Residency Program Assessment
One of the most critical deficits in global eye health is the lack of adequately trained workforce. This is the very reason Orbis was founded— to provide ongoing training and support to eye care teams around the world.

It is the mission of all training institutions to prepare and teach the future leaders of tomorrow. For the last 40 years, Orbis has partnered globally with esteemed training institutions to support and further enhance their efforts to train residents. From delivering traditional in-person skills building training, to supporting remote wet lab mentorship, and the delivery of virtual blended learning programs from the Flying Eye Hospital, Orbis seeks to meet our partners and the learners they mentor to continue to grow and strengthen their skills to address the needs of those they serve.

This resource is designed for faculty to guide them in how to identify gaps, and thus opportunities, in their residency programs and to commit to continually develop and improve their systems to successfully train the future trainers of tomorrow. The competencies developed by the Accreditation Council for Graduate Medical Education (ACGME) are integrated into the assessment tool as the backbone of elements that take investment and resources to strengthen programs to best support residents. Faculty and leadership can continuously use this self-assessment to guide them in areas for improvement and to strategically invest in changes required to evolve. Even minor changes to a program and training initiative can make the difference for learners; residents deserve to be set up to succeed, as do their teachers and mentors.

In addition to the assessment tool, the annexes further serve as helpful resources to identify where to start and how to create simulation resources for learners that meet partners where they are at and do not require hefty resources to initiate.

Orbis strives to provide tangible and useful resources to support the needs of eye health providers to serve their communities. In the compilation of this resource, Orbis draws on its four decades worth of expertise in supporting faculty and residents with training interventions. High quality education is at the core of what Orbis seeks to deliver, create, and nurture. Utilizing this tool will help leaders and faculty to have a roadmap to success and to implement strategic changes to monitor progress, impact, and results in substantial and meaningful ways.

As we look to the future of eye care and education, let us remember to support the faculty who strive to make opportunities possible and the mentors who instill the values and shape the way care is provided within the next generation of health care professionals.

Dr. Hunter Cherwek
Vice President, Clinical Services
Orbis International
We knew that urgent eye care needs would not slow down because of the pandemic, so neither could we. Our longstanding culture of innovation meant we were ready to embrace new ways of working – new paradigms – when it mattered most.

Derek Hodkey
PRESIDENT & CEO
Background

The mission of Orbis is to provide health systems with the tools, resources, mentorship and training they need to meet the eye health needs of their communities.

Essential to this mission, is the existence and access to robust training programs, capable of delivering high-quality education and producing the eye care providers, leaders and faculty of the future.

To achieve this, Orbis has created the following tool, to allow for the assessment of a residency programs, with specific criterion for monitoring progress, impact and results.
The purpose of this assessment is to allow training institutions to identify gaps in the institutions’ residency program, in order to inform plans for further development and improvement. The assessment will therefore serve as a basis for ongoing support as well as monitoring progress made in addressing the gaps identified. The assessment is based on the ICO Accreditation Guidelines available at: www.icoph.org/downloads/ICOIntlGuidelinesforAccreditation.docx

The document is organized in the following categories:

1. Mission and Outcomes  
   page 07
2. Education Program  
   page 08
3. Trainees and Faculty  
   page 10
4. Assessment of Trainees  
   page 11
5. Training Settings & Educational Resources  
   page 13
6. Evaluation of Training Process  
   page 15
7. Developing Teaching and Facilitation Skills in Residents  
   page 16
Instructions for Use of the Assessment

Please complete the assessment in full.

This assessment should be completed by the residency director or senior faculty, who lead in the training of residents.

Questions take the following format:

- Lists, where you will select, circle or mark all the elements which apply to your residency program (question 1).
- Yes/no questions, where you should circle the appropriate response in relation to your residency program (question 2, 17, 18c, 18e, 23a).
- Scale 1-4, questions that provide four answers per question. Please circle the number whose description, most defines-aligns to your program (all other questions).

Return the completed form to the Orbis International Clinical Training team for additional support if desired.
Missions and Outcomes

A successful program must have clearly defined outcomes for their program, including:

- **What is the mission of the residency program?**
- **What are the cognitive competencies each resident should graduate with?**
- **What are the attitudinal competencies each resident should graduate with?**
- **What are the skill competencies each resident should graduate with?**

Orbis recommends the integration of the 6 key competencies of a strong residency program as defined by the Accreditation Council for Graduate Medical Education (ACGME) into any residency curriculum.

### 1. The ACGME competencies are listed below.

**Please tick the box if residents are expected to possess the knowledge and skills listed.**

<table>
<thead>
<tr>
<th>Box</th>
<th>Patient Care &amp; Procedural Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Box</th>
<th>Medical Knowledge</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Box</th>
<th>Practice-based Learning and Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Box</th>
<th>Interpersonal and Communication Skills</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Box</th>
<th>Professionalism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Box</th>
<th>Systems-based Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.</td>
</tr>
</tbody>
</table>
### Education Program

**2. Is there a standardized curriculum?** Yes or No

**3. Which best describes the curriculum:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>No clear written curriculum</td>
</tr>
<tr>
<td>2.</td>
<td>Nonspecific list of topics (e.g. glaucoma or cornea versus specific topics within these general categories), non-standardized or no rotation schedule</td>
</tr>
<tr>
<td>3.</td>
<td>Specific list of topics (e.g. angle closure glaucoma or corneal dystrophies), standardized rotation/lecture schedule</td>
</tr>
<tr>
<td>4.</td>
<td>ICO or other structured curriculum with goals and objectives with detailed rotation/lecture schedule/targets</td>
</tr>
</tbody>
</table>

**4. Does the curriculum have a minimum number of cases for specific surgical procedures and are they met by all residents?**

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<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>No minimum numbers</td>
</tr>
<tr>
<td>2.</td>
<td>Yes, minimum number is set but not met by all residents</td>
</tr>
<tr>
<td>3.</td>
<td>Yes, minimum number set and met by all residents in 50% of categories (cataract, glaucoma trab, strabismus etc*)</td>
</tr>
<tr>
<td>4.</td>
<td>Yes, minimum numbers set and met by all residents in all categories* with data available</td>
</tr>
</tbody>
</table>

*Cataract, glaucoma trabeculectomy, strabismus, lid surgeries, evisceration, enucleating, medical retina laser treatments, glaucoma laser treatments.

**5. Is there a formal process of trainee selection and specific selection criteria?**

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>No formal process</td>
</tr>
<tr>
<td>2.</td>
<td>Formal process exists but is not enforced</td>
</tr>
<tr>
<td>3.</td>
<td>Formal process used, but selection criteria is not detailed</td>
</tr>
<tr>
<td>4.</td>
<td>Formal process in place with detailed selection criteria, which is used</td>
</tr>
</tbody>
</table>

**6. Is there adequate supervision/direct observation and training of residents in the clinic?**

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>No supervision</td>
</tr>
<tr>
<td>2.</td>
<td>Occasional supervision</td>
</tr>
<tr>
<td>3.</td>
<td>Residents are usually supervised</td>
</tr>
<tr>
<td>4.</td>
<td>Appropriate supervision always present. In clinic there is a consultant ophthalmologist able to review cases and ensure correct case management, review resident assessment tools, review of operating notes.</td>
</tr>
</tbody>
</table>

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1. The training process must include the practical clinical work and relevant theory to assure competence is met as described in the ACGME competencies. Topics must include: cataract, contact lenses, cornea and external disease, eyelid and lacrimal abnormalities, glaucoma, neuro-ophthalmology, ocular trauma, optics and general refraction, orbital disease and oculoplastics, pathology, pediatric ophthalmology and strabismus, systemic disease consults, uveitis, low vision and refractive surgery, and retinal/vitreous diseases. The program should also include instruction in communication skills, medical ethics, public health and patient safety.
7. Is there adequate supervision/direct observation and training of residents in the operating room? Do residents do surgery without consultant or senior resident supervision?

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<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>No clear written curriculum</td>
</tr>
<tr>
<td>2.</td>
<td>Residents often working autonomously</td>
</tr>
<tr>
<td>3.</td>
<td>Residents are usually supervised</td>
</tr>
<tr>
<td>4.</td>
<td>Appropriate supervision always present.</td>
</tr>
</tbody>
</table>

8. Are there formal mechanisms for the evaluation of resident's knowledge & skill at intervals throughout their training, which indicate a resident is adequately progressing through their training?

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>No milestones</td>
</tr>
<tr>
<td>2.</td>
<td>Few periodic assessments of progress</td>
</tr>
<tr>
<td>3.</td>
<td>Assessments of progress made at least every 6 months</td>
</tr>
<tr>
<td>4.</td>
<td>Milestones used and assessments made at least every six months (see Annex A)</td>
</tr>
</tbody>
</table>

9. Is research included in the training of residents (can include either clinical or basic science work)?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>No research included in training</td>
</tr>
<tr>
<td>2.</td>
<td>Research is done by a minority of residents</td>
</tr>
<tr>
<td>3.</td>
<td>Research done by most residents</td>
</tr>
<tr>
<td>4.</td>
<td>Research is a requirement as part of the program for all residents to graduate</td>
</tr>
<tr>
<td></td>
<td>There is no attempt to publish</td>
</tr>
<tr>
<td></td>
<td>There is some attempt to publish (submission to journals)</td>
</tr>
<tr>
<td></td>
<td>Most or all of the residents either publish or attempt to publish their research (submission to journals)</td>
</tr>
<tr>
<td></td>
<td>No presentations of research internally or externally</td>
</tr>
<tr>
<td></td>
<td>Presentation of research internally</td>
</tr>
<tr>
<td></td>
<td>Residents present their research regularly (internally and externally)</td>
</tr>
</tbody>
</table>

10. Is there a plan to assure equivalent education\(^2\) for each resident? How is this implemented and what data do you have available to check equivalence (logbooks, rotation schedules)?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>No plan for equivalent education</td>
</tr>
<tr>
<td>2.</td>
<td>Plan for equivalent education but not implemented</td>
</tr>
<tr>
<td>3.</td>
<td>Plan for equivalent education that is implemented but no data available to confirm</td>
</tr>
<tr>
<td>4.</td>
<td>Plan for equivalent education implemented with data available showing equivalent education (e.g. rotation schedule, surgical &amp; clinical numbers)</td>
</tr>
</tbody>
</table>

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\(^2\) Equivalent means that each resident gets generally the same experience in terms of amount and variety of pathology seen, types and numbers of procedures done. For example, does each resident do the same rotations (or have different electives?) and do about the same number of surgeries?
Trainees and Faculty

11. The number of trainees is proportionate to the clinical/practical training opportunities, supervisory capacity and resources available at the teaching institution.

