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What is Board Certification

from American Board of Ophthalmology

02:24

Since 1916, more than 30,000 ophthalmologists have challenged themselves to meet the rigorous certification standards established by The American Board of Ophthalmology. The first medical specialty board founded in the United States, the American Board of Ophthalmology awards the only medical specialty certificate in ophthalmology recognized by both the American Board of Medical Specialties (ABMS) and the American Medical Association (AMA).

Certification is granted to ophthalmologists who meet a series of accredited medical training requirements in ophthalmology, sign a practice pledge indicating their intent to practice with compassion, integrity, and respect for human dignity, and complete an intensive evaluation process which includes two examinations: a Written Qualifying Examination (WQE) and an Oral Examination.

Physicians who meet all of the requirements for initial certification become diplomates of the Board and earn a certificate valid for a period of 10 years. Since the early 1990s, all Diplomates have been required to actively maintain their certificate through a lifelong learning and practice improvement process currently known as Maintenance of Certification in order to renew their certificate.

Our Office
American Board of Ophthalmology
PO Box 1887
Doylestown, PA 18901

610-664-1175

Requirements for Certification

Application Criteria

To officially become a candidate for board certification, applicants must meet all of the requirements outlined in the three categories below. The ABO's Board Eligibility Policy provides approved applicants with up to seven years from completion of residency training to successfully complete the board certification process.

I. Appropriate Medical Education & Ophthalmic Training

Medical School

A degree from an accredited allopathic or osteopathic medical school in the United States or Canada is required. Applicants who are graduates of International Medical Schools are required to have a certificate from the Educational Commission for Foreign Medical Graduates (ECFMG).

Internship

Prior to the start of residency training, applicants must have completed a post-graduate clinical year (PGY-1) in an accredited program in the United States or Canada. During the PGY-1 year, the applicant must have had primary responsibility for patient care in the fields of emergency medicine, family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, or surgery. For programs in the United States using an integrated or joint preliminary year/ophthalmology format, the PGY-1 year must comprise nine months of broad experience in direct patient care in diverse settings along with three months of experience in ophthalmology.

Accredited Residency Training

In addition to a PGY-1 year, applicants must satisfactorily complete an Accreditation Council for Graduate Medical Education (ACGME)-approved ophthalmology residency training program of at least 36 months duration (PGY-4 or higher) or, if in Canada, at least 48 months duration (PGY-5 or higher) and accredited by the Royal College of Physicians and Surgeons of Canada.

Leaves of absence for vacation, medical issues, parental leave, or other personal reasons are essential for resident well-being and may be granted at the discretion of the institution's department chair and/or residency program director. Residency training in ophthalmology traditionally comprises 48 months following graduation from medical school, including a 12-month internship and at least 36 months of ACGME-accredited ophthalmology training. The ABO requires that a satisfactory rating be confirmed by the residency program for every candidate in each of the ACGME competencies. Depending on the length of absence or the inability to accomplish residency educational goals during the traditional period, the required time for graduate medical education may be extended accordingly. Residency program leadership and the institutional graduate medical education offices, not the ABO, determine the need for any extension of residency training and the ultimate completion date for each resident.

The ABO also recognizes that many licensed, qualified ophthalmologists who practice in the United States were trained elsewhere and has developed a certification pathway for internationally trained ophthalmologists (ITOs).

Verification of Training Documentation

Interim Evaluation Form for transferring residents: When a resident's training has been gained in more than one residency program, an Interim Evaluation must be completed by the first program. The first program may not be able to verify all competencies. It is the responsibility of the second program to obtain the Interim Evaluation from the first program. The second program, in its Satisfactory Completion document, must evaluate all competencies, taking into account any deficiencies noted in the Interim Evaluation by the preceding program(s). Click here to download the Interim Evaluation form.

Satisfactory Completion of Residency Training documentation: Upon application for certification, the ABO verifies satisfactory completion of all training requirements. Only applicants who have completed their PGY-1 and entire ophthalmology training program, PGY-4 (for US Programs) or PGY-5 (for Canadian Programs) or higher by

the registration deadline may sit for the written examination.

Verification of Training form: Programs submit this documentation directly to the ABO on behalf of each applicant. If a program is disapproved or withdrawn during the course of a resident's training, he/she must complete the remaining required number of months of training in another accredited program.

II. Valid, Unrestricted Medical License

Applicants must hold a valid and unrestricted license(s) to practice medicine in the United States, its territories or Canadian province in which the applicant's practice of medicine is regularly conducted and in each other place in which the person practices or has practiced medicine and has an unexpired license. Applicants must notify the Board of any action taken by a state medical licensing board within 60 days of such action.

III. Signing the Practice Pledge

Applicants must agree to a pledge upon application stating their commitment to provide ophthalmic services with compassion, respect for human dignity, and integrity.

Examination Requirements

Candidates for board certification embark on a two-step certification process. This process requires demonstrating a sufficient level of knowledge on both a written examination and an oral examination. Candidates who register for the first available examination and pass each one on the first attempt can obtain board certification in as little as nine months after residency graduation; however, the ABO's Board Eligibility Policy provides candidates with up to seven years to complete board certification under the status of "Board Eligible."

Step 1: September Written Qualifying Examination

Candidates begin the certification process by completing a 250-multiple-choice-question examination known as the Written Qualifying Examination (WQE). This examination is administered at computer-based testing centers around the country on one day each year. Passing the written examination allows a candidate to progress to the Oral Examination, which tests clinical abilities.

Step 2: March Oral Examination

Candidates who pass the WQE are invited to take the Oral Examination. Given once each year in the spring, the Oral Examination is a unique face-to-face examination where candidates are asked to apply their ophthalmic knowledge and training by explaining how they would care for patients in various clinical scenarios. Upon passing the Oral Examination, candidates officially become diplomates of the ABO and receive a 10-year, time-limited certificate.

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Written Qualifying Examination

The Written Qualifying Examination (WQE) is a 250 multiple-choice question examination designed to evaluate the breadth and depth of the basic science and clinical knowledge of candidates who have satisfactorily completed an accredited program of education in ophthalmology. **It is necessary to pass this examination before being admitted to the Oral Examination.**

The WQE is administered at nationally-distributed Prometric test center locations on one day in an approximately five-hour testing period that includes a tutorial and break time.

The WQE will be given at Prometric locations in the United States, Puerto Rico and some locations in Canada. Click here for more information on Prometric, including test center locations.

Content

The topics covered in the Written Qualifying Examination include the following:

- Lens and Cataract
- Cornea. External Disease, and Anterior Segment
- Glaucoma
- Neuro-Ophthalmology
- Oculofacial Plastic, Lacrimal, and Orbital Surgery
- Pediatric Ophthalmology and Strabismus
- Optics and Refractive Management
- Retina. Vitreous, and Intraocular Tumors
- Uveitis

The WQE Test Blueprint contains more information **about the** content of the WQE.

Questions

All questions in the Written Qualifying Examination are single one best answer questions. This is the traditional, most frequently used multiple-choice format. It consists of a statement or question followed by four options that are in alphabetical or logical order. The response options in this format are lettered (eg, A, B, C, D).

Examinees are required to select the best answer to the question. Other options may be partially correct, but there is only ONE BEST answer.

Scoring

The score required to pass the Written Qualifying Examination is determined by a standard-setting methodology. This method requires a group of peers to estimate the minimum level of clinical decision-making and medical knowledge an ophthalmologist requires to practice competently. The examination employs a criterion-referenced passing standard, which means scoring is not done "on the curve," i.e., that a certain percentage of candidates will pass or fail. For every administration, it is possible for all examinees to pass if they achieve a score at or above the passing standard. Click here for more about what to expect when you receive your score report.

Results

Results are released 6-8 weeks following the examination. The ABO does not release information regarding the specific number of items needed to pass. Percentile ranks are not released to candidates because an individual's performance on this examination in relation to peers is not being assessed and does not affect your score. Click here for more about what

to expect when you receive your score report.

Successful Completion of the WQE

Candidates who successfully complete the Written Examination are eligible to sit for the Oral Examination. These candidates will be notified of their Oral Examination assignment and sent instructions for registering for the Oral Examination via the ABO's online registration system.

Failure to Complete the WQE

The Board Eligibility policy requires successful completion of board certification requirements (written and oral examination) within seven years of residency graduation.

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Oral Examination

The Oral Examination is the second of two evaluations in the Board Certification process. Upon successful completion of the Written Qualifying Examination (WQE), candidates receive specific registration instructions for the Oral Examination. Oral Examinations are offered twice each year. (Check the Dates and Deadlines page for information about current examination opportunities and registration deadlines.)

The Oral Examination is an in-person, timed evaluation in which candidates are presented with a series of Patient Management Problems (PMPs) and asked to identify how they would care for that patient. The entire assessment takes one half-day to complete and is divided into six 25-minute "mini-examinations" focused on specific topic areas.

Each mini-examination is administered by a different Examiner, all of whom are experienced practitioners and Board volunteers. Examiners are not compensated for their role in the Oral Examination and pay their own expenses out of a deep commitment to the mission of board certification. The group of Examiners assigned to each candidate is referred to as a Panel, which is overseen by a Panel Leader, who also serves as the candidates' on-site guide for the duration of their examination.

For more than 50 years, the Board has administered the Oral Examination in hotels around the country. For examination security and candidate privacy, the Board uses individual hotel rooms to house each mini-examination. Each room has been carefully rearranged to allow candidates and examiners to comfortably sit face-to-face at a table or desk. Panel Leaders and other authorized ABO personnel may visit exam rooms for quality control purposes. To navigate the examination, candidates will be assigned to a Panel operating on a designated floor of the hotel, within a specific block of adjacent rooms. Candidates will transition from room to room until they have completed all six mini-examinations that make up the Oral Examination.

The six major examination topic areas are:

1. Anterior Segment of the Eye
2. External Eye and Adnexa
3. Neuro-Ophthalmology and Orbit
4. Optics, Visual Physiology and Correction of Refractive Errors
5. Pediatric Ophthalmology and Strabismus;
6. Posterior Segment of the Eye

PMPs are presented on tablets for photographic or video patient simulations. Examiners will control the presentation of materials, so no additional training is necessary for candidates.

Please review the Sample Question and Oral Examination Simulation Video for more insight on the format of the Oral Examination.

Scope of Examination

The Oral Examination includes clinical scenarios affecting the eye and its surrounding structures.

Aspects of the Candidate's Ability Tested on the Oral Examination

The Oral Examination is designed to simulate how candidates care for patients in a clinical setting. Candidates are assessed with regard to their ability to incorporate the cognitive knowledge demonstrated in the written examination with judgment on caring for a patient. A candidate is presented with a series of PMPs, each of which represents one patient or clinical situation, and is asked to identify how he/she would care for that patient. The Examiner assesses a candidate's ability to demonstrate patient care skills in the following areas:

Data Acquisition: Recognition by the candidate of depicted abnormalities and diseases that affect the eye, ocular adnexa and the visual pathways. Candidates will be asked for historical information and examination data that might be obtained on a patient with a particular condition depicted or described.

Diagnosis: The ability of candidates to synthesize historical and physical evaluation information, along with the appropriate laboratory data to arrive at correct diagnoses and differential diagnoses.

Management: Candidates will be expected to provide a reasonable and appropriate plan for medical and/or surgical management of patients with the conditions depicted or described and be able to discuss the prognosis and/or therapeutic complications for the particular condition.

In addition to medical knowledge, the Oral Examination focuses on the competencies of professionalism, patient care and procedural skills, practice-based learning, interpersonal and communication skills, and systems-based practice. Refer to the Test Blueprint for more details on examination content.

Registration

Candidates who successfully complete the Written Qualifying Examination will be notified of their Oral Examination assignment and sent registration instructions. The fee for the Oral Examination is $1950. Active United States military service members pay 1/2 the total fee. Active duty paperwork should be sent to info@abop.org to claim a partial refund.

Click here for dates and registration deadlines of upcoming Oral Examinations.

Special Accommodations
The ABO complies with the Americans with Disabilities Act (ADA) to mitigate the effects of an ADA-qualifying disability on the testing activity. To accommodate individuals with disabilities, the ABO will make reasonable modifications to its examinations that do not fundamentally alter the requirements of the examination or the measurement of the skills or knowledge the ABO examinations are intended to test. Click here to review the ABO's ADA policy and download the accommodation request form.

Oral Examination Scoring

Results of your Oral Examination will be provided as pass/fail only. To ensure fairness, your performance in each of the six mini-examinations is reviewed by all Examiners in the panel at the end of each session and is used to calculate an overall pass/fail result. A pass in all topics is not required to pass the examination; however, individuals who are not successful are required to repeat the entire examination.

The score required to pass the Oral Examination is determined by a standard-setting methodology. This method requires a group of peers to estimate the minimum level of clinical decision-making and medical knowledge an ophthalmologist requires to practice competently. The examination employs a criterion-referenced passing standard, which means scoring is not done "on the curve," i.e., that a certain percentage of candidates will pass or fail. For every administration, it is possible for all examinees to pass if they achieve a score at or above the passing standard.

The pass/fail result of your examination will be issued to you within 6-8 weeks. Please keep the Board Office apprised of any changes to your contact information during this time.

Successful Completion of the Oral Examination

A candidate who successfully passes both the Written Qualifying and Oral Examinations has completed the requirements for Board Certification and is awarded a certificate valid for 10 years. Physicians who have received the certificate are known as Diplomates of the Board and engage in a program of lifelong learning and continuous improvement in order to remain certified.

Failure to Complete the Oral Examination

The Board Eligibility Policy requires successful completion of board certification requirements (written and oral examination) within seven years of residency graduation.

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Getting Started

Medical Licensure

Learning & Self-Assessment

Patient Safety

Quarterly Questions

Improvement in Medical Practice

Fees

ABO Maintenance of Certification (MOC)

For physicians, what it means to be excellent evolves with every new discovery and technological breakthrough. To remain performing at the highest levels of patient care, we work to continuously enhance our clinical knowledge and improve our skills. The American Board of Ophthalmology's Maintenance of Certification (MOC) program applies structure and rigor to those efforts, with activities developed by practicing ophthalmologists for practicing ophthalmologists.

The design of the ABO's program adheres to the 4-part structure for MOC developed by the American Board of Medical Specialties (ABMS), the umbrella organization for the nation's 24 medical specialty boards:

Part I: Professionalism & Professional Standing

Part II: Lifelong Learning & Self-Assessment

Part III: Assessment of Knowledge, Judgment, & Skills

Part IV: Improvement in Medical Practice

Assessing & Developing the Core Competencies through MOC

ABO MOC activities address 6 core competencies integral to the delivery of high-quality patient care. These competencies were co-developed by the American Board of Medical Specialties (ABMS) and the Accreditation Council for Graduate Medical Education (ACGME). Supporting ophthalmologists' continued development in these competencies is the goal of MOC.

Competency	Description
Practice-Based Learning and Improvement	Investigate and evaluate patient care practices, appraise and assimilate scientific evidence, and improve practice.
Patient Care and Procedural Skills	Care that is compassionate, appropriate, and effective treatment for health problems and to promote health.
Medical Knowledge	Knowledge about established and evolving biomedical, clinical, and cognate sciences and their application in patient care.
Interpersonal and Communication Skills	Skills that result in effective information exchange and teaming with patients, their families, and professional associates.
Systems-Based Practice	Awareness of, and responsibility to, systems of health care. Able to call on system resources to provide optimal care.
Professionalism	Carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient populations.

Share Your Achievement

Create a public profile and download your MOC web badge.

Read the Blog

Visit the Diplomate Digest blog for the latest MOC information and ABO news.

Browse MOC Studies

Explore studies in recent medical literature highlighting the value of certification and MOC.

Enroll in MOC

Two enrollment pathways are available to diplomates certified prior to 1992 or whose certificates have lapsed.

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NATIONAL BOARD OF EXAMINERS IN OPTOMETRY

National Center of Clinical Testing in Optometry

Laser and Surgical Procedures Skills Examination (LSPE™)

CLINICAL SKILLS PORTION CANDIDATE GUIDE

August 2019 – July 2020

The Laser and Surgical Procedures Examination (LSPE) is composed of a Laser Section and a Surgical Section. Each Section has a clinical skills practical portion and a computer-based (CB) multiple-choice portion. Candidates have the option to register for one or both Sections. Candidates do not need to take both sections if only one section is preferred. **If taking both sections (Laser and Surgical) you must register and pay for both Sections individually.** This Candidate Guide only reviews the clinical skills portions of the Sections.

The Candidate Instructions included at the end of this document will be posted in the examination room for review during the examination.

The Evaluation Form, Candidate Guide, Equipment List and other helpful resources are available on the NBEO's website at: https://www.optometry.org/lspe.cfm.

Candidates are expected to thoroughly review this manual in preparation for the LSPE. This manual contains all relative information a Candidate would need to adequately prepare for the clinical skills sections of the LSPE.

Candidates should be aware that the majority of the information in this manual will not be reviewed again during the Candidate Orientation process.

August 2019

Candidate Guide

OVERVIEW OF TERMS FOR THE CLINICAL COMPONENT OF LSPE

- **NBEO:** National Board of Examiners in Optometry
- **NCCTO:** National Center of Clinical Testing in Optometry
- **LSPE:** Laser and Surgical Procedures Examination
- **Candidate:** an individual taking the Exam
- **NCCTO Staff:** the (full-time) personnel responsible for executing the exam and serving as a Candidate advocate and liaison to the NBEO. Referred to as "Staff" throughout this guide.
- **Remote Examiner (RE):** the individual responsible for scoring the Candidate's performance remotely
- **Proctor:** the individual who will monitor the examination for safety purposes
- **Model Patient (MP):** the nonliving patient utilized for Candidate performance of certain Skills
- **Station:** an exam room that contains required skills to be assessed during a delineated time period
- **Observation Time:** the 5-minute timeframe before the cycle begins where the Candidate can familiarize themselves with the Station
- **Examination Cycle:** the 30-minute time allocation for the Laser or Surgical Section of the examination
- **Skill:** 1 of the 5 procedures performed in the LSPE (3 in Laser and 2 in Surgical)
- **Item:** a numbered procedural element within each Skill
- **Evaluation Form:** the yes-no checklist an Examiner uses to evaluate the Candidate
- **Candidate Performance:** when Candidate is actually performing the procedures/skills during the exam cycle
- **STOP:** When a Candidate's performance is stopped for safety purposes. See Stopped Skills information in guide.
- **Repeat:** When a Candidate wishes to repeat a Skill or Item. See Repeat Information in guide.
- **Finished:** When a Candidate has completed their performance and will no longer be scored on any exam items. See Candidate completion of Station information in guide.

OVERVIEW

The examination sections will be audio and video recorded for review by a Remote Examiner for scoring purposes.

The evaluation forms contain the items Examiners use to assess Candidate performance. The exam items are in the form of yes-no checklists and items must be completed **in their entirety** to receive credit.

The LSPE clinical skills portion is comprised of the following Skills:

Laser Section	Surgical Section
SLT	Suturing
Peripheral Iridotomy	Chalazion Excision
YAG Capsulotomy	

Candidates may take only one of the sections. Candidates who wish to take both sections must have registered and paid for both sections individually.

EXAM PREPARATION

PREPARATION:

- In addition to reviewing this Candidate Guide, the following information should be reviewed by Candidates in preparing for their clinical exam:
  - Evaluation Forms
  - Candidate Orientation Videos
  - NCCTO LSPE Site Information and Equipment List
  - Information regarding traveling to Charlotte, hotels, etc.

  These resources can be found at: https://www.optometry.org/lspe.cfm

EQUIPMENT:

- All necessary equipment used during the exam will be provided by the NCCTO.
- The NCCTO provides a ***LSPE Site Information and Equipment List*** on our website that all Candidates should review prior to arriving for their test date (**https://www.optometry.org/lspe.cfm**).

ATTIRE:

- Candidates are expected to wear professional attire.
  - The NBEO interprets professional attire as attire that **EXCLUDES** jeans, shorts, t-shirts, scrubs, garments that could be viewed to be immodest (e.g. tank tops, sheer clothing), tennis shoes, sneakers, and/or flip flops.
- Candidates must bring and wear white lab coats throughout the exam.
- Candidates reporting to the test center in attire deemed to be inappropriate will be addressed by NCCTO Staff **and may not be permitted to take the exam.**

NBEO ACCOUNT INFORMATION:

- Candidates must know their OE Tracker # and NBEO Password, which will be used to complete a required Incident Report and optional Survey at the end of your exam. This is the same Password the Candidate created and used to register for NBEO exams and/or view scores on the NBEO website.

ARRIVAL TO TEST CENTER

REPORTING LOCATION:

- The reporting location is: 200 S. College St, Suite 2020 (20th floor of the BB+T Building), Charlotte, NC 28202

REPORTING TIME

- **Candidates must report to the test center on the date and time for which they registered online.**
  - The Registration process begins at the time reflected on the registration. You can review your registration here: check registration time.
  - The registration/report time includes check-in, orientation, exam, and check-out.
  - Candidates should arrive no earlier than 10 minutes prior to their listed report time.
- In the event a Candidate finds they have arrived at the BB&T center early, the 3rd floor of the building contains an indoor mall with restaurants, shops and cafes. **Candidates are welcome to spend time on the 3rd floor while waiting for their registration time.**
- Candidates who are late for registration may be disqualified from the examination session.
- Candidates should anticipate being on-site for approximately 3 hours for each section. This time includes the registration, orientation, exam process and check-out **as well as the computer-based component.**
- Candidates should schedule return flights not sooner than 5 hours after their report time.

- Candidate taking both sections of the LSPE and who scheduled their exam **sequentially**, without a break, should expect to be here 5 hours and should schedule return flights no sooner than 7 hours after their report time. Please contact the NCCTO if you have questions about your registered times before you make any reservations.
- Space and time constraints may prevent a Candidate from being rescheduled to a later session, and, in that event, the Candidate then forfeits his/her right to being tested (and his/her examination fee) for that date's administration of LSPE Section(s).

PHOTO IDENTIFICATION:

- To be admitted to the test center, you must present an acceptable form of photo identification that includes **both an embedded photograph and signature**. ID Forms from membership organizations, clubs, banking facilities, or other non-government or non-school related resources are not permissible for admission to a NBEO exam.

- The **only** acceptable forms of identification are:
  - A valid driver's license or an official photo ID issued by the government of the state or province where you reside.
  - A valid passport.
  - A valid student identification card from an accredited school or college of optometry is acceptable, provided this ID card includes **both a photograph and signature embedded in the card**.
  - In order to be considered valid, **the ID must:**
    - Match the name listed on your NBEO Profile (https://www.optometry.org/profile/)
      - If the name does not match, a Candidate may be denied access to the exam.
      - To submit a name change, click here: https://www.optometry.org/pdf/namechange.pdf. Your online profile will be updated once the NBEO records are updated internally.
    - Be current and not expired (if the ID is expired, a Candidate may be denied access to the exam).

ON-SITE EXAM DAY REGISTRATION

ARM BANDS / CANDIDATE IDENTIFICATION

- All Candidates will be provided with two arm bands. These arm bands should be worn at all times during the exam, with the number displayed on the side of your arm. In the event a Candidate removes their arm bands during the exam, Staff will advise the Candidate to reattach their arm bands. If at any point an arm band cannot be clearly seen, Staff may ask Candidates to turn the arm band so the band is more prominently displayed.
- On the back of the **right** arm badge will be each respective Candidate's name and OE Tracker number. These are provided for verification purposes.

PHOTOGRAPH

- A staff member will be taking a picture of each Candidate during the registration process to assist in ensuring the correct Candidate is being evaluated.
- For identification purposes, you should appear in the taken photo as you will during the exam. For instance, if you plan to wear glasses during the exam, you should have your glasses on during the photo; if you plan on having your hair pulled up in a ponytail, you should do so in your photo.

PERSONAL ITEMS & LOCKER USE

- Lockers will be provided for Candidates to store all personal items.
- Candidates are welcome to leave items outside of a locker but should be aware that the area is accessible by others, and, while it is under video surveillance, it is not locked or secured.
  - Candidates can store oversized luggage in the lobby.
  - The NBEO will not be responsible for items that are lost and/or damaged.
  - We ask that Candidates be respectful of the area as this is an office space.
  - Please use the provided restrooms to change clothing if needed.

- Personal belongings including cell phones, watches, wallets, purses, etc. are not allowed in the testing area. Non-compliance with any aspect of this policy is an irregularity and may be subject to the consequences associated with cheating.

ORIENTATION

- Following registration, candidates will be seated for Candidate Orientation. A slideshow presentation will be given which Candidates are required to attend. This presentation is only intended to provide a brief overview of the expectations of the exam, as well as to remind Candidates about the highlights of the exam process.
- Candidates can view the Orientation videos online at https://www.optometry.org/lspe.cfm.
- Following Orientation, Staff will be available to address any questions Candidates may have.

EQUIPMENT OVERVIEW IN ORIENTATION ROOM

- Model eyes, suturing and chalazion models, as well as instruments, will be available in the orientation room for Candidate familiarization. The slit lamp and model patient will not be available during the orientation.

PERSONAL NOTES, EVALUATION FORMS, ETC.

- Candidates may keep personal notes during the Orientation time only.
- **No notes or other written materials may be taken into any examination room at any time.**
- All notes and written materials must be left in the Candidate locker or the lobby area.
- Any notes and written materials discovered during the exam will be subject to confiscation.
- All notes taken during the exam on NCCTO provided materials must remain in the exam room.
- **Violation of these policies may be cause for disqualification from, dismissal from, and/or failure of the examination.**

DURING THE EXAM

REASONABLE ITEMS:

- Candidates are allowed to take "reasonable" items through the exam.
- All items must be provided to Staff for inspection and approval.
- Examples of reasonable items are:
    - Bottles of water/Gatorade/etc (any labels must be removed, must contain a lid)
    - Tissues
    - Cough Drops, Mints, Gum
    - Granola Bar, Other individually wrapped snack item
    - Chap Stick, Hair Ties/Hair Clips, Sanitary items, etc.
    - Eye Patch
- Pens and Pencils will be provided for Candidate use.

CANDIDATE IDENTIFICATION & INTRODUCTION

- During the exam, do not refer to yourself by name, but by your OE Tracker # (or at least the last 3 of your OE Tracker #).
- For instance, if your OE Tracker # is 700000 you may introduce yourself as: "**I am Candidate 700000**" or "**I am Dr. 000**"

CLOCKS & TIME KEEPING

- Candidates are responsible for monitoring their time.
- There is a synchronized wall clock in each exam room.
- Additionally, an on-line countdown clock will be available on the exam room computer for Candidates to use. Use of the countdown clock is optional. **It is not the official timer for the exam; the announcements are the official timers.** If there is a problem with the internet, a countdown will not be available for use and the candidate will not be provided any additional time.

- Candidates may practice the use of the countdown clock here: http://www.online-stopwatch.com/countdown/. Additional information about the countdown clock can be found in the Site Information and Equipment Guide.
- Proctors will not remind Candidates of the remaining time.
- If time expires before a Candidate completes the Station, the items not performed will be scored as "no." Candidates are urged to carefully monitor their time.

LOCATION OF CAMERAS

- There will be several video cameras in the Laser and Surgical Procedures Clinical Skills examination rooms. Most of these cameras are located on the ceiling and one is attached to the **left** ocular of the laser apparatus.

ANNOUNCEMENTS

There are five announcements that play throughout an exam session:

First announcement **"Candidates, please enter the exam room"** - signals the Candidate Observation time (see below) has begun.

Second announcement **"You have 2 minutes of observation time remaining"**

Third announcement **"You have 30 seconds of observation time remaining"**

Fourth announcement **"The exam cycle has begun"** - signals the official start of the 30-minute exam cycle.

- Candidates should close the exam room door.

Fifth announcement **"The exam cycle has ended, please proceed to your next exam room"** - indicates the official end of each examination cycle.

EXAM STRUCTURE

CANDIDATE OBSERVATION TIME:

- Candidates are provided with 5 minutes of observation time in the Station before the exam cycle begins.
- Station Instructions, located at the end of this document, are posted on the computer monitors for Candidates to review.
  - Exam room computers are only for viewing the Station Instructions and countdown timer, Candidates are prohibited from using these computers for other purposes.
- Any items performed before the exam begins (greeting patient, stating laser is inactive) will not be scored and must be repeated once the exam begins.

- During the Observation Time, Candidates are encouraged to:
  - Become familiar with the layout
  - Set-out supplies that will be used (do not open packages)
  - Practice adjusting the lighting
  - Review Station Instructions

- During the Observation Time, **Candidates cannot:**
  - Perform any Skills
  - Activate the laser
  - Write on any pieces of paper
  - Open any sealed packages

CANDIDATE COMPLETION OF A STATION

- The Candidate's performance ends with the fifth announcement, or by the Candidate stating they are finished.

- Candidates who finish before the ending announcement plays and wish to end the scoring portion of the Station may make the following statement to the Proctor: "I am finished with this **Station**". At this time the Candidate **will not be scored on any additional skills/items** and the Proctor will start preparing the room for the next Candidate. It is up to the Candidate whether or not to make this statement.
- If the Candidate makes a confusing statement or begins any casual conversation, the Proctor will remind the Candidate that it is the Candidates' responsibility to let them know if they are finished with the station.

