph 5, 2nd ed. Oxford University Press; 1997.
- Folk JC, Pulido JS: *Laser Photocoagulation of the Retina and Choroid*. Ophthalmology Monograph 11. Oxford University Press; 1997.

Complete:
- Fishman GA, Birch DG, Holder GE, Brigell MG. *Electrophysiologic Testing in Disorders of the Retina, Optic Nerve, and Visual Pathway*. Ophthalmology Monograph 2, 2nd ed. Oxford University Press, 2001.
- Gass JDM. *Stereoscopic Atlas of Macular Diseases: Diagnosis and Treatment*. 4th ed. St. Louis: Mosby, c1997.
- Hilton GF, McLean JB, Brinton DA. *Retinal Detachment: Principles and Practice*. Ophthalmology Monograph 1, 2nd ed. San Francisco: American Academy of Ophthalmology, 1995.

Others: Reference as necessary

Fourth Year (PGY-4) Resident

Repeat:
- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 12, Retina and Vitreous*.
- American Academy of Ophthalmology. *Basic and Clinical Science Course, Section 9, Intraocular Inflammation and Uveitis*.
- Berkow JW, Flower RW, Orth DH, Kelley JS. *Fluorescein and Indocyanine Green Angiography: Technique and Interpretation*. Ophthalmology Monograph 5, 2nd ed. Oxford University Press; 1997.
- Folk JC, Pulido JS: *Laser Photocoagulation of the Retina and Choroid*. Ophthalmology Monograph 11. Oxford University Press; 1997.
- *Brinton DA, Wilkinson CP. *Retinal Detachment: Principles and Practice*, 3rd ed. Oxford University Press, 2009.

Complete:
- Ryan SJ, ed. *Retina*. 2nd ed. St Louis; Mosby-Year Book; 1994.
- Wilkinson CP, Rice TA. *Michels Retinal Detachment*. 2nd ed. Mosby; 1997.

Others: Reference as necessary

All Residents

- *Grzybowski A, Luttrull JK, Kozak I, *Retina Lasers in Ophthalmology: Clinical Insights and Advancements*. Springer, 2023.
- *Duker JS, Waheed NK, Goldman DR, eds. *Handbook of Retinal OCT: Optical Coherence Tomography*. London; New York: Saunders/Elsevier, 2014.
- *Singh AD, Hayden BC. *Ophthalmic Ultrasonography*. Edinburgh; New York: Elsevier Saunders, 2012.
- *Agarwal A. *Gass' Atlas of Macular Diseases*. Edinburgh: Elsevier Saunders, 2012.
- *Yannuzzi LA. *The Retinal Atlas*. Saunders Elsevier, 2010.
- *Sadda SR. *Ryan's Retinal Imaging and Diagnosis*. Saunder Elsevier, c2013.
- *Bhavsar AR. *Surgical Techniques in Ophthalmology: Retina and Vitreous Surgery*. Elsevier, c2009.
- *Niederhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE. Abeloff's Clinical Oncology, 5th ed. Churchill Livingstone Elsevier, c2014.

*Available online through the University of Arizona Health Sciences Library, www.ahsl.arizona.edu.