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>More trainees than faculty</td>
<td>More trainees than faculty</td>
<td>More trainees than faculty</td>
<td>Sufficient faculty for the number of trainees</td>
</tr>
<tr>
<td>Not sufficient resources for the number of trainees</td>
<td>Sufficient resources for the number of trainees</td>
<td>Sufficient resources for the number of trainees</td>
<td>Sufficient resources for the number of trainees</td>
</tr>
<tr>
<td>Not sufficient surgical/clinical volume for the number of trainees</td>
<td>Not sufficient surgical/clinical volume for the number of trainees</td>
<td>Sufficient surgical/clinical volume for the number of trainees</td>
<td>Sufficient surgical/clinical volume for the number of trainees</td>
</tr>
</tbody>
</table>

Key positions are staffed, including:
- Residency Director
- Wet lab coordinator

12. The program ensures that faculty have time for teaching, supervision and learning. Faculty development (improvement in teaching abilities) must be provided and trainers must be evaluated.

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty have no time to teach and supervise</td>
<td>Faculty have some time to teach and supervise</td>
<td>Faculty have adequate time to teach and supervise</td>
<td>Faculty have adequate time to teach and supervise and are evaluated.</td>
</tr>
<tr>
<td>Faculty have little time for and access to CME</td>
<td>Faculty have adequate time for and access to CME</td>
<td>Faculty have adequate time for and access to CME</td>
<td>Faculty have adequate time for and access to CME</td>
</tr>
</tbody>
</table>
### Assessment of Residents

#### 13. Are there standardized tools to assess residents' competencies?

1. No formal assessments
2. Only assessments of medical knowledge
3. Assessments cover knowledge and procedural skills
4. Assessment methods cover all ACGME competencies

#### 14. What are the tools used to assess students? Fill in the table below to identify the type of assessments that are used:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Assesses</th>
<th>Ideal Frequency Guidelines</th>
<th>Yes or No (describe type and frequency if yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ophthalmic Clinical Evaluation Exercise (OCEX) - Evaluation of a resident-patient clinical interaction or similar</td>
<td>Patient Care, Communication Skills, Medical Knowledge</td>
<td>Three times a year and once a resident demonstrates competency, it can be discontinued</td>
<td>Y N</td>
</tr>
<tr>
<td>Ophthalmology Surgical Competency Assessment Rubric (OSCAR)</td>
<td>Surgical skill</td>
<td>If the number of cases are small (&lt;50) then as often as possible. If &gt;50 then 1 of every 3-5</td>
<td>Y N</td>
</tr>
<tr>
<td>ICO 360 or similar</td>
<td>Professionalism, Communication skills</td>
<td>1-2 times per year</td>
<td>Y N</td>
</tr>
<tr>
<td>Lecture Evaluation</td>
<td>Lecture &amp; Communication Skill</td>
<td>Every lecture given by a resident (or faculty!)</td>
<td>Y N</td>
</tr>
<tr>
<td>Written exam</td>
<td>Medical Knowledge</td>
<td></td>
<td>Y N</td>
</tr>
<tr>
<td>Oral Exam</td>
<td>Medical Knowledge, Patient Care</td>
<td></td>
<td>Y N</td>
</tr>
<tr>
<td>Objective Structured Clinical Evaluation (OSCE)</td>
<td>Medical Knowledge, Patient Care, Procedural Skill</td>
<td></td>
<td>Y N</td>
</tr>
<tr>
<td>ACGME Milestones or similar</td>
<td>Documents resident progress throughout training</td>
<td>Every 6 months</td>
<td>Y N</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<tr>
<td>Other</td>
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<tr>
<td>Other</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Describe how and when residents are given feedback on their performance. Formative feedback is information given to the resident designed to improve performance. Many of the assessment tools listed above are formative. Summative feedback is a grade at the end of a rotation or on a test that determines whether the resident has passed or failed.

**Formative Feedback**

1. No formative feedback
2. Formative feedback given in an informal manner (not scheduled)
3. Formal formative feedback is scheduled less than twice a year
4. Detailed, effective formative feedback scheduled at least twice a year.

**Summative Feedback**

1. No summative feedback
2. Summative feedback given in an informal manner (not scheduled)
3. Formal summative feedback scheduled less than twice a year
4. Formal summative feedback scheduled at least twice a year.

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3 Formative feedback is used to reinforce the learning. It focuses on providing the student with feedback on their performance to improve their skills, knowledge, and learning behavior on an on-going basis. This form of feedback is used to frequently assess and instruct learners to reach pre-defined competencies.

4 Summative feedback measures the students’ achievement to make decisions about promotion or progression of the learner. Summative assessment and feedback are comprehensive and usually conducted at the end of a course or a module. For example, final examination.
Training Settings and Educational Resources

16. Is there adequate equipment of training residents in the clinic? (slit lamp is used as a good proxy)

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>One slit lamp or less for every 4 residents in clinic</td>
<td>2.</td>
<td>One slit lamp for every 3 residents in clinic</td>
</tr>
<tr>
<td>3.</td>
<td>One slit lamp for every 2 residents in clinic</td>
<td>4.</td>
<td>One slit lamp per resident in clinic</td>
</tr>
</tbody>
</table>

17. Is there a wet/dry lab? (Yes or No)

18. If yes:

   a. Is there a structured curriculum?

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>No structured curriculum or program</td>
<td>2.</td>
<td>Structured curriculum but no specified learning objectives</td>
</tr>
<tr>
<td>3.</td>
<td>Structured curriculum, with specified learning objectives, but doesn't state theory employed or methods applied</td>
<td>4.</td>
<td>Structured curriculum with specified learning objectives, theory employed and methods applied</td>
</tr>
</tbody>
</table>

   b. Is there appropriate equipment, instruments and consumables to train residents in cataract, glaucoma, pterygium and suturing? (see Annex B for a list of equipment, consumables and instruments required for a fundamental and advanced wet lab; and Annex C for a product guide on artificial eyes).

<p>| | | | |</p>
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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Missing key equipment, consumables and instruments</td>
<td>2.</td>
<td>Equipment, consumables and instruments in place for suturing only</td>
</tr>
<tr>
<td>3.</td>
<td>Equipment, consumables and instruments in place for suturing, pterygium and cataract only</td>
<td>4.</td>
<td>Equipment, consumables and instruments in place for all cases</td>
</tr>
</tbody>
</table>

c. Are there assessment tools to monitor progress and confirm competency of residents in the wet lab?

   Note all that apply:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Assesses</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>The educational gap in a resident’s knowledge of the wet lab procedure, including steps, instruments and supplies required</td>
<td>Y / N</td>
</tr>
<tr>
<td>Post-Test</td>
<td>Did the training close the educational gap identified by the pre-test?</td>
<td>Y / N</td>
</tr>
<tr>
<td>OSSCAR</td>
<td>Wet lab surgical skills</td>
<td>Y / N</td>
</tr>
</tbody>
</table>
d. Is there regular and structured formative debriefing with residents after wet lab sessions?

1. No debriefing
2. Informal and infrequent debriefing, no clear methodology is used
3. Informal but regular debriefing (after each wet lab session)
4. Formal (uses a standardized tool or script) regular debriefing (after each wet lab session)

e. Is there access to internet-based resources which support the wet lab training? Mark all that apply:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webinars/Pre-recorded lectures</td>
<td>Y N</td>
</tr>
<tr>
<td>Online courses</td>
<td>Y N</td>
</tr>
<tr>
<td>Journals</td>
<td>Y N</td>
</tr>
<tr>
<td>Pre-requisite reading list</td>
<td>Y N</td>
</tr>
<tr>
<td>Surgical demonstration videos</td>
<td>Y N</td>
</tr>
</tbody>
</table>

19. Do you have sufficient educational materials including:
   a. The basic clinical science course (BCSC) books in sufficient numbers
   b. Comprehensive textbooks
   c. A library
   d. Journal access

   1. No library
   2. BCSC > 5 years old
   3. At least one BCSC set published in the past 5 years
   4. Residents feel enough copies are available for their use

<table>
<thead>
<tr>
<th>Tool</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library in university (with a few books)</td>
<td>Y N</td>
</tr>
<tr>
<td>Library in eye department (some books)</td>
<td>Y N</td>
</tr>
<tr>
<td>Wifi which allows regular access to journals</td>
<td>Y N</td>
</tr>
<tr>
<td>Periodic access to journals</td>
<td>Y N</td>
</tr>
<tr>
<td>Wifi – with some access to journals</td>
<td>Y N</td>
</tr>
<tr>
<td>Full library in eye department and in the university</td>
<td>Y N</td>
</tr>
</tbody>
</table>

20. Is there a journal club?

   1. No journal club
   2. Journal club but meets infrequently (1-2 per year)
   3. Journal club, meets at least quarterly but no faculty participate
   4. Journal club, meets at least quarterly with faculty participation
## Evaluation of Training Process

### 21. Is there a process for evaluating the training, which identifies concerns from the residents and faculty? (For example, is an anonymous resident survey done and how often).

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<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>None</td>
<td>2.</td>
<td>Informal feedback from residents and staff</td>
</tr>
<tr>
<td>3.</td>
<td>Some formal survey process from residents or staff but not an anonymous survey and not regularly competed</td>
<td>4.</td>
<td>Annual anonymous comprehensive resident and faculty surveys completed</td>
</tr>
</tbody>
</table>

### 22. Is there a process for using program feedback to addresses concerns and allow for improvements? (improvement plan).

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>No process exists</td>
<td>2.</td>
<td>Occasional attempts at improvement based on informal feedback</td>
</tr>
<tr>
<td>3.</td>
<td>Attempts at improvement utilizing some form of formal survey process</td>
<td>4.</td>
<td>Annual meeting with staff &amp; residents to discuss program evaluations and create action item list</td>
</tr>
</tbody>
</table>
Developing Teaching And Facilitation Skills In Residents

23. Are there existing strategies to develop the leadership, facilitation and teaching skills of residents? Check all that apply.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-led grand rounds</td>
<td>Y / N</td>
</tr>
<tr>
<td>Student-led lectures/Presentations</td>
<td>Y / N</td>
</tr>
<tr>
<td>Chief residency model</td>
<td>Y / N</td>
</tr>
</tbody>
</table>

b.