PERFORMANCE OF SKILLS/ITEMS

- Items are sequenced in the order in which they should be optimally conducted.
- Candidates may alter the sequencing of certain items performed within a skill, **as long as the Candidate's sequence makes logical sense**.

REPEATING ITEMS / SKILLS

All repeat information is posted in each Exam Room for Candidate review during the exam.

Repeating ITEMS

- Candidates can repeat item(s) as long as they are within the Skill.

Repeating SKILLS

- **Repeating an entire Skill is not allowed** on the LSPE Skills Examination. Candidates will receive only one model for each procedure. This is to simulate the real-life nature of the clinical performance of each Skill.

NOTE-TAKING

- Once the exam cycle begins, Candidates will be provided with a ½ sheet of blank green paper.
- If for some reason you do not receive a piece of green paper, simply ask the Proctor in the Station and they will provide it to you.
- Nothing written on this green paper will be scored and must be left in the exam room.

PROCTOR

- A Proctor will be present in the examination room throughout the Candidate Observation period and testing.
- The Proctor may begin preparing the room for the next Candidate once a Candidate has stated they are finished or when Announcement #5 plays, whichever occurs first.
- The Proctor will confirm the presence of a view **when asked** (see the views in the Laser Section for more information).

OBSERVERS

- Occasionally, additional personnel may be on-site observing the exam. Observers will not have any effect on a Candidate's score and should be ignored by the Candidate. These personnel have been instructed not to converse with Candidates or Proctors in the examination rooms.

CANDIDATE QUESTIONS DURING THE EXAM

- Outside of regular exam questions (e.g., inquiring about views, asking about allergies, etc), during the exam, Proctors will only answer "where" questions, such as where equipment switches are located, where the room lighting control is, or where supplies/clinical materials are located.
- Candidates may ask "where" questions at any time during the observation time and exam time.
- Questions on **how** to do things, **how** to use the equipment or other instructional questions are not appropriate and will **not** be answered.
- **No additional examination time will be provided for any time used to ask and answer Candidate questions.**

STATING FINDINGS

- Candidates are strongly encouraged to talk through their exam process.
- Candidates are encouraged to speak **clearly** and **audibly.**
- Candidates are required to state their findings in the same manner as they would be entered into a patient's medical record.

SAFETY and PROCEDURE ATTEMPTS

Hand-Washing

- The NBEO has adopted the CDC's guideline for hand washing, which includes the specified timeframe of washing hands for at least 15 seconds.

Safety

- During the Station, Proctors are responsible for ensuring safety. If a Proctor believes the examination techniques or procedures used by a Candidate are placing the model patient or the Proctor at harm, the Proctor has the responsibility and authority to terminate the Skill being assessed **at any time** and will state, "You are being stopped for safety reasons."
- Candidates should utilize proper safety techniques with the laser at all times. They should ensure that the laser is "cold" until ready to perform the appropriate procedure. The Proctor may stop a Candidate who exhibits improper technique. Additionally, Remote Examiners will appropriately score Candidates who do not ensure a safe environment.
- Candidates must not operate the laser while the Proctor is near the slit lamp. While the Proctor is changing model eyes, the Candidate must step away from the laser and ensure that it is in stand-by mode. Failure to do so may be cause for disqualification from, dismissal from, and /or failure of the exam.
- If a Candidate is stopped, they will be scored "no" on any remaining items in the stopped Skill. Items leading up to the point of the stop will be scored as appropriate.
- In the event of Candidate injury (needlestick, cut, etc.), Staff will provide a bandage and gloves. Time lost to handle an injury will not be reinstated.

Procedure Attempts

- Candidates should be aware that patient safety is of paramount concern by the NBEO. All simulated models should be treated as if they are a real patient.
- Candidates should consider the impact of **repeating items within** a Skill with regard to the impact it would have on a real patient. **Repeating entire Skills is NOT allowed on the LSPE (see section titled Repeating Items/Skills).**

STAFF INTERACTIONS:

Neutrality:

- Proctors and Staff may appear to be neutral or show little emotion during the exam. Candidates should not regard this as a personal dislike or an indication of performance quality.

Staff Interaction during Exam:

- During the Exam, Proctors may say very little other than what has been scripted.
- If a Candidate asks a question that cannot be answered, Proctors or Staff may respond with "I do not have that information," "I can't answer that," or "It is up to you." These comments are not indicators of a Candidate's performance or decisions, but simply an answer for a situation where the Proctor/Staff do not have a standardized response.
- If asked, Proctors will not provide guidance on how and/or what to perform. Candidates must use their best judgement in these situations.

MODEL PATIENT INTERACTIONS:

TITLES:

- Candidates may refer to the model patients as "Mr. or Ms. Lee."
- "Lee" is the fictitious family name assigned to all NBEO patients.

CASUAL CONVERSATION:

- Beyond a cordial hello, Proctors will not initiate any casual conversation with Candidates.
- During the session, the Proctor will be present in the examination room with the Candidate. Casual conversation may occur **ONLY if the Candidate initiates the conversation**.
- Candidates may not ask about certain topics (see examples below).

Examples of inappropriate topics:

- Information regarding the NBEO/NCCTO
- Information regarding the Laser and Surgical Procedures Exam or any NBEO examinations
- Questions about the Proctor or their position (how long employed, experience with NBEO exams, etc.)
- Candidate's performance
- Optometry School the Candidate attends or attended
- Other Candidate information and/or performance

CANDIDATE WOUNDS / INJURIES / MEDICAL EMERGENCIES

- Any open wounds on a Candidate's finger or hand must be covered.
- If you have questions or concerns about whether a potential wound needs to be covered, you can show the wound to Staff during the registration process.
- Should a Candidate become injured during the exam a band-aid and glove will be provided.
  - If a Candidate believes they have injured themselves, they should notify personnel in the exam room.
  - When a Candidate experiences an injury in which the potential for blood borne pathogen exposure is possible candidates must use Universal Precautions. The CDC recommends **Universal Precautions** for the care of all patients, regardless of their diagnosis or presumed infection status.
  - Candidates should properly dispose of contaminated materials. Any contaminated instruments should be placed in the "Blood Contaminated Instruments Only" sharps container.
- Out of concern for safety and to prevent contamination of exam equipment, **any bleeding must be stopped prior to continuing the exam.**
- No additional time will be given during the exam for injuries that occur as a result of Candidate error.
- In the event a medical emergency should occur during the exam, Candidates should remain calm and a Staff member will be there to assist and assess the situation.
- The process for injuries also applies if it occurs in the orientation room.

RESTROOM / DRINKING FOUNTAIN USE

- It is advisable for Candidates to use the restroom before the examination begins. No time allowance is given for restroom use during the examination sessions. In the event a Candidate needs to use the restroom during the exam, they should inform the Proctor who will escort them to the restroom.
- The same principles for restroom use apply to using the water fountain.

POST EXAM INFORMATION

CANDIDATE INCIDENT REPORTS & SURVEYS

At the conclusion of the exam, all Candidates will sit at the workstation to the left of their exam room.

- At the workstation will be a computer that may be used by Candidates to submit an incident report.
- Candidates will log into the Incident Report using their OE Tracker # and the same password (created by the Candidate) used to register for the exam or view scores on the NBEO website.

- Candidates are encouraged to think through their exam and use this opportunity to document any irregularity that may have occurred in which a Candidate feels may have negatively impacted their performance. Incident Reports **will not be accepted** from Candidates once they have left the clinical skills testing area.
- Candidates can document any concerns involving the equipment, Proctors or the Candidate's individual performance.

Once the Incident Report has been submitted, it will be reviewed by Staff. **Staff may review videos and/or interview the Proctor for more information regarding your Incident Report**. Additionally, staff will inspect any reported equipment malfunction.

- During the Incident Reports Review, since videos are available to view any issues, Staff will only discuss incidents with Candidates if clarification or further information is needed. If Staff discusses an Incident Report with a Candidate in the exam room, the Candidate should assume the discussion is being recorded.
- Once all Incident Reports have been reviewed and it is determined there are no administrative issues or all issues have been resolved, Staff will dismiss Candidates from the exam hall.

CANDIDATE DISMISSAL

- Once dismissed from the exam hall, Candidates will return to the lobby where staff will assist in beginning the CBT portion of the Section.

- Candidates must *not* leave the test center until dismissed or re-enter the test center after dismissal.

RETEST POLICY

- The NBEO retest policy dictates that repeat tests are provided only due to administrative irregularities (e.g., equipment failure, loss of electrical power) which negatively affected the Candidate's performance.

ADDITIONAL EXAM INFORMATION

CANDIDATE TO CANDIDATE INTERACTION

- Candidates may engage in conversation during the registration and orientation process only.
- **Once Candidates are escorted to the test center hall, no communication should occur between Candidates at any time during the exam or post-exam process.**
    - "Communication" includes conversation, verbal statements, non-verbal cues/expressions (e.g., thumbs up/down, shaking head, high-fives, etc.), and passing notes, as examples.
    - **Violation of this policy will not be tolerated and may be cause for disqualification from, dismissal from, and/or failure of the examination**.

CODE OF CONDUCT

- All exams performed at the NCCTO are audio and video recorded. Candidates will be scored on what is seen on the recording. It is important to note that actions will be taken by the NBEO if it is determined that a Candidate has falsified data/findings during the examination or if a Candidate has abandoned a Patient during a Skill.

- All Candidates sign and agree to the Candidate Agreement/Ethics Policy when registering for the Laser and Surgical Procedures Examination.

VIDEO SCORE REVIEW

- Once scores are released, if a Candidate believes their scores are not accurate, they may submit for a score review.
- All score review requests should contain substantive issues to be considered and should be filed online at the NBEO website within 30 days from the date on which the LSPE scores are posted.
- Additional information regarding the score review process can be found on the NBEO website.

SCORING PRACTICES

- The NBEO uses quantitative and qualitative data analysis to evaluate examination uniformity and fairness in order to identify potentially poor measurement. Candidates who achieve scores above the overall cut-off requirement receive a passing score. A LSPE score below the cut-off requirement will result in a failing score.

- Additional information regarding scoring practices, score breakdowns and reports will be available online at http://www.optometry.org

LSPE Skills Overview

LASER SECTION

No Skills in the LSPE Skills portion utilize live patients. Models will be provided for each Skill. Any attempt to perform a Skill on the Proctor present in the exam room will result in an automatic STOP. You may address the Proctor when discussing pre-operative and post-operative information.

Candidates must perform the skills in order: SLT, PI, YAG Capsulotomy. Candidates will dictate a Pre-operative note for SLT based on a provided Case History. Pre-operative notes will be provided for PI and YAG once the Candidate indicates they are ready for that skill. *Candidates may use the phone number listed at the top of the note for the emergency contact information expressed to the patient.*

Candidates should state that an appropriate written Informed Consent has been discussed with and signed by the Patient prior to performing each skill.

Candidates are not required to clean lenses for any laser procedures. They will be cleaned prior to the Candidate entering the examination room. Each lens should be prepared with GenTeal® gel prior to use. Additionally, the Candidate is not required to disinfect the slit lamp or align the patient as the model patient will already be placed in the slit lamp when the Candidate enters the room.

The laser should remain in the appropriate setting until ready to perform the actual procedure. **Failure to adhere to this safety protocol will result in an automatic STOP.** The Proctor will need to change model patients/eyes in between the LPI and YAG Capsulotomy skills. Please ensure that the laser is "cold" prior to this transition and do not touch the laser during this transition. Failure to provide a safe environment for the Proctor will result in an automatic STOP.

A magnification of 16X (or higher) is recommended for optimal viewing by the video recording equipment on all Laser procedures. **The Quantel Optimis™ Fusion laser does not display total energy, instead you will be required to state your final energy setting and total number of shots. Please leave the room lights on for all skills to aid in laser display video capture.**

During PI, all four iris crypts of the model patient should be visible. If the eye is not in an appropriate position to view, please notify the proctor.

Functional notes pertaining to the model eyes:

- you will see a burn pattern while performing SLT
- there will not be a pigment plume observed on PI
- YAG cap may take more energy than on a real patient.

VIEWS

- As part of the exam process, the Quantel Optimis Fusion is equipped with a camera that will obtain live images as viewed by the Candidate. It is the Candidate's responsibility to maintain views through the Quantel Optimis Fusion.
- When examining any ocular structure, the views cannot be "fleeting."

Obtaining and Confirming Views:

- Candidates are responsible for ensuring the Proctor has a view on the monitor.

- Candidates may ask at any point if there is a view. They will be given a response of either "I have a view" or "I do not have a view" from the Proctor.
- Proctors will only comment on views while they are being performed. In the event a Candidate asks at the end of a Skill if the Proctor had views during the Skill, they will be told "I can only comment on a view while it is being performed."
- It should be noted that in the event a Proctor confirms the presence of a view, it only means that something is visible on the monitor.
- Confirmation of a view does **not** indicate clarity or quality of the view, whether the view meets the minimum criteria, whether the view is of the correct angle/structure, or whether the view is a "good view."
- In the event a Proctor says they do not have a view, Candidates are encouraged to troubleshoot and ensure nothing is obstructing the view through the **left** ocular of the laser.
- Candidates are **not allowed** to view the monitors at any time. Monitors are calibrated and positioned in a certain manner for optimal views by the Proctor. The Proctor has been trained in how to view the monitors.
- **If at any point a Candidate is determined to be attempting to view the monitor, this action may result in disqualification from, dismissal from, and/or failure of the exam.**

Candidate Concerns:

- Candidates who are amblyopic or monocular are advised to use the better eye for observation through the **left ocular** of the laser.
- This may involve Candidates altering their position at the slit lamp so that they are able to look through the left ocular using their right eye.
- Candidates are encouraged to make a simple statement such as "I will be using my right eye to look through the left ocular" so the Proctor is aware the Candidate is intentionally choosing to utilize the equipment in this manner.
- Candidates who believe that their amblyopic or monocular status warrants special accommodations other than what is described above should submit a written request to the NBEO as described on the NBEO website http://www.optometry.org/disability_part3.cfm. Any written requests must be submitted by the deadline specified on the NBEO website. **Additionally, Candidates who may require special accommodations should not schedule their LSPE until there is a decision made on their appeal.**

SURGICAL SECTION

Separate models will be utilized for Suturing and Chalazion Excision. These models are considered aseptic. An ophthalmic drape is provided for the suturing skill. Please treat these models as if they are a real patient. For video recording purposes, Candidates will be required to sit during these skills.

All necessary instrumentation for Suturing will be on a single tray (ignore alphabetical labels on the instruments). All necessary instrumentation for the Chalazion Excision procedure will be on separate tray, to include a surgical marker. Please inform the proctor in the room when you have completed the suturing skill and are ready to move on to chalazion excision. They will provide you with your next set of trays. Candidates are not required to clean any of these instruments. However, attention should be paid to maintain aseptic technique and follow Universal Precautions.

An adnexal laceration will be present on the suturing model. Candidates are not allowed to create their own laceration for this skill. Any attempt to create a laceration will result in an automatic STOP. When you are ready to put on sterile gloves, you must let the proctor know. They will ask what size you would like, open them for you, and place them on the table. Candidate should remove the sutures.

For the Chalazion Excision procedure, Candidates will find two separate models on a tray; An eyelid model with a Chalazion and a Chalazion model with a pre-loaded clamp. Candidates must demonstrate an injection, clamping, and clamp removal on the eyelid model and use the Chalazion model for the actual excision.

Again, it is important to ensure safety while performing all skills. **Candidates should not attempt to perform the SLT, Peripheral Iridotomy, YAG Capsulotomy, Suturing, or Chalazion Excision Procedures on the Proctor. Attempting to do so will result in an automatic STOP.**

Laser Section of LSPE™ SKILLS CANDIDATE INSTRUCTIONS
(also posted on exam room computer)

You will have 5 minutes of observation time followed by 30 minutes to complete Skills 1-3.

Laser Section Skills must be performed in order.

Skill 1: SLT

You are to properly perform SLT on a model patient using an ocular model. The model patient will already be positioned and in alignment prior to you beginning the Skill. Based on a provided Case History, you should dictate a Pre-operative note in the same manner as you would enter it into a patient record. You should ensure that the laser is in stand-by mode until the Proctor is in safe position and adorning safety eye protection. You must verbally state your findings to the Proctor in the same manner as you would enter them into a patient record.

Skill 2: Peripheral Iridotomy

You are to properly perform YAG Peripheral Iridotomy on the same model patient used for Skill 1-SLT. The fellow eye of this model patient will contain the LPI ocular model. The model patient will already be positioned and in alignment prior to you beginning the Skill. You should ensure that the laser is in stand-by mode until the Proctor is in safe position and adorning safety eye protection. You must verbally state your findings to the Proctor in the same manner as you would enter them into a patient record.

Skill 3: YAG Capsulotomy

You are to properly perform YAG Capsulotomy on a model patient using an ocular model as prescribed by the provided Pre-operative note. The Proctor will need to change ocular models after completion of Skill 2, Peripheral Iridotomy. Please ensure that the laser is "cold" while the Proctor is changing the model. The model patient will be positioned and aligned in the slit lamp by the Proctor. The Proctor will indicate when the model patient is in place. You should ensure that the laser is in stand-by mode until the Proctor is in safe position and adorning safety eye protection. You must verbally state your findings to the Proctor in the same manner as you would enter them into a patient record.

Candidates are encouraged to review the LSPE Evaluation Form for detailed information regarding the items required for completion during the examination.

Surgical Section of LSPE™ SKILLS CANDIDATE INSTRUCTIONS
(also posted on exam room computer)

You will have 5 minutes of observation time followed by 30 minutes to complete Skills 1 & 2.

Surgical Section Skills must be performed in order.

Skill 1: Suturing

You are to properly perform interrupted suturing of an adnexal laceration on the model provided. The laceration will be pre-made prior to you entering the examination room (i.e. You should not create your own laceration). You should treat the model as if it is a real patient. You should dictate a Pre-operative Note in the same manner as would be entered into a patient record. Discard sutures in the Sharps Container. You must verbally state your findings to the Proctor in the same manner as you would enter them into a patient record.

Skill 2: Chalazion Excision

You are to properly perform Chalazion Excision on the models provided. You should demonstrate an injection and clamping on the eyelid/suturing model then move to the chalazion model for the actual excision. You should treat the model as if it is a real patient. You must verbally state your findings to the Proctor in the same manner as you would enter them into a patient record.

Candidates are encouraged to review the LSPE Evaluation Form for detailed information regarding the items required for completion during the examination.

Optometry/Ophthalmology
Educational and Training Comparison Chart

Degree/Qualifications	Optometrist (OD)	Ophthalmologist (MD)
	Optometry School	Medical School
Education	• 4 Years in length • 572.5 hours of basic sciences coursework (ex: 12-week semester SUNY Optometry School) • No clinical training managing patients with different systemic diseases	• 4 years in length • 1,352 hours of basic sciences coursework in first 2 years (ex: national average across reporting medical schools) • 2 years of patient care rotations through different specialties, gaining direct experience managing patients in all aspects of medicine.
	Optometry Post Graduate Training	Ophthalmology Residency
Mandatory Post–Graduate Training	• no mandatory post graduate training. Less than 20% go on to an optional 1 year training program.	• Mandatory additional 4 years in training • 1 year of general medical or surgical internship. • 3 years of accredited ophthalmology residency training program. • minimum 626 hours of additional instruction/lab work on ocular disease and management • 40% of ophthalmologists complete a 1-2 year fellowship program after residency
Clinical Experience During Mandatory Education and Training	• Average of 1,910 hours of clinical experience • No minimum requirements for number of patient visits or ocular surgery experience. • No requirements for clinical training or management of complex medical conditions like diabetes, high blood pressure, immune diseases, and neurological disorders.	• Average of 17,280 hours of clinical experience after residency completion • Accreditation Council on Graduate Medical Education requires management of at least 3,000 outpatient visits, minimum operative numbers (364 total surgical procedures), and demonstration of proficiency in performing ocular surgeries and in treating the entire ocular disease spectrum
Profession Regulation	• State licensure • Several national boards with highly variable standards. None qualify for membership in the American Board of Medical Specialties.	• State licensure • National board certification by the American Board of Ophthalmology, a member of the American Board of Medical Specialties. • Recertification mandatory every 10 years for Ophthalmologists certified in 1992 or later.

***Ophthalmologists are medical doctors** who complete four years of medical or osteopathic school followed by a one year hospital based internship and then three years of residency training. Almost half complete an additional one or two years of subspecialty fellowship training. In total, ophthalmologists complete 17,000 to 22,000 hours of office and surgical training with patients who have systemic and ocular disease before they are allowed to treat patients on their own. The formal training of medical school, internship, and surgical residency (8 years), including the experience of treating all systemic disease conditions and exposure to thousands of patients with complex eye pathology, cannot be replaced by optometry school (4 years).

***Optometrists are NOT medical doctors.** Optometrists complete four years of optometry school with exposure to patients who principally need basic eye care services such as exams, refractions and contact lens fittings. Some (less than 20%) complete a one year post graduation program for a total of approximately 2,500 hours of training.

Degrees & Programs

Degrees & Programs
Articulated/Concurrent Degree Programs
Curriculum & Degree Requirements
Curriculum Phase I
Clinical Curriculum >
Graduation Competencies
Optional Pathways
Partner Programs
Master of Science in Clinical Research

Curriculum

A new curriculum for a new age

Follow us on our progress as we create a new curriculum for the class of 2020 →

Phase I: Human Biology and Disease

The block-based curriculum for years one and two has been designed to increase integration of normal human biology with disease processes and clinical skills from the first week of medical school onward. Learn More >

Phase II: Core Clinical Clerkships

Grading is a 4-tier system: Honors- High Pass- Pass- Fail in the clinical curriculum effective with students who matriculated Fall 2014. Learn More >

Phase III: 4th Year Colleges

Faculty members and students interested in common career activities are grouped into academic colleges based on differing approaches to clinical reasoning and diagnostic approaches.

Learn More >

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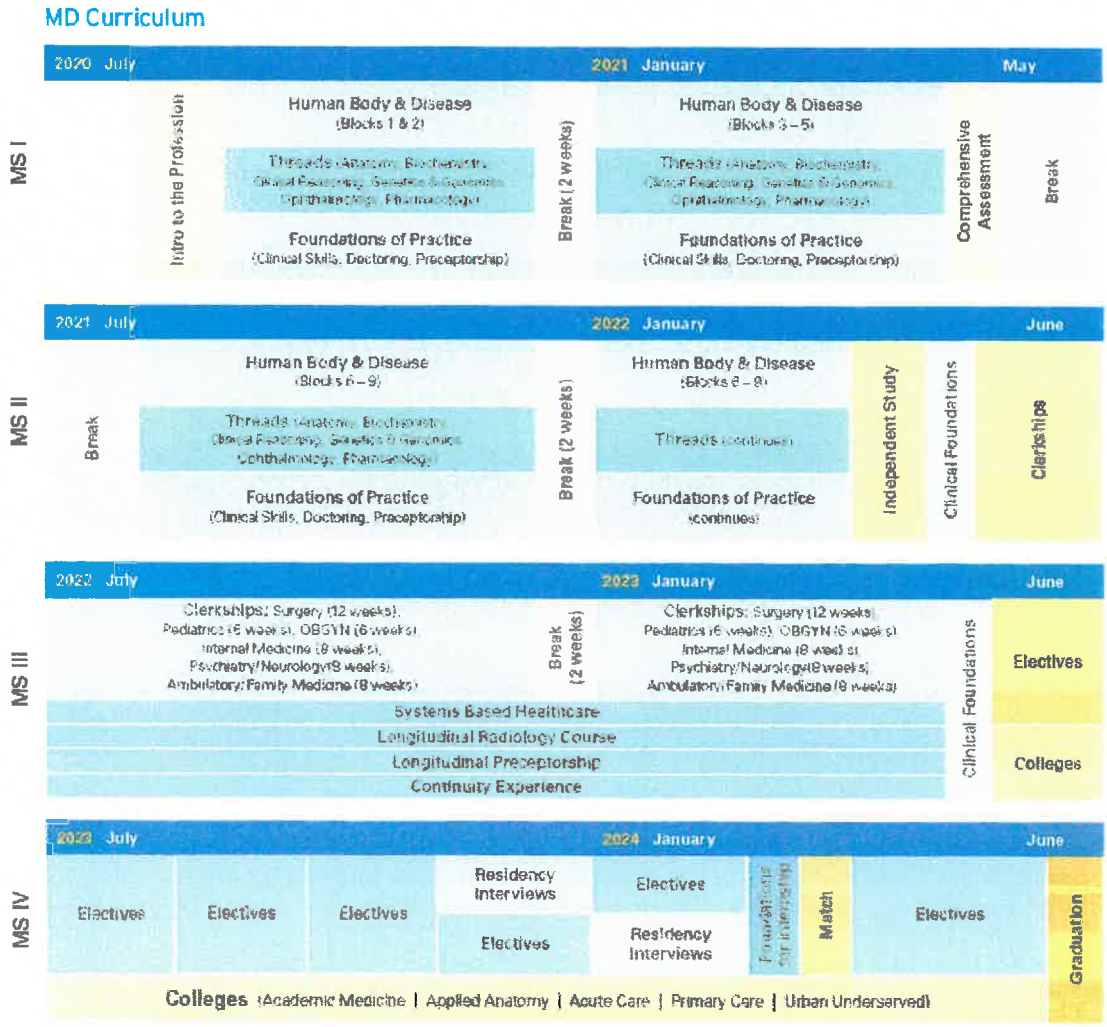
Learn More >

Curriculum Training

The pre-clinical block-based curriculum is designed to increase integration of normal human biology with disease processes and clinical skills from the first week of medical school onward. Basic science is taught in the context of its application with planned reiteration. Instruction is coordinated throughout sequentially taught blocks.

The clinical curriculum begins with a two-week course, Clinical Foundations, focused on the basics of clinical care, including a review of the physical examination, BCLS, basic radiology, write-ups and presentations, with an emphasis on professionalism and ethical standards.

Clinical Foundations is followed by 48 weeks of core clerkships, each of which includes an orientation period to prepare students with the clinical skills needed in the specific rotation. Medical students join one of five academic colleges during the latter part of their third year based on career interest or enrollment in special programs. Students work closely with their College faculty members in the third and fourth years.



Updated September 2019

Grading is Pass/Fail for the pre-clinical years and a four-tier system (Honors/High Pass/Pass/Fail) in the clinical years.

MD Program Graduation Requirements

1. Passing All Coursework

Students must maintain a satisfactory level of performance in DGSOM coursework.

2. Annual recommendation for promotion by the Committee on Academic Standing, Progress & Promotion (CASPP)

3. Passing National Board Examinations

Students must take and pass USMLE Step 1, USMLE Step 2 Clinical Knowledge (CK) and USMLE Step 2 Clinical Skills (CS).

4. Completion Time

Students must successfully complete the designated four-year program of medical education. DGSOM does not offer a formal extended program. Recognizing that some students may need additional time, students may take no longer than six years to complete the program. Approved Medical and Academic Leaves of Absence are not counted towards the six-year limit.

5. Recommendation of Degree

Upon successful completion of the curriculum of DGSOM, the student is recommended to the FEC for the degree of Doctor of Medicine. The final approval for graduation is made by the FEC and the Vice Dean for Education of the David Geffen School of Medicine at UCLA.

Phase 1: Human Biology and Disease

The block-based curriculum for years one and two has been designed to increase integration of normal human biology with disease processes and clinical skills from the first week of medical school onward. Basic science is taught in the context of its application with planned reiteration. Instruction is coordinated throughout sequentially-taught blocks.

Characteristics of Human Biology and Disease

- Instruction is driven by cases explored via problem-based learning, laboratories, conferences, clinical skills workshops, and independent study accompanied by approximately 10 hours of lecture a week.
- Contact time is limited to 24 hours a week to allow time for independent study and electives.
- All but one of the thematic blocks is taught in two "passes". There is planned redundancy as well as progressive depth and expectations of competency. Most blocks are 9 weeks in length.
- Curricular Threads are woven into the fabric of each block, and include
    - Anatomy, Histopathology and Embryology (Chair: Elena Stark, MD, PhD, Pathology | Coordinator: Hilary Koenig)
    - Biochemistry (Chair: Esteban Dell'Angelica, PhD, Human Genetics | Coordinator: Monika Fragoso)
    - Clinical Reasoning (Chair: David Schriger, MD, Medicine/Emergency Medicine | Coordinator: Monika Fragoso)
    - Doctoring
    -
        - Year 1 (Chair: Sheila Naghshineh, MD, Medicine | Coordinator: Monika Fragoso)
        - Year 2 (Chair: Arthur Gomez, MD, Medicine | Coordinator: Phillip Moon)
    - Clinical Skills
        - Year 1 (Chair: Robert Oye, MD, Medicine | Coordinator: Michelle Huang)
        - Year 2 (Chair: Robert Oye, MD, Medicine | Coordinator: Paul Buxton)
    - Genetics and Genomics (Chair: Sulagna Saitta, MD, Pediatrics | Coordinator: Monika Fragoso)
    - Ophthalmology
        - (Chair: Gary Holland, MD, Medicine | Coordinator: Monika Fragoso)
    - Pharmacology (Chair: William Melega, PhD, Molecular & Medical Pharmacology | Coordinator: Monika Fragoso)
    - Preceptorship
        - Years 1&2 (Chair: Robert Oye, MD, Medicine | Coordinator: Ashley Wade)
- Special issues are addressed across the curriculum in all four years
    - Cancer prevention and survivorship
    - Complementary and alternative medicine
    - Cultural components of health and disease
    - Gender-specific health
    - Geriatrics
    - Nutrition
    - Professionalism
- Progress through this curriculum is evaluated with computer based exams and clinical performance exams at the end of each block. Weekly self-assessment quizzes during each block allow students to track their understanding and adjust study practices or emphasis as indicated.