<table>
<thead>
<tr>
<th></th>
<th>1. None</th>
<th>2. Grand rounds done by faculty only.</th>
<th>3. Grand rounds done by residents some of the time and/or no clear plan on how to manage patient.</th>
<th>4. Grand rounds facilitated by residents regularly with clear plan for patient management.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teaching in class room done mostly by faculty and not residents</td>
<td>Some presentations done by residents for teaching (as part of lectures)</td>
<td>Chief/senior residency model utilised as part of teaching of 1st year residents with clear plan for matching students</td>
<td>Regular presentations/teaching done by residents for teaching (as part of lectures)</td>
</tr>
</tbody>
</table>
References

1 ACGME "Accreditation Council for Graduate Medical Education; https://med.stanford.edu/gme/current_residents/corecomp.html


3 Formative vs Summative Assessment: Eberly Center, Carnegie Mellon University (cmu.edu)
Residency Program Assessment: Annexes
Annexes

A  The ACGME Milestones  20
B  Two Station Fundamental Wet Lab  52
C  Artificial Model Eye Product Guide  53
The ACGME Milestones

Adapted from the ACGME Milestones by the ACGME Milestones group.

The Milestones are designed only for use in evaluation of resident physicians in the context of their participation in ophthalmic residency training programs. The Milestones provide a framework for the assessment of the development of the resident physician in key dimensions of the elements of physician competency in a specialty or subspecialty. They neither represent the entirety of the dimensions of the six domains of physician competency, nor are they designed to be relevant in any other context.

This document presents milestones designed for programs to use in semi-annual review of resident performance. Milestones are knowledge, skills, attitudes, and other attributes organized in a developmental framework from less to more advanced. They are descriptors and targets for resident performance as the resident moves from entry into residency through graduation. These milestones were adapted from the ACGME Milestones used for residency training in the USA facilitated by the International Council of Ophthalmology and Orbis International. The original ACGME milestone language has been modified when necessary.

The Milestones are organized by the six ACGME Competencies in the following fashion:

1. Patient Care & Procedural Skills (PC)
   - PC-1 Patient interview
   - PC-2 Patient examination (8 sub-milestones)
   - PC-3 Diagnostic Procedures & Instruments (7 sub-milestones)
   - PC-4 Disease Diagnosis
   - PC-5 Nonsurgical therapy
   - PC-6 Minor Surgery (3 sub-milestones)
   - PC-7 OT Surgery (7 sub-milestones)
   - PC-8 Consultation
   - PC-9 Community Eye Health

2. Medical Knowledge (MK)
   - MK-1 Level appropriate knowledge
   - MK-2 Knowledge applied to patient care
   - MK-3 Equipment maintenance

3. Professionalism (Prof)
   - Prof-1 Compassion, integrity and respect
   - Prof-2 Responsiveness to patient needs
   - Prof-3 Respect for patient privacy
   - Prof-4 Accountability to patients, society and profession

4. Interpersonal & Communication Skills (ICS)
   - ICS-1 Communicate effectively with patients and families
   - ICS-2 Communicate effectively with physicians and health professionals
   - ICS-3 Work effectively as a member/leader of a healthcare team
   - ICS-4 Effectively present didactic and case-based material
5. **Practice Based Learning & Improvement (PBLI)**
   - PBLI-1 Self-directed learning
   - PBLI-2 Locate, appraise, and assimilate evidence from scientific studies
   - PBLI-3 Research Dissertation

6. **Systems Based Practice (SBP)**
   - SBP-1 Work effectively & coordinate care in health system
   - SBP-2 Incorporate Cost-effectiveness and IT to promote safe/effective care
   - SBP-3 Work in Inter-professional teams

Every six months, the level of milestones that best describes each resident's current performance level should be selected based on appropriate assessment methods. The suggested methods are listed after each milestone. Thus, a variety of assessment tools must be completed every 6 months. These include oral and/or written tests, multisource feedback (360-degree assessment), observed clinical evaluations (CRS, OCEX) and assessments of procedural and surgical skill (OSCAR). This reporting form should be reviewed with each resident individually to give feedback regarding their progress. Completion of the milestone document will show if there are specific weaknesses in individual residents and allow early detection and hopefully successful remediation.

Milestones are arranged into expectations based on year of training. Selection of a level implies that the resident substantially demonstrates the milestones in that year as well as those in earlier. (See Reporting Form diagram below.)

<table>
<thead>
<tr>
<th>Pre-residency:</th>
<th>The resident demonstrates milestones expected of someone entering ophthalmology residency.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1:</td>
<td>The resident is advancing and demonstrating year 1 milestones.</td>
</tr>
<tr>
<td>Year 2:</td>
<td>The resident continues to advance and is demonstrating additional milestones; the resident consistently demonstrates the majority of milestones targeted for residency.</td>
</tr>
<tr>
<td>Year 3-4:</td>
<td>The resident has advanced so that he or she now substantially demonstrates the milestones targeted for residency. This level is designed as the graduation target. Successfully graduating residents should be achieving this level in all areas.</td>
</tr>
<tr>
<td>Post-Residency:</td>
<td>The resident has advanced beyond performance targets set for residency and is demonstrating “aspirational” goals which might describe the performance of someone who has been in practice for several years. It is expected that only a few exceptional residents will reach this level.</td>
</tr>
</tbody>
</table>
The diagram below presents an example set of milestones for one sub-competency in the same format as the milestone report worksheet. For each reporting period, a resident's performance on the milestones for each sub-competency will be indicated by:

- selecting the level of milestones that best describes the resident's performance in relation to the milestones
- selecting the “Has not achieved pre-residency level” option

### PC-1 Patient Interview

<table>
<thead>
<tr>
<th></th>
<th>Pre-Residency</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAS NOT ACHIEVED PRE-RESIDENCY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Obtains and documents basic history for ophthalmic complaint</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1. Acquires accurate and relevant problem-focused history for common ocular complaints</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Obtains and integrates outside medical records</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1. Obtains relevant historical subtleties including pediatric milestones in children that inform and prioritize both differential diagnoses and diagnostic plans, including sensitive, complicated, and detailed information that may not often be volunteered by the patient</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1. Demonstrates role model interview techniques to obtain subtle and reliable information from the patient for junior members of the healthcare team, particularly for sensitive aspects of ocular conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Incorporates new information from literature to tailor interview questions</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Comments:

Selecting a response box in the middle of a year implies that milestones in that year and in lower years have been substantially demonstrated.

Selecting a response box on the line in between years indicates that milestones in lower years have been substantially demonstrated as well as some milestones in the higher years.
Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents must demonstrate competency in:

### PC-1 Patient Interview

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Obtains and documents basic history for ophthalmic complaint</td>
<td>1. Acquires accurate and relevant problem-focused history for common ocular complaints</td>
<td>1. Obtains relevant historical subtleties including pediatric milestones in children that inform and prioritize both differential diagnoses and diagnostic plans, including sensitive, complicated, and detailed information that may not often be volunteered by the patient</td>
<td>1. Demonstrates role model interview techniques to obtain subtle and reliable information from the patient for junior members of the healthcare team, particularly for sensitive aspects of ocular conditions</td>
<td>1. Incorporates new information from literature to tailor interview questions</td>
<td></td>
</tr>
</tbody>
</table>

**Assessment tools:** clinical rating scale – consultation skills, OCEX, Case Based Discussion (CbD)

### PC-2 Patient Examination

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describes components of complete ophthalmic examination</td>
<td>1. Performs and documents a complete ophthalmic examination targeted to a patient’s ocular complaints and medical condition</td>
<td>1. Performs problem-focused exam and document pertinent positive and negative findings</td>
<td>1. Identifies subtle or uncommon findings of common entities and typical or common findings of rarer entities</td>
<td>1. Incorporates into clinical practice new information about exam techniques</td>
<td></td>
</tr>
</tbody>
</table>

**Assessment tools:** clinical rating scale – consultation skills, OCEX, Case Based Discussion (CbD)
### PC-2A Vision Testing & Low Vision

<table>
<thead>
<tr>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check visual acuity (VA) in each eye with a near card and perform confrontation visual field testing</td>
<td>1. Accurately measure and document VA, routine refractive errors, and color and field deficits, including Amsler grid</td>
<td>1. Perform more difficult refractions; use retinoscopy to refine technique and diagnose</td>
<td>1. Perform complicated refractions, including post-operative; apply specialized visual tests (e.g., vertical prism test for non-organic visual loss)</td>
<td>1. Develop advanced techniques for measuring vision in unusual circumstances</td>
</tr>
<tr>
<td>2. Recognize when low vision services are needed</td>
<td>2. Ability to prescribe glasses and contact lenses appropriately</td>
<td>3. Describe types of low vision devices</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

### PC-2B External

<table>
<thead>
<tr>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe components of external exam</td>
<td>1. Detect obvious abnormalities (e.g., ptosis, exophthalmos); assess 5th and 7th cranial nerve function</td>
<td>1. Identify less obvious abnormalities (e.g., mild ptosis, lid retraction, globe dystopia)</td>
<td>1. Detect or verify most subtle abnormalities; confirm presence or absence of pertinent disease-specific findings (e.g., floppy lid, subtle retropulsion resistance)</td>
<td>1. Develop advanced techniques for assessing external exam findings in unusual circumstances</td>
</tr>
</tbody>
</table>

Comments:

### PC-2C Ocular Motility/Orthoptic Evaluation

<table>
<thead>
<tr>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe components of ocular motility exam; test versions and ductions</td>
<td>1. Accurately test and record ductions, versions, saccadic and pursuit movements; detect obvious ocular misalignment; identify nystagmus</td>
<td>1. Accurately measure alignment with prisms; detect less obvious misalignment; distinguish phoria and tropia, perform forced ductions</td>
<td>1. Detect or verify subtle motility abnormalities; classify common nystagmus patterns</td>
<td>1. Recognize and classify complex eye movement abnormalities at subspecialty level</td>
</tr>
</tbody>
</table>