Year 1 Courses

Block 1: HB&D 401 Foundations of Medicine I (9 Weeks)

Pathologic processes, genetics, molecular and cellular biology, basic immunology, and critical appraisal.

Chairs:
Chandra Smart, MD, Pathology
Bernard Ribalet, PhD, Physiology

Coordinator:
Hilary Koenig

Block 2: Cardiovascular, Renal, and Respiratory Medicine I (10 weeks)

Anatomy, histopathology, physiology, biochemistry, genetics, imaging, and selected pathophysiologic mechanisms plus clinical assessment of these systems.

Chairs:
Julie Yabu, MD, Medicine/Nephrology
Holly Middlekauff, MD, Medicine/Cardiology

Coordinator:
Michelle Huang

Block 3: Gastrointestinal, Endocrine, and Reproductive Medicine I (9 weeks)

Anatomy, histopathology, biochemistry, nutrition, genetics, and selected pathophysiologic mechanisms, coupled with clinical assessment of these systems.

Chairs:
Jane Weinreb, MD, Medicine/Endocrinology
Catia Sternini, MD, Medicine/ Digestive Disease/ Gastroenterology

Coordinator:
Paul Buxton

Block 9: Cardiovascular, Renal & Respiratory Medicine II (8 weeks)

Pathology & pathophysiology of these systems; including hypertension, developmental disorders; therapeutics - pharmaceuticals and other treatments; clinical trials & epidemiology; prevention; common infectious agents.

Chairs:
Jason Napolitano, MD, Medicine/General Internal Medicine
Michael Sopher, MD, Anesthesiology

Coordinator:
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Phase 2 Clinical Curriculum: Core Clinical Clerkships

The third year begins with a two-week course, Clinical Foundations, focused on the basics of clinical care, including a review of the physical examination, BLS, basic radiology, write-ups and presentations, with an emphasis on professionalism and ethical standards. Clinical Foundations is followed by 48 weeks of core clerkships, each of which includes an orientation period to prepare students with the clinical skills needed in the specific rotation. Click on the Clerkship to view their educational course objectives.

- Ambulatory Internal Medicine (4 weeks)
- Family Medicine (4 weeks)
- Inpatient Internal Medicine (8 weeks)
- Neurology (4 weeks)
- Obstetrics & Gynecology (6 weeks)
- Pediatrics (6 weeks)
- Psychiatry (4 weeks)
- Surgery (12 weeks)

Three longitudinal courses continue throughout the year:

- Longitudinal Preceptorship -- Students spend two afternoons a month with a community-based outpatient preceptor to improve skills in clinical assessment and explore possible career choices.
- Radiology – Core topics in radiology are included in the didactic sessions for each of the clerkships and include an emphasis on the use of imaging as diagnostic and treatment modalities.
- Systems Based Health Care (SBHC) -- Small groups of students meet twice a month to develop an understanding of the dimensions of the health care system and implications for patient care, access to care, and interprofessional collaborative practice.

Continuity Experience -All students participate in a continuity experience where they have continuity with a preceptor, clinical educator, and/or continuity with a clinical site and select patients.

Phase 2 ends with a required Clinical Performance Examination (CPX) in which students must demonstrate competency in history taking, physical examination, patient/physician interaction, and information sharing skills.

AMBULATORY MEDICINE CLERKSHIP LEARNING OBJECTIVES AND IMPORTANT CONDITIONS

Objectives

At the end of the third-year required clerkship, it is expected that the student will be able to achieve the following goals and objectives:

Goals:

The goals of the clerkship include providing the students with the opportunities to:

1. Perform problem-focused histories and physical examinations in the evaluation of patients presenting with acute problems.
2. Provide continuing care for patients with chronic illnesses.
3. Develop diagnostic and treatment plans appropriate to the ambulatory setting.
4. Refine their understanding and practice of health maintenance interventions.
5. Solidify their skills in communicating with patients.
6. Provide health education to patients.
7. Improve their note-writing and case-presentation skills.
8. Establish meaningful patient-physician relationships based on compassion and professionalism.
9. Understand the role of the internist as a leader in coordinating various health care personnel in patient care.

Skills:

1. Students will be able to analyze a patient's presenting situation in clinic by:
    a. performing problem appropriate patient histories.
    b. performing directed physical examinations.
    c. presenting focused ambulatory internal medicine cases.

2. Students will be able to recognize and appraise a well-written ambulatory medicine note. They will gain experience in writing such problem-oriented ambulatory visit notes.

3. Students will give a complete, accurate, and organized presentation of a patient encounter, using precise and accurate terminology.

4. Students will prioritize the ordering of diagnostic tests and interpret laboratory data while considering cost-effectiveness in patient evaluation.

5. Students will begin to assimilate clinical judgment and decision-making skills.

6. Students will ascertain the patient's goals of the therapeutic encounter.

7. Students will ascertain the patient's understanding and compliance with medications and/or lifestyle change.

8. Students will be able to research a patient's problem in a systematic manner, utilizing relevant medical literature and expert resources.

Knowledge:

1. Students will recognize the common and complex problems seen in an outpatient setting by the practicing internist, generalist and subspecialist (see list below).

2. Students will integrate the concepts behind health maintenance and screening tests and use these in promotion of health for patients aged 16 and over.

3. Students will integrate their knowledge of pathophysiology from the basic sciences to clinical ambulatory internal medicine.

4. Students will be aware of the basic ecology of medical care and the principles of clinical epidemiology relevant to clinical practices.

List of Training Problems:

The Ambulatory Medicine Clerkship Committee feels it is essential that each student manage patients with the following symptoms, signs, laboratory abnormalities, or known medical conditions while on this clerkship.

Complaints:

Abdominal pain	Heartburn
Altered mental status	Low back pain
Anxiety	Obesity
Chest pain	Pharyngitis
Chronic pain	Shortness of breath
Cough	Substance abuse
Diarrhea	Trauma
Headache	

Diagnoses:

Arthritis	Heart failure
Asthma/COPD	Hyperlipidemia
Benign prostatic hyperplasia	Hypertension
Chronic kidney disease	Low back pain
Coronary artery disease	Obesity
Depression	Strains/sprain
Diabetes	Thyroid disease
Fatigue	Tobacco/alcohol use/addiction
GERD/heartburn	URI
Health Maintenance	UTI

Attitudes:

1. Students will recognize the importance of incorporating Doctoring and other interview experience skills in establishing rapport with patients and paramedical personnel in the ambulatory internist's

environment.

2. Students will recognize the role of the internist as a physician who works with patients and accepts partnership responsibilities in their care.

3. Students will appraise the impact of chronic diseases on the health and illness of patients in an internist's practice.

4. Students will appraise the impact of a patient's age (especially the geriatric aged patient), gender, and culture when determining treatment and diagnostic plans for patients.

5. Students will understand that an internist is a team leader cooperating with various health care personnel in patient care.

6. Students will ascribe to humanism and treat and discuss patients in a concerned, confidential and compassionate manner.

FAMILY MEDICINE CLERKSHIP LEARNING OBJECTIVES AND IMPORTANT CONDITIONS

Objectives

At the end of the third-year required clerkship, it is expected that the student will be able to achieve the following objectives:

1. To demonstrate an awareness of the role of the family physician in the health care system, including continuity and comprehensiveness of care, role in the community and use of appropriate referral sources.

2. To demonstrate knowledge of gender and age specific preventive health measures, including screening tools and immunizations.

3. To demonstrate knowledge of common acute and chronic problems seen in family practice, including basic diagnosis and management. These problems are the following:

   Complaints:

Abdominal pain	Diarrhea
Anxiety	Headache
Chest pain	Heartburn
Chronic pain	Low back pain
Cough	Shortness of breath

   Diagnoses:

Abdominal pain	Headache
Allergic rhinitis	Health maintenance
Anxiety disorder	Hyperlipidemia
Asthma	Hypertension
Back/Neck pain	Injuries/trauma
Contraception	Joint pain/arthritis
Depression	Obesity
Diabetes mellitus (2)	Otitis media
Diarrhea/ gastroenteritis	Skin problems
Fatigue	STI/Vaginitis
Fatty/liver disease	URI
GERD	UTI

4. To demonstrate the ability to take an accurate, problem-focused patient history, including psychosocial and family issues.

5. To demonstrate the ability to perform a complete, accurate physical examination appropriate to the patient's complaint, with special attention paid to the skin and musculoskeletal examinations.

6. To demonstrate the ability to give a complete, accurate and organized case presentation of a patient encounter.

7. To demonstrate the ability to write complete, accurate, organized and focused progress notes.

8. To begin to develop a patient-centered management plan that incorporates the principles of preventive and ongoing care and health education.

9. To demonstrate interpersonal skills that enables the development of patient rapport.

10. To demonstrate the ability to research a patient problem in a systematic manner by utilizing relevant medical literature and expert resources.

INPATIENT INTERNAL MEDICINE CLERKSHIP LEARNING OBJECTIVES AND IMPORTANT CONDITIONS

Course Objectives

The goal for students on the required Clerkship in Medicine is the development of an understanding of adult patient illnesses and the treatment of those illnesses. The emphasis of the clerkship is directed toward the integration of basic science with clinical skills. An important component of the student's approach to the patient is an awareness of the patient as an individual in an unfamiliar and stressful setting. Specific objectives that the students need to attain include skill in history taking, physical examination, written and oral case presentation, clinical judgment and establishing priorities. Specific knowledge objectives regarding common medical illnesses, and medical ethics, are outlined for the students. Specific attitudinal objectives involving health care team integration, patient and paramedical rapport, and humanism are also outlined to the students. These objectives listed below are given to the students on the first day of the course along with specific case based learning objectives.

Skills

1. Achieve proficiency in the following:
    a. obtaining the patient's history
    b. performing a full or directed physical examination
    c. writing up the data base in a problem-oriented format while also developing the differential diagnosis
    d. presenting cases both completely and in abbreviated focus form
    e. performing basic diagnostic and therapeutic procedures
2. Gain experience in writing orders and progress notes.
3. Learn how to establish priorities in ordering diagnostic tests and interpreting laboratory data; consider cost effectiveness in patient evaluation; establish the diagnostic and therapeutic goals of the hospitalization.
4. Develop judgment and decision-making skills.
5. Ascertain patient's goals of the therapeutic encounter.
6. Ascertain patient's understanding and compliance with medications.
7. Understand the basic concepts and dilemmas in medical ethics.

Knowledge

1. Develop familiarity with common medical illnesses. Develop the ability to construct an adequate differential diagnosis.
2. Build on previous knowledge of pathophysiology and begin to integrate basic sciences with clinical medicine by reading pertinent texts about the problems of each patient.

Attitudes

1. Become an integral part and enthusiastic member of the medical team by participating in ward activities and by contributing to discussions related to patient care.
2. Gain perspective regarding roles of various health care personnel in patient care.
3. Learn how to establish rapport with patients and paramedical personnel.
4. Begin to function as a physician by working with patients and accepting some responsibility for their care.

5. Begin to understand the humanistic side of medicine; treat and discuss patients in a concerned and compassionate manner. Begin furthering concepts in and around death and dying.

IMPORTANT CONDITIONS

Complaints:

Abdominal pain	Fever
Altered Mental Status/Confusion	Shortness of breath
Chest pain	

Diagnoses:

Anemia	Electrolyte/Acid-Base Disorder
Cancer	GI Bleeding
Cardiac Arrhythmia	Heart failure
Cellulitis/Abscess	Hypertension
COPD/Asthma	Liver disease/failure
Coronary Artery Disease	Pneumonia
Diabetes mellitus	Renal insufficiency failure
DVT/Pulmonary Emboli	UTI

NEUROLOGY CLERKSHIP LEARNING OBJECTIVES AND IMPORTANT CONDITIONS

CLERKSHIP GOALS

The primary goals of the 3rd year Neurology Clerkship are for you to:

1. Gain competence in taking a neurologic history and performing a neurologic exam, and use them to aid in localization and diagnosis of neurologic disease

2. Develop knowledge, attitudes, and skills necessary to assess, diagnose, and refer patients presenting in the primary care setting with neurologic complaints

3. Have the opportunity to explore the field of neurology as a potential career path through exposure to a variety of complaints and diagnoses through patient encounters and case-based didactics

OBJECTIVES

At the completion of the 3rd year Clerkship, you should be able to:

1. Perform a complete neurologic exam
2. Perform an appropriately focused neurologic history and screening exam based on presenting symptoms
3. Localize a lesion based on history and exam findings
4. Generate an appropriate basic differential diagnosis for common neurologic presentations and diagnoses
5. Recognize neurological emergencies and describe initial steps in their evaluation and management
6. State the indications for an LP and describe techniques to perform procedure appropriately and safely
7. Describe indications for CT and MRI imaging of the CNS, emphasizing their use in emergency situations
8. Describe ethical and psychosocial issues encountered in the care of neurologically ill patients
9. Describe differential diagnosis, initial evaluation, and basic management of the following chief complaints, using experience gained through patient interactions or case-based didactics:

Altered mental status	Numbness/Altered sensation
CNS infection	Seizure or epilepsy
Cognitive impairment or dementia	Spinal cord injury or syndrome
Disturbance of speech or language	Tremor or other involuntary movements
Dizziness or vertigo	Vision loss or diplopia
Headache	Weakness
Loss of consciousness; coma; brain death	

OB GYN CLERKSHIP LEARNING OBJECTIVES AND IMPORTANT CONDITIONS

Clerkship Objectives

The objective of the clerkship is to acquaint the student with the varied aspects of the medical care for women, with emphasis on acquiring the basic skills of gynecologic and obstetrical history taking and physical examination, participating and assuming responsibility in the evaluation and care of outpatients and inpatients, and acquiring practical experience in the operating and delivery room areas with close supervision by the staff.

The 17 educational objectives are:

1. Develop competence in the medical interview and physical examination of women and incorporate ethical, social, and diversity perspectives to provide culturally competent health care.
2. Apply recommended prevention strategies to women throughout the life-span.
3. Recognize his/her role as a leader and advocate for women.
4. Demonstrate knowledge of preconception care including the impact of genetics, medical conditions and environmental factors on maternal health and fetal development.
5. Explain the normal physiologic changes of pregnancy including interpretation of common diagnostic studies.
6. Describe common problems in obstetrics.
7. Demonstrate knowledge of intrapartum care.
8. Demonstrate knowledge of postpartum care of the mother and newborn.
9. Describe menstrual cycle physiology, discuss puberty and menopause and explain normal and abnormal bleeding.
10. Describe the etiology and evaluation of infertility.
11. Develop a thorough understanding of contraception, including sterilization and abortion.
12. Demonstrate knowledge of common benign gynecological conditions.
13. Formulate a differential diagnosis of the acute abdomen and chronic pelvic pain.
14. Describe common breast conditions and outline the evaluation of breast complaints.
15. Demonstrate knowledge of perioperative care and familiarity with gynecologic procedures.
16. Describe gynecological malignancies including risk factors, signs and symptoms and initial evaluation.
17. Provide a preliminary assessment of patients with sexual concerns.

IMPORTANT CONDITIONS

OB Diagnoses

Diabetes Mellitus	Labor – normal
Fetal heart rate abnormalities	Labor – preterm
Hypertensive disorder	Postpartum care
Infection	Prenatal care
Labor – abnormal	

OB Procedure

Cervical exam in labor	Vaginal Delivery

Gyn Diagnoses

Abnormal pap	Infertility
Abnormal vaginal bleeding	Menopause/Osteporosis
Carcinoma	Pain-Pelvic/abdomen
Contraception	Pelvic Mass
Incontinence	STIs/Vaginitis

Gyn Procedure

Breast exam	Wet mount
Pap smear	

PEDIATRICS CLERKSHIP LEARNING OBJECTIVES AND IMPORTANT CONDITIONS

Clerkship Objectives - Upon completion of the clerkship, you should be able to:

1. Obtain pertinent historical data from a parent and/or child interview enabling you to develop the historical basis for a comprehensive evaluation of clinical problems.

2. Skillfully perform a physical examination on any age child, including an assessment of physical growth and psychomotor development, while mastering the skills to clearly and concisely record your findings.

3. Critically evaluate and integrate data in seeking solutions to clinical problems (i.e., synthesizing and analyzing the information gathered to develop an approach to the differential diagnosis, and the subsequent formulation of evaluation and management plans.)

4. Acquire a core fund of knowledge in general pediatrics that may be applied to the evaluation and management of children in both inpatient and outpatient settings.

5. Strengthen both your written and verbal communication skills in multiple settings.

6. Address the care of each child with an understanding of health care systems and the resources available to the patient.

7. Better appreciate the impact of psychosocial factors and stresses (for example, family and domestic violence) on the well-being and subsequent evaluation and management of children.

In order to meet the objectives of this clerkship, you will spend most of your time in a clinical setting, which will include a combination of clinics and ambulatory or community-based experiences, the newborn nursery and pediatric inpatient wards. These clinical experiences will be complemented by a didactic lecture series and by a focused and disciplined reading program.

IMPORTANT CONDITIONS

Complaints

Abdominal pain	Rash
Behavioral problem	Respiratory distress
Cough	Runny nose
Cyanosis	Sore throat
Diarrhea	Substance abuse
Fever	Trauma
Headache	Vomiting
Jaundice	Weight loss
Pain	

Diagnoses

Acute abdominal pain	Gastroenteritis
Altered mental status (including seizure)	Genetic Syndrome
Anemia	Lower Respiratory Tract infection (pneumonia; bronchiolitis)
Behavioral concerns	Malignancy of childhood
Congenital heart disease	Neonatal jaundice
Developmental delay	Newborn problems (feeding prob; resp distress; lethargy)
Diarrhea and/or Dehydration	Otitis media
Failure to thrive	Rash
Fever without source	Urinary Tract Infection

Psychiatry Clerkship Learning Objectives and important Conditions

At the conclusion of the clerkship student will:

1. Be able to use the biopsychosocial model to understand psychiatric disorders
2. Be able to conduct all aspects of the mental status examination
3. Be capable of identifying and initiating appropriate medical psychiatric interventions for the major psychiatric illnesses as they present in primary medical care settings and,
4. Understand clinical psychiatry as a medical specialty.

In addition, students will be expected to master the following goals and objectives in six specific competency areas as outlined below:

Patient Care (Problem Solving and Clinical Skills)

Students are expected to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

1. Conduct an adequate psychiatric interview, including skills in recognizing and categorizing psychological and behavioral phenomena as described in the psychiatric mental status examination
2. Engage a patient and establish rapport
3. Introduce and discuss sensitive material
4. Manage behavioral or emotional difficulties commonly encountered in the psychiatric interview
5. Perform a psychiatric diagnostic workup, to include:
    a. Acquiring and organizing the psychiatric history
    b. Performing the mental status and physical exam
    c. Making decisions regarding further diagnostic studies
6. Diagnose a patient based on clinical history and other information by the methodology of the multi axial format of DSM-IV-TR
7. Present a patient in a more complex biopsychosocial formulation
8. Develop and help execute an initial treatment plan for an inpatient
9. Record progressive care data (progress notes) using appropriate terminology and organization

Medical Knowledge

Students are expected to demonstrate knowledge of established and evolving biomedical, clinical and social sciences.

1. Describe the major psychiatric diagnoses as defined in DSM-IV-TR in the context of the complexities of clinical presentation which includes complex differential diagnoses, multiple stressors, complex psychosocial situations, and patient personality variables
2. Explain the range of psychiatric interventional therapeutics, specifically:
    a. Indications for and possible side effects and complications of somatic treatments including psychopharmacologic agents and electroconvulsive therapies
    b. Indications for and possible side effects and complications of psychotherapies including fundamentals of psychodynamic, behavioral and cognitive approaches
    c. Indications and appropriate selection for psychosocial interventions including decision and use of psychiatric hospitalization, case management, crisis intervention, social work, occupational therapy and vocational counseling
3. Identify a psychiatric emergency in the clinical setting, and describe the appropriate interventions in the primary care setting for immediate management or referral of the patient

4. List the indications for a psychiatric referral or psychiatric consultation, and derive an understanding of the concept of a psychiatric liaison

Practice-Based Learning and Improvement

Students are expected to investigate and evaluate their patient care practices by appraisal an assimilation of scientific evidence.

1. Formulate skills in assembling and integrating information relevant to patient care from multiple sources, including specialty information databases used in searches on psychiatric and psychological issues
2. Recognize how these skills are a base for lifelong learning

Systems-Based Practice

Students are expected to demonstrate an awareness of the larger context and system of health care and effectively call on system resources to provide optimal care.

1. Demonstrate respect for, and integrate the care of hospitalized psychiatric patients with all team member.
2. Demonstrate respect for, and integrate the care of patients in the outpatient setting with all team members.
3. Teach patients about their role and function in their family system, and assess their understanding of the family system in improvement or complication of psychopathology

Interpersonal and Communication Skills

Students are expected to effectively communicate and collaborate with patients, their families and health professionals.

1. Exhibit the ability to engage a patient in a psychotherapeutic relationship appropriate to psychiatric hospital care
2. Manage patients' reactions that may include defensiveness or confusion
3. Recognize and manage personal reactions and responses to the patient that may detract from an appropriate professional relationship that may include excessive sympathy, anger, rejection, fear, or emphasis on interpersonal control

Professionalism

Students are expected to demonstrate a commitment to carrying out professional responsibilities, and to be responsive and compassionate.

1. Describe the details and reasons for extreme care of medical confidentiality in the psychiatric situation, and that such material is specifically identified for any release-of-information procedure
2. Demonstrate appropriate professional interpersonal boundaries in the context of the intense relationship issues which arise in acute psychiatric decompensation and other forms of psychopathology
3. Demonstrate the management of the appropriate engagement for a psychotherapeutic alliance, and the limits that such engagement must have for therapeutic effectiveness
4. Explain the application of basic ethical principals in psychiatric practices as they apply to:
    a. Involuntary commitment to psychiatric care
    b. Appropriate use and limits for restraint and/or seclusion
    c. The complex issue of the clinical and legal definition, and the assessment of competency (as it is defined in patient clinical situations)

d. The hierarchical relationship of ethical principles regarding autonomy, paternalism and safety of others

IMPORTANT CONDITIONS

Complaints

Aggression	Losing weight
Alcohol abuse	Obese
Anxiety	Psychotic
Behavioral problems	Self-injurious
Chronic pain	Substance abuse (other than alcohol)
Depressed	Suicidal

Diagnoses

Adjustment disorder	Eating disorder
Alcohol abuse or Dependence	Mood disorder
Anxiety disorder (General anxiety/panic/OCD)	Personality disorder
Attention Deficit Hyperactivity Disorder	Post traumatic stress disorder
Autistic disorder	Psychotic disorder
Delirium	Somatization disorder
Dementia	Substance abuse or dependence (other than alcohol)

Clerkship Objectives

The surgery clerkship is designed to provide the student with a balanced, multidisciplinary perspective of the surgical sciences. The objectives are:

- To understand the surgical management of disease.
- To understand the clinical and technical resources available for diagnosing surgical problems.
- To appreciate expectations and limitations of appropriate surgical theory.
- To gain familiarity with the pre- and post-operative care of patients.
- To learn, through the presentations of major surgical problems, to establish correlations among clinical observation, surgical (operative) pathology, and the physiological alterations achieved through surgery.
- To appreciate the philosophy and practice of surgery and their relationships to general medical practice.
- To appreciate strengths of a sampling of surgical subspecialties.
- To appreciate the nature of surgical health care delivery at a variety of institutions - e.g., private, county, academic medical center, V.A. Administration, etc.
- To understand the system of surgical health care delivery to both inpatients and outpatients in a variety of settings, such as private, county, academic medical center, VA Administration, etc.
- To become familiar with ward procedures.
- To participate in patient care activities
- To function as a member of the surgical team.
- To appreciate the entire treatment cycle of the surgical patient from diagnosis to operative management and through recovery.

IMPORTANT CONDITIONS

Complaints

Abdominal pain	Multisystem trauma
Acid-base disturbance	Rectal bleeding
Breast lump	Rectal pain/discomfort
Fluid and electrolyte disturbance	Varicose veins

Anesthesiology

Approach to failed intubation	Opioids/pain management
Code Basics	Pre-Oxygenation (maintain sat. during airway mgmnt)
Local anesthetic toxicity/doses	

General Surgery – Clinical problems

Appendicitis	Hernias
Biliary/ Pancreatic disease	Surgical infections
Bowel obstruction	Thyroid and parathyroid disease
Colorectal/Anorectal Disease	Trauma (Blunt/Penetrating)
Esophageal/ Gastric Disease	

General Surgery – Perioperative care

Fluids & electrolytes	Postoperative care
Informed consent	Preoperative evaluation
Wound/Intestinal stoma management	

Head and Neck

Neck mass	Thyroid and parathyroid disease (also in General Surgery)
Otitis	

Neurosurgery

Brain tumor	Head trauma
C-spine trauma	Intracranial hemorrhage

Oncology

Breast disease	Melanoma
Colon cancer	

Ophthalmology

Cataract	Diabetic retinopathy - proliferative
Conjunctivitis	Papilledema
Corneal abrasion	

Orthopedics

Arthritis	Fracture
Dislocations	Osteoporosis
Osteoporosis	Ligament and tendon injuries
Orthopaedic emergencies	Compartment syndrome
Joint infection	Open fractures

Pediatrics

Abdominal wall defects	Pediatric intestinal obstruction
Intussusception	

Plastic Surgery

Postmastectomy reconstruction	Skin grafts

Urology

Benign prostatic hypertrophy	Prostate disease
Kidney stones	Varicocele

Vascular

Aneurysmal disease	Venous disease
Carotid artery disease	

Phase 3: 4th Year Colleges

Students must successfully complete Phase II Curriculum before proceeding to Phase III.

Faculty members and students interested in common career activities are grouped into academic colleges based on differing approaches to clinical reasoning and diagnostic approaches. Medical students select one of five colleges during the latter part of their third year based on career interest or enrollment in special programs. The colleges are designed to:

- strengthen career advising,
- improve the quality and selection of electives,
- provide a means of honing clinical skills,
- stimulate discussion of new findings in the basic, social, and clinical sciences relevant to the future practice of medicine.

College activities include an introductory course focused on advanced clinical skills and decision making, a monthly series of evening seminars, a longitudinal academic activity that can be either teaching or scholarship, and regular advisory meetings.

Academic Medicine College - The mission of the Academic Medicine College is to develop an individualized educational pathway for those students who are considering a career in subspecialty Internal Medicine, Pediatrics, or Pathology; or for students who have remained actively engaged in research, enjoyed their STTP summer research project but have not had a chance to continue, or who are considering some type of academic career involving research and teaching. Members of this college includes all specialties; including surgical specialties, with a focus on academic.

Acute Care College - The Acute Care College focuses on the knowledge and skills needed to make rapid decisions on acutely ill patients with a focus on the clinical correlation of physiology, anatomy, and pharmacology to acute care. The curriculum consists of the week long Foundations Course at the beginning of the senior year and the year long Transition to Internship Course, consisting of monthly meetings that address didactic sessions focusing on acute management, career preparation seminars, and physician well-being and life strategies after medical school. Typical careers represented by this college are anesthesiology, emergency medicine, adult critical care (cardiology, pulmonary medicine, and hospitalists) and Pediatric Critical Care (cardiology and neonatology).

Applied Anatomy College - The mission of the Applied Anatomy College is to develop the knowledge and skills to support a career choice in those specialties in which expertise in anatomy is critical. The typical careers represented by this college are surgery and the surgical subspecialties (i.e. general, gynecology, head & neck, neurosurgery, oncology, ophthalmology, orthopedics, plastics, thoracic, urology and vascular), radiology, radiation oncology, and pathology. The unifying theme is anatomical implications in medical practice. Through organized activities, including personal advising, counseling, and career preparation seminars, the Applied Anatomy College will create a meaningful adjunctive program for the medical school for its fourth-year students.

Primary Care College - The Primary Care College's mission is to nurture the development of students who are considering a career in primary care as well as those who want a solid foundation in generalist medicine. members of the Primary Care College include, but are not limited to, those with interests in general internal medicine, general pediatrics, family medicine, obstetrics/gynecology and psychiatry. As a part of the College, the faculty provide intensive mentoring for the students applying for their residency positions opportunities in community and service-learning activities, international experiences including travel stipends, exposure to public health and public policy, and mentoring on research and other scholarly projects during the fourth year in preparation for Scholarship Day.

Drew Urban Underserved College-- The mission of the Urban Underserved College is to provide excellent didactic and practical training and career counseling for individuals interested in serving urban, underserved populations. Students enrolled in the College also complete a longitudinal research thesis project. While the overall theme of the thesis project is to eliminate health care disparities, students have a wide latitude to choose research projects and mentors across a spectrum of specialties with application to underserved communities. The fourth-year medical students present their research thesis results at the Annual Medical Student Research Colloquium. College activities include clinical skills workshops, mentorship support programs dinner seminars, and community service.

Elective Coursework

30 (or more) weeks of elective clerkships of which:

- 12 weeks must be sub-internship coursework; 300 and 400 level UCLA electives listed in MyCourses of which:
  - 3 weeks must be a 300 level clerkship of consecutive weeks
  - 3 weeks must be a 400 level clerkship of consecutive weeks
  - 3 weeks can be either a 300 or 400 level clerkship of consecutive weeks
  - 3 consecutive weeks of a College Approved ICU Elective & ICU Exam. All senior students are required to complete a three-week, 400 level Intensive Care Unit rotation from a list of approved rotations. In order to pass the ICU rotation, students must successfully complete a simulation and written exam on the final day of the ICU rotation. Students may **not** request an excused absence for the day of the ICU examination. If there is an emergency that will not allow a student to take the exam, it is the student's responsibility to contact the ICU exam coordinator (Jenny Yoo) and ICU exam director (Dr. Scott Hu - scotthu@mednet.ucla.edu) to arrange another date to take the ICU exam. Students who enroll in more than one ICU elective should take the ICU exam with their first ICU rotation.
- 6 of the 30 weeks may be non-clinical coursework (i.e. 100 level coursework or research, 600 level)
- May receive a maximum of 12 weeks of credit for "Away" electives. Please Note: "Away" electives do not fulfill the 12-week UCLA sub-internship requirement
- May receive a maximum of 4 weeks credit for the same clinical elective
- No retroactive credit will be granted. Elective must be approved and on schedule before starting elective.

For information about the new Clinical Elective level designations beginning in the 2018-2019 academic year, please click here.

For the 4th year Elective Propsal Application, please click here.

4th Year College Requirements

College Evening Seminars

The colleges will be holding a series of evening seminars addressing multiple topics throughout the course of the senior year. They will focus on a number of subjects, ranging from preparation for the residency application process, to the development of advanced clinical skills to the discussion of issues related, to career development and health policy, to name just a few. All senior students must attend 6 total evening seminars throughout the course of the year. This is a graduation

requirement and students will be asked to document the evening seminars that they attended.

College Foundations

All senior students must successfully complete the College Foundations course in order to graduate and to enroll in 300- and 400-level coursework. This week-long course is the first week of the MS-4 curriculum and focuses on the development and reinforcement of core clinical skills that will be used in sub-internship rotations. The attendance policy for this course can be found here.

Foundations for Internship

All senior students must complete the Foundations for Internship capstone course in order to graduate. This week-long course is designed to review and assess proficiency in key skills and activities that will be vital to functioning as a resident physician from the first day of internship. The attendance policy for this course can be found here.

Individual College Requirements

In addition to the aforementioned requirements, each college has specific requirements as well. These are covered during the Intro to Colleges mandatory class meeting in the third-year.

Senior Scholarship

All senior students are required to submit an abstract and present a poster based on individual scholarly work for Senior Scholarship Day. This may be on-going work that the student has done or a new project. In addition to traditional clinical and basic science research, scholarly work can include quality improvement or medical education projects, case reports, or other scholarly work done with a faculty mentor. Any questions regarding selection of an appropriate scholarly project can be reviewed with the College Chairs. The College Chairs will also work with those students who want to develop a new project for the year and will provide guidance on preparing for presentation on Senior Scholarship Day.

Medical Student Education

Vermont Integrated Curriculum Summary

The educational program is comprised of three levels. **Level One** is the foundation of the educational program and features the development of fundamental science knowledge in a clinically relevant context and the acquisition of clinical skills. Initial courses in the fundamentals of medical science are followed by a series of organ system-based courses. **Level Two** consists of core clerkships emphasizing the basic principles and practices of clinical medicine. This level is comprised of rotations in family medicine, pediatrics, outpatient medicine, inpatient internal medicine, surgery, obstetrics and gynecology, psychiatry, and neurology. Additional educational experiences that are of a clinical nature but not specific to any one discipline are also included. **Level Three** provides students with additional opportunities for the application of medical knowledge with increased responsibilities for the care of patients. This level is comprised of several core requirements, completion of a teaching practicum or scholarly project and electives. Clinical correlations are prominent in the curriculum at all levels, beginning with meeting a patient on the first day of medical school.

Level 1 – Foundations

The purpose of Level One/Foundations is for students to develop a fundamental understanding of health and illness as framed by systems from single genes to entire populations.

Orientation
The week-long orientation is designed to prepare the entering student for a successful transition to the Larner College of Medicine. New students are mentored by faculty members and more senior students, and are provided opportunities for building professional, collegial communities.

Professionalism, Communication and Reflection
Professionalism, Communication, and Reflection (PCR) is a year-long course that is comprised of small, process-oriented discussion groups with a faculty preceptor once a week. Important themes of

Related Links

- UVM LCOM Mission Statement
- Medical Education Vision Statement
- VIC Diagram

the course include: 1) Facilitating professionalism in medicine, 2) Developing self-awareness and personal wellness to promote the highest standards in clinical care, 3) Cultivating the habit of communicating with peers and colleagues about difficult subjects, 4) Developing a healthy approach to the emotional challenges of clinical work, 5) Improving understanding of culture and diversity in the practice of medicine, 6) Developing a willingness to examine and discuss social and economic forces in medicine and, 7) Learning to attend to the narratives of patients and physicians. This course fosters self-awareness, emotional intelligence, mindfulness, and the capacity to care for self and colleagues. Each week, the groups focus on a topic that widens the lens on a current academic topic in their foundations curriculum or relates to important issues in medical practice. PCR mentors will also serve as their students Careers in Medicine (CIM) advisors for the first two years of medical school. Therefore, regular advising meetings and Careers in Medicine material is integrated into the PCR curriculum. (42 weeks)

Foundations of Clinical Science

This course builds from fundamental concepts of anatomy, biochemistry, cellular metabolism, and molecular genetics to understand cell biology, pharmacology, embryology and human physiology. Through an integrated study of normal healthy structure and function students examine microscopic and gross anatomy and interpret introduces basic principles, concepts, and methods that are foundational to the study and practice of medicine, drawing from disciplines including biochemistry, cell biology, epidemiology, ethics, genetics, pharmacology, and public health. Students learn to apply basic scientific principles and develop frameworks for clinical decision-making and the practice of evidence-based medicine during course activities that include team-based learning, small- and large-group discussions, interactive modules, lectures, and clinical skills practice with standardized patients. The integrated, interdisciplinary organization of the course highlights clinical, ethical, and public health implications of basic medical sciences. Interactive sessions also include guided practice with a variety of learning strategies to help students develop effective approaches that will prepare them for success in their ongoing studies. (18 weeks)

Attacks and Defenses

Attacks and Defenses is the bridge course between Fundamentals and Systems Integration courses and addresses the vocabulary, principles, and pathophysiology of disciplines that are not necessarily organ based. The course integrated studies in hematology, immunology, microbiology, toxicology, pathology, pharmacology, and neoplasia. Students will be introduced to advanced history taking skills, clinical problem solving skills and application of evidenced medicine. Instructional methods include

lectures, weekly laboratories and small group exercises, evidence-based medicine assignments, team-based learning, team-based problem solving and standardized patient exercises. (6 weeks)

Nutrition, Metabolism and the Gastrointestinal System
This course utilizes both an organ- and disease-based focus to organize studies in nutrition and metabolism, the gastrointestinal and endocrine systems, and liver and biliary tree function. It is designed to integrate cell metabolism, normal and pathologic anatomy, pharmacology, physiology, pathophysiology and the physical examination and related interviewing, diagnostic testing and imaging. Understanding the metabolic and pathophysiologic consequences of public health problems including malnutrition, obesity and diabetes reinforce concepts learned. Learning is facilitated through active learning sessions, assigned readings, small group case discussions and workshops for problem solving and skills development. Clinical correlations reinforce the lessons of the community preceptorships. (8 weeks)

Neural Science
Students in this course learn about the nervous system through integrative study of behavior, cellular and systems neurobiology, neuroanatomy, neuroethics, neuropharmacology, neurophysiology, pathophysiology, and psychopathology. Students also learn the neurologic and mental status examinations, related interviewing, diagnostic testing and imaging. Several instructional methods support learning in this course, including lecture, online independent study modules, readings from a variety of sources, laboratory sessions, physical examination and interviewing skills sessions, simulation, team-based learning and case discussions prepared by students. (9 weeks)

Public Health Projects
During the second year of the Foundations Level, Professionalism, Reflection and Communication groups formed during the first year apply their group leadership, professional, and team skills to a public health project. Public health projects are designed to teach students about public health and the health issues that face our communities as they work side by side with the groups, organizations, and individuals in these settings. These projects begin to develop the background in population-based medicine and prevention a physician needs to fully address a range of health issues. Public health projects are carried out in Vermont communities and enable students to apply the principles and science of public health to health needs in the community. (19.5 weeks)

Connections
Students in Connections study skin, connective tissue, and the musculoskeletal system using appropriate aspects of cell metabolism, endocrinology, normal and pathologic anatomy,

pharmacology, physiology, pathophysiology and the physical examination and related interviewing, diagnostic testing and imaging. It introduces students to the fields of the orthopedics, rheumatology and dermatology during the basic sciences. (2 weeks)

Cardiovascular, Respiratory and Renal Systems

The Cardiovascular, Respiratory, and Renal Systems (CRR) course uses multiple learning modalities to emphasize the pathophysiology of diseases that affect these 3 related organ systems. Students recognize life and organ threatening disease processes and study pharmacological and interventional management of diseases affecting the cardiovascular, respiratory and renal systems. Basic biology and genetics are integrated with clinical data, including diagnostic testing and clinical imaging. The course also examines scientific and genetic evidence in the clinical management of sudden cardiac death, cystic fibrosis, asthma, autosomal dominant polycystic kidney disease, and hypertension. The final week of CRR emphasizes organ integration in diseases such as hypertension, shock and acid-base disorders. Students also learn and apply clinical skills pertaining to the cardiovascular and respiratory systems. (9 weeks)

Human Development and Reproductive Health

Human Development and Reproductive Health is a seven week course that studies human life cycle development, the male and female reproductive system, age related illnesses, disability, gender identity, sexual orientation and social determinants of health. These areas are covered in tandem with one another, using a chronological approach beginning with the health of the fetus and continuing up through childhood, adolescence, the adult reproductive years, and the geriatric years. Students are introduced to the process of integrating life cycle factors into their consideration of differential diagnoses and their approach to therapeutic care. Lectures, Team Based Learning and pathology labs are supported by small group meetings and workshops. (7 weeks)

Convergence

The Convergence course uses problem-based learning (PBL) to reinforce and integrate topics covered in previous courses and to apply clinical problem solving skills in preparation for the students' transition into the clerkships. The PBL process requires that students recall knowledge and integrate with new knowledge in the context of solving a clinical problem. The students work through 6 clinical case problems with a clinical faculty facilitator. The course format includes the identification of student knowledge gaps (learning issues), peer teaching through brief presentations, and an opportunity for oral case summary presentations. (4 weeks)

Doctoring in Vermont

Doctoring in Vermont is a course that spans the first and second year of Foundations. Students spend 8 sessions in the office of a primary care physician within a one-hour drive of Burlington. Students travel to their preceptor's office, observe direct patient care, and practice interviewing and examination skills. In the second half of this course students perform a complete history and physical examination using standardized patients, in preparation for Clerkship years. (29 weeks

Level 2 – Clerkship

The Clerkship Year is designed to build on competencies acquired in Foundations to develop the knowledge, skills and attitudes needed for clinical care and decision-making in a variety of medical settings. The Vermont Campus and the Connecticut Campus offer two possible pathways to complete the clerkship year.

Traditional Clerkship Pathway

The year is composed of 8 clerkships that are departmentally-based and provide clinical experiences supported by structured educational programs, and a four-week longitudinal Bridge Clerkship. All clerkships must be completed under the supervision of Larner College of Medicine faculty at an approved clinical site. Upon completion of this level students complete a summative clinical skills exam (Total = 49 weeks of required clerkships, and 3 weeks of vacation.) UVM students gain clinical experience during clerkship and advanced integration at a variety of inpatient and outpatient settings and locations including UVM Medical Center in Burlington, Norwalk Hospital and Danbury Hospital in the Western Connecticut Network, and St. Mary's Medical Center in West Palm Beach FL.

Family Medicine Clerkship

This clerkship emphasizes the acquisition of skills and knowledge related to the care of patients in the outpatient setting. Family Medicine physicians care for a diverse group of patients of all ages on a longitudinal basis providing acute care, chronic disease management, prevention, health maintenance and education. They also coordinate care when subspecialty consultation is required. Students will examine the role of the Family Physician, both in leading the patient-centered medical home and within the complex health care system as a whole. The clerkship begins with small group, hands-on instruction utilizing the Simulation Center and Standardized Patients and other diverse teaching tools to learn skills and procedures for the office setting. Students then spend five weeks in a continuity clinical practice site, mostly based in rural New England. Along with working one-on-one with a preceptor in their outpatient clinic, many community faculty involve the students in their hospital work, nursing home care and home visits. Some

physicians include obstetrics or other special focus in their work such as sports medicine. Students complete a community project and study from a national on-line curriculum designed by the Society of Teachers of Family Medicine. (6 weeks)

Internal Medicine Clerkship

The inpatient medicine clerkship integrates medical knowledge acquired in the Foundations level) with bedside clinical knowledge in the management of acute medical problems and chronic illness. Students expand their medical knowledge, develop their clinical skills including history taking and physical examination, interpret clinical information including laboratory and imaging data, learn differential diagnoses, practice diagnostic and therapeutic decision making, and develop proficiency in how to effectively communicate this information in both oral and written formats. Students are integral members of the ward team which includes a faculty attending physician and usually a 2nd or 3rd year medical resident, intern and acting intern. The clerkship relies on experiential learning supported by structured learning activities and didactic sessions throughout the clerkship. (6 weeks)

Neurology Clerkship

The Neurology Clerkship is a combined inpatient-outpatient experience. Students spend most of the rotation working with inpatients, learning to care for neurological patients in an acute care setting. Students take an active role in following and managing those patients assigned to them. An emphasis is placed on properly performing and interpreting the neurological examination. There is ample exposure to testing of the nervous system, including *neuroimaging. Students are encouraged to go to the literature to* gather information about their patient's problems and, toward the end of the rotation, will give a brief clinical talk to the team. Didactics include interactive group case discussions using clinical cases to discuss important concepts related to clinical neurology. Evaluation of the students comes from feedback from their clinical instructors, scores on an NBME subject examination, performance on clinical skills exam, evaluation of a submitted H&P, and evaluation of their topic presentation (3.5 weeks).

Obstetrics and Gynecology Clerkship

The Obstetrics and Gynecology clerkship is a combined inpatient and outpatient experience. Ob/Gyn physicians care for a diverse group of patients of all ages on a longitudinal basis providing acute care, chronic disease management, prevention, health maintenance and education. This clerkship emphasizes the acquisition of skills and knowledge related to the care of women through the spectrum of normal reproductive transitions, which include puberty, pregnancy, and menopause. In addition, the student is taught to recognize and understand the pathophysiology and approach to the management of common and threatening

problems related to reproduction. During the clerkship, students' will experience and explore the unique field of Obstetrics and Gynecology that spans from primary care to a surgical subspecialty, spans 3 settings including the clinic, the operating room, and labor and delivery, and allows for longitudinal relationships with patients across their lifespan. The clerkship consists of only experiential and active learning, there are no lectures. There are daily interactions with patients, residents, fellows, and faculty that facilitate students' learning. Students expand their medical knowledge and develop clinical skills including, recognition of the clinical signs and symptoms of common obstetrical and gynecologic disorders, completing histories and physical exams, developing differential diagnoses, and using evidence based medicine and critical thinking skills to practice diagnostic and therapeutic decision making. Students will also develop proficiency in how to effectively communicate this information in both oral and written formats. Evaluation of medical knowledge is done using an NBME subject examination. Clinical knowledge, skills and behaviors are assessed by faculty observations and evaluations and by a clinical skills examination (CSE). (6 weeks)

Outpatient Internal Medicine Clerkship

This outpatient clerkship provides learners with the foundation of skills, experience and knowledge that prepares them to care for adults in an ambulatory setting. Specifically, students will manage both acute and chronic medical problems. In addition to learning prevention and health maintenance, students experience the breadth of disease management. The clerkship consists primarily of experiential learning. It provides an opportunity for daily interaction with patients as well as one-on-one mentoring with a physician preceptor. Students continue to develop problem solving skills, oral and written communication skills and lifelong learning skills. They will gain an understanding of the role of a primary care physician in the management of patients and populations. The clerkship focuses on Basic Generalist Competencies and specific Clerkship Directors of Internal Medicine Learning Objectives/Training Problems. (3.5 weeks)

Pediatrics Clerkship

The pediatric clerkship consists of ambulatory and inpatient components. The goals are for students to acquire the basic knowledge, clinical and communication skills necessary to care for children from birth through adolescence. Students will develop skills necessary for the diagnosis and treatment of acute and chronic medical conditions as well as develop health promotion strategies. Students will refine universal problem solving, oral and written communication, and lifelong learning skills. Working with primary care physicians, hospitalists, sub-specialists, and allied health professionals, students will have a broad exposure to the field of pediatrics, the role of the pediatrician in caring for patients, and the influence of family, community and society on the health of children

of all ages. The clerkship is experiential in nature with weekly interdisciplinary active learning sessions to help students meet the course objectives. (7 weeks)

Psychiatry Clerkship

The Psychiatry Clerkship provides the opportunity to improve their knowledge of psychiatric illnesses and substance use disorders that occur across the lifespan, including focus on prevention, management, and health promotion. Students recognize the signs and symptoms of psychiatric disorders, and the acute phase of response to pharmacological and psychotherapeutic interventions in largely inpatient, and some outpatient, settings. Through the didactics and clinical teaching, students will develop knowledge of the etiology and pathogenesis of emotional-behavioral problems and gain understanding of the indications for, mechanisms of action of, and potential adverse effects of a variety of treatments for such disorders. Students will develop empathy for those suffering with mental illnesses and knowledge of the role that psychiatric conditions play in clinical practices across all specialties. (6 weeks)

Surgery Clerkship

Students become part of the surgical team and experience the unique relationship surgeons have with their patients. All students will have exposure to general surgery as well as a surgical sub-specialty. Clinical experiences occur in the outpatient and inpatient setting and students will have exposure to acute presentations of disease. Students will develop skills in recognizing the clinical presentation of common surgical disease, in completing histories and physicals, developing differential diagnoses, developing assessments and plans for common surgical problems. They will develop their communication skills, and learn to apply principles of evidence-based medicine to the care of surgical patients. Students will be involved in the preoperative and post-operative management of patients, and will display professionalism and ethics in the care of patients. This clerkship will provide the opportunity for students to develop technical skills in selected procedures. (7 weeks)

The Bridge Clerkship

This longitudinal multidisciplinary curriculum is designed to support professional growth and to focus on topics that are important in all disciplines of medicine. This course includes topics of global health, palliative care, nutrition, patient safety, healthcare delivery and the economics of health care, complementary medicine, pain management, genetics, communication skills, and evidence based medicine. In the Professionalism, Communication, and Reflection Sessions (PCRII) Students continue to explore concepts of Professionalism, Communication and Reflection I course, with emphasis on application in the clinical setting.

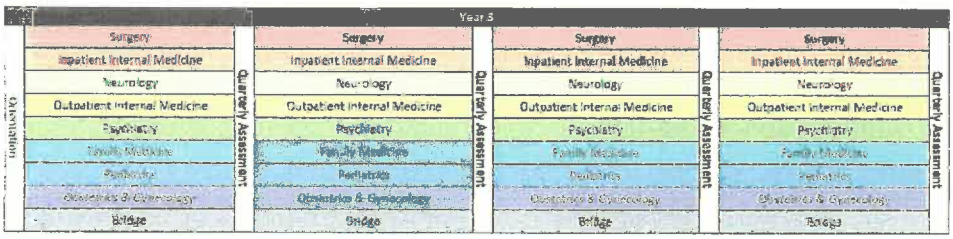
The Longitudinal Integrated Clerkship Pathway

A new 12-month Longitudinal Integrated Clerkship (LIC) launch in March of 2017-18 for the Class of 2019, running simultaneously with the traditional clerkships. Four students will be placed in primary care practices in one UVM affiliates: Hudson Headwaters Health Network, headquartered at Queensbury, New York. The curriculum at the regional campuses will have the same core educational objectives, course requirements and similar instructional and evaluation methods as students completing their course work in the traditional block clerkships. The major difference is that students in the regional campus sites will meet the objectives of each clerkship in a longitudinal manner rather than in the traditional block schedule over the course of 12 months.

Students will be assigned to 1-2 primary care faculty physicians at the home practice sites, who will serve as their primary preceptors for the entire year; students will also have dedicated faculty preceptors from within these respective health systems to ensure adequate instruction in Family Medicine, Surgery, Ob/Gyn, Pediatrics, Internal Medicine, Psychiatry, and Neurology. Working with their preceptors, students will progressively develop a panel of patients (a minimum of 50) to satisfy all required clinical encounters needed for clinical instruction in the clerkship level. Students embedded in primary care clinics will participate in providing comprehensive care to their patients, including wellness, acute care, and chronic care. They will work with interprofessional teams of physicians, nurses, social workers, pharmacists, and mental health workers in the emergency room, the hospital, subacute rehabilitation centers, hospice, and home care.

Each student participates in no more than 80 clinical hours per week. Of these, approximately 16 hours per week will consist of unstructured time to allow them to participate in course work, discipline specific lectures or to follow their patients into other settings, e.g. consultations, tests or procedures. Students will assist in patient navigation, providing continuity and communication between all providers of medical care. Students will see patients in ambulatory settings in all of the required disciplines. Required inpatient experiences will be accomplished by using "burst weeks," in which students will leave their ambulatory home base and participate in inpatient, discipline specific, experiences with specialty preceptors, at Glens Fall Hospital. These burst weeks will be in the required disciplines of Internal Medicine, Surgery, Ob/Gyn, Psychiatry, Neurology, and Pediatrics. The burst weeks will begin on Thursday of one week and end on Tuesday of the following week, ensuring that students are present in the clinic during every week of the curriculum.

Longitudinal Integrated Clerkship Model



Level 3 – Advanced Integration

The Advanced Integration level comprises required activities that enhance the student's clinical skills and knowledge of basic and clinical science, and elective activities that allow the student to shape his or her own professional development. All students are required to include in their schedules:

- Two acting internships (AI). One of the AIs must be in Internal Medicine and the other is a discipline selected by the student.
- One month of surgical specialty training.
- The Emergency Medicine Selective
- A teaching practicum/scholarly project

Acting Internship in Internal Medicine

The Acting Internship in Internal Medicine consolidates and refines the student's Internal Medicine medical knowledge and clinical skills at a level of competency necessary to deliver comprehensive care to medical inpatients. Through increased responsibility in the evaluation and management of patients and through closely supervised direct patient care experiences, students attain a level of competence and self-confidence sufficient to be prepared for entering their first year of residency. This Acting Internship must be completed at either the University of Vermont Medical Center in Burlington or Danbury Hospital or Norwalk Hospital in the Western Connecticut Health Network. Connecticut (4 weeks)

Acting Internship

Each student completes at least one month of Acting Internship in addition to the Acting Internship in Internal Medicine. This Acting Internship is in a specialty of the student's choosing and consolidates and refines the student's medical knowledge and clinical skills at a level of competency necessary to deliver comprehensive care to inpatients. Through increased responsibility in the evaluation and management of patients and through closely supervised direct patient care experiences, students attain a level of competence and self-confidence sufficient to be prepared for entering their first year of residency. This Acting Internship may be in any inpatient service that fulfills the requirements and be completed at the University of Vermont Medical Center, or at an approved affiliate site.

Surgery Specialty/Subspecialty

This rotation is designed to provide the student with further knowledge of surgical subspecialty areas of interest to them. Students can select either two separate two-week surgical cialty/subspecialty rotations, or one full month of an acting internship in a surgical specialty/subspecialty. (4 weeks). If taken as an acting internship, this requirement can also satisfy the second Acting Internship requirement.

Emergency Medicine

This required rotation integrates the practice of medicine in a situation where the student is the first provider to see the patient, develops differential diagnosis and treatment plan, and presents each patient to the supervising attending. The Student will spend 2 weeks at UVMMC and 2 weeks at an affiliated private hospital. Online modules developed by the Larner College of Medicine support the clinical experience and ensure consistent development of core competencies for all students. Didactic lectures and simulations are completed while at UVMMC. All students must pass the NBME Subject Examination in Emergency Medicine at the end of the rotation. (4 weeks)

Teaching Requirement/Scholarly Project

The Teaching Practicum/Scholarly Project reinforces foundational sciences through teaching or scholarly activity and strengthens gitudinal integration in the VIC by revisiting foundational sciences with clinical perspective. Students may fulfill the practicum experience in one of two ways: the Teaching Practicum or a Scholarly Project. In the Teaching Practicum, students act as a teaching assistant in the VIC. Duties could include small group facilitation, laboratory teaching, tutoring, leading review sessions, developing on-line teaching materials, and preparing assessment and other teaching materials. Students attend two teaching workshops during the month, the first providing specific instruction tailored to their teaching duties, the second on assessment and feedback. The Scholarly Project encourages the development of students as physician-scholars by engaging in scientific inquiry. The scholarly project enhances inquiry, analytical, and communication skills. It solidifies the foundation for lifelong learning by through critical evaluation of data. The research project may be in the basic or clinical sciences.

Elective Courses

Students are required to take an additional 28 weeks of elective courses. Students choose from an array of elective offerings from all departments of the Larner College of Medicine. These electives e designed to expand clinical skills and knowledge and to assist udents in exploring career choices. During Advanced Integration,

students may also choose extramural rotations. They must have educational benefit and be approved by students' advisors at least one month before the rotation begins.

Assessment of Student Performance

Students are assessed in cognitive, affective, and psychomotor domains in all courses with an emphasis on formative evaluation throughout each course, providing frequent feedback to the student. Examinations and quizzes are coordinated in all components. Honors/Pass/Fail grading is used in most courses; written and narrative assessment of student performance is provided where appropriate. Students are assessed individually based on curriculum standards and are not ranked against each other. Standardized examinations of clinical skills are administered frequently. Measurement of clinical skill culminates in a comprehensive assessment at the end of Level Two. Those students failing this comprehensive clinical assessment are required to remediate and retake the assessment to ensure clinical competence. The United States Medical License Examination (USMLE) Step 1 must be passed before advancing to Level Two. Students must pass both parts of the USMLE Step 2 to graduate.

Evaluation of the Curriculum

Ongoing evaluation of all elements of the curriculum is essential to maintain continuous improvement. Evaluation of the curriculum is performed by students, faculty and staff. The process is directed by the Teaching Academy. The Teaching Academy, in collaboration with other staff, ensures adherence to evaluation policy and procedure. The Medical Curriculum Committee has overall responsibility for management and evaluation of the curriculum. The Teaching Academy is responsible for conducting the evaluation of the curriculum across all four years, including planning, day-to-day management, implementation, and reporting aspects of evaluation.

For each course and clerkship, all students complete an evaluation of faculty and the course/clerkship overall. At the Foundations level, selected students (i.e., using sampling procedures) complete evaluations of learning activities within courses. These data, in part or full, are provided to course faculty, course/clerkship directors, and department chairs after completion of the course. The course and clerkship directors use these and other data to prepare a Quality Assurance Report (QAR). The QAR is shared with the Director of Foundations or Associate Dean for Clinical Education, respectively, as well as the Teaching Academy's Director of Curricular Evaluation and Assessment. Annually, Course Directors and SEG present a summary of and reflection on the evaluation data, as well as recommendations to the Foundations and Clerkship Committees.

The Quality Assurance Report is distributed by the course director to the Medical Curriculum Committee at its regular monthly meeting. The Committee considers the findings and recommendations of the Foundations or Clerkship Committee and may ask for a response from the course/clerkship director. The Committee will then consider actions for improvement and amend the report to included mandated changes in objectives/competencies, course content, methods of instruction and assessment, gaps and redundancies in the curriculum, timing of content, etc. After resolution of all outstanding issues, the amended report is approved by the Medical Curriculum Committee and sent to the course director for implementation of the mandated changes. The Medical Curriculum Committee monitors the curriculum by examining course, clerkship and component assessments. The Medical Curriculum Committee performs program evaluation using outcome data from various sources, including internal assessments, USMLE Step I and II scores and results of other standardized examinations, data from the AAMC Graduation Questionnaire and surveys of first year residency program directors.

Appendices

Appendix 1. Statement on Medical Professionalism >>

ACGME Program Requirements for Graduate Medical Education in the Transitional Year

ACGME-approved focused revision: June 9, 2019; effective: July 1, 2019

Contents

ACGME Program Requirements for Graduate Medical Education in the Transitional Year

Common Program Requirements (Residency) are in BOLD

Where applicable, text in italics describes the underlying philosophy of the requirements in that section. These philosophic statements are not program requirements and are therefore not citable.