Comments:
## PC-2D Pupils

<table>
<thead>
<tr>
<th></th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Describe</td>
<td></td>
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<tr>
<td>components of pupil</td>
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<td>testing, including test</td>
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<td>for relative afferent</td>
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<tr>
<td>pupillary defect (RAPD)</td>
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<tr>
<td><strong>1.</strong> Accurately grade</td>
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<tr>
<td>pupil size and reactivity; detect obvious asymmetry and RAPD</td>
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<tr>
<td><strong>1.</strong> Detect less</td>
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<tr>
<td>obvious abnormalities</td>
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<tr>
<td>(e.g., mild RAPD, efferent defect, sympathetic denervation); perform and interpret pharmacologic testing</td>
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<tr>
<td><strong>1.</strong> Detect or verify</td>
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<tr>
<td>subtle abnormalities</td>
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<tr>
<td>(e.g., light-near dissociation); search for associated neurologic findings; (e.g., lid or motility abnormalities)</td>
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<tr>
<td><strong>1.</strong> Accurately grade</td>
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<tr>
<td>pupil size and reactivity; detect obvious asymmetry and RAPD</td>
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<tr>
<td><strong>1.</strong> Describe</td>
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<tr>
<td>components of slit lamp</td>
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<tr>
<td>exam; identify corneal</td>
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<tr>
<td>abrasion</td>
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Comments:

## PC-2E Slit Lamp Biomicroscopy

<table>
<thead>
<tr>
<th></th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
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</thead>
<tbody>
<tr>
<td><strong>1.</strong> Describe</td>
<td></td>
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<tr>
<td>components of slit lamp</td>
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<tr>
<td>exam; identify corneal</td>
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<tr>
<td>abrasion</td>
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<tr>
<td><strong>1.</strong> Identify</td>
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<td>anterior segment</td>
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<td></td>
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<tr>
<td>structures; recognize</td>
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<tr>
<td>common corneal and</td>
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<tr>
<td>conjunctival abnormalities, iritis</td>
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<tr>
<td><strong>1.</strong> Grade</td>
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<tr>
<td>more questionable angles using compression and lens tilting; identify more subtle features</td>
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<tr>
<td>(e.g., neovascularization, recession, synchiae)</td>
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<tr>
<td><strong>1.</strong> Detect</td>
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<td>or verify subtle</td>
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<tr>
<td>abnormalities (e.g.,</td>
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<tr>
<td>corneal thinning); search for associated findings (e.g., orbital signs)</td>
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<tr>
<td><strong>1.</strong> Grade</td>
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<tr>
<td>more questionable angles using compression and lens tilting; identify more subtle features</td>
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<tr>
<td>(e.g., neovascularization, recession, synchiae)</td>
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</tbody>
</table>

Comments:

## PC-2F Gonioscopy

<table>
<thead>
<tr>
<th></th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Describe</td>
<td></td>
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</tr>
<tr>
<td>purpose of gonioscopy</td>
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<tr>
<td><strong>1.</strong> Describe</td>
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</tr>
<tr>
<td>principles and</td>
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<tr>
<td>indications, and</td>
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<tr>
<td>properly perform basic</td>
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<tr>
<td>techniques of gonioscopy</td>
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<tr>
<td><strong>2.</strong> Recognize</td>
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<tr>
<td>normal angle structure; identify angle closure</td>
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</tr>
<tr>
<td><strong>1.</strong> Grade</td>
<td></td>
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</tr>
<tr>
<td>more questionable angles using compression and lens tilting; identify more subtle features</td>
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</tr>
<tr>
<td>(e.g., neovascularization, recession, synchiae)</td>
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</tr>
<tr>
<td><strong>1.</strong> Perform</td>
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<tr>
<td>in technically difficult examinations; detect or verify subtle abnormalities (e.g., pigmentation, plateau iris)</td>
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</tbody>
</table>

Comments:
### PC-2G Tonometry

<table>
<thead>
<tr>
<th></th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong></td>
<td></td>
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</tr>
<tr>
<td>Describe applanation</td>
<td></td>
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<tr>
<td>technique of measuring</td>
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<td>intraocular pressure</td>
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<td><strong>1.</strong></td>
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<td>Accurately measure</td>
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<td>intraocular pressure</td>
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<td>in routine patients</td>
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<td>using applanation</td>
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<td><strong>1.</strong></td>
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<td>Combine or modify</td>
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<td>techniques in patients</td>
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<td>with abnormal corneas</td>
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<td>or limited cooperation</td>
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<td>(e.g., Tono-Pen,</td>
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<td>average Goldmann</td>
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<td>readings 90 degrees</td>
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<td>apart)</td>
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<td>Develop advanced</td>
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<td>techniques for</td>
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<td>measuring intraocular</td>
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**Comments:**

### PC-2H Ophthalmoscopy (Direct and Indirect)

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<td>Identify optic nerve</td>
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<td>using direct</td>
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<td>ophthalmoscopy</td>
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<td>Recognize normal</td>
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<td>optic nerve and</td>
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<td>retinal appearance;</td>
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<td>estimate cup:disc</td>
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<td>ration, detect</td>
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<td>obvious abnormalities</td>
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<td>(e.g., optic atrophy,</td>
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<td>papilledema, retinal</td>
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<td>detachment)</td>
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<td>Perform slit lamp</td>
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<td>indirect ophthalmoscy</td>
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<td>with the Hruby, +78,</td>
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<td>+90 lenses, 3-mirror</td>
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<td>contact lens, and</td>
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<td>trans-equator</td>
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<td>(pan-funduscopic)</td>
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<td>contact lens</td>
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<td>Detect less obvious</td>
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<td>abnormalities (e.g.,</td>
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<td>degeneration, large</td>
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<td>retinal tear)</td>
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<td>Perform indirect</td>
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<td>ophthalmoscopy and</td>
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<td>peripheral retinal</td>
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<td>examination</td>
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<td>Detect or verify subtle</td>
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<td>abnormalities and</td>
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<td>unusual presentations</td>
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<td>(e.g., mild maculopathy, shallow detachment, subtle tear); perform scleral depression</td>
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<td><strong>1.</strong></td>
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<td>Recognize and classify</td>
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<td>complex optic disc</td>
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<td>and retino-vitreous</td>
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<td>abnormalities at</td>
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<td>subspecialty level</td>
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**Comments:**
### ANNEX A

#### PC-3 Diagnostic Procedures & Instruments

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<tr>
<td></td>
<td>1. Describes role of office diagnostic procedures in diagnosis of ophthalmic disease</td>
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<tr>
<td></td>
<td>1. Selects and/or performs appropriate routine diagnostic tests and imaging procedures based on patient’s ocular complaints and medical condition</td>
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<tr>
<td></td>
<td>1. Interprets routine findings. Recognize indications for advanced diagnostic tests and imaging procedures</td>
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<td></td>
<td>1. Interprets unusual findings, identify artifacts. Employ routine and advanced diagnostic tests and imaging procedures according to evidence-based medicine</td>
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<td></td>
<td>1. Selects diagnostic procedures in a cost-effective manner</td>
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**Comments:**

**Assessment tools:** direct observation of procedural skills (DOPS), logbook, portfolio

#### PC-3A Perimetry

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<tbody>
<tr>
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<tr>
<td>1. Describe role of perimetric tests to quantify and categorize visual loss in damage of the visual pathway</td>
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<tr>
<td>1. Describe fundamentals of perimetry, including kinetic and static techniques; interpret perimetry in routine optic nerve and central nervous system (CNS) disorders</td>
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<tr>
<td>1. Interpret perimetry in more complex optic nerve disorders, including glaucoma, and CNS disorders, including homonymous and bitemporal defects</td>
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<tr>
<td>1. Interpret complex perimetric results, including change over time, using statistical algorithms; identify artifacts</td>
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<tr>
<td>1. Recognize and classify complex perimetric abnormalities at subspecialty level</td>
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**Comments:**

#### PC-3B Corneal Pachymetry and Topography

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<tr>
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<tr>
<td>1. Describe purpose of corneal pachymetry and topography</td>
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<tr>
<td>1. Describe indications for pachymetry and tomography; interpret basic abnormalities (e.g., irregular astigmatism, corneal thinning)</td>
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<tr>
<td>1. Perform and interpret corneal topographic and pachymetric measurements, and apply these to refraction, contact lens fitting, glaucoma management</td>
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<tr>
<td>1. Perform and interpret advanced corneal topographic and pachymetric measurements, and apply these to refractive surgery</td>
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<tr>
<td>1. Recognize and classify complex perimetric abnormalities at subspecialty level</td>
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**Comments:**

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**ORBIS RESIDENCY PROGRAM ASSESSMENT: ANNEXES** | **27**
### PC-3C Ultrasonography & Biometry

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<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe role of ultrasonography for diagnosis when ocular media not clear</td>
<td>1. Describe principles of, indications for, and techniques of ocular A- and B-scan ultrasonography</td>
<td>1. Perform A- and B-scan and interpret basic findings (e.g., retinal and choroidal detachment, axial length)</td>
<td>1. Utilize A-scan data to calculate intraocular lens (IOL) power; interpret complex A- and B-scan ultrasonography (e.g., choroidal melanoma)</td>
<td>1. Recognize and classify complex ultrasonographic abnormalities at subspecialty level</td>
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**Comments:**

### PC-3D Optic Coherence Tomography (OCT)/Confocal Laser Tomography (CLT)

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<th>Year 2</th>
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<th>Post-Residency</th>
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</thead>
<tbody>
<tr>
<td>1. Describe purpose of OCT and CLT</td>
<td>1. Describe principles of, indications for, and techniques of OCT and CLT in analyzing retina and optic disc</td>
<td>1. Interpret basic OCT and CLT findings (e.g., nerve fiber layer thinning, macular edema, optic disc excavation)</td>
<td>1. Interpret complex findings (e.g., epiretinal membranes); identify artifacts</td>
<td>1. Recognize and classify complex OCT and CLT abnormalities at subspecialty level</td>
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**Comments:**

### PC-3E Fluorescein Angiography

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<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
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</thead>
<tbody>
<tr>
<td>1. Describe role of fluorescein angiography in diagnosis of retinal and optic nerve disease</td>
<td>1. Describe principles of, indications for, and techniques of fluorescein angiography in analyzing the retina and optic disc (e.g., phases of the angiogram)</td>
<td>1. Interpret fluorescein angiography in less common retinal diseases</td>
<td>1. Interpret fluorescein angiography in complex retinal vascular and other diseases (e.g., occult and recurrent choroidal neovascular membranes)</td>
<td>1. Recognize and classify complex fluorescein angiographic abnormalities at subspecialty level</td>
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**Comments:**
### PC-3F Neuroimaging (CT and MRI)

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<th>YEAR 3-4</th>
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<tr>
<td>1. Describe basic principles of CT and magnetic resonance (MR) imaging</td>
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<tr>
<td>1. Describe indications for neuroimaging in ophthalmology; identify major MR sequences (e.g., T1, T2, FLAIR, fat suppression)</td>
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<tr>
<td>1. Recognize normal anatomy of orbits and parasellar regions</td>
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<tr>
<td>1. Identify major abnormalities (e.g., orbital and parasellar tumor, stroke, multiple sclerosis [MS] lesions)</td>
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<tr>
<td>1. Recognize and classify complex CT &amp; MRI abnormalities at subspecialty level</td>
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### PC-3G Ocular Lubrication Testing

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<tr>
<td>1. Describe role of office testing to identify dry eyes</td>
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<tr>
<td>1. Describe indications for and perform tests to identify dry eye syndrome and exposure keratopathy (e.g., assessment of tear film breakup time, corneal stain with fluorescein and rose bengal dyes, Schirmer test)</td>
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<td>1. Perform diagnostic temporary punctal occlusion</td>
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<td>1. Develop advanced techniques for quantifying ocular lubrication in unusual circumstances</td>
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Comments:
## PC-4 Disease Diagnosis

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<tbody>
<tr>
<td>1. Describes basic clinical features of common ophthalmologic disorders, e.g. red eye, glaucoma, cataract, diabetic retinopathy</td>
<td>1. Recalls and presents clinical facts of the history and basic eye exam without higher level of synthesis and generates at least one item of the differential diagnosis for common ophthalmologic disorders</td>
<td>1. Abstracts and reorganizes elicited clinical findings</td>
<td>1. Organizes clinical facts in a hierarchical level of importance. Identify discriminating features between similar patients. Incorporates most current literature findings in formulation of differential diagnosis</td>
<td>1. Continues to incorporate most current literature findings in formulation of differential diagnosis</td>
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<td>2. Prioritizes potential causes of patient complaint; compares and contrasts diagnoses under consideration, considers manifestations of systemic diseases</td>
<td>2. Generates focused differential and evaluation strategy to finalize diagnosis</td>
<td>3. Verifies diagnostic assessments of junior members of healthcare team</td>
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<td>3. Generates more focused differential diagnosis and organized final assessment</td>
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**Comments:**

**Assessment tools:** clinical rating scale – consultation skills, OCEX, Case Based Discussion (CbD), oral/written examination
# PC-5 Nonsurgical Therapy

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<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describes basic concepts of ophthalmic pharmacotherapy, e.g. most common topical diagnostic and therapeutic agents</td>
<td>1. Describes categories of medications (e.g. lubricant, antibiotic, anti-inflammatory, anesthetic); describes basic pharmacology of drug therapy and broad indications/contraindications for medical therapy of common ophthalmic conditions; describes routes of drug administration (e.g. topical, oral, periocular, and intravenous) and dosing regimens</td>
<td>1. Initiates therapy with medication for common ophthalmic diseases; monitor for adverse drug reactions and interactions</td>
<td>1. Manages and individualizes medical therapy for more complex ophthalmic conditions</td>
<td>1. Adopts new therapies based on CME and literature review, identifies gaps in care and process for improvement</td>
<td></td>
</tr>
<tr>
<td>2. Ability to manage medical emergencies (e.g. allergic reaction, cardio-respiratory failure, LOC)</td>
<td>2. Describes indications for oral and intravenous therapy; recognize possible racial, gender, and genomic differences in outcomes of medical therapy</td>
<td>3. Demonstrates ability to use electronic prescribing (where available); demonstrate competence in periocular injection</td>
<td>3. Manages complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Ability to use bandage contact lenses appropriately</td>
<td>4. Considers non-medical factors such as cost, convenience, ability to receive medication</td>
<td>5. Demonstrates competence in intravitreal injections</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Comments:

**Assessment tools:** clinical rating scale – consultation skills, OCEX, Case Based Discussion (CbD), oral/written exams, DOPS
# ANNEX A

## PC-6 Minor Surgery

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describes essential components of care related to non-OR surgery, e.g., informed consent, indications and contraindications for surgery, pertinent anatomy, anesthetic and operative technique, potential intra- and postoperative complications</td>
<td>For each procedure: 1. Lists indications and describe relevant anatomy and pathophysiology of disorder 2. Identifies findings that are indicators for the procedure and potential postop complications 3. Describes anesthetic &amp; surgical technique, mechanism of effect, and specific instruments required 4. Performs directed pre-op assessment; administers anesthesia and performs procedure with direct supervision; provides appropriate post-op care</td>
<td>1. Administers anesthesia and perform procedure with indirect supervision 2. Recognizes intra- and postoperative complications</td>
<td>1. Administers anesthesia and performs procedure with oversight supervision 2. Manages intra- and postoperative complications 3. Ability to interpret and act on results</td>
<td>1. Attains individual outcome &amp; process measures within 2 standard deviations of benchmark means</td>
<td></td>
</tr>
</tbody>
</table>

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Comments:

*Assessment tools: DOPS, OSAT*
### PC-6A Laser Procedures

<table>
<thead>
<tr>
<th>Pre-Residency</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Describe uses of laser in ophthalmology</td>
<td><strong>1.</strong> Identify mode of tissue interaction, therapeutic effect, side effects, complications, safety issues</td>
<td><strong>1.</strong> Perform glaucoma (e.g., iridotomy, trabeculoplasty) and retina (e.g., panretinal photocoagulation, laser retinopexy for isolated retinal breaks) procedures, Yag capsulotomy</td>
<td><strong>1.</strong> Perform more complicated retinal procedures (e.g., diabetic focal/grid macula, repeat panretinal photocoagulation laser retinopexy of large or multiple breaks)</td>
<td><strong>1.</strong> Perform laser procedures at subspecialty level</td>
</tr>
<tr>
<td><strong>2.</strong> Describe appropriate laser settings</td>
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<tr>
<td><strong>3.</strong> Use equipment effectively with correct contact lens, including peripheral retina, lens capsule</td>
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</tbody>
</table>

**Comments:**

### PC-6B Nasolacrimal Probing and Irrigation

<table>
<thead>
<tr>
<th>Pre-Residency</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Describe purpose of nasolacrimal probing and irrigation</td>
<td><strong>1.</strong> Perform basic lacrimal assessment (e.g., dye testing, punctal dilation, canalicular probing)</td>
<td><strong>1.</strong> Perform advanced lacrimal assessment (e.g., intra-and post-operative testing, canalicular probing in trauma)</td>
<td><strong>1.</strong> Perform nasolacrimal probing and irrigation in unusual circumstances at subspecialty level</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>1.</strong> Perform basic lacrimal procedures (e.g., lacrimal drainage testing, irrigation, dye disappearance test) and lacrimal intubation</td>
<td></td>
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</tbody>
</table>

**Comments:**

### PC-6C Chalazion Excision, Excision/Biopsy, Lid/Conjunctiva Lesion Tarsal plate rotation, Corneal Scrap

<table>
<thead>
<tr>
<th>Pre-Residency</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Demonstrates PC-6 Level 1 milestones for the procedures above with direct supervision</td>
<td><strong>1.</strong> Demonstrates PC-6 Level 2 milestones for the procedures above with direct supervision</td>
<td><strong>1.</strong> Demonstrates PC-6 Level 3 milestones for the procedures above with indirect supervision</td>
<td><strong>1.</strong> Demonstrates PC-6 Level 4 milestones for the procedures above with oversight supervision</td>
<td><strong>1.</strong> Demonstrates PC-6 Level 5 milestones for the procedures above with oversight supervision</td>
</tr>
</tbody>
</table>

**Comments:**
### PC-7 OT Surgery

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describes essential components of care related to OR surgery, e.g., informed consent, indications and contraindications for surgery, pertinent anatomy, anesthetic and operative technique, potential intra- and postoperative complications</td>
<td>For each procedure: 1. Lists indications for, procedure selection, describe relevant anatomy, instrumentation for procedures, including calibration and operation of the microscope, and necessary postoperative care 2. Identifies common intra-operative and post-operative complications and perform postoperative care managing common complications 3. Prepares and drapes for extraocular &amp; intraocular procedures (good aseptic technique) 4. Describes methods for regional and general anesthesia 5. Performs portions of selected procedures 6. Wet lab participation</td>
<td>1. Obtains informed consent and perform selected procedures 2. Identifies and manages less common intraoperative and postoperative complications 3. Completion of surgical wet lab curriculum, simulation if available, and assisting rotation 4. Prepares theater list considering patient needs (oversees all pre-operative planning)</td>
<td>1. Obtains informed consent and perform selected procedures 2. Identifies and manages uncommon intraoperative and postoperative complications</td>
<td>1. Attains individual outcome &amp; process measures within 2 standard deviations of benchmark means 2. Uses results of MOC to develop individual PI plan</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

**Assessment tools:** DOPS, OSATS, OSCARs, video review with rubric
### PC-7A Cataract Surgery

<table>
<thead>
<tr>
<th>PC-7A Cataract Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-RESIDENCY</td>
</tr>
<tr>
<td>1. Describe indications and technique of cataract surgery</td>
</tr>
</tbody>
</table>

### PC-7B Strabismus Surgery

<table>
<thead>
<tr>
<th>PC-7B Strabismus Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-RESIDENCY</td>
</tr>
<tr>
<td>1. Define strabismus and identify moderate or larger degrees of ocular misalignment</td>
</tr>
</tbody>
</table>

#### Comments:

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## PC-7C Cornea

<table>
<thead>
<tr>
<th>Pre-Residency</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe indications for and technique of cornea surgery</td>
<td>1. Describe concepts of corneal astigmatism/refractive error, stromal scarring, and endothelial function, and their surgical management</td>
<td>1. Obtains informed consent for common corneal surgeries</td>
<td>1. Perform limbal relaxing incisions or arcuate keratotomy as part of cataract surgery</td>
<td>1. Perform cornea surgery at subspecialty level</td>
</tr>
<tr>
<td>3. Describe techniques of corneal patch grafting, gluing, chelation of band keratopathy, conjunctival flaps, and amniotic membrane grafting</td>
<td>3. Describe techniques of corneal patch grafting, gluing, chelation of band keratopathy, conjunctival flaps, and amniotic membrane grafting</td>
<td>3. Recognize and initiate management of common post-operative complications (e.g., graft rejection)</td>
<td>3. Recognize and initiate management of common post-operative complications (e.g., graft rejection)</td>
<td>3. Perform pterygium surgery</td>
</tr>
</tbody>
</table>