Introduction

Int.A. ***Graduate medical education is the crucial step of professional development between medical school and autonomous clinical practice. It is in this vital phase of the continuum of medical education that residents learn to provide optimal patient care under the supervision of faculty members who not only instruct, but serve as role models of excellence, compassion, professionalism, and scholarship.***

Graduate medical education transforms medical students into physician scholars who care for the patient, family, and a diverse community; create and integrate new knowledge into practice; and educate future generations of physicians to serve the public. Practice patterns established during graduate medical education persist many years later.

Graduate medical education has as a core tenet the graded authority and responsibility for patient care. The care of patients is undertaken with appropriate faculty supervision and conditional independence, allowing residents to attain the knowledge, skills, attitudes, and empathy required for autonomous practice. Graduate medical education develops physicians who focus on excellence in delivery of safe, equitable, affordable, quality care; and the health of the populations they serve. Graduate medical education values the strength that a diverse group of physicians brings to medical care.

Graduate medical education occurs in clinical settings that establish the foundation for practice-based and lifelong learning. The professional development of the physician, begun in medical school, continues through faculty modeling of the effacement of self-interest in a humanistic environment that emphasizes joy in curiosity, problem-solving, academic rigor, and discovery. This transformation is often physically, emotionally, and intellectually demanding and occurs in a variety of clinical learning environments committed to graduate medical education and the well-being of patients, residents, fellows, faculty members, students, and all members of the health care team.

Int.B. **Definition of Transitional Year**

A transitional year residency provides a broad-based program of graduate medical education in multiple clinical disciplines designed to facilitate the choice of and preparation for a specific specialty, including specialties requiring a year of

fundamental clinical education as a prerequisite. Transitional year programs also provide clinical education for those medical school graduates planning to serve in public health organizations or in the military as general medical officers, or those who desire one year of fundamental clinical education before entering administrative medicine or research.

Int.C. Length of Educational Program

The educational program in the transitional year must be 12 months in length. (Core)*

I. Oversight

I.A. Sponsoring Institution

The Sponsoring Institution is the organization or entity that assumes the ultimate financial and academic responsibility for a program of graduate medical education, consistent with the ACGME Institutional Requirements.

When the Sponsoring Institution is not a rotation site for the program, the most commonly utilized site of clinical activity for the program is the primary clinical site.

Background and Intent: Participating sites will reflect the health care needs of the community and the educational needs of the residents. A wide variety of organizations may provide a robust educational experience and, thus, Sponsoring Institutions and participating sites may encompass inpatient and outpatient settings including, but not limited to a university, a medical school, a teaching hospital, a nursing home, a school of public health, a health department, a public health agency, an organized health care delivery system, a medical examiner's office, an educational consortium, a teaching health center, a physician group practice, federally qualified health center, or an educational foundation.

I.A.1. The program must be sponsored by one ACGME-accredited Sponsoring Institution. (Core)

I.B. Participating Sites

A participating site is an organization providing educational experiences or educational assignments/rotations for residents.

I.B.1. The program, with approval of its Sponsoring Institution, must designate a primary clinical site. (Core)

I.B.1.a) The sponsoring institution and its participating sites must sponsor at least one residency program accredited by the ACGME in addition to the transitional year program. (Core)

I.B.1.b) At least one ACGME-accredited program must be designated as a sponsoring program of the transitional year program, and it must

be in a discipline that provides fundamental clinical skills training. (Core)

I.B.1.b).(1) Those disciplines are emergency medicine, family medicine, general surgery, internal medicine, obstetrics and gynecology, and pediatrics. (Core)

I.B.1.b).(2) A letter of commitment from the sponsoring program(s) must be in place, and must specify responsibilities and arrangements. (Core)

I.B.1.b).(2).(a) This letter of commitment must be updated whenever there is a change in program director of the transitional year program or of any of the sponsoring specialty programs, when there are changes in resident complement, when there are changes in resident assignments (including duration of rotations), for changes in participating sites used for the sponsoring specialty programs' rotations, to reflect changes in resident responsibilities, if there are any revisions to the elements covered by the agreement as outlined above, or every five years. (Core)

I.B.1.b).(3) The sponsoring program(s) must provide at least 25 percent of each resident's clinical experience. (Core)

I.B.1.b).(4) The program director must designate another sponsoring program in good standing within six months of notification that an adverse accreditation is confirmed for a required sponsoring program and notify the executive director of the Review Committee. (Core)

I.B.2. There must be a program letter of agreement (PLA) between the program and each participating site that governs the relationship between the program and the participating site providing a required assignment. (Core)

I.B.2.a) The PLA must:

I.B.2.a).(1) be renewed at least every 10 years; and, (Core)

I.B.2.a).(2) be approved by the designated institutional official (DIO). (Core)

I.B.3. The program must monitor the clinical learning and working environment at all participating sites. (Core)

I.B.3.a) At each participating site there must be one faculty member, designated by the program director as the site director, who

is accountable for resident education at that site, in collaboration with the program director. (Core)

Background and Intent: While all residency programs must be sponsored by a single ACGME-accredited Sponsoring Institution, many programs will utilize other clinical settings to provide required or elective training experiences. At times it is appropriate to utilize community sites that are not owned by or affiliated with the Sponsoring Institution. Some of these sites may be remote for geographic, transportation, or communication issues. When utilizing such sites the program must ensure the quality of the educational experience. The requirements under I.B.3. are intended to ensure that this will be the case.

Suggested elements to be considered in PLAs will be found in the ACGME Program Director's Guide to the Common Program Requirements. These include:

- **Identifying the faculty members who will assume educational and supervisory responsibility for residents**
- **Specifying the responsibilities for teaching, supervision, and formal evaluation of residents**
- **Specifying the duration and content of the educational experience**
- **Stating the policies and procedures that will govern resident education during the assignment**

I.B.4. **The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all residents, of one month full time equivalent (FTE) or more through the ACGME's Accreditation Data System (ADS).** (Core)

I.C. **The program, in partnership with its Sponsoring Institution, must engage in practices that focus on mission-driven, ongoing, systematic recruitment and retention of a diverse and inclusive workforce of residents, fellows (if present), faculty members, senior administrative staff members, and other relevant members of its academic community.** (Core)

Background and Intent: It is expected that the Sponsoring Institution has, and programs implement, policies and procedures related to recruitment and retention of minorities underrepresented in medicine and medical leadership in accordance with the Sponsoring Institution's mission and aims. The program's annual evaluation must include an assessment of the program's efforts to recruit and retain a diverse workforce, as noted in V.C.1.c).(5).(c).

I.D. **Resources**

I.D.1. **The program, in partnership with its Sponsoring Institution, must ensure the availability of adequate resources for resident education.** (Core)

I.D.1.a) Transitional year residents must have access to resources equivalent to first-year residents of the sponsoring program(s). (Core)

I.D.2. The program, in partnership with its Sponsoring Institution, must ensure healthy and safe learning and working environments that promote resident well-being and provide for: (Core)

I.D.2.a) access to food while on duty; (Core)

I.D.2.b) safe, quiet, clean, and private sleep/rest facilities available and accessible for residents with proximity appropriate for safe patient care; (Core)

Background and Intent: Care of patients within a hospital or health system occurs continually through the day and night. Such care requires that residents function at their peak abilities, which requires the work environment to provide them with the ability to meet their basic needs within proximity of their clinical responsibilities. Access to food and rest are examples of these basic needs, which must be met while residents are working. Residents should have access to refrigeration where food may be stored. Food should be available when residents are required to be in the hospital overnight. Rest facilities are necessary, even when overnight call is not required, to accommodate the fatigued resident.

I.D.2.c) clean and private facilities for lactation that have refrigeration capabilities, with proximity appropriate for safe patient care; (Core)

Background and Intent: Sites must provide private and clean locations where residents may lactate and store the milk within a refrigerator. These locations should be in close proximity to clinical responsibilities. It would be helpful to have additional support within these locations that may assist the resident with the continued care of patients, such as a computer and a phone. While space is important, the time required for lactation is also critical for the well-being of the resident and the resident's family, as outlined in VI.C.1.d).(1).

I.D.2.d) security and safety measures appropriate to the participating site; and, (Core)

I.D.2.e) accommodations for residents with disabilities consistent with the Sponsoring Institution's policy. (Core)

I.D.3. Residents must have ready access to specialty-specific and other appropriate reference material in print or electronic format. This must include access to electronic medical literature databases with full text capabilities. (Core)

I.D.4. The program's educational and clinical resources must be adequate to support the number of residents appointed to the program. (Core)

I.E. The presence of other learners and other care providers, including, but not limited to, residents from other programs, subspecialty fellows, and advanced practice providers, must enrich the appointed residents' education. (Core)

I.E.1. The program must report circumstances when the presence of other learners has interfered with the residents' education to the DIO and Graduate Medical Education Committee (GMEC). (Core)

Background and Intent: The clinical learning environment has become increasingly complex and often includes care providers, students, and post-graduate residents and fellows from multiple disciplines. The presence of these practitioners and their learners enriches the learning environment. Programs have a responsibility to monitor the learning environment to ensure that residents' education is not compromised by the presence of other providers and learners.

II. Personnel

II.A. Program Director

II.A.1. There must be one faculty member appointed as program director with authority and accountability for the overall program, including compliance with all applicable program requirements. (Core)

II.A.1.a) The Sponsoring Institution's GMEC must approve a change in program director. (Core)

II.A.1.b) Final approval of the program director resides with the Review Committee. (Core)

Background and Intent: While the ACGME recognizes the value of input from numerous individuals in the management of a residency, a single individual must be designated as program director and made responsible for the program. This individual will have dedicated time for the leadership of the residency, and it is this individual's responsibility to communicate with the residents, faculty members, DIO, GMEC, and the ACGME. The program director's nomination is reviewed and approved by the GMEC. Final approval of program directors resides with the Review Committee.

II.A.1.c) The program must demonstrate retention of the program director for a length of time adequate to maintain continuity of leadership and program stability. (Core)

Background and Intent: The success of residency programs is generally enhanced by continuity in the program director position. The professional activities required of a program director are unique and complex and take time to master. All programs are encouraged to undertake succession planning to facilitate program stability when there is necessary turnover in the program director position.

II.A.2. At a minimum, the program director must be provided with the salary support required to devote 20 percent FTE (at least eight hours per week) of non-clinical time to the administration of the program. (Core)

II.A.2.a) For programs with fewer than 12 residents, the program director must be provided with an additional five percent salary support (at least two additional hours per week). (Core)

II.A.2.b) For programs with 12 to 15 residents, the program director must be provided with an additional 10 percent salary support (at least four additional hours per week). (Core)

II.A.2.c) For programs with 16 to 19 residents, the program director must be provided with an additional 15 percent salary support (at least six additional hours per week). (Core)

II.A.2.d) For programs with 20 or more residents, the program director must be provided with an additional 20 percent salary support (at least eight additional hours per week). (Core)

II.A.3. Qualifications of the program director:

II.A.3.a) must include specialty expertise and at least three years of documented educational and/or administrative experience, or qualifications acceptable to the Review Committee; (Core)

Background and Intent: Leading a program requires knowledge and skills that are established during residency and subsequently further developed. The time period from completion of residency until assuming the role of program director allows the individual to cultivate leadership abilities while becoming professionally established. The three-year period is intended for the individual's professional maturation.

The broad allowance for educational and/or administrative experience recognizes that strong leaders arise through diverse pathways. These areas of expertise are important when identifying and appointing a program director. The choice of a program director should be informed by the mission of the program and the needs of the community.

In certain circumstances, the program and Sponsoring Institution may propose and the Review Committee may accept a candidate for program director who fulfills these goals but does not meet the three-year minimum.

II.A.3.b) must include current certification in the specialty for which they are the program director by a member board of the American Board of Medical Specialties or by a certifying board of the American Osteopathic Association, **or specialty qualifications that are acceptable to the Review Committee;** (Core)

II.A.3.c) must include current medical licensure and appropriate medical staff appointment; and, (Core)

II.A.3.d) must include ongoing clinical activity. (Core)

Background and Intent: A program director is a role model for faculty members and residents. The program director must participate in clinical activity consistent with the

specialty. This activity will allow the program director to role model the Core Competencies for the faculty members and residents.

II.A.4. **Program Director Responsibilities**

The program director must have responsibility, authority, and accountability for: administration and operations; teaching and scholarly activity; resident recruitment and selection, evaluation, and promotion of residents, and disciplinary action; supervision of residents; and resident education in the context of patient care. (Core)

II.A.4.a) The program director must:

II.A.4.a).(1) be a role model of professionalism; (Core)

Background and Intent: The program director, as the leader of the program, must serve as a role model to residents in addition to fulfilling the technical aspects of the role. As residents are expected to demonstrate compassion, integrity, and respect for others, they must be able to look to the program director as an exemplar. It is of utmost importance, therefore, that the program director model outstanding professionalism, high quality patient care, educational excellence, and a scholarly approach to work. The program director creates an environment where respectful discussion is welcome, with the goal of continued improvement of the educational experience.

II.A.4.a).(2) design and conduct the program in a fashion consistent with the needs of the community, the mission(s) of the Sponsoring Institution, and the mission(s) of the program; (Core)

Background and Intent: The mission of institutions participating in graduate medical education is to improve the health of the public. Each community has health needs that vary based upon location and demographics. Programs must understand the social determinants of health of the populations they serve and incorporate them in the design and implementation of the program curriculum, with the ultimate goal of addressing these needs and health disparities.

II.A.4.a).(3) administer and maintain a learning environment conducive to educating the residents in each of the ACGME Competency domains; (Core)

Background and Intent: The program director may establish a leadership team to assist in the accomplishment of program goals. Residency programs can be highly complex. In a complex organization, the leader typically has the ability to delegate authority to others, yet remains accountable. The leadership team may include physician and non-physician personnel with varying levels of education, training, and experience.

II.A.4.a).(4) develop and oversee a process to evaluate candidates prior to approval as program faculty members for

participation in the residency program education and at least annually thereafter, as outlined in V.B.; (Core)

II.A.4.a).(5) have the authority to approve program faculty members for participation in the residency program education at all sites; (Core)

II.A.4.a).(6) have the authority to remove program faculty members from participation in the residency program education at all sites; (Core)

II.A.4.a).(7) have the authority to remove residents from supervising interactions and/or learning environments that do not meet the standards of the program; (Core)

Background and Intent: The program director has the responsibility to ensure that all who educate residents effectively role model the Core Competencies. Working with a resident is a privilege that is earned through effective teaching and professional role modeling. This privilege may be removed by the program director when the standards of the clinical learning environment are not met.

There may be faculty in a department who are not part of the educational program, and the program director controls who is teaching the residents.

II.A.4.a).(8) submit accurate and complete information required and requested by the DIO, GMEC, and ACGME; (Core)

II.A.4.a).(9) provide applicants who are offered an interview with information related to the applicant's eligibility for the relevant specialty board examination(s); (Core) **

II.A.4.a).(10) provide a learning and working environment in which residents have the opportunity to raise concerns and provide feedback in a confidential manner as appropriate, without fear of intimidation or retaliation; (Core)

II.A.4.a).(11) ensure the program's compliance with the Sponsoring Institution's policies and procedures related to grievances and due process; (Core)

II.A.4.a).(12) ensure the program's compliance with the Sponsoring Institution's policies and procedures for due process when action is taken to suspend or dismiss, not to promote, or not to renew the appointment of a resident; (Core)

Background and Intent: A program does not operate independently of its Sponsoring Institution. It is expected that the program director will be aware of the Sponsoring Institution's policies and procedures, and will ensure they are followed by the program's leadership, faculty members, support personnel, and residents.

II.A.4.a).(13) **ensure the program's compliance with the Sponsoring Institution's policies and procedures on employment and non-discrimination;** (Core)

II.A.4.a).(13).(a) **Residents must not be required to sign a non-competition guarantee or restrictive covenant.** (Core)

II.A.4.a).(14) **document verification of program completion for all graduating residents within 30 days;** (Core)

II.A.4.a).(15) **provide verification of an individual resident's completion upon the resident's request, within 30 days; and,** (Core)

Background and Intent: Primary verification of graduate medical education is important to credentialing of physicians for further training and practice. Such verification must be accurate and timely. Sponsoring Institution and program policies for record retention are important to facilitate timely documentation of residents who have previously completed the program. Residents who leave the program prior to completion also require timely documentation of their summative evaluation.

II.A.4.a).(16) **obtain review and approval of the Sponsoring Institution's DIO before submitting information or requests to the ACGME, as required in the Institutional Requirements and outlined in the ACGME Program Director's Guide to the Common Program Requirements.** (Core)

II.B. Faculty

Faculty members are a foundational element of graduate medical education – faculty members teach residents how to care for patients. Faculty members provide an important bridge allowing residents to grow and become practice-ready, ensuring that patients receive the highest quality of care. They are role models for future generations of physicians by demonstrating compassion, commitment to excellence in teaching and patient care, professionalism, and a dedication to lifelong learning. Faculty members experience the pride and joy of fostering the growth and development of future colleagues. The care they provide is enhanced by the opportunity to teach. By employing a scholarly approach to patient care, faculty members, through the graduate medical education system, improve the health of the individual and the population.

Faculty members ensure that patients receive the level of care expected from a specialist in the field. They recognize and respond to the needs of the patients, residents, community, and institution. Faculty members provide appropriate levels of supervision to promote patient safety. Faculty members create an effective learning environment by acting in a

professional manner and attending to the well-being of the residents and themselves.

Background and Intent: "Faculty" refers to the entire teaching force responsible for educating residents. The term "faculty," including "core faculty," does not imply or require an academic appointment or salary support.

II.B.1. **At each participating site, there must be a sufficient number of faculty members with competence to instruct and supervise all residents at that location.** (Core)

II.B.2. **Faculty members must:**

II.B.2.a) **be role models of professionalism;** (Core)

II.B.2.b) **demonstrate commitment to the delivery of safe, quality, cost-effective, patient-centered care;** (Core)

Background and Intent: Patients have the right to expect quality, cost-effective care with patient safety at its core. The foundation for meeting this expectation is formed during residency and fellowship. Faculty members model these goals and continually strive for improvement in care and cost, embracing a commitment to the patient and the community they serve.

II.B.2.c) **demonstrate a strong interest in the education of residents;** (Core)

II.B.2.d) **devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities;** (Core)

II.B.2.e) **administer and maintain an educational environment conducive to educating residents;** (Core)

II.B.2.f) **regularly participate in organized clinical discussions, rounds, journal clubs, and conferences; and,** (Core)

II.B.2.g) **pursue faculty development designed to enhance their skills at least annually:** (Core)

Background and Intent: Faculty development is intended to describe structured programming developed for the purpose of enhancing transference of knowledge, skill, and behavior from the educator to the learner. Faculty development may occur in a variety of configurations (lecture, workshop, etc.) using internal and/or external resources. Programming is typically needs-based (individual or group) and may be specific to the institution or the program. Faculty development programming is to be reported for the residency program faculty in the aggregate.

II.B.2.g).(1) **as educators;** (Core)

II.B.2.g).(2) **in quality improvement and patient safety;** (Core)

II.B.2.g).(3) **in fostering their own and their residents' well-being; and,** (Core)

II.B.2.g).(4) **in patient care based on their practice-based learning and improvement efforts.** (Core)

Background and Intent: Practice-based learning serves as the foundation for the practice of medicine. Through a systematic analysis of one's practice and review of the literature, one is able to make adjustments that improve patient outcomes and care. Thoughtful consideration to practice-based analysis improves quality of care, as well as patient safety. This allows faculty members to serve as role models for residents in practice-based learning.

II.B.2.h) provide equivalent teaching and supervision for transitional year residents as that provided to categorical residents in the participating programs. (Core)

II.B.3. Faculty Qualifications

II.B.3.a) Faculty members must have appropriate qualifications in their field and hold appropriate institutional appointments. (Core)

II.B.3.b) Physician faculty members must:

II.B.3.b).(1) have current certification in the specialty by a member board of the American Board of Medical Specialties or by a certifying board of the American Osteopathic Association, **or possess qualifications judged acceptable to the Review Committee.** (Core)

II.B.3.c) Any non-physician faculty members who participate in residency program education must be approved by the program director. (Core)

Background and Intent: The provision of optimal and safe patient care requires a team approach. The education of residents by non-physician educators enables the resident to better manage patient care and provides valuable advancement of the residents' knowledge. Furthermore, other individuals contribute to the education of the resident in the basic science of the specialty or in research methodology. If the program director determines that the contribution of a non-physician individual is significant to the education of the residents, the program director may designate the individual as a program faculty member or a program core faculty member.

II.B.4. Core Faculty

Core faculty members must have a significant role in the education and supervision of residents and must devote a significant portion of their entire effort to resident education and/or administration, and

must, as a component of their activities, teach, evaluate, and provide formative feedback to residents. (Core)

Background and Intent: Core faculty members are critical to the success of resident education. They support the program leadership in developing, implementing, and assessing curriculum and in assessing residents' progress toward achievement of competence in the specialty. Core faculty members should be selected for their broad knowledge of and involvement in the program, permitting them to effectively evaluate the program, including completion of the annual ACGME Faculty Survey.

II.B.4.a) **Core faculty members must be designated by the program director.** (Core)

II.B.4.b) **Core faculty members must complete the annual ACGME Faculty Survey.** (Core)

II.B.4.c) There must be a minimum of three core faculty members, including at least one member from each sponsoring program. (Core)

II.B.4.d) There must be at least one additional core faculty member for every four residents over 12 residents. (Core)

II.C. Program Coordinator

II.C.1. **There must be a program coordinator.** (Core)

II.C.2. **At a minimum, the program coordinator must be supported at 50 percent FTE (at least 20 hours per week) for administrative time.** (Core)

II.C.2.a) For programs with 16 or to 20 residents, the program coordinator must be supported with an additional 25 percent salary support (at least 10 additional hours per week), for a total of 75 percent FTE (at least 30 hours per week). (Core)

II.C.2.b) For programs with over 20 residents, the program coordinator must be supported with an additional 50 percent salary support (at least 20 additional hours per week), for a total of 100 percent FTE (at least 40 hours per week). (Core)

II.C.2.c) FTE support must be exclusive to the transitional year program. (Core)

Background and Intent: Each program requires a lead administrative person, frequently referred to as a program coordinator, administrator, or as titled by the institution. This person will frequently manage the day-to-day operations of the program and serve as an important liaison with learners, faculty and other staff members, and the ACGME. Individuals serving in this role are recognized as program coordinators by the ACGME.

The program coordinator is a member of the leadership team and is critical to the success of the program. As such, the program coordinator must possess skills in leadership and personnel management. Program coordinators are expected to develop unique knowledge of the ACGME and Program Requirements, policies, and procedures. Program coordinators assist the program director in accreditation efforts, educational programming, and support of residents.

Programs, in partnership with their Sponsoring Institutions, should encourage the professional development of their program coordinators and avail them of opportunities for both professional and personal growth. Programs with fewer residents may not require a full-time coordinator; one coordinator may support more than one program.

II.D. Other Program Personnel

The program, in partnership with its Sponsoring Institution, must jointly ensure the availability of necessary personnel for the effective administration of the program. (Core)

Background and Intent: Multiple personnel may be required to effectively administer a program. These may include staff members with clerical skills, project managers, education experts, and staff members to maintain electronic communication for the program. These personnel may support more than one program in more than one discipline.

III. Resident Appointments

III.A. Eligibility Requirements

III.A.1. An applicant must meet one of the following qualifications to be eligible for appointment to an ACGME-accredited program: (Core)

III.A.1.a) graduation from a medical school in the United States or Canada, accredited by the Liaison Committee on Medical Education (LCME) or graduation from a college of osteopathic medicine in the United States, accredited by the American Osteopathic Association Commission on Osteopathic College Accreditation (AOACOCA); or, (Core)

III.A.1.b) graduation from a medical school outside of the United States or Canada, and meeting one of the following additional qualifications: (Core)

III.A.1.b).(1) holding a currently valid certificate from the Educational Commission for Foreign Medical Graduates (ECFMG) prior to appointment; or, (Core)

III.A.1.b).(2) holding a full and unrestricted license to practice medicine in the United States licensing jurisdiction in which the ACGME-accredited program is located. (Core)

III.A.2. **All prerequisite post-graduate clinical education required for initial entry or transfer into ACGME-accredited residency programs must be completed in ACGME-accredited residency programs, AOA-approved residency programs, Royal College of Physicians and Surgeons of Canada (RCPSC)-accredited or College of Family Physicians of Canada (CFPC)-accredited residency programs located in Canada, or in residency programs with ACGME International (ACGME-I) Advanced Specialty Accreditation.** (Core)

III.A.2.a) **Residency programs must receive verification of each resident's level of competency in the required clinical field using ACGME, CanMEDS, or ACGME-I Milestones evaluations from the prior training program upon matriculation.** (Core)

Background and Intent: Programs with ACGME-I Foundational Accreditation or from institutions with ACGME-I accreditation do not qualify unless the program has also achieved ACGME-I Advanced Specialty Accreditation. To ensure entrants into ACGME-accredited programs from ACGME-I programs have attained the prerequisite milestones for this training, they must be from programs that have ACGME-I Advanced Specialty Accreditation.

III.A.3. **A physician who has completed a residency program that was not accredited by ACGME, AOA, RCPSC, CFPC, or ACGME-I (with Advanced Specialty Accreditation) may enter an ACGME-accredited residency program in the same specialty at the PGY-1 level and, at the discretion of the program director of the ACGME-accredited program and with approval by the GMEC, may be advanced to the PGY-2 level based on ACGME Milestones evaluations at the ACGME-accredited program. This provision applies only to entry into residency in those specialties for which an initial clinical year is not required for entry.** (Core)

III.B. **The program director must not appoint more residents than approved by the Review Committee.** (Core)

III.B.1. **All complement increases must be approved by the Review Committee.** (Core)

III.B.2. There must be at least four residents appointed to the program each year. (Core)

III.C. **Resident Transfers**

The program must obtain verification of previous educational experiences and a summative competency-based performance evaluation prior to acceptance of a transferring resident, and Milestones evaluations upon matriculation. (Core)

IV. Educational Program

The ACGME accreditation system is designed to encourage excellence and innovation in graduate medical education regardless of the organizational affiliation, size, or location of the program.

The educational program must support the development of knowledgeable, skillful physicians who provide compassionate care.

In addition, the program is expected to define its specific program aims consistent with the overall mission of its Sponsoring Institution, the needs of the community it serves and that its graduates will serve, and the distinctive capabilities of physicians it intends to graduate. While programs must demonstrate substantial compliance with the Common and specialty-specific Program Requirements, it is recognized that within this framework, programs may place different emphasis on research, leadership, public health, etc. It is expected that the program aims will reflect the nuanced program-specific goals for it and its graduates; for example, it is expected that a program aiming to prepare physician-scientists will have a different curriculum from one focusing on community health.

IV.A. **The curriculum must contain the following educational components:** (Core)

IV.A.1. **a set of program aims consistent with the Sponsoring Institution's mission, the needs of the community it serves, and the desired distinctive capabilities of its graduates;** (Core)

IV.A.1.a) **The program's aims must be made available to program applicants, residents, and faculty members.** (Core)

IV.A.2. **competency-based goals and objectives for each educational experience designed to promote progress on a trajectory to autonomous practice. These must be distributed, reviewed, and available to residents and faculty members;** (Core)

Background and Intent: The trajectory to autonomous practice is documented by Milestones evaluation. The Milestones detail the progress of a resident in attaining skill in each competency domain. They are developed by each specialty group and allow evaluation based on observable behaviors. Milestones are considered formative and should be used to identify learning needs. This may lead to focused or general curricular revision in any given program or to individualized learning plans for any specific resident.

IV.A.3. **delineation of resident responsibilities for patient care, progressive responsibility for patient management, and graded supervision;** (Core)

Background and Intent: These responsibilities may generally be described by PGY level and specifically by Milestones progress as determined by the Clinical Competency Committee. This approach encourages the transition to competency-based education. An advanced learner may be granted more responsibility independent of PGY level and a learner needing more time to accomplish a certain task may do so in a focused rather than global manner.

IV.A.4. **a broad range of structured didactic activities;** (Core)

IV.A.4.a) Residents must be provided with protected time to participate in core didactic activities. (Core)

Background and Intent: It is intended that residents will participate in structured didactic activities. It is recognized that there may be circumstances in which this is not possible. Programs should define core didactic activities for which time is protected and the circumstances in which residents may be excused from these didactic activities. Didactic activities may include, but are not limited to, lectures, conferences, courses, labs, asynchronous learning, simulations, drills, case discussions, grand rounds, didactic teaching, and education in critical appraisal of medical evidence.

IV.A.5. advancement of residents' knowledge of ethical principles foundational to medical professionalism; and, (Core)

IV.A.6. advancement in the residents' knowledge of the basic principles of scientific inquiry, including how research is designed, conducted, evaluated, explained to patients, and applied to patient care. (Core)

IV.B. ACGME Competencies

Background and Intent: The Competencies provide a conceptual framework describing the required domains for a trusted physician to enter autonomous practice. These Competencies are core to the practice of all physicians, although the specifics are further defined by each specialty. The developmental trajectories in each of the Competencies are articulated through the Milestones for each specialty.