Comments:

## PC-7D Glaucoma

<table>
<thead>
<tr>
<th>Pre-Residency</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-4</th>
<th>Post-Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe indications for and technique of glaucoma surgery</td>
<td>1. Describe indications for glaucoma surgery</td>
<td>1. Obtains informed consent for common glaucoma surgeries (e.g., trabeculectomy, tube shunt, ciliary body ablation)</td>
<td>1. Perform common glaucoma surgeries (e.g., trabeculectomy, tube shunt, ciliary body ablation)</td>
<td>1. Perform glaucoma surgery at subspecialty level</td>
</tr>
<tr>
<td>2. Describe basic steps and goals of glaucoma surgery</td>
<td>2. Describe basic steps and goals of glaucoma surgery</td>
<td>2. Assist on and perform selected portions of selected procedures</td>
<td>2. Perform post-operative care for uncomplicated glaucoma surgery patients</td>
<td>2. Perform post-operative care for uncomplicated glaucoma surgery patients</td>
</tr>
<tr>
<td>3. Identify common post-operative findings</td>
<td>3. Identify common post-operative findings</td>
<td>3. Identify common post-operative findings</td>
<td>3. Identify common post-operative findings</td>
<td>3. Identify common post-operative findings</td>
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Comments:
### PC-7E Oculoplastic/Orbit

<table>
<thead>
<tr>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe indications for and technique of oculoplastic/orbit surgery</td>
<td>1. Demonstrate basic lid and skin suturing techniques</td>
<td>1. Use functional symptoms and exam findings to generate a treatment plan for oculoplastic care</td>
<td>1. Demonstrate and incorporate knowledge of facial anatomy into treatment plan</td>
<td>1. Perform oculoplastic/orbit surgery at subspecialty level including exenteration</td>
</tr>
<tr>
<td>2. Close simple wounds not involving the eyelid margin</td>
<td>2. Assess facial and eyelid trauma (including imaging studies) to develop a treatment plan</td>
<td>2. Weigh alternative treatment options and describe risks and benefits of each</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Provide appropriate post-operative care for selected procedures</td>
<td>3. Obtains informed consent for oculoplastic procedures</td>
<td>3. Perform basic oculoplastics procedures (e.g., tarsal strip, blepharoplasty, ptosis repair, closure of complex wounds, canthotomy, cantholysis, enucleation)</td>
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</table>

**Comments:**

### PC-7F Retina-vitreous

<table>
<thead>
<tr>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Describe indications for and associated risks of intra-vitreal injections</td>
<td>2. Describe indications for, and techniques and complications of pars plana vitrectomy and sclera buckling surgery; assist on retinal surgery</td>
<td>2. Perform parts of a scleral buckling surgery and/or pars plana vitrectomy for retinal detachments</td>
<td></td>
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</tr>
<tr>
<td>3. Describe indications for, and techniques and complications of radiation therapy for ocular tumors (e.g., radioactive plaque localization, external beam radiation, radiation retinopathy)</td>
<td>3. Describe indications for, and techniques and complications of radiation therapy for ocular tumors (e.g., radioactive plaque localization, external beam radiation, radiation retinopathy)</td>
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</table>

**Comments:**
### PC-7G Globe Trauma

<table>
<thead>
<tr>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Describe indications for and technique of globe trauma surgery</td>
<td>1. Describe common setting for globe trauma and injury prevention</td>
<td>1. Obtains informed consent for ruptured globe repair</td>
<td>1. Perform globe trauma surgery at subspecialty level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Describe use of protective eye shield in potential globe rupture</td>
<td>2. Perform closure of corneal or scleral wounds</td>
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<tr>
<td></td>
<td></td>
<td>3. Perform examination under anesthesia for suspected globe rupture</td>
<td>3. Manage ruptured globes post-operatively, including complications</td>
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<tr>
<td></td>
<td></td>
<td>4. Prepare patient with suspected rupture for surgery</td>
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<td></td>
<td></td>
<td>5. Describe surgical steps to identify globe rupture</td>
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<td></td>
<td></td>
<td>6. Describe techniques and sutures for repair of ruptured globe</td>
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</table>

**Comments:**
## PC-8 Consultation

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describes the role of ophthalmology consultation in systemic disease</td>
<td>1. Provides specific, responsive ophthalmologic consultation to other medical specialties</td>
<td>1. Recognizes ophthalmic emergencies and immediate, necessary interventions</td>
<td>1. Identifies consultations requiring surgical intervention, including procedural options and timing</td>
<td>1. Provides ophthalmic subspecialty consultation when indicated</td>
<td></td>
</tr>
<tr>
<td>2. Recognizes urgent versus non-urgent ophthalmic consultation and seeks help when needed.</td>
<td>2. Provides appropriate differential diagnosis and initiate nonsurgical treatment plan</td>
<td>2. Interprets ancillary tests, formulate and initiate treatment plan independently</td>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Examines inpatient at bedside, including visual acuity and field, portable slit lamp exam (+ fluorescein stain), IOP measurement, ophthalmoscopy</td>
<td>3. Orders ancillary testing; request ophthalmic subspecialty involvement when indicated</td>
<td>3. Coordinates treatment plan with multiple specialties</td>
<td>3.</td>
<td></td>
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<tr>
<td>4. Communicates findings (written and oral) to consulting service</td>
<td>4. Maintains continuing communication with other involved medical specialists</td>
<td>4.</td>
<td>4.</td>
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</tr>
</tbody>
</table>

**Assessment tools:** clinical rating scale – consultation skills, OCEX, Case Based Discussion (CbD), oral/written exams
## PC-9 Community Eye Health: Screening, Eye Injuries, Immunizations, Health Promotion

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understand general principles of screening and immunization</td>
<td>1. Participate in community screening and refer when appropriate</td>
<td>1. Apply basic principles of the public health aspect of eye care.</td>
<td>1.</td>
<td>1. Organize/conduct new screening programs and surveys</td>
<td></td>
</tr>
<tr>
<td>2. Describe local eye-care screening and management programs</td>
<td>2. Educate community about relevant diseases including eye injuries, immunizations and vitamin deficiencies</td>
<td>2.</td>
<td>2. Advocate for occupational eye safety plans</td>
<td>2.</td>
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</tr>
<tr>
<td>3. Understand global initiatives that effect eye care (e.g. Vision 2020)</td>
<td>3. Understand how to assess burden of eye disease and define context specific strategies for control</td>
<td>3.</td>
<td>3. Develop eye-care health promotion action plan</td>
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Comments:

**Assessment tools:** written or oral tests, faculty evaluation
Residents must demonstrate knowledge of established and evolving basic science, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents must demonstrate level-appropriate knowledge in the following core domains: anatomy, physiology, biochemistry, molecular and cell biology, genetics, General Medicine; Fundamentals & Principles of Ophthalmology; Optics & Refraction; Ophthalmic Pathology & Intraocular Tumors; Neuro-Ophthalmology; Pediatric Ophthalmology & Strabismus; Orbit, Eyelids, & Lacrimal System; Cornea, External Disease, & Anterior Segment Trauma; Lens & Cataract; Refractive Management & Intervention; Intraocular Inflammation & Uveitis; Glaucoma; Retina/Vitreous.

### MK-1 Demonstrate level-appropriate knowledge

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Has successfully completed internship after basic medical degree graduation</td>
<td>1. Successfully passes exams of medical knowledge as required to progress through program</td>
<td>1. Successfully passes exams of medical knowledge as required to progress through program</td>
<td>1. Successfully passes exams of medical knowledge as required to progress through program</td>
<td>1. Achieves ACGME Fellowship certification</td>
</tr>
</tbody>
</table>

**Assessment tools:** Viva, written exams (semester/annual), ICO Exams, ACGME Fellowship exam

### MK-2 Demonstrate level-appropriate knowledge applied to patient management

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
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<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Demonstrates level-appropriate knowledge for patient management on ophthalmology rotation</td>
<td>1. Demonstrates level-appropriate knowledge for patient management for level</td>
<td>1. Demonstrates level-appropriate knowledge for patient management for level</td>
<td>1. Demonstrates level-appropriate knowledge for patient management for level</td>
<td>1. Participates in CPD according to country requirements</td>
</tr>
</tbody>
</table>

**Assessment tools:** faculty evaluation, written/oral test
### MK-3 Equipment Maintenance

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Appreciate cost and delicate nature of ophthalmic equipment</td>
<td>1. Able to describe parts and function of diagnostic equipment/lenses and their basic maintenance</td>
<td>1. Level appropriate use and maintenance of diagnostic equipment/lenses</td>
<td>1. Able to describe and teach proper diagnostic equipment use and maintenance</td>
<td>1. Works within the system to obtain most cost-efficient equipment</td>
<td></td>
</tr>
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</table>

Comments: [Blank]

**Assessment tools:** faculty evaluation, written/oral test

### Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

<table>
<thead>
<tr>
<th>PROFI-1: Compassion, integrity, respect for others; sensitivity and responsiveness to diverse patient populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAS NOT ACHIEVED PRE-RESIDENCY</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>1. Recognizes and never participates in: verbal or physical abuse to patients, peers, staff, or supervisors; sexual harassment</td>
</tr>
<tr>
<td>3. Exhibits these attitudes consistently in common and uncomplicated situations</td>
</tr>
<tr>
<td>4. Usually recognizes cultural and socioeconomic issues in patient care</td>
</tr>
</tbody>
</table>

Comments: [Blank]

**Assessment tools:** 360 degree/multisource feedback, OSCE
### PROF 2: Responsiveness to patient needs that supersedes self-interest

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
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<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Recognizes and never participates in: refusal to perform assigned tasks, answer pages or calls; avoidance of scheduled call duty</td>
<td>1. Almost always completes patient care tasks promptly and completely; punctual; appropriately groomed</td>
<td>1. Consistently completes patient care tasks promptly and completely; punctual; appropriately groomed</td>
<td>1. Monitors fatigue, sleep deprivation and personal health in junior members of health care team</td>
<td>1. Role models behavior demonstrating compassion and respect for others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Manages fatigue, sleep deprivation and personal health issues.</td>
<td>2. Manages personal beliefs and values to avoid negative impact on patient care</td>
<td>2. Mentors junior members of the healthcare team to manage barriers to effective patient care</td>
<td>2. Develops organizational policies and education to support the application of these principles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Identifies impact of personal beliefs and values on practice of medicine</td>
<td></td>
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</table>

**Comments:**

**Assessment tools:** 360 degree/multisource feedback, OSCE

### PROF-3: Respect for patient privacy and autonomy

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Conforms to national patient rights regulations</td>
<td>1. Almost always: recognizes and implements required procedures for patient involvement in human research; informs patients of rights; involve patients in medical decision-making</td>
<td>1. Consistently recognizes and implements required procedures for patient involvement in human research; informs patients of rights; involves patients in medical decision-making</td>
<td>1. Role models behavior regarding protection of patient privacy</td>
<td>1. Role models behavior demonstrating compassion and respect for others</td>
</tr>
<tr>
<td></td>
<td>2. Recognizes and never participates in: - unauthorized examination of patient records - disclosure of protected health information to unauthorized personnel</td>
<td>2. Mentors junior members of the healthcare team regarding protection of patient privacy</td>
<td>2. Mentors junior members of the healthcare team regarding protection of patient privacy</td>
<td>2. Mentors residents involved in administration of research projects involving humans</td>
<td>2. Mentors residents involved in administration of research projects involving humans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Mentors junior members of the healthcare team regarding protection of patient privacy</td>
<td></td>
<td>3. Develops organizational policies and education to support the application of these principles</td>
<td>3. Develops organizational policies and education to support the application of these principles</td>
</tr>
</tbody>
</table>

**Comments:**

**Assessment tools:** 360 degree/multisource
## PROF-4: Accountability to patients, society and the profession

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recognizes and never participates in: deception regarding level of training and experience, medical errors; demeaning other practitioners</td>
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<tr>
<td>2. Recognizes and never participates in: plagiarism, falsification of records, misrepresentation of training, unexplained absences</td>
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<tr>
<td>3. Adheres to national legal requirements for medical practice</td>
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<tr>
<td>4. Aware of local guidelines and legislature impacting eye care (e.g. use of human tissue, childcare protection)</td>
<td></td>
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</tr>
<tr>
<td>1. Usually recognizes simple conflict of interest scenarios</td>
<td>1. Almost always recognizes and takes appropriate steps to manage simple conflict of interest scenarios</td>
<td>1. Consistently recognizes and takes appropriate steps to manage more complex conflict of interest scenarios</td>
<td>1. Assumes leadership and mentoring role in management of more complex conflict of interest scenarios</td>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>4. Always identifies self to patients as resident</td>
<td>4. Almost always recognizes limitations and request help or refer patients when appropriate</td>
<td>4. Knows specific ophthalmic conditions requiring use of human tissue</td>
<td>4.</td>
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</table>

**Assessment tools:** 360 degree/multisource, oral/written exam, portfolio
Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:

### ICS-1: Communicate effectively with patients and families with diverse socioeconomic and cultural backgrounds

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Develops positive relationship with patients in uncomplicated situations based on mutual trust; demonstrate empathy.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>Identifies special communication needs of vulnerable populations.</td>
<td></td>
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<tr>
<td>3.</td>
<td>Counsels patients compassionately at appropriate level for comprehension regarding disease: causes &amp; mechanisms; risk factors; prognosis; management options; risks &amp; benefits.</td>
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</tr>
<tr>
<td>4.</td>
<td>Engages patient in shared decision-making, based on the patient’s understanding and ability to carry out the proposed plan.</td>
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<tr>
<td>5.</td>
<td>Negotiates and manages simple patient/family-related conflicts.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6.</td>
<td>Develops working relationships in complex situations across specialties and systems of care.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>Effectively communicates with vulnerable populations, both patients at risk and their families, orally and in writing.</td>
<td></td>
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</tr>
<tr>
<td>8.</td>
<td>Actively seeks information from multiple sources, including consultations.</td>
<td></td>
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</tr>
<tr>
<td>9.</td>
<td>Organizes family/patient/team member conferences and facilitate/lead them.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10.</td>
<td>Counsels patients regarding emotionally difficult information such as blindness; use appropriate technique for “breaking bad news”.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Sustains working relationships during complex and challenging situations including transitions of care and breaking bad news.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>13.</td>
<td>Coordinates care for vulnerable populations across health care and social/governmental systems using both oral and written communication.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14.</td>
<td>Demonstrates effective integration of all available sources of information when gathering patient-related data.</td>
<td></td>
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</tr>
<tr>
<td>15.</td>
<td>Counsels patients regarding potential short- and long-term impact of complex, higher risk disease and intervention; address special needs; direct to resources.</td>
<td></td>
<td></td>
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<tr>
<td>17.</td>
<td>Sustains relationships across systems of care and with patients during long-term follow-up.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>18.</td>
<td>Advocates for vulnerable populations to improve care provided through healthcare, social/ community and governmental systems.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>19.</td>
<td>Counsels patients regarding unusual or experimental therapies, including clinical trial participation when indicated.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20.</td>
<td>Mentors junior members of the health care team to improve communication skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Assessment tools:** 360 degree/msf, OCEX, OSCE, chart review
# ANNEX A

## ICS-2: Communicate effectively with physicians, other health professionals, and health related agencies

1. Comprehensive, timely & legible medical records  
2. Consultation requests  
3. Care transition (Patient hand-over)  
4. Conflict management (workplace)

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Produces comprehensive, timely, and legible non-ophthalmic medical records</td>
<td>1. Produces comprehensive, timely, and legible ophthalmic medical records</td>
<td>1. Maintains face-to-face patient communication while using EMR</td>
<td>1. Effectively and ethically uses all forms of communication including face-to-face, telephone, electronic, and social media.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Describes effects of computer use on accuracy of information gathering and recording, and potential disruption of the physician patient relationship</td>
<td>2. Ensures that the written record (e.g. EMR, PHR/patient portal, hand-offs, discharge summaries) are accurate and complete, with attention to preventing confusion and error.</td>
<td>2. Recognizes need, identifies and requests appropriate consultant</td>
<td>2. Coordinates multiple consultants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Describes effect of poor communication on the risk of medical error.</td>
<td>3. Recognizes need for consultation; requests appropriate consultant with assistance</td>
<td>3. Performs more complex subspecialty care transitions; ensures accurate documentation and face-to-face communication where needed</td>
<td>3. Manages complex multisystem care transitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Describes importance and procedure for request of consultation.</td>
<td>4. Performs appropriate basic ophthalmology care transition</td>
<td>4. Manages conflicts within peer group</td>
<td>4. Manages conflicts with superiors and payers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Lists steps for appropriate care transition</td>
<td>5. Manages conflicts within peer group</td>
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<tr>
<td>6. Manages one-on-one conflicts</td>
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</tbody>
</table>

**Comments:**

**Assessment tools:** 360 degree/msf, OCEX, OSCE, chart review
## ICS-3: Work effectively as a member or leader of a healthcare team or other professional group

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
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</tr>
<tr>
<td></td>
<td>1. Defines team purpose</td>
<td>1. Describes role and responsibility of each team member</td>
<td>1. Implements team activities as directed by team leader</td>
<td>1. Selects, evaluates, provides feedback, and remediates team members</td>
<td>1. Develops institutional and organizational strategies to improve team functions, trains physicians and educators</td>
</tr>
<tr>
<td></td>
<td>2. Prepares for team role and fulfill assignments</td>
<td>2. Identifies individual vs. group collaborative roles</td>
<td>2. Selects, evaluates, provides feedback, and remediates team members</td>
<td>3. Identifies team goals</td>
<td>4. Designs and implements plan for team improvement</td>
</tr>
<tr>
<td></td>
<td>3. Follows institutional policies</td>
<td>3. Preps for team role and fulfill assignments</td>
<td>4. Provides team assignments to achieve team goals</td>
<td>4. Designs and implements plan for team improvement</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

**Assessment tools:** 360 degree/msf, portfolio

## ICS-4: Effectively present didactic & case-based educational material to physicians & other healthcare professionals

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
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</tr>
<tr>
<td></td>
<td>1. Organizes clear and accurate non-ophthalmic case presentation with level-appropriate diagnostic and management recommendations</td>
<td>1. Organizes case presentation for basic ophthalmic conditions, with diagnostic and management recommendations</td>
<td>1. Organizes case presentation for more complex ophthalmic conditions, with diagnostic and management recommendations</td>
<td>1. Schedules, organizes, and implements case-based and didactic conference program</td>
<td>1. Provides leadership for conference implementation</td>
</tr>
</tbody>
</table>

Comments:

**Assessment tools:** 360 degree/msf, portfolio, faculty evaluation
Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Residents are expected to develop skills and habits to be able to meet the following goals:

### PBLI-1: Self-Directed Learning

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identifies gaps in personal knowledge and expertise</td>
<td>1. Assesses performance by self-reflection and review of feedback and evaluations</td>
<td>1. Develops learning plan independently with supervision, with accurate assessment of competence and areas for continued improvement</td>
<td>1. Utilizes self-directed learning with little external guidance</td>
<td>1. Maintains knowledge and regular review of best evidence supporting common practices and acknowledges strengths and deficiencies</td>
<td>1. Participates in CPD requirements 48 months</td>
</tr>
<tr>
<td>2. Demonstrates computer literacy and basic computer skills in clinical practice</td>
<td>2. Develops a learning plan, based on feedback, with supervision</td>
<td>2. Utilizes appropriate evidence-based information tools to answer specific questions while providing care</td>
<td>2. Consistently uses evidence-based information tools to answer specific questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Utilizes review articles or practice guidelines to answer specific questions in clinical practice</td>
<td>3. Utilizes review articles or practice guidelines to answer specific questions in clinical practice</td>
<td>3. Utilizes system or process for keeping up with relevant changes in medicine</td>
<td>3. Utilizes system or process for keeping up with relevant changes in medicine</td>
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</table>

**Comments:**

**Assessment tools:** portfolio, faculty evaluation
# PBLI-2: Locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems

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<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
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</tbody>
</table>

1. Describes basic concepts in clinical epidemiology, biostatistics, and clinical reasoning
2. Categorizes study design of a research study

1. Ranks study designs by validity, generalizability to larger populations, and identifies critical threats to study validity
2. Distinguishes relevant research outcomes from other types of evidence
3. Formulates a searchable question from a clinical question and use IT to investigate it
4. Participates in clinical audit