IV.B.1. The program must integrate the following ACGME Competencies into the curriculum: (Core)

IV.B.1.a) Professionalism

Residents must demonstrate a commitment to professionalism and an adherence to ethical principles. (Core)

IV.B.1.a).(1) Residents must demonstrate competence in:

IV.B.1.a).(1).(a) compassion, integrity, and respect for others; (Core)

IV.B.1.a).(1).(b) responsiveness to patient needs that supersedes self-interest; (Core)

Background and Intent: This includes the recognition that under certain circumstances, the interests of the patient may be best served by transitioning care to another provider. Examples include fatigue, conflict or duality of interest, not connecting well with a patient, or when another physician would be better for the situation based on skill set or knowledge base.

IV.B.1.a).(1).(c) **respect for patient privacy and autonomy;** (Core)

IV.B.1.a).(1).(d) **accountability to patients, society, and the profession;** (Core)

IV.B.1.a).(1).(e) **respect and responsiveness to diverse patient populations, including but not limited to diversity in gender, age, culture, race, religion, disabilities, national origin, socioeconomic status, and sexual orientation;** (Core)

IV.B.1.a).(1).(f) **ability to recognize and develop a plan for one's own personal and professional well-being; and,** (Core)

IV.B.1.a).(1).(g) **appropriately disclosing and addressing conflict or duality of interest.** (Core)

IV.B.1.b) **Patient Care and Procedural Skills**

Background and Intent: Quality patient care is safe, effective, timely, efficient, patient-centered, equitable, and designed to improve population health, while reducing per capita costs. (See the Institute of Medicine [IOM]'s *Crossing the Quality Chasm: A New Health System for the 21st Century*, 2001 and Berwick D, Nolan T, Whittington J. *The Triple Aim: care, cost, and quality. Health Affairs.* 2008; 27(3):759-769.). In addition, there should be a focus on improving the clinician's well-being as a means to improve patient care and reduce burnout among residents, fellows, and practicing physicians.

These organizing principles inform the Common Program Requirements across all Competency domains. Specific content is determined by the Review Committees with input from the appropriate professional societies, certifying boards, and the community.

IV.B.1.b).(1) **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.** (Core)

IV.B.1.b).(1).(a) Residents must demonstrate competence in:

IV.B.1.b).(1).(a).(i) obtaining a comprehensive medical history; (Core)

IV.B.1.b).(1).(a).(ii) performing a comprehensive physical examination; (Core)

IV.B.1.b).(1).(a).(iii) assessing a patient's problems and/or chief complaint; (Core)

ACGME
Program Requirements for Graduate Medical Education in Ophthalmology

ACGME approved major revision: February 4, 2019; effective: July 1, 2020

ACGME Program Requirements for Graduate Medical Education in Ophthalmology

Common Program Requirements (Residency) are in BOLD

Where applicable, text in italics describes the underlying philosophy of the requirements in that section. These philosophic statements are not program requirements and are therefore not citable.

Introduction

Int.A. ***Graduate medical education is the crucial step of professional development between medical school and autonomous clinical practice. It is in this vital phase of the continuum of medical education that residents learn to provide optimal patient care under the supervision of faculty members who not only instruct, but serve as role models of excellence, compassion, professionalism, and scholarship.***

Graduate medical education transforms medical students into physician scholars who care for the patient, family, and a diverse community; create and integrate new knowledge into practice; and educate future generations of physicians to serve the public. Practice patterns established during graduate medical education persist many years later.

Graduate medical education has as a core tenet the graded authority and responsibility for patient care. The care of patients is undertaken with appropriate faculty supervision and conditional independence, allowing residents to attain the knowledge, skills, attitudes, and empathy required for autonomous practice. Graduate medical education develops physicians who focus on excellence in delivery of safe, equitable, affordable, quality care; and the health of the populations they serve. Graduate medical education values the strength that a diverse group of physicians brings to medical care.

Graduate medical education occurs in clinical settings that establish the foundation for practice-based and lifelong learning. The professional development of the physician, begun in medical school, continues through faculty modeling of the effacement of self-interest in a humanistic environment that emphasizes joy in curiosity, problem-solving, academic rigor, and discovery. This transformation is often physically, emotionally, and intellectually demanding and occurs in a variety of clinical learning environments committed to graduate medical education and the well-being of patients, residents, fellows, faculty members, students, and all members of the health care team.

Int.B. **Definition of Specialty**

Ophthalmologists are physicians who specialize in comprehensive eye and vision care. Ophthalmologists prescribe glasses and contacts, provide treatment and manage prevention of medical disorders of the eye, and perform all types of eye surgery. Ophthalmologists have expertise in optics, visual physiology, and

Contents

corrections of refractive errors; retina, vitreous, and uvea; neuro-ophthalmology; pediatric ophthalmology and strabismus; external disease and cornea; glaucoma, cataract, and anterior segment; oculoplastic surgery and orbital diseases; and ophthalmic pathology.

Int.C. Length of Educational Program

Accredited residencies in ophthalmology must provide at least 36 months of education. Education in ophthalmology must include 12 months of preliminary clinical experiences during the PGY-1, for a total of 48 months of residency education. (Core)*

Int.C.1. Education in ophthalmology must be provided in one of two formats: (Core)

Int.C.1.a) Integrated ophthalmology format: All 48 months of education are under the authority and direction of the ophthalmology program director. (Core)

Int.C.1.b) Joint preliminary year/ophthalmology format: This includes a preliminary year of graduate medical education followed by 36 months in an ophthalmology program. (Core)

[Requirements Int.C.1.-Int.C.1.b) become effective July 1, 2021]

I. Oversight

I.A. Sponsoring Institution

The Sponsoring Institution is the organization or entity that assumes the ultimate financial and academic responsibility for a program of graduate medical education, consistent with the ACGME Institutional Requirements.

When the Sponsoring Institution is not a rotation site for the program, the most commonly utilized site of clinical activity for the program is the primary clinical site.

Background and Intent: Participating sites will reflect the health care needs of the community and the educational needs of the residents. A wide variety of organizations may provide a robust educational experience and, thus, Sponsoring Institutions and participating sites may encompass inpatient and outpatient settings including, but not limited to a university, a medical school, a teaching hospital, a nursing home, a school of public health, a health department, a public health agency, an organized health care delivery system, a medical examiner's office, an educational consortium, a teaching health center, a physician group practice, federally qualified health center, or an educational foundation.

I.A.1. The program must be sponsored by one ACGME-accredited Sponsoring Institution. (Core)*

I.B. Participating Sites

A participating site is an organization providing educational experiences or educational assignments/rotations for residents.

I.B.1. The program, with approval of its Sponsoring Institution, must designate a primary clinical site. (Core)

I.B.2. There must be a program letter of agreement (PLA) between the program and each participating site that governs the relationship between the program and the participating site providing a required assignment. (Core)

I.B.2.a) The PLA must:

I.B.2.a).(1) be renewed at least every 10 years; and, (Core)

I.B.2.a).(2) be approved by the designated institutional official (DIO). (Core)

I.B.3. The program must monitor the clinical learning and working environment at all participating sites. (Core)

I.B.3.a) At each participating site there must be one faculty member, designated by the program director as the site director, who is accountable for resident education at that site, in collaboration with the program director. (Core)

Background and Intent: While all residency programs must be sponsored by a single ACGME-accredited Sponsoring Institution, many programs will utilize other clinical settings to provide required or elective training experiences. At times it is appropriate to utilize community sites that are not owned by or affiliated with the Sponsoring Institution. Some of these sites may be remote for geographic, transportation, or communication issues. When utilizing such sites the program must ensure the quality of the educational experience. The requirements under I.B.3. are intended to ensure that this will be the case.

Suggested elements to be considered in PLAs will be found in the ACGME Program Director's Guide to the Common Program Requirements. These include:

- **Identifying the faculty members who will assume educational and supervisory responsibility for residents**
- **Specifying the responsibilities for teaching, supervision, and formal evaluation of residents**
- **Specifying the duration and content of the educational experience**
- **Stating the policies and procedures that will govern resident education during the assignment**

I.B.4. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all residents, of one month full time equivalent (FTE) or more through the ACGME's Accreditation Data System (ADS). (Core)

I.B.5. Participating sites should not be so distant from the Sponsoring Institution or primary clinical site as to make it difficult for residents to regularly attend conferences. (Detail)†

I.B.5.a) If a rotation during the PGY-2-4 precludes residents' attendance at ophthalmology conferences, the program director must provide access to the educational materials that were presented. (Core)

I.B.6. Elective international rotation(s) must not be longer than one month in total over the course of the residency. (Core)

I.B.6.a) Surgical procedures completed during an elective international rotation must not be counted toward the required minimum numbers of procedures. (Core)

I.C. The program, in partnership with its Sponsoring Institution, must engage in practices that focus on mission-driven, ongoing, systematic recruitment and retention of a diverse and inclusive workforce of residents, fellows (if present), faculty members, senior administrative staff members, and other relevant members of its academic community. (Core)

Background and Intent: It is expected that the Sponsoring Institution has, and programs implement, policies and procedures related to recruitment and retention of minorities underrepresented in medicine and medical leadership in accordance with the Sponsoring Institution's mission and aims. The program's annual evaluation must include an assessment of the program's efforts to recruit and retain a diverse workforce, as noted in V.C.1.c).(5).(c).

I.D. Resources

I.D.1. The program, in partnership with its Sponsoring Institution, must ensure the availability of adequate resources for resident education. (Core)

I.D.1.a) The outpatient area of each participating site must have a minimum of one examining room or lane for each resident in the clinic. (Core)

I.D.1.a).(1) In general ophthalmology clinics, there must be access to diagnostic equipment, including equipment designed for keratometry, ophthalmic photography (including fluorescein angiography), optical coherence tomography, pachymetry, perimetry, and ultrasonography. (Core)

I.D.1.b) Each participating site where residents rotate for intraocular ophthalmic surgical education must have at least one operating room equipped for ophthalmic surgery that includes an operating microscope. (Core)

I.D.1.c) Each inpatient facility where residents rotate for ophthalmology education must have an eye examination room with a slit lamp. (Core)

I.D.1.d) Surgical skills development resource(s), including a hands-on surgical skills laboratory, must be available. This may be a wet lab, dry lab, or surgical simulation lab. (Core)

I.D.1.e) Each resident must be provided with a variety of clinical ophthalmological problems in children and adults needed to develop competence in diagnostic, therapeutic, and manual skills. (Core)

I.D.2. The program, in partnership with its Sponsoring Institution, must ensure healthy and safe learning and working environments that promote resident well-being and provide for: (Core)

I.D.2.a) access to food while on duty; (Core)

I.D.2.b) safe, quiet, clean, and private sleep/rest facilities available and accessible for residents with proximity appropriate for safe patient care; (Core)

Background and Intent: Care of patients within a hospital or health system occurs continually through the day and night. Such care requires that residents function at their peak abilities, which requires the work environment to provide them with the ability to meet their basic needs within proximity of their clinical responsibilities. Access to food and rest are examples of these basic needs, which must be met while residents are working. Residents should have access to refrigeration where food may be stored. Food should be available when residents are required to be in the hospital overnight. Rest facilities are necessary, even when overnight call is not required, to accommodate the fatigued resident.

I.D.2.c) clean and private facilities for lactation that have refrigeration capabilities, with proximity appropriate for safe patient care; (Core)

Background and Intent: Sites must provide private and clean locations where residents may lactate and store the milk within a refrigerator. These locations should be in close proximity to clinical responsibilities. It would be helpful to have additional support within these locations that may assist the resident with the continued care of patients, such as a computer and a phone. While space is important, the time required for lactation is also critical for the well-being of the resident and the resident's family, as outlined in VI.C.1.d).(1).

I.D.2.d) security and safety measures appropriate to the participating site; and, (Core)

I.D.2.e) accommodations for residents with disabilities consistent with the Sponsoring Institution's policy. (Core)

I.D.3. Residents must have ready access to specialty-specific and other appropriate reference material in print or electronic format. This must include access to electronic medical literature databases with full text capabilities. (Core)

I.D.4. The program's educational and clinical resources must be adequate to support the number of residents appointed to the program. (Core)

I.E. The presence of other learners and other care providers, including, but not limited to, residents from other programs, subspecialty fellows, and advanced practice providers, must enrich the appointed residents' education. (Core)

I.E.1. The program must report circumstances when the presence of other learners has interfered with the residents' education to the DIO and Graduate Medical Education Committee (GMEC). (Core)

Background and Intent: The clinical learning environment has become increasingly complex and often includes care providers, students, and post-graduate residents and fellows from multiple disciplines. The presence of these practitioners and their learners enriches the learning environment. Programs have a responsibility to monitor the learning environment to ensure that residents' education is not compromised by the presence of other providers and learners.

II. Personnel

II.A. Program Director

II.A.1. There must be one faculty member appointed as program director with authority and accountability for the overall program, including compliance with all applicable program requirements. (Core)

II.A.1.a) The Sponsoring Institution's GMEC must approve a change in program director. (Core)

II.A.1.b) Final approval of the program director resides with the Review Committee. (Core)

Background and Intent: While the ACGME recognizes the value of input from numerous individuals in the management of a residency, a single individual must be designated as program director and made responsible for the program. This individual will have dedicated time for the leadership of the residency, and it is this individual's responsibility to communicate with the residents, faculty members, DIO, GMEC, and the ACGME. The program director's nomination is reviewed and approved by the GMEC. Final approval of program directors resides with the Review Committee.

II.A.1.c) The program must demonstrate retention of the program director for a length of time adequate to maintain continuity of leadership and program stability. (Core)

Background and Intent: The success of residency programs is generally enhanced by continuity in the program director position. The professional activities required of a program director are unique and complex and take time to master. All programs are encouraged to undertake succession planning to facilitate program stability when there is necessary turnover in the program director position.

II.A.1.c).(1) The program director must be appointed for a term of at least three years. (Core)

II.A.2. At a minimum, the program director must be provided with the salary support required to devote 20 percent FTE (at least eight hours per week) of non-clinical time to the administration of the program. (Core)

II.A.3. Qualifications of the program director:

II.A.3.a) must include specialty expertise and at least three years of documented educational and/or administrative experience, or qualifications acceptable to the Review Committee; (Core)

Background and Intent: Leading a program requires knowledge and skills that are established during residency and subsequently further developed. The time period from completion of residency until assuming the role of program director allows the individual to cultivate leadership abilities while becoming professionally established. The three-year period is intended for the individual's professional maturation.

The broad allowance for educational and/or administrative experience recognizes that strong leaders arise through diverse pathways. These areas of expertise are important when identifying and appointing a program director. The choice of a program director should be informed by the mission of the program and the needs of the community.

In certain circumstances, the program and Sponsoring Institution may propose and the Review Committee may accept a candidate for program director who fulfills these goals but does not meet the three-year minimum.

II.A.3.b) must include current certification in the specialty for which they are the program director by the American Board of Ophthalmology **or by the American Osteopathic Board of** Ophthalmology and Otolaryngology – Head and Neck Surgery, **or specialty qualifications that are acceptable to the Review Committee;** (Core)

II.A.3.c) must include current medical licensure and appropriate medical staff appointment; and, (Core)

II.A.3.c).(1) The program director must be a member of the staff at the Sponsoring Institution, primary clinical site, or a participating site acceptable to the Review Committee. (Core)

II.A.3.d) must include ongoing clinical activity. (Core)

Background and Intent: A program director is a role model for faculty members and residents. The program director must participate in clinical activity consistent with the specialty. This activity will allow the program director to role model the Core Competencies for the faculty members and residents.

II.A.4. **Program Director Responsibilities**

The program director must have responsibility, authority, and accountability for: administration and operations; teaching and scholarly activity; resident recruitment and selection, evaluation, and promotion of residents, and disciplinary action; supervision of residents; and resident education in the context of patient care. (Core)

II.A.4.a) **The program director must:**

II.A.4.a).(1) **be a role model of professionalism;** (Core)

Background and Intent: The program director, as the leader of the program, must serve as a role model to residents in addition to fulfilling the technical aspects of the role. As residents are expected to demonstrate compassion, integrity, and respect for others, they must be able to look to the program director as an exemplar. It is of utmost importance, therefore, that the program director model outstanding professionalism, high quality patient care, educational excellence, and a scholarly approach to work. The program director creates an environment where respectful discussion is welcome, with the goal of continued improvement of the educational experience.

II.A.4.a).(2) **design and conduct the program in a fashion consistent with the needs of the community, the mission(s) of the Sponsoring Institution, and the mission(s) of the program;** (Core)

Background and Intent: The mission of institutions participating in graduate medical education is to improve the health of the public. Each community has health needs that vary based upon location and demographics. Programs must understand the social determinants of health of the populations they serve and incorporate them in the design and implementation of the program curriculum, with the ultimate goal of addressing these needs and health disparities.

II.A.4.a).(3) **administer and maintain a learning environment conducive to educating the residents in each of the ACGME Competency domains;** (Core)

Background and Intent: The program director may establish a leadership team to assist in the accomplishment of program goals. Residency programs can be highly complex. In a complex organization, the leader typically has the ability to delegate authority to others, yet remains accountable. The leadership team may include physician and non-physician personnel with varying levels of education, training, and experience.

II.A.4.a).(4)	develop and oversee a process to evaluate candidates prior to approval as program faculty members for participation in the residency program education and at least annually thereafter, as outlined in V.B.; (Core)
II.A.4.a).(5)	have the authority to approve program faculty members for participation in the residency program education at all sites; (Core)
II.A.4.a).(6)	have the authority to remove program faculty members from participation in the residency program education at all sites; (Core)
II.A.4.a).(7)	have the authority to remove residents from supervising interactions and/or learning environments that do not meet the standards of the program; (Core)

Background and Intent: The program director has the responsibility to ensure that all who educate residents effectively role model the Core Competencies. Working with a resident is a privilege that is earned through effective teaching and professional role modeling. This privilege may be removed by the program director when the standards of the clinical learning environment are not met.

There may be faculty in a department who are not part of the educational program, and the program director controls who is teaching the residents.

II.A.4.a).(8)	submit accurate and complete information required and requested by the DIO, GMEC, and ACGME; (Core)
II.A.4.a).(9)	provide applicants who are offered an interview with information related to the applicant's eligibility for the relevant specialty board examination(s); (Core)
II.A.4.a).(10)	provide a learning and working environment in which residents have the opportunity to raise concerns and provide feedback in a confidential manner as appropriate, without fear of intimidation or retaliation; (Core)
II.A.4.a).(11)	ensure the program's compliance with the Sponsoring Institution's policies and procedures related to grievances and due process; (Core)
II.A.4.a).(12)	ensure the program's compliance with the Sponsoring Institution's policies and procedures for due process when action is taken to suspend or dismiss, not to promote, or not to renew the appointment of a resident; (Core)

Background and Intent: A program does not operate independently of its Sponsoring Institution. It is expected that the program director will be aware of the Sponsoring

Institution's policies and procedures, and will ensure they are followed by the program's leadership, faculty members, support personnel, and residents.

II.A.4.a).(13) ensure the program's compliance with the Sponsoring Institution's policies and procedures on employment and non-discrimination; (Core)

II.A.4.a).(13).(a) Residents must not be required to sign a non-competition guarantee or restrictive covenant. (Core)

II.A.4.a).(14) document verification of program completion for all graduating residents within 30 days; (Core)

II.A.4.a).(15) provide verification of an individual resident's completion upon the resident's request, within 30 days; and, (Core)

Background and Intent: Primary verification of graduate medical education is important to credentialing of physicians for further training and practice. Such verification must be accurate and timely. Sponsoring Institution and program policies for record retention are important to facilitate timely documentation of residents who have previously completed the program. Residents who leave the program prior to completion also require timely documentation of their summative evaluation.

II.A.4.a).(16) obtain review and approval of the Sponsoring Institution's DIO before submitting information or requests to the ACGME, as required in the Institutional Requirements and outlined in the ACGME Program Director's Guide to the Common Program Requirements. (Core)

II.B. Faculty

Faculty members are a foundational element of graduate medical education – faculty members teach residents how to care for patients. Faculty members provide an important bridge allowing residents to grow and become practice-ready, ensuring that patients receive the highest quality of care. They are role models for future generations of physicians by demonstrating compassion, commitment to excellence in teaching and patient care, professionalism, and a dedication to lifelong learning. Faculty members experience the pride and joy of fostering the growth and development of future colleagues. The care they provide is enhanced by the opportunity to teach. By employing a scholarly approach to patient care, faculty members, through the graduate medical education system, improve the health of the individual and the population.

Faculty members ensure that patients receive the level of care expected from a specialist in the field. They recognize and respond to the needs of the patients, residents, community, and institution. Faculty members provide appropriate levels of supervision to promote patient safety. Faculty

members create an effective learning environment by acting in a professional manner and attending to the well-being of the residents and themselves.

Background and Intent: "Faculty" refers to the entire teaching force responsible for educating residents. The term "faculty," including "core faculty," does not imply or require an academic appointment or salary support.

II.B.1. **At each participating site, there must be a sufficient number of faculty members with competence to instruct and supervise all residents at that location.** (Core)

II.B.1.a) Residents must have ready access to faculty members with expertise across a broad range of ophthalmic disciplines, including contact lens, cornea, glaucoma, neuro-ophthalmology, ophthalmic pathology, ophthalmic plastic and reconstructive surgery, pediatric ophthalmology and strabismus, refractive surgery, retina, and visual rehabilitation. (Core)

II.B.2. **Faculty members must:**

II.B.2.a) **be role models of professionalism;** (Core)

II.B.2.b) **demonstrate commitment to the delivery of safe, quality, cost-effective, patient-centered care;** (Core)

Background and Intent: Patients have the right to expect quality, cost-effective care with patient safety at its core. The foundation for meeting this expectation is formed during residency and fellowship. Faculty members model these goals and continually strive for improvement in care and cost, embracing a commitment to the patient and the community they serve.

II.B.2.c) **demonstrate a strong interest in the education of residents;** (Core)

II.B.2.d) **devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities;** (Core)

II.B.2.e) **administer and maintain an educational environment conducive to educating residents;** (Core)

II.B.2.f) **regularly participate in organized clinical discussions, rounds, journal clubs, and conferences; and,** (Core)

II.B.2.g) **pursue faculty development designed to enhance their skills at least annually:** (Core)

Background and Intent: Faculty development is intended to describe structured programming developed for the purpose of enhancing transference of knowledge, skill, and behavior from the educator to the learner. Faculty development may occur

in a variety of configurations (lecture, workshop, etc.) using internal and/or external resources. Programming is typically needs-based (individual or group) and may be specific to the institution or the program. Faculty development programming is to be reported for the residency program faculty in the aggregate.

II.B.2.g).(1) as educators; (Core)

II.B.2.g).(2) in quality improvement and patient safety; (Core)

II.B.2.g).(3) in fostering their own and their residents' well-being; and, (Core)

II.B.2.g).(4) in patient care based on their practice-based learning and improvement efforts. (Core)

Background and Intent: Practice-based learning serves as the foundation for the practice of medicine. Through a systematic analysis of one's practice and review of the literature, one is able to make adjustments that improve patient outcomes and care. Thoughtful consideration to practice-based analysis improves quality of care, as well as patient safety. This allows faculty members to serve as role models for residents in practice-based learning.

II.B.3. Faculty Qualifications

II.B.3.a) Faculty members must have appropriate qualifications in their field and hold appropriate institutional appointments. (Core)

II.B.3.b) Physician faculty members must:

II.B.3.b).(1) have current certification in the specialty by the American Board of Ophthalmology or the American Osteopathic Board of Ophthalmology and Otolaryngology – Head and Neck Surgery, or possess qualifications judged acceptable to the Review Committee. (Core)

II.B.3.c) Any non-physician faculty members who participate in residency program education must be approved by the program director. (Core)

Background and Intent: The provision of optimal and safe patient care requires a team approach. The education of residents by non-physician educators enables the resident to better manage patient care and provides valuable advancement of the residents' knowledge. Furthermore, other individuals contribute to the education of the resident in the basic science of the specialty or in research methodology. If the program director determines that the contribution of a non-physician individual is significant to the education of the residents, the program director may designate the individual as a program faculty member or a program core faculty member.

II.B.4. Core Faculty

Core faculty members must have a significant role in the education and supervision of residents and must devote a significant portion of their entire effort to resident education and/or administration, and must, as a component of their activities, teach, evaluate, and provide formative feedback to residents. (Core)

Background and Intent: Core faculty members are critical to the success of resident education. They support the program leadership in developing, implementing, and assessing curriculum and in assessing residents' progress toward achievement of competence in the specialty. Core faculty members should be selected for their broad knowledge of and involvement in the program, permitting them to effectively evaluate the program, including completion of the annual ACGME Faculty Survey.

II.B.4.a) **Core faculty members must be designated by the program director.** (Core)

II.B.4.b) **Core faculty members must complete the annual ACGME Faculty Survey.** (Core)

II.B.4.c) In addition to the program director, there must be at least two other core faculty members. (Core)

II.C. Program Coordinator

II.C.1. **There must be a program coordinator.** (Core)

II.C.2. **At a minimum, the program coordinator must be supported at 50 percent FTE (at least 20 hours per week) for administrative time.** (Core)

Background and Intent: Each program requires a lead administrative person, frequently referred to as a program coordinator, administrator, or as titled by the institution. This person will frequently manage the day-to-day operations of the program and serve as an important liaison with learners, faculty and other staff members, and the ACGME. Individuals serving in this role are recognized as program coordinators by the ACGME.

The program coordinator is a member of the leadership team and is critical to the success of the program. As such, the program coordinator must possess skills in leadership and personnel management. Program coordinators are expected to develop unique knowledge of the ACGME and Program Requirements, policies, and procedures. Program coordinators assist the program director in accreditation efforts, educational programming, and support of residents.

Programs, in partnership with their Sponsoring Institutions, should encourage the professional development of their program coordinators and avail them of opportunities for both professional and personal growth. Programs with fewer residents may not require a full-time coordinator; one coordinator may support more than one program.

II.D. Other Program Personnel

The program, in partnership with its Sponsoring Institution, must jointly ensure the availability of necessary personnel for the effective administration of the program. (Core)

Background and Intent: Multiple personnel may be required to effectively administer a program. These may include staff members with clerical skills, project managers, education experts, and staff members to maintain electronic communication for the program. These personnel may support more than one program in more than one discipline.

III. Resident Appointments

III.A. Eligibility Requirements

III.A.1. An applicant must meet one of the following qualifications to be eligible for appointment to an ACGME-accredited program: (Core)

III.A.1.a) graduation from a medical school in the United States or Canada, accredited by the Liaison Committee on Medical Education (LCME) or graduation from a college of osteopathic medicine in the United States, accredited by the American Osteopathic Association Commission on Osteopathic College Accreditation (AOACOCA); or, (Core)

III.A.1.b) graduation from a medical school outside of the United States or Canada, and meeting one of the following additional qualifications: (Core)

III.A.1.b).(1) holding a currently valid certificate from the Educational Commission for Foreign Medical Graduates (ECFMG) prior to appointment; or, (Core)

III.A.1.b).(2) holding a full and unrestricted license to practice medicine in the United States licensing jurisdiction in which the ACGME-accredited program is located. (Core)

III.A.2. All prerequisite post-graduate clinical education required for initial entry or transfer into ACGME-accredited residency programs must be completed in ACGME-accredited residency programs, AOA-approved residency programs, Royal College of Physicians and Surgeons of Canada (RCPSC)-accredited or College of Family Physicians of Canada (CFPC)-accredited residency programs located in Canada, or in residency programs with ACGME International (ACGME-I) Advanced Specialty Accreditation. (Core)

III.A.2.a) Residency programs must receive verification of each resident's level of competency in the required clinical field using ACGME, CanMEDS, or ACGME-I Milestones evaluations from the prior training program upon matriculation. (Core)

III.A.2.b) Prior to appointment in the program, all residents must have successfully completed a post-graduate clinical year (PGY-1) in a program that satisfies III.A.2. (Core)

III.A.2.b).(1) The PGY-1 must be in one of the following specialties: emergency medicine, family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, surgery, or transitional year. (Core)

[Requirements III.A.2.b)-III.A.2.b).(1) will be effective from July 1, 2020 to June 30, 2021]

III.A.2.c) Residents entering a joint preliminary year/ophthalmology format program should have completed 12 months of preliminary clinical education in an ACGME-accredited program sponsored by the same institution that sponsors the ophthalmology residency program. (Core)

Specialty-Specific Background and Intent: While the Review Committee expects the preliminary year will occur in a program sponsored by the ophthalmology program's Sponsoring Institution, it is recognized that in some instances this may not be possible. In such situations, the Review Committee will consider requests from programs seeking to utilize a program at a different ACGME-accredited Sponsoring Institution.

III.A.2.c).(1) The preliminary year must be in a program that includes direct patient care experience, for example, emergency medicine, family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, or surgery, or a transitional year program, and must include the experiences detailed in IV.C.3.-IV.C.3.a).(2).(a). (Core)

[Requirements III.A.2.c)-III.A.2.c).(1) and Specialty-Specific Background and Intent become effective July 1, 2021]

Background and Intent: Programs with ACGME-I Foundational Accreditation or from institutions with ACGME-I accreditation do not qualify unless the program has also achieved ACGME-I Advanced Specialty Accreditation. To ensure entrants into ACGME-accredited programs from ACGME-I programs have attained the prerequisite milestones for this training, they must be from programs that have ACGME-I Advanced Specialty Accreditation.

III.A.3. **A physician who has completed a residency program that was not accredited by ACGME, AOA, RCPSC, CFPC, or ACGME-I (with Advanced Specialty Accreditation) may enter an ACGME-accredited residency program in the same specialty at the PGY-1 level and, at the discretion of the program director of the ACGME-accredited program and with approval by the GMEC, may be advanced to the PGY-2 level based on ACGME Milestones evaluations at the ACGME-accredited program. This provision applies only to entry into residency in those specialties for which an initial clinical year is not required for entry.** (Core)

III.B. **The program director must not appoint more residents than approved by the Review Committee.** (Core)

III.B.1. **All complement increases must be approved by the Review Committee.** (Core)

III.B.2. There must be a minimum of two residents in each year of the program. (Core)

III.C. **Resident Transfers**

The program must obtain verification of previous educational experiences and a summative competency-based performance evaluation prior to acceptance of a transferring resident, and Milestones evaluations upon matriculation. (Core)

IV. Educational Program

The ACGME accreditation system is designed to encourage excellence and innovation in graduate medical education regardless of the organizational affiliation, size, or location of the program.

The educational program must support the development of knowledgeable, skillful physicians who provide compassionate care.

In addition, the program is expected to define its specific program aims consistent with the overall mission of its Sponsoring Institution, the needs of the community it serves and that its graduates will serve, and the distinctive capabilities of physicians it intends to graduate. While programs must demonstrate substantial compliance with the Common and specialty-specific Program Requirements, it is recognized that within this framework, programs may place different emphasis on research, leadership, public health, etc. It is expected that the program aims will reflect the nuanced program-specific goals for it and its graduates; for example, it is expected that a program aiming to prepare physician-scientists will have a different curriculum from one focusing on community health.

IV.A. **The curriculum must contain the following educational components:** (Core)

IV.A.1. **a set of program aims consistent with the Sponsoring Institution's mission, the needs of the community it serves, and the desired distinctive capabilities of its graduates;** (Core)

IV.A.1.a) **The program's aims must be made available to program applicants, residents, and faculty members.** (Core)

IV.A.2. **competency-based goals and objectives for each educational experience designed to promote progress on a trajectory to autonomous practice. These must be distributed, reviewed, and available to residents and faculty members;** (Core)

Background and Intent: The trajectory to autonomous practice is documented by Milestones evaluation. The Milestones detail the progress of a resident in attaining skill in each competency domain. They are developed by each specialty group and allow evaluation based on observable behaviors. Milestones are considered formative and should be used to identify learning needs. This may lead to focused or general curricular revision in any given program or to individualized learning plans for any specific resident.

IV.A.3. delineation of resident responsibilities for patient care, progressive responsibility for patient management, and graded supervision; (Core)

Background and Intent: These responsibilities may generally be described by PGY level and specifically by Milestones progress as determined by the Clinical Competency Committee. This approach encourages the transition to competency-based education. An advanced learner may be granted more responsibility independent of PGY level and a learner needing more time to accomplish a certain task may do so in a focused rather than global manner.

IV.A.4. a broad range of structured didactic activities; (Core)

IV.A.4.a) Residents must be provided with protected time to participate in core didactic activities. (Core)

Background and Intent: It is intended that residents will participate in structured didactic activities. It is recognized that there may be circumstances in which this is not possible. Programs should define core didactic activities for which time is protected and the circumstances in which residents may be excused from these didactic activities. Didactic activities may include, but are not limited to, lectures, conferences, courses, labs, asynchronous learning, simulations, drills, case discussions, grand rounds, didactic teaching, and education in critical appraisal of medical evidence.

IV.A.5. advancement of residents' knowledge of ethical principles foundational to medical professionalism; and, (Core)

IV.A.6. advancement in the residents' knowledge of the basic principles of scientific inquiry, including how research is designed, conducted, evaluated, explained to patients, and applied to patient care. (Core)

IV.B. ACGME Competencies

Background and Intent: The Competencies provide a conceptual framework describing the required domains for a trusted physician to enter autonomous practice. These Competencies are core to the practice of all physicians, although the specifics are further defined by each specialty. The developmental trajectories in each of the Competencies are articulated through the Milestones for each specialty.

IV.B.1. The program must integrate the following ACGME Competencies into the curriculum: (Core)

IV.B.1.a) **Professionalism**

Residents must demonstrate a commitment to professionalism and an adherence to ethical principles. (Core)

IV.B.1.a).(1) **Residents must demonstrate competence in:**

IV.B.1.a).(1).(a) **compassion, integrity, and respect for others;** (Core)

IV.B.1.a).(1).(b) **responsiveness to patient needs that supersedes self-interest;** (Core)

Background and Intent: This includes the recognition that under certain circumstances, the interests of the patient may be best served by transitioning care to another provider. Examples include fatigue, conflict or duality of interest, not connecting well with a patient, or when another physician would be better for the situation based on skill set or knowledge base.

IV.B.1.a).(1).(c) **respect for patient privacy and autonomy;** (Core)

IV.B.1.a).(1).(d) **accountability to patients, society, and the profession;** (Core)

IV.B.1.a).(1).(e) **respect and responsiveness to diverse patient populations, including but not limited to diversity in gender, age, culture, race, religion, disabilities, national origin, socioeconomic status, and sexual orientation;** (Core)

IV.B.1.a).(1).(f) **ability to recognize and develop a plan for one's own personal and professional well-being; and,** (Core)

IV.B.1.a).(1).(g) **appropriately disclosing and addressing conflict or duality of interest.** (Core)

IV.B.1.b) **Patient Care and Procedural Skills**

Background and Intent: Quality patient care is safe, effective, timely, efficient, patient-centered, equitable, and designed to improve population health, while reducing per capita costs. (See the Institute of Medicine [IOM]'s *Crossing the Quality Chasm: A New Health System for the 21st Century*, 2001 and Berwick D, Nolan T, Whittington J. *The Triple Aim: care, cost, and quality. Health Affairs.* 2008; 27(3):759-769.). In addition, there should be a focus on improving the clinician's well-being as a means to improve patient care and reduce burnout among residents, fellows, and practicing physicians.

These organizing principles inform the Common Program Requirements across all Competency domains. Specific content is determined by the Review Committees with

input from the appropriate professional societies, certifying boards, and the community.

IV.B.1.b).(1) **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.** (Core)

IV.B.1.b).(1).(a) Residents must demonstrate competence in patient care, including: (Core)

IV.B.1.b).(1).(a).(i) evaluating and assessing pre-operative ophthalmic and general medical indications for surgery and surgical risks and benefits; (Core)

IV.B.1.b).(1).(a).(ii) managing systemic and ocular complications that may be associated with surgery and anesthesia; (Core)

IV.B.1.b).(1).(a).(iii) obtaining informed consent; and, (Core)

IV.B.1.b).(1).(a).(iv) providing acute and long-term postoperative care. (Core)

IV.B.1.b).(2) **Residents must be able to perform all medical, diagnostic, and surgical procedures considered essential for the area of practice.** (Core)

IV.B.1.b).(2).(a) Residents must demonstrate competence in patient care, including: (Core)

IV.B.1.b).(2).(a).(i) intra-operative skills; (Core)

IV.B.1.b).(2).(a).(ii) performing ophthalmic procedures as primary surgeon, to include:

IV.B.1.b).(2).(a).(ii).(a) cataract; (Core)

IV.B.1.b).(2).(a).(ii).(b) cornea; (Core)

IV.B.1.b).(2).(a).(ii).(c) glaucoma; (Core)

IV.B.1.b).(2).(a).(ii).(d) globe trauma; (Core)

IV.B.1.b).(2).(a).(ii).(e) oculoplastics/orbit; (Core)

IV.B.1.b).(2).(a).(ii).(f) retinal/vitreous; and, (Core)

IV.B.1.b).(2).(a).(ii).(g) strabismus. (Core)

IV.B.1.b).(2).(a).(iii) laser procedures, such as YAG capsulotomy, laser trabeculoplasty, laser iridotomy, panretinal laser photocoagulation; and, (Core)

IV.B.1.b).(2).(a).(iv) using local and general anesthetics. (Core)

IV.B.1.c) Medical Knowledge

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. (Core)

IV.B.1.c).(1) Residents must demonstrate competence in their knowledge of the basic and clinical sciences specific to ophthalmology. (Core)

IV.B.1.c).(2) Residents must demonstrate competence in their knowledge of: cataract surgery, contact lenses, cornea and external disease, eyelid abnormalities, glaucoma, neuro-ophthalmology, ocular trauma, optics and general fraction, orbital disease and ophthalmic plastic surgery, pathology, pediatric ophthalmology and strabismus, systemic disease consults, uveitis, visual rehabilitation and refractive surgery, and retinal/vitreous diseases. (Core)

IV.B.1.d) Practice-based Learning and Improvement

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 lifelong learning. (Core)

Background and Intent: Practice-based learning and improvement is one of the defining characteristics of being a physician. It is the ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.

The intention of this Competency is to help a physician develop the habits of mind required to continuously pursue quality improvement, well past the completion of residency.

IV.B.1.d).(1) Residents must demonstrate competence in:

IV.B.1.d).(1).(a) identifying strengths, deficiencies, and limits in one's knowledge and expertise; (Core)

IV.B.1.d).(1).(b) setting learning and improvement goals; (Core)

IV.B.1.d).(1).(c) identifying and performing appropriate learning activities; (Core)

IV.B.1.d).(1).(d) systematically analyzing practice using quality improvement methods, and implementing changes with the goal of practice improvement; (Core)

IV.B.1.d).(1).(e) incorporating feedback and formative evaluation into daily practice; (Core)

IV.B.1.d).(1).(f) locating, appraising, and assimilating evidence from scientific studies related to their patients' health problems; and, (Core)

IV.B.1.d).(1).(g) using information technology to optimize learning. (Core)

IV.B.1.e) **Interpersonal and Communication Skills**

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. (Core)

IV.B.1.e).(1) **Residents must demonstrate competence in:**

IV.B.1.e).(1).(a) communicating effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds; (Core)

IV.B.1.e).(1).(b) communicating effectively with physicians, other health professionals, and health-related agencies; (Core)

IV.B.1.e).(1).(c) working effectively as a member or leader of a health care team or other professional group; (Core)

IV.B.1.e).(1).(d) educating patients, families, students, residents, and other health professionals; (Core)

IV.B.1.e).(1).(e) acting in a consultative role to other physicians and health professionals; and, (Core)

IV.B.1.e).(1).(f) maintaining comprehensive, timely, and legible medical records, if applicable. (Core)

IV.B.1.e).(2) **Residents must learn to communicate with patients and families to partner with them to assess their care**

goals, including, when appropriate, end-of-life goals. (Core)

Background and Intent: When there are no more medications or interventions that can achieve a patient's goals or provide meaningful improvements in quality or length of life, a discussion about the patient's goals, values, and choices surrounding the end of life is one of the most important conversations that can occur. Residents must learn to participate effectively and compassionately in these meaningful human interactions, for the sake of their patients and themselves.

Programs may teach this skill through direct clinical experience, simulation, or other means of active learning.

IV.B.1.f) **Systems-based Practice**

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, including the social determinants of health, as well as the ability to call effectively on other resources to provide optimal health care. (Core)

IV.B.1.f).(1) Residents must demonstrate competence in:

IV.B.1.f).(1).(a) working effectively in various health care delivery settings and systems relevant to their clinical specialty; (Core)

Background and Intent: Medical practice occurs in the context of an increasingly complex clinical care environment where optimal patient care requires attention to compliance with external and internal administrative and regulatory requirements.

IV.B.1.f).(1).(b) coordinating patient care across the health care continuum and beyond as relevant to their clinical specialty; (Core)

Background and Intent: Every patient deserves to be treated as a whole person. Therefore it is recognized that any one component of the health care system does not meet the totality of the patient's needs. An appropriate transition plan requires coordination and forethought by an interdisciplinary team. The patient benefits from proper care and the system benefits from proper use of resources.

IV.B.1.f).(1).(c) advocating for quality patient care and optimal patient care systems; (Core)

IV.B.1.f).(1).(d) working in interprofessional teams to enhance patient safety and improve patient care quality; (Core)

IV.B.1.f).(1).(e) participating in identifying system errors and implementing potential systems solutions; (Core)

IV.B.1.f).(1).(f) **incorporating considerations of value, cost awareness, delivery and payment, and risk-benefit analysis in patient and/or population-based care as appropriate; and,** (Core)

IV.B.1.f).(1).(g) **understanding health care finances and its impact on individual patients' health decisions.** (Core)

IV.B.1.f).(2) **Residents must learn to advocate for patients within the health care system to achieve the patient's and family's care goals, including, when appropriate, end-of-life goals.** (Core)

IV.C. Curriculum Organization and Resident Experiences

IV.C.1. **The curriculum must be structured to optimize resident educational experiences, the length of these experiences, and supervisory continuity.** (Core)

IV.C.1.a) The program must have a written program policy describing resident responsibility for the care of patients, and faculty members' responsibilities for supervision. (Detail)

IV.C.1.b) Assignments at participating sites must be at least one month in length to ensure a quality educational experience, and must provide opportunities for continuity of care. (Core)

IV.C.1.c) Residents must participate in pre-operative decision making and subsequent operative procedures, as well as post-surgical care and follow-up evaluation of their patients. (Core)

Background and Intent: In some specialties, frequent rotational transitions, inadequate continuity of faculty member supervision, and dispersed patient locations within the hospital have adversely affected optimal resident education and effective team-based care. The need for patient care continuity varies from specialty to specialty and by clinical situation, and may be addressed by the individual Review Committee.

IV.C.2. **The program must provide instruction and experience in pain management if applicable for the specialty, including recognition of the signs of addiction.** (Core)

IV.C.3. In both the integrated and joint preliminary year/ophthalmology formats, the PGY-1 must be comprised of direct patient care experiences and must include: (Core)

IV.C.3.a) nine months of broad experience in direct patient care; and, (Core)

IV.C.3.a).(1) This experience must take place in diverse settings. (Core)

IV.C.3.a).(2) Residents must participate in the diagnosis and treatment of patients with varied diseases and conditions. (Core)

Specialty-Specific Background and Intent: As noted in Int.C., the first year (PGY-1) must include direct patient care experiences. In the joint preliminary year/ophthalmology format, the preliminary year must be in a program that includes direct patient care experiences, for example, emergency medicine, family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, or surgery, or a transitional year program. In both formats it is expected that PGY-1 residents will experience a variety of settings, diseases, and conditions to provide them with a solid foundation for their ophthalmology-focused education during the PGY-2-4. Examples of appropriate settings include inpatient wards, the emergency room, outpatient clinics, and the operating room.

IV.C.3.b) three months of experience in ophthalmology. (Core)

IV.C.3.b).(1) Ophthalmology rotations must take place in the same Sponsoring Institution as the ophthalmology program or at a site acceptable to the Review Committee. (Core)

IV.C.4. For the joint preliminary year/ophthalmology format, the educational program for the preliminary year must be developed by the program director of the preliminary year program with the input and approval of the respective ophthalmology program director. (Core)

[Requirements IV.C.3.-IV.C.4. and Specialty-Specific Background and Intent become effective July 1, 2021]

IV.C.5. Each resident must participate in a minimum of 3000 ophthalmology outpatient visits. (Core)

IV.C.5.a) Each resident must perform a substantial portion of the examination for each of these visits, with at least 1000 of those examinations done with direct supervision. (Core)

IV.C.5.a).(1) Direct faculty supervision must include the faculty member examining the patient with the resident, and discussing the management of the patient with the resident before the patient leaves the clinic. (Core)

IV.C.6. Each resident must participate in gross and microscopic evaluation of specimens. (Core)

IV.C.6.a) Resident education in ophthalmic pathology must be directed by physician faculty members with demonstrated expertise in ophthalmic pathology. (Core)

IV.C.7. Residents must record all of their surgical cases in the ACGME Case Log System. (Core)

IV.C.7.a) Each graduating resident must have performed and/or assisted in the minimum number of essential operative cases and case categories as established by the Review Committee. (Core)

IV.C.7.b) All residents must have equivalent educational opportunities. (Core)

IV.C.8. There must be formal teaching conferences. (Core)

IV.C.8.a) A minimum of six hours per month should be devoted to conferences (e.g., case presentations, grand rounds, journal club, morbidity and mortality, and quality improvement presentations) attended and precepted by faculty members, and attended by the majority of residents. (Detail)

IV.C.9. PGY-1 residents should attend ophthalmology conferences when on ophthalmology rotations. (Detail)

[Requirement IV.C.9. becomes effective July 1, 2021]

IV.C.10. Residents must be educated in basic and clinical sciences through a structured and regularly-scheduled series of didactic sessions. (Core)

IV.C.10.a) This series must include a minimum of 360 hours during the PGY-2-4. (Core)

IV.C.10.b) Resident and faculty member attendance at didactic sessions must be documented. (Core)

IV.C.10.c) Education in ophthalmic pathology must include conferences and/or study sets, and must cover the full spectrum of ophthalmic disease. (Core)

IV.C.10.d) PGY-1 residents should attend these sessions when on ophthalmology rotations. (Detail)

[Requirement IV.C.10.d) becomes effective July 1, 2021]

IV.C.11. Residents should have documented didactic sessions in each of the following: advocacy, ethics, practice management, and socio-economics. (Detail)

IV.C.12. Residents must have surgical skills instruction using surgical skills development resources, including, at a minimum: (Core)

IV.C.12.a) training in a hands-on surgical skills laboratory; and, (Core)

IV.C.12.b) a structured hands-on simulated surgical skills curriculum that includes assessment. (Core)

IV.D. Scholarship

Medicine is both an art and a science. The physician is a humanistic scientist who cares for patients. This requires the ability to think critically, evaluate the literature, appropriately assimilate new knowledge, and practice lifelong learning. The program and faculty must create an environment that fosters the acquisition of such skills through resident participation in scholarly activities. Scholarly activities may include discovery, integration, application, and teaching.

The ACGME recognizes the diversity of residencies and anticipates that programs prepare physicians for a variety of roles, including clinicians, scientists, and educators. It is expected that the program's scholarship will reflect its mission(s) and aims, and the needs of the community it serves. For example, some programs may concentrate their scholarly activity on quality improvement, population health, and/or teaching, while other programs might choose to utilize more classic forms of biomedical research as the focus for scholarship.

IV.D.1. Program Responsibilities

IV.D.1.a) **The program must demonstrate evidence of scholarly activities consistent with its mission(s) and aims.** (Core)

IV.D.1.b) **The program, in partnership with its Sponsoring Institution, must allocate adequate resources to facilitate resident and faculty involvement in scholarly activities.** (Core)

IV.D.1.c) **The program must advance residents' knowledge and practice of the scholarly approach to evidence-based patient care.** (Core)

Background and Intent: The scholarly approach can be defined as a synthesis of teaching, learning, and research with the aim of encouraging curiosity and critical thinking based on an understanding of physiology, pathophysiology, differential diagnosis, treatments, treatment alternatives, efficiency of care, and patient safety. While some faculty members are responsible for fulfilling the traditional elements of scholarship through research, integration, and teaching, all faculty members are responsible for advancing residents' scholarly approach to patient care.

Elements of a scholarly approach to patient care include:

- **Asking meaningful questions to stimulate residents to utilize learning resources to create a differential diagnosis, a diagnostic algorithm, and treatment plan**
- **Challenging the evidence that the residents use to reach their medical decisions so that they understand the benefits and limits of the medical literature**
- **When appropriate, dissemination of scholarly learning in a peer-reviewed manner (publication or presentation)**
- **Improving resident learning by encouraging them to teach using a scholarly approach**

The scholarly approach to patient care begins with curiosity, is grounded in the principles of evidence-based medicine, expands the knowledge base through

dissemination, and develops the habits of lifelong learning by encouraging residents to be scholarly teachers.

IV.D.2. Faculty Scholarly Activity

IV.D.2.a) Among their scholarly activity, programs must demonstrate accomplishments in at least three of the following domains: (Core)

- Research in basic science, education, translational science, patient care, or population health
- Peer-reviewed grants
- Quality improvement and/or patient safety initiatives
- Systematic reviews, meta-analyses, review articles, chapters in medical textbooks, or case reports
- Creation of curricula, evaluation tools, didactic educational activities, or electronic educational materials
- Contribution to professional committees, educational organizations, or editorial boards
- Innovations in education

IV.D.2.b) The program must demonstrate dissemination of scholarly activity within and external to the program by the following methods:

Background and Intent: For the purposes of education, metrics of scholarly activity represent one of the surrogates for the program's effectiveness in the creation of an environment of inquiry that advances the residents' scholarly approach to patient care. The Review Committee will evaluate the dissemination of scholarship for the program as a whole, not for individual faculty members, for a five-year interval, for both core and non-core faculty members, with the goal of assessing the effectiveness of the creation of such an environment. The ACGME recognizes that there may be differences in scholarship requirements between different specialties and between residencies and fellowships in the same specialty.

IV.D.2.b).(1) faculty participation in grand rounds, posters, workshops, quality improvement presentations, podium presentations, grant leadership, non-peer-reviewed print/electronic resources, articles or publications, book chapters, textbooks, webinars, service on professional committees, or serving as a journal reviewer, journal editorial board member, or editor; (Outcome)‡

IV.D.2.b).(2) peer-reviewed publication. (Outcome)

IV.D.3. Resident Scholarly Activity

IV.D.3.a) Residents must participate in scholarship. (Core)

V. Evaluation

V.A. Resident Evaluation

V.A.1. Feedback and Evaluation

Background and Intent: Feedback is ongoing information provided regarding aspects of one's performance, knowledge, or understanding. The faculty empower residents to provide much of that feedback themselves in a spirit of continuous learning and self-reflection. Feedback from faculty members in the context of routine clinical care should be frequent, and need not always be formally documented.

Formative and summative evaluation have distinct definitions. Formative evaluation is *monitoring resident learning* and providing ongoing feedback that can be used by residents to improve their learning in the context of provision of patient care or other educational opportunities. More specifically, formative evaluations help:

- **residents identify their strengths and weaknesses and target areas that need work**
- **program directors and faculty members recognize where residents are struggling and address problems immediately**

Summative evaluation is *evaluating a resident's learning* by comparing the residents against the goals and objectives of the rotation and program, respectively. Summative evaluation is utilized to make decisions about promotion to the next level of training, or program completion.

End-of-rotation and end-of-year evaluations have both summative and formative components. Information from a summative evaluation can be used formatively when residents or faculty members use it to guide their efforts and activities in subsequent rotations and to successfully complete the residency program.

Feedback, formative evaluation, and summative evaluation compare intentions with accomplishments, enabling the transformation of a neophyte physician to one with growing expertise.

V.A.1.a) **Faculty members must directly observe, evaluate, and frequently provide feedback on resident performance during each rotation or similar educational assignment.** (Core)

Background and Intent: Faculty members should provide feedback frequently throughout the course of each rotation. Residents require feedback from faculty members to reinforce well-performed duties and tasks, as well as to correct deficiencies. This feedback will allow for the development of the learner as they strive to achieve the Milestones. More frequent feedback is strongly encouraged for residents who have deficiencies that may result in a poor final rotation evaluation.

V.A.1.b) **Evaluation must be documented at the completion of the assignment.** (Core)

V.A.1.b).(1) **For block rotations of greater than three months in duration, evaluation must be documented at least every three months.** (Core)

V.A.1.b).(2) **Longitudinal experiences, such as continuity clinic in the context of other clinical responsibilities, must be evaluated at least every three months and at completion.** (Core)

V.A.1.b).(3) For rotations that include a surgical experience, evaluation must include an assessment of the resident's care of surgical patients. (Core)

V.A.1.c) **The program must provide an objective performance evaluation based on the Competencies and the specialty-specific Milestones, and must:** (Core)

V.A.1.c).(1) **use multiple evaluators (e.g., faculty members, peers, patients, self, and other professional staff members);** (Core)

V.A.1.c).(2) **provide that information to the Clinical Competency Committee for its synthesis of progressive resident performance and improvement toward unsupervised practice;** (Core)

V.A.1.c).(3) include annual administration of a national objective test, such as the Ophthalmic Knowledge Assessment or OKAP, as a component of assessing each resident's ophthalmic knowledge during the PGY-2-4; and, (Core)

V.A.1.c).(3).(a) The results of these tests must be used to assess the strengths and weaknesses of individual residents and guide the development of needed remediation, and must not be used as the sole criteria for decisions regarding resident promotion or graduation. (Core)

V.A.1.c).(4) use structured, hands-on, simulated surgical skills activities to assess resident performance. (Core)

V.A.1.d) **The program director or their designee, with input from the Clinical Competency Committee, must:**

V.A.1.d).(1) **meet with and review with each resident their documented semi-annual evaluation of performance, including progress along the specialty-specific Milestones;** (Core)

V.A.1.d).(1).(a) This must include review of the surgical experiences of each resident, including the number

of cases recorded in the Resident Case Log System, in order to ensure advancement of surgical experience and timely entry of cases into the system. (Core)

V.A.1.d).(2) **assist residents in developing individualized learning plans to capitalize on their strengths and identify areas for growth; and,** (Core)

V.A.1.d).(3) **develop plans for residents failing to progress, following institutional policies and procedures.** (Core)

Background and Intent: Learning is an active process that requires effort from the teacher and the learner. Faculty members evaluate a resident's performance at least at the end of each rotation. The program director or their designee will review those evaluations, including their progress on the Milestones, at a minimum of every six months. Residents should be encouraged to reflect upon the evaluation, using the information to reinforce well-performed tasks or knowledge or to modify deficiencies in knowledge or practice. Working together with the faculty members, residents should develop an individualized learning plan.

Residents who are experiencing difficulties with achieving progress along the Milestones may require intervention to address specific deficiencies. Such intervention, documented in an individual remediation plan developed by the program director or a faculty mentor and the resident, will take a variety of forms based on the specific learning needs of the resident. However, the ACGME recognizes that there are situations which require more significant intervention that may alter the time course of resident progression. To ensure due process, it is essential that the program director follow institutional policies and procedures.

V.A.1.e) **At least annually, there must be a summative evaluation of each resident that includes their readiness to progress to the next year of the program, if applicable.** (Core)

V.A.1.f) **The evaluations of a resident's performance must be accessible for review by the resident.** (Core)

V.A.2. **Final Evaluation**

V.A.2.a) **The program director must provide a final evaluation for each resident upon completion of the program.** (Core)

V.A.2.a).(1) **The specialty-specific Milestones, and when applicable the specialty-specific Case Logs, must be used as tools to ensure residents are able to engage in autonomous practice upon completion of the program.** (Core)

V.A.2.a).(2) **The final evaluation must:**

V.A.2.a).(2).(a) become part of the resident's permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy; (Core)

V.A.2.a).(2).(b) verify that the resident has demonstrated the knowledge, skills, and behaviors necessary to enter autonomous practice; (Core)

V.A.2.a).(2).(c) consider recommendations from the Clinical Competency Committee; and, (Core)

V.A.2.a).(2).(d) be shared with the resident upon completion of the program. (Core)

V.A.3. A Clinical Competency Committee must be appointed by the program director. (Core)

V.A.3.a) At a minimum, the Clinical Competency Committee must include three members of the program faculty, at least one of whom is a core faculty member. (Core)

V.A.3.a).(1) Additional members must be faculty members from the same program or other programs, or other health professionals who have extensive contact and experience with the program's residents. (Core)

Background and Intent: The requirements regarding the Clinical Competency Committee do not preclude or limit a program director's participation on the Clinical Competency Committee. The intent is to leave flexibility for each program to decide the best structure for its own circumstances, but a program should consider: its program director's other roles as resident advocate, advisor, and confidante; the impact of the program director's presence on the other Clinical Competency Committee members' discussions and decisions; the size of the program faculty; and other program-relevant factors. The program director has final responsibility for resident evaluation and promotion decisions.

Program faculty may include more than the physician faculty members, such as other physicians and non-physicians who teach and evaluate the program's residents. There may be additional members of the Clinical Competency Committee. Chief residents who have completed core residency programs in their specialty may be members of the Clinical Competency Committee.

V.A.3.b) The Clinical Competency Committee must:

V.A.3.b).(1) review all resident evaluations at least semi-annually; (Core)

V.A.3.b).(2) determine each resident's progress on achievement of the specialty-specific Milestones; and, (Core)

V.A.3.b).(3) meet prior to the residents' semi-annual evaluations and advise the program director regarding each resident's progress. (Core)

V.B. Faculty Evaluation

V.B.1. The program must have a process to evaluate each faculty member's performance as it relates to the educational program at least annually. (Core)

Background and Intent: The program director is responsible for the education program and for whom delivers it. While the term "faculty" may be applied to physicians within a given institution for other reasons, it is applied to residency program faculty members only through approval by a program director. The development of the faculty improves the education, clinical, and research aspects of a program. Faculty members have a strong commitment to the resident and desire to provide optimal education and work opportunities. Faculty members must be provided feedback on their contribution to the mission of the program. All faculty members who interact with residents desire feedback on their education, clinical care, and research. If a faculty member does not interact with residents, feedback is not required. With regard to the diverse operating environments and configurations, the residency program director may need to work with others to determine the effectiveness of the program's faculty performance with regard to their role in the educational program. All teaching faculty members should have their educational efforts evaluated by the residents in a confidential and anonymous manner. Other aspects for the feedback may include research or clinical productivity, review of patient outcomes, or peer review of scholarly activity. The process should reflect the local environment and identify the necessary information. The feedback from the various sources should be summarized and provided to the faculty on an annual basis by a member of the leadership team of the program.