1. Applies a set of critical appraisal criteria to different types of research, including synopses of original research findings, systematic reviews and meta-analyses, and clinical practice guidelines
2. Critically evaluates information from others: colleagues, experts, pharmaceutical representatives, and patient-delivered information
3. Conduct & interpret clinical audit

1. Demonstrates a clinical practice that incorporates principles and basic practices of evidence-based practice and information mastery
2. Conduct, interpret and manage junior residents in clinical audit

1. Independently teaches and assesses evidence-based medicine and information mastery techniques
2. Cites evidence supporting several commonly used techniques in own practice

## Comments:

Assessment tools: faculty evaluation, portfolio

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# PBLI-3: Research Dissertation (if required)

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<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
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</table>

1. Be aware that a dissertation is required
2. Identify dissertation topic

1. Learn about research methods
2. Complete dissertation proposal
deadline set by program
3. Data collection has started

1. Completed Data collection
2. Completed & submitted dissertation
3. Published at least 1 article
4. Continue publishing

## Comments:

Assessment tools: supervisor review, dissertation grade
Annex A

Systems-Based Practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

**SBP-1: Work effectively and coordinate patient care in various health care delivery systems**

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Describes basic levels of systems of care (self-management to societal)</td>
<td>1. Describes systems of care within residency training program</td>
<td>1. Identifies impediments to safe and efficient referrals within and between systems</td>
<td>1. Proposes solutions to impediments to safe and efficient transitions of care within and between systems</td>
<td>1. Leads systems change at micro and macro level</td>
</tr>
<tr>
<td></td>
<td>2. Lists potential impediments to safe and efficient handovers of care within and between systems</td>
<td>2. Manages routine handovers safely</td>
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</tbody>
</table>

Comments:

**Assessment tools:** faculty evaluation, 360 degree/msf
### SPB-2: Incorporate cost-effectiveness, risk/benefit analysis, and IT to promote safe and effective patient care

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Explains the role of the Electronic Health Record (EHR) in prevention of medical errors</td>
<td>2. Aware of cost options for most frequently ordered tests and medications</td>
<td>2. Applies risk-benefit analyses in ophthalmic care</td>
<td>2. Recommends systems re-design for faulty computerized processes</td>
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</tr>
<tr>
<td></td>
<td>3. Utilizes where available the Electronic Health Record (EHR) to order tests and medications, document notes;</td>
<td>3. Utilizes where available the Electronic Health Record (EHR) to order tests and medications, document notes;</td>
<td>3. Contributes to reduction of risks of automation and computerized systems by reporting system problems</td>
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<tr>
<td></td>
<td>4. Demonstrate medication reconciliation for patients</td>
<td>4. Demonstrate medication reconciliation for patients</td>
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<tr>
<td></td>
<td>5. Uses information systems for patient care</td>
<td>5. Uses information systems for patient care</td>
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</table>

Comments:

**Assessment tools:** faculty evaluation

### SPB-3: Work in inter-professional teams to enhance patient safety, identify system errors and implement solutions

<table>
<thead>
<tr>
<th>HAS NOT ACHIEVED PRE-RESIDENCY</th>
<th>PRE-RESIDENCY</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3-4</th>
<th>POST-RESIDENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Describes epidemiology of medical errors and differences between medical errors, near misses, and sentinel events</td>
<td>1. Reports problematic processes including errors and near misses to supervisor</td>
<td>1. Analyzes causes of adverse events through root cause analysis (RCA)</td>
<td>1. Develops content for and facilitate patient safety M&amp;M presentation or conference focusing on systems-based errors in patient care</td>
<td>1. Designs checklists for use in healthcare</td>
</tr>
<tr>
<td></td>
<td>2. Describes role of teamwork and communication failure in healthcare as a leading cause of preventable patient harm</td>
<td>2. Describes use of checklists and briefings to prevent adverse events in healthcare</td>
<td>2. Applies checklist-guided briefings in healthcare activities</td>
<td>2. Analyzes shared team experience (e.g. procedure) with debriefing to solve problems</td>
<td>2. Creates curriculum to teach teamwork and communication skills to healthcare professionals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Can function as the leader of the team when called upon</td>
<td>3. Can function as the leader of the team when called upon</td>
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</tbody>
</table>

Comments:

**Assessment tools:** faculty evaluation
## Two Station Fundamental Wet Lab

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wet lab microscopes with side scope and monitor</td>
<td>2</td>
<td>Low cost models available (Scanoptics, Zeiss stemi, MAPPASAMY)</td>
</tr>
<tr>
<td>2. Surgical Instrument Sets (Cataract)</td>
<td>2</td>
<td>One per station</td>
</tr>
<tr>
<td>3. Surgical Instrument Sets (Glaucoma)</td>
<td>2</td>
<td>One per station</td>
</tr>
<tr>
<td>4. Room</td>
<td>1</td>
<td>Spacious and easily accessible. Sink and draining board: for washing up instruments</td>
</tr>
<tr>
<td>5. Small fridge</td>
<td>1</td>
<td>For storage of animal eyes and fruit for practice</td>
</tr>
<tr>
<td>6. Small microwave</td>
<td>1</td>
<td>To manipulate animal eyes</td>
</tr>
<tr>
<td>7. Table</td>
<td>2</td>
<td>Or could be one long table, depending on room layout</td>
</tr>
<tr>
<td>8. Chairs</td>
<td>2</td>
<td>Height adjustable if possible</td>
</tr>
<tr>
<td>9. Storage Cupboard</td>
<td>1</td>
<td>For medical supplies, preferable lockable</td>
</tr>
<tr>
<td>10. Artificial/Biologic eye holders/blocks</td>
<td>1</td>
<td>To position the eye under the microscope</td>
</tr>
<tr>
<td>11. Surge protection</td>
<td></td>
<td>As needed</td>
</tr>
<tr>
<td>12. Internet enabled</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>13. Recording capabilities</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>14. Dedicated computer</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15. Optional: Phaco Machine</td>
<td>1</td>
<td>If the wet lab will also teach phaco. Advantage of having a phaco that is capable of anterior vitrectomy is that you can also train on intraoperative complications (like vitreous loss)</td>
</tr>
<tr>
<td>16. Optional: Kitaro Kit and supplies</td>
<td>2</td>
<td>If the wet lab will also teach phaco. Advantage of having a kitaro kit is that it’s good for training CCC and cheaper than using Philipps eyes</td>
</tr>
</tbody>
</table>
# Artificial Model Eye Product Guide

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Artificial Eyes Preferred Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phaco</td>
<td>Kitaro (CCC), Phillips Eye</td>
</tr>
<tr>
<td>MSICS</td>
<td>Phillips Eye</td>
</tr>
<tr>
<td>Valve</td>
<td>Phillips Eye</td>
</tr>
<tr>
<td>Trabeculectomy</td>
<td>Phillips Eye</td>
</tr>
<tr>
<td>MIGS</td>
<td>Simuleye (for KDB)</td>
</tr>
<tr>
<td>Strabismus</td>
<td>Phillips Eye, Bioniko (for Pterygium only)</td>
</tr>
<tr>
<td>Indirect Ophthalmoscopy</td>
<td>Bioniko (Retinopexia, Posterior Model)</td>
</tr>
</tbody>
</table>

**Evaluation/Notes (Those marked in red represent the preferred model):**

<table>
<thead>
<tr>
<th>Kitaro</th>
<th>CCC: The feeling of the rhexis material resembles the real one the most. It is easy to switch from rhexis to a new rhexis. It can recreate white cataracts.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phillips Eye</td>
<td>Hard cataract model (halves without colored iris) for phaco. In the price or Advanced model. The cataract material resembles the real one the most; best one for divide and conquer.</td>
</tr>
<tr>
<td>Bioniko</td>
<td>Rhexis 2: It has too much memory, doesn’t fold on itself, breaks easily, and stains with trypan blue. Phaco model: Nucleus looks realistic, but the material is too soft to practice divide and conquer. Empty bag model: I don’t see any use for it. Kerato: It is excellent to practice corneal sutures, but you can’t bury the knots. (Used Phillips eyes corneas could be reused)</td>
</tr>
<tr>
<td>Simuleye</td>
<td>It is good for placing the hooks (cornea too stiff) but the iris material has too much memory, therefore they don’t stay in place. It is excellent to practice iris sutures and Malyugin ring insertion (depends on price, but the Phillips models with a color iris can be reused). Vitreous: It is an excellent model, has a very similar feeling to the vitreous (depends on price, but the Phillips advance cataract models can be filled with egg white).</td>
</tr>
</tbody>
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<tr>
<th>OJOs oph</th>
<th>If you only use the external material as the sclera, the feeling is fine. Color choices are bad (an apple could be used for this instead).</th>
</tr>
</thead>
</table>

| MIGS                       | Visualization 7/10, only one sector has trabeculum, and feeling of it is 7/10. |
| Strabismus                 | It is difficult to find the trabeculum since you can only enter the eye in a certain sector, and only one sector has trabeculum; therefore, it is a one-use only. Trabeculum feeling with Kahook dual blade is 5/10. The models have obliques. The feeling of the muscles resembles the real ones the most. Color choices are accurate. |
| Retinopexia, Posterior Model | It is excellent to practice visualization; laser doesn’t leave marks behind. One could test membrane peel. |

| For KDB                    | The visualization is excellent; trabeculum is 360°; therefore it can be reused. The procedure feeling is 9/10. |

| Will Mack                  | The head looks amazing, but the conjunctiva and muscles break easily. |

| Indirect Ophthalmoscopy    | The feeling of the tunnel resembles the real one the most. Careful with the point unites the sclera and cornea where most times a buttonhole appears. It is hard to take the nucleus out; most times a fish hook is needed. |

| Indirect Ophthalmoscopy    | The feeling of the retina is very good for suturing; however, it is almost impossible to create a scleral tunnel; therefore only good to teach tutoplast or scleral patch. |

| Indirect Ophthalmoscopy    | It is difficult to find the trabeculum since you can only enter the eye in a certain sector, and only one sector has trabeculum; therefore, it is a one-use only. Trabeculum feeling with Kahook dual blade is 5/10. The models have obliques. The feeling of the muscles resembles the real ones the most. Color choices are accurate. |
90% of this vision loss is avoidable of the world’s visually impaired live in low and middle-income countries.