V.B.1.a) This evaluation must include a review of the faculty member's clinical teaching abilities, engagement with the educational program, participation in faculty development related to their skills as an educator, clinical performance, professionalism, and scholarly activities. (Core)

V.B.1.b) This evaluation must include written, anonymous, and confidential evaluations by the residents. (Core)

V.B.2. Faculty members must receive feedback on their evaluations at least annually. (Core)

V.B.3. Results of the faculty educational evaluations should be incorporated into program-wide faculty development plans. (Core)

Background and Intent: The quality of the faculty's teaching and clinical care is a determinant of the quality of the program and the quality of the residents' future clinical care. Therefore, the program has the responsibility to evaluate and improve the program faculty members' teaching, scholarship, professionalism, and quality care. This section mandates annual review of the program's faculty members for this purpose, and can be used as input into the Annual Program Evaluation.

V.C. Program Evaluation and Improvement

V.C.1. The program director must appoint the Program Evaluation Committee to conduct and document the Annual Program Evaluation as part of the program's continuous improvement process. (Core)

V.C.1.a) The Program Evaluation Committee must be composed of at least two program faculty members, at least one of whom is a core faculty member, and at least one resident. (Core)

V.C.1.b) Program Evaluation Committee responsibilities must include:

V.C.1.b).(1) acting as an advisor to the program director, through program oversight; (Core)

V.C.1.b).(2) review of the program's self-determined goals and progress toward meeting them; (Core)

V.C.1.b).(3) guiding ongoing program improvement, including development of new goals, based upon outcomes; and, (Core)

V.C.1.b).(4) review of the current operating environment to identify strengths, challenges, opportunities, and threats as related to the program's mission and aims. (Core)

Background and Intent: In order to achieve its mission and train quality physicians, a program must evaluate its performance and plan for improvement in the Annual Program Evaluation. Performance of residents and faculty members is a reflection of program quality, and can use metrics that reflect the goals that a program has set for itself. The Program Evaluation Committee utilizes outcome parameters and other data to assess the program's progress toward achievement of its goals and aims.

V.C.1.c) The Program Evaluation Committee should consider the following elements in its assessment of the program:

V.C.1.c).(1) curriculum; (Core)

V.C.1.c).(2) outcomes from prior Annual Program Evaluation(s); (Core)

V.C.1.c).(3) ACGME letters of notification, including citations, Areas for Improvement, and comments; (Core)

V.C.1.c).(4) quality and safety of patient care; (Core)

V.C.1.c).(5) aggregate resident and faculty:

V.C.1.c).(5).(a) well-being; (Core)

V.C.1.c).(5).(b)	recruitment and retention; (Core)
V.C.1.c).(5).(c)	workforce diversity; (Core)
V.C.1.c).(5).(d)	engagement in quality improvement and patient safety; (Core)
V.C.1.c).(5).(e)	scholarly activity; (Core)
V.C.1.c).(5).(f)	ACGME Resident and Faculty Surveys; and, (Core)
V.C.1.c).(5).(g)	written evaluations of the program. (Core)
V.C.1.c).(6)	aggregate resident:
V.C.1.c).(6).(a)	achievement of the Milestones; (Core)
V.C.1.c).(6).(b)	in-training examinations (where applicable); (Core)
V.C.1.c).(6).(c)	board pass and certification rates; and, (Core)
V.C.1.c).(6).(d)	graduate performance. (Core)
V.C.1.c).(7)	aggregate faculty:
V.C.1.c).(7).(a)	evaluation; and, (Core)
V.C.1.c).(7).(b)	professional development. (Core)
V.C.1.d)	The Program Evaluation Committee must evaluate the program's mission and aims, strengths, areas for improvement, and threats. (Core)
V.C.1.e)	The annual review, including the action plan, must:
V.C.1.e).(1)	be distributed to and discussed with the members of the teaching faculty and the residents; and, (Core)
V.C.1.e).(2)	be submitted to the DIO. (Core)
V.C.2.	The program must complete a Self-Study prior to its 10-Year Accreditation Site Visit. (Core)
V.C.2.a)	A summary of the Self-Study must be submitted to the DIO. (Core)

Background and Intent: Outcomes of the documented Annual Program Evaluation can be integrated into the 10-year Self-Study process. The Self-Study is an objective,

comprehensive evaluation of the residency program, with the aim of improving it. Underlying the Self-Study is this longitudinal evaluation of the program and its learning environment, facilitated through sequential Annual Program Evaluations that focus on the required components, with an emphasis on program strengths and self-identified areas for improvement. Details regarding the timing and expectations for the Self-Study and the 10-Year Accreditation Site Visit are provided in the *ACGME Manual of Policies and Procedures*. Additionally, a description of the Self-Study process, as well as information on how to prepare for the 10-Year Accreditation Site Visit, is available on the ACGME website.

V.C.3. ***One goal of ACGME-accredited education is to educate physicians who seek and achieve board certification. One measure of the effectiveness of the educational program is the ultimate pass rate.***

The program director should encourage all eligible program graduates to take the certifying examination offered by the applicable American Board of Medical Specialties (ABMS) member board or American Osteopathic Association (AOA) certifying board.

V.C.3.a) **For specialties in which the ABMS member board and/or AOA certifying board offer(s) an annual written exam, in the preceding three years, the program's aggregate pass rate of those taking the examination for the first time must be higher than the bottom fifth percentile of programs in that specialty.** (Outcome)

V.C.3.b) **For specialties in which the ABMS member board and/or AOA certifying board offer(s) a biennial written exam, in the preceding six years, the program's aggregate pass rate of those taking the examination for the first time must be higher than the bottom fifth percentile of programs in that specialty.** (Outcome)

V.C.3.c) **For specialties in which the ABMS member board and/or AOA certifying board offer(s) an annual oral exam, in the preceding three years, the program's aggregate pass rate of those taking the examination for the first time must be higher than the bottom fifth percentile of programs in that specialty.** (Outcome)

V.C.3.d) **For specialties in which the ABMS member board and/or AOA certifying board offer(s) a biennial oral exam, in the preceding six years, the program's aggregate pass rate of those taking the examination for the first time must be higher than the bottom fifth percentile of programs in that specialty.** (Outcome)

V.C.3.e) **For each of the exams referenced in V.C.3.a)-d), any program whose graduates over the time period specified in the requirement have achieved an 80 percent pass rate will have met this requirement, no matter the percentile rank of the program for pass rate in that specialty.** (Outcome)

Background and Intent: Setting a single standard for pass rate that works across specialties is not supportable based on the heterogeneity of the psychometrics of different examinations. By using a percentile rank, the performance of the lower five percent (fifth percentile) of programs can be identified and set on a path to curricular and test preparation reform.

There are specialties where there is a very high board pass rate that could leave successful programs in the bottom five percent (fifth percentile) despite admirable performance. These high-performing programs should not be cited, and V.C.3.e) is designed to address this.

V.C.3.f) **Programs must report, in ADS, board certification status annually for the cohort of board-eligible residents that graduated seven years earlier.** (Core)

Background and Intent: It is essential that residency programs demonstrate knowledge and skill transfer to their residents. One measure of that is the qualifying or initial certification exam pass rate. Another important parameter of the success of the program is the ultimate board certification rate of its graduates. Graduates are eligible for up to seven years from residency graduation for initial certification. The ACGME will calculate a rolling three-year average of the ultimate board certification rate at seven years post-graduation, and the Review Committees will monitor it.

The Review Committees will track the rolling seven-year certification rate as an indicator of program quality. Programs are encouraged to monitor their graduates' performance on board certification examinations.

In the future, the ACGME may establish parameters related to ultimate board certification rates.

VI. The Learning and Working Environment

Residency education must occur in the context of a learning and working environment that emphasizes the following principles:

- ***Excellence in the safety and quality of care rendered to patients by residents today***
- ***Excellence in the safety and quality of care rendered to patients by today's residents in their future practice***
- ***Excellence in professionalism through faculty modeling of:***
  - ***the effacement of self-interest in a humanistic environment that supports the professional development of physicians***
  - ***the joy of curiosity, problem-solving, intellectual rigor, and discovery***

- ***Commitment to the well-being of the students, residents, faculty members, and all members of the health care team***

Background and Intent: The revised requirements are intended to provide greater flexibility within an established framework, allowing programs and residents more discretion to structure clinical education in a way that best supports the above principles of professional development. With this increased flexibility comes the responsibility for programs and residents to adhere to the 80-hour maximum weekly limit (unless a rotation-specific exception is granted by a Review Committee), and to utilize flexibility in a manner that optimizes patient safety, resident education, and resident well-being. The requirements are intended to support the development of a sense of professionalism by encouraging residents to make decisions based on patient needs and their own well-being, without fear of jeopardizing their program's accreditation status. In addition, the proposed requirements eliminate the burdensome documentation requirement for residents to justify clinical and educational work hour variations.

Clinical and educational work hours represent only one part of the larger issue of conditions of the learning and working environment, and Section VI has now been expanded to include greater attention to patient safety and resident and faculty member well-being. The requirements are intended to support programs and residents as they strive for excellence, while also ensuring ethical, humanistic training. Ensuring that flexibility is used in an appropriate manner is a shared responsibility of the program and residents. With this flexibility comes a responsibility for residents and faculty members to recognize the need to hand off care of a patient to another provider when a resident is too fatigued to provide safe, high quality care and for programs to ensure that residents remain within the 80-hour maximum weekly limit.

VI.A. Patient Safety, Quality Improvement, Supervision, and Accountability

VI.A.1. Patient Safety and Quality Improvement

All physicians share responsibility for promoting patient safety and enhancing quality of patient care. Graduate medical education must prepare residents to provide the highest level of clinical care with continuous focus on the safety, individual needs, and humanity of their patients. It is the right of each patient to be cared for by residents who are appropriately supervised; possess the requisite knowledge, skills, and abilities; understand the limits of their knowledge and experience; and seek assistance as required to provide optimal patient care.

Residents must demonstrate the ability to analyze the care they provide, understand their roles within health care teams, and play an active role in system improvement processes. Graduating residents will apply these skills to critique their future unsupervised practice and effect quality improvement measures.

It is necessary for residents and faculty members to consistently work in a well-coordinated manner with other health care professionals to achieve organizational patient safety goals.

VI.A.1.a) **Patient Safety**

VI.A.1.a).(1) **Culture of Safety**

A culture of safety requires continuous identification of vulnerabilities and a willingness to transparently deal with them. An effective organization has formal mechanisms to assess the knowledge, skills, and attitudes of its personnel toward safety in order to identify areas for improvement.

VI.A.1.a).(1).(a) **The program, its faculty, residents, and fellows must actively participate in patient safety systems and contribute to a culture of safety.** (Core)

VI.A.1.a).(1).(b) **The program must have a structure that promotes safe, interprofessional, team-based care.** (Core)

VI.A.1.a).(2) **Education on Patient Safety**

Programs must provide formal educational activities that promote patient safety-related goals, tools, and techniques. (Core)

Background and Intent: Optimal patient safety occurs in the setting of a coordinated interprofessional learning and working environment.

VI.A.1.a).(3) **Patient Safety Events**

Reporting, investigation, and follow-up of adverse events, near misses, and unsafe conditions are pivotal mechanisms for improving patient safety, and are essential for the success of any patient safety program. Feedback and experiential learning are essential to developing true competence in the ability to identify causes and institute sustainable systems-based changes to ameliorate patient safety vulnerabilities.

VI.A.1.a).(3).(a) **Residents, fellows, faculty members, and other clinical staff members must:**

VI.A.1.a).(3).(a).(i) **know their responsibilities in reporting patient safety events at the clinical site;** (Core)

VI.A.1.a).(3).(a).(ii) know how to report patient safety events, including near misses, at the clinical site; and, (Core)

VI.A.1.a).(3).(a).(iii) be provided with summary information of their institution's patient safety reports. (Core)

VI.A.1.a).(3).(b) Residents must participate as team members in real and/or simulated interprofessional clinical patient safety activities, such as root cause analyses or other activities that include analysis, as well as formulation and implementation of actions. (Core)

VI.A.1.a).(4) Resident Education and Experience in Disclosure of Adverse Events

Patient-centered care requires patients, and when appropriate families, to be apprised of clinical situations that affect them, including adverse events. This is an important skill for faculty physicians to model, and for residents to develop and apply.

VI.A.1.a).(4).(a) All residents must receive training in how to disclose adverse events to patients and families. (Core)

VI.A.1.a).(4).(b) Residents should have the opportunity to participate in the disclosure of patient safety events, real or simulated. (Detail)

VI.A.1.b) Quality Improvement

VI.A.1.b).(1) Education in Quality Improvement

A cohesive model of health care includes quality-related goals, tools, and techniques that are necessary in order for health care professionals to achieve quality improvement goals.

VI.A.1.b).(1).(a) Residents must receive training and experience in quality improvement processes, including an understanding of health care disparities. (Core)

VI.A.1.b).(2) Quality Metrics

Access to data is essential to prioritizing activities for care improvement and evaluating success of improvement efforts.

VI.A.1.b).(2).(a) Residents and faculty members must receive data on quality metrics and benchmarks related to their patient populations. (Core)

VI.A.1.b).(3) Engagement in Quality Improvement Activities

Experiential learning is essential to developing the ability to identify and institute sustainable systems-based changes to improve patient care.

VI.A.1.b).(3).(a) Residents must have the opportunity to participate in interprofessional quality improvement activities. (Core)

VI.A.1.b).(3).(a).(i) This should include activities aimed at reducing health care disparities. (Detail)

VI.A.2. Supervision and Accountability

VI.A.2.a) *Although the attending physician is ultimately responsible for the care of the patient, every physician shares in the responsibility and accountability for their efforts in the provision of care. Effective programs, in partnership with their Sponsoring Institutions, define, widely communicate, and monitor a structured chain of responsibility and accountability as it relates to the supervision of all patient care.*

Supervision in the setting of graduate medical education provides safe and effective care to patients; ensures each resident's development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishes a foundation for continued professional growth.

VI.A.2.a).(1) Each patient must have an identifiable and appropriately-credentialed and privileged attending physician (or licensed independent practitioner as specified by the applicable Review Committee) who is responsible and accountable for the patient's care. (Core)

VI.A.2.a).(1).(a) This information must be available to residents, faculty members, other members of the health care team, and patients. (Core)

VI.A.2.a).(1).(b) Residents and faculty members must inform each patient of their respective roles in that patient's care when providing direct patient care. (Core)

VI.A.2.b) ***Supervision may be exercised through a variety of methods. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other portions of care provided by the resident can be adequately supervised by the immediate availability of the supervising faculty member, fellow, or senior resident physician, either on site or by means of telephonic and/or electronic modalities. Some activities require the physical presence of the supervising faculty member. In some circumstances, supervision may include post-hoc review of resident-delivered care with feedback.***

VI.A.2.b).(1) **The program must demonstrate that the appropriate level of supervision in place for all residents is based on each resident's level of training and ability, as well as patient complexity and acuity. Supervision may be exercised through a variety of methods, as appropriate to the situation.** (Core)

VI.A.2.c) **Levels of Supervision**

To promote oversight of resident supervision while providing for graded authority and responsibility, the program must use the following classification of supervision: (Core)

VI.A.2.c).(1) **Direct Supervision – the supervising physician is physically present with the resident and patient.** (Core)

VI.A.2.c).(2) **Indirect Supervision:**

VI.A.2.c).(2).(a) **with Direct Supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.** (Core)

VI.A.2.c).(2).(b) **with Direct Supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.** (Core)

VI.A.2.c).(3) **Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.** (Core)

VI.A.2.d) **The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident must be assigned by the program director and faculty members.** (Core)

VI.A.2.d).(1) The program director must evaluate each resident's abilities based on specific criteria, guided by the Milestones. (Core)

VI.A.2.d).(2) Faculty members functioning as supervising physicians must delegate portions of care to residents based on the needs of the patient and the skills of each resident. (Core)

VI.A.2.d).(3) Senior residents or fellows should serve in a supervisory role to junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow. (Detail)

VI.A.2.e) Programs must set guidelines for circumstances and events in which residents must communicate with the supervising faculty member(s). (Core)

VI.A.2.e).(1) Each resident must know the limits of their scope of authority, and the circumstances under which the resident is permitted to act with conditional independence. (Outcome)

Background and Intent: The ACGME Glossary of Terms defines conditional independence as: Graded, progressive responsibility for patient care with defined oversight.

VI.A.2.e).(1).(a) Initially, PGY-1 residents must be supervised either directly, or indirectly with direct supervision immediately available. (Core)

VI.A.2.f) Faculty supervision assignments must be of sufficient duration to assess the knowledge and skills of each resident and to delegate to the resident the appropriate level of patient care authority and responsibility. (Core)

VI.B. Professionalism

VI.B.1. Programs, in partnership with their Sponsoring Institutions, must educate residents and faculty members concerning the professional responsibilities of physicians, including their obligation to be appropriately rested and fit to provide the care required by their patients. (Core)

VI.B.2. The learning objectives of the program must:

VI.B.2.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; (Core)

VI.B.2.b) be accomplished without excessive reliance on residents to fulfill non-physician obligations; and, (Core)

Background and Intent: Routine reliance on residents to fulfill non-physician obligations increases work compression for residents and does not provide an optimal educational experience. Non-physician obligations are those duties which in most institutions are performed by nursing and allied health professionals, transport services, or clerical staff. Examples of such obligations include transport of patients from the wards or units for procedures elsewhere in the hospital; routine blood drawing for laboratory tests; routine monitoring of patients when off the ward; and clerical duties, such as scheduling. While it is understood that residents may be expected to do any of these things on occasion when the need arises, these activities should not be performed by residents routinely and must be kept to a minimum to optimize resident education.

VI.B.2.c) ensure manageable patient care responsibilities. (Core)

Background and Intent: The Common Program Requirements do not define "manageable patient care responsibilities" as this is variable by specialty and PGY level. Review Committees will provide further detail regarding patient care responsibilities in the applicable specialty-specific Program Requirements and accompanying FAQs. However, all programs, regardless of specialty, should carefully assess how the assignment of patient care responsibilities can affect work compression, especially at the PGY-1 level.

VI.B.3. The program director, in partnership with the Sponsoring Institution, must provide a culture of professionalism that supports patient safety and personal responsibility. (Core)

VI.B.4. Residents and faculty members must demonstrate an understanding of their personal role in the:

VI.B.4.a) provision of patient- and family-centered care; (Outcome)

VI.B.4.b) safety and welfare of patients entrusted to their care, including the ability to report unsafe conditions and adverse events; (Outcome)

Background and Intent: This requirement emphasizes that responsibility for reporting unsafe conditions and adverse events is shared by all members of the team and is not solely the responsibility of the resident.

VI.B.4.c) assurance of their fitness for work, including: (Outcome)

Background and Intent: This requirement emphasizes the professional responsibility of faculty members and residents to arrive for work adequately rested and ready to care for patients. It is also the responsibility of faculty members, residents, and other members of the care team to be observant, to intervene, and/or to escalate their concern about resident and faculty member fitness for work, depending on the situation, and in accordance with institutional policies.

VI.B.4.c).(1) management of their time before, during, and after clinical assignments; and, (Outcome)

VI.B.4.c).(2) recognition of impairment, including from illness, fatigue, and substance use, in themselves, their peers, and other members of the health care team. (Outcome)

VI.B.4.d) commitment to lifelong learning; (Outcome)

VI.B.4.e) monitoring of their patient care performance improvement indicators; and, (Outcome)

VI.B.4.f) accurate reporting of clinical and educational work hours, patient outcomes, and clinical experience data. (Outcome)

VI.B.5. All residents and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. This includes the recognition that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider. (Outcome)

VI.B.6. Programs, in partnership with their Sponsoring Institutions, must provide a professional, equitable, respectful, and civil environment that is free from discrimination, sexual and other forms of harassment, mistreatment, abuse, or coercion of students, residents, faculty, and staff. (Core)

VI.B.7. Programs, in partnership with their Sponsoring Institutions, should have a process for education of residents and faculty regarding unprofessional behavior and a confidential process for reporting, investigating, and addressing such concerns. (Core)

VI.C. Well-Being

Psychological, emotional, and physical well-being are critical in the development of the competent, caring, and resilient physician and require proactive attention to life inside and outside of medicine. Well-being requires that physicians retain the joy in medicine while managing their own real-life stresses. Self-care and responsibility to support other members of the health care team are important components of professionalism; they are also skills that must be modeled, learned, and nurtured in the context of other aspects of residency training.

Residents and faculty members are at risk for burnout and depression. Programs, in partnership with their Sponsoring Institutions, have the same responsibility to address well-being as other aspects of resident competence. Physicians and all members of the health care team share responsibility for the well-being of each other. For example, a culture which encourages covering for colleagues after an illness without the expectation of reciprocity reflects the ideal of professionalism. A positive culture in a

clinical learning environment models constructive behaviors, and prepares residents with the skills and attitudes needed to thrive throughout their careers.

Background and Intent: The ACGME is committed to addressing physician well-being for individuals and as it relates to the learning and working environment. The creation of a learning and working environment with a culture of respect and accountability for physician well-being is crucial to physicians' ability to deliver the safest, best possible care to patients. The ACGME is leveraging its resources in four key areas to support the ongoing focus on physician well-being: education, influence, research, and collaboration. Information regarding the ACGME's ongoing efforts in this area is available on the ACGME website.

As these efforts evolve, information will be shared with programs seeking to develop and/or strengthen their own well-being initiatives. In addition, there are many activities that programs can utilize now to assess and support physician well-being. These include culture of safety surveys, ensuring the availability of counseling services, and attention to the safety of the entire health care team.

VI.C.1. **The responsibility of the program, in partnership with the Sponsoring Institution, to address well-being must include:**

VI.C.1.a) **efforts to enhance the meaning that each resident finds in the experience of being a physician, including protecting time with patients, minimizing non-physician obligations, providing administrative support, promoting progressive autonomy and flexibility, and enhancing professional relationships; (Core)**

VI.C.1.b) **attention to scheduling, work intensity, and work compression that impacts resident well-being; (Core)**

VI.C.1.c) **evaluating workplace safety data and addressing the safety of residents and faculty members; (Core)**

Background and Intent: This requirement emphasizes the responsibility shared by the Sponsoring Institution and its programs to gather information and utilize systems that monitor and enhance resident and faculty member safety, including physical safety. Issues to be addressed include, but are not limited to, monitoring of workplace injuries, physical or emotional violence, vehicle collisions, and emotional well-being after adverse events.

VI.C.1.d) **policies and programs that encourage optimal resident and faculty member well-being; and, (Core)**

Background and Intent: Well-being includes having time away from work to engage with family and friends, as well as to attend to personal needs and to one's own health, including adequate rest, healthy diet, and regular exercise.

VI.C.1.d).(1) **Residents must be given the opportunity to attend medical, mental health, and dental care appointments, including those scheduled during their working hours.** (Core)

Background and Intent: The intent of this requirement is to ensure that residents have the opportunity to access medical and dental care, including mental health care, at times that are appropriate to their individual circumstances. Residents must be provided with time away from the program as needed to access care, including appointments scheduled during their working hours.

VI.C.1.e) **attention to resident and faculty member burnout, depression, and substance abuse. The program, in partnership with its Sponsoring Institution, must educate faculty members and residents in identification of the symptoms of burnout, depression, and substance abuse, including means to assist those who experience these conditions. Residents and faculty members must also be educated to recognize those symptoms in themselves and how to seek appropriate care. The program, in partnership with its Sponsoring Institution, must:** (Core)

Background and Intent: Programs and Sponsoring Institutions are encouraged to review materials in order to create systems for identification of burnout, depression, and substance abuse. Materials and more information are available on the Physician Well-being section of the ACGME website (http://www.acgme.org/What-We-Do/Initiatives/Physician-Well-Being).

VI.C.1.e).(1) **encourage residents and faculty members to alert the program director or other designated personnel or programs when they are concerned that another resident, fellow, or faculty member may be displaying signs of burnout, depression, substance abuse, suicidal ideation, or potential for violence;** (Core)

Background and Intent: Individuals experiencing burnout, depression, substance abuse, and/or suicidal ideation are often reluctant to reach out for help due to the stigma associated with these conditions, and are concerned that seeking help may have a negative impact on their career. Recognizing that physicians are at increased risk in these areas, it is essential that residents and faculty members are able to report their concerns when another resident or faculty member displays signs of any of these conditions, so that the program director or other designated personnel, such as the department chair, may assess the situation and intervene as necessary to facilitate access to appropriate care. Residents and faculty members must know which personnel, in addition to the program director, have been designated with this responsibility; those personnel and the program director should be familiar with the institution's impaired physician policy and any employee health, employee assistance, and/or wellness programs within the institution. In cases of physician impairment, the program director or designated personnel should follow the policies of their institution for reporting.

VI.C.1.e).(2) provide access to appropriate tools for self-screening; and, (Core)

VI.C.1.e).(3) provide access to confidential, affordable mental health assessment, counseling, and treatment, including access to urgent and emergent care 24 hours a day, seven days a week. (Core)

Background and Intent: The intent of this requirement is to ensure that residents have immediate access at all times to a mental health professional (psychiatrist, psychologist, Licensed Clinical Social Worker, Primary Mental Health Nurse Practitioner, or Licensed Professional Counselor) for urgent or emergent mental health issues. In-person, telemedicine, or telephonic means may be utilized to satisfy this requirement. Care in the Emergency Department may be necessary in some cases, but not as the primary or sole means to meet the requirement.

The reference to affordable counseling is intended to require that financial cost not be a barrier to obtaining care.

VI.C.2. There are circumstances in which residents may be unable to attend work, including but not limited to fatigue, illness, family emergencies, and parental leave. Each program must allow an appropriate length of absence for residents unable to perform their patient care responsibilities. (Core)

VI.C.2.a) The program must have policies and procedures in place to ensure coverage of patient care. (Core)

VI.C.2.b) These policies must be implemented without fear of negative consequences for the resident who is or was unable to provide the clinical work. (Core)

Background and Intent: Residents may need to extend their length of training depending on length of absence and specialty board eligibility requirements. Teammates should assist colleagues in need and equitably reintegrate them upon return.

VI.D. Fatigue Mitigation

VI.D.1. Programs must:

VI.D.1.a) educate all faculty members and residents to recognize the signs of fatigue and sleep deprivation; (Core)

VI.D.1.b) educate all faculty members and residents in alertness management and fatigue mitigation processes; and, (Core)

VI.D.1.c) **encourage residents to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning.** (Detail)

Background and Intent: Providing medical care to patients is physically and mentally demanding. Night shifts, even for those who have had enough rest, cause fatigue. Experiencing fatigue in a supervised environment during training prepares residents for managing fatigue in practice. It is expected that programs adopt fatigue mitigation processes and ensure that there are no negative consequences and/or stigma for using fatigue mitigation strategies.

This requirement emphasizes the importance of adequate rest before and after clinical responsibilities. Strategies that may be used include, but are not limited to, strategic napping; the judicious use of caffeine; availability of other caregivers; time management to maximize sleep off-duty; learning to recognize the signs of fatigue, and self-monitoring performance and/or asking others to monitor performance; remaining active to promote alertness; maintaining a healthy diet; using relaxation techniques to fall asleep; maintaining a consistent sleep routine; exercising regularly; increasing sleep time before and after call; and ensuring sufficient sleep recovery periods.

VI.D.2. **Each program must ensure continuity of patient care, consistent with the program's policies and procedures referenced in VI.C.2–VI.C.2.b), in the event that a resident may be unable to perform their patient care responsibilities due to excessive fatigue.** (Core)

VI.D.3. **The program, in partnership with its Sponsoring Institution, must ensure adequate sleep facilities and safe transportation options for residents who may be too fatigued to safely return home.** (Core)

VI.E. Clinical Responsibilities, Teamwork, and Transitions of Care

VI.E.1. Clinical Responsibilities

The clinical responsibilities for each resident must be based on PGY level, patient safety, resident ability, severity and complexity of patient illness/condition, and available support services. (Core)

Background and Intent: The changing clinical care environment of medicine has meant that work compression due to high complexity has increased stress on residents. Faculty members and program directors need to make sure residents function in an environment that has safe patient care and a sense of resident well-being. Some Review Committees have addressed this by setting limits on patient admissions, and it is an essential responsibility of the program director to monitor resident workload. Workload should be distributed among the resident team and interdisciplinary teams to minimize work compression.

VI.E.1.a) The program director must establish written guidelines for the assignment of residents' clinical responsibilities by PGY level, including clinic volume, on-call frequency, and backup

requirements, as well as appropriate role in surgical procedures. (Core)

VI.E.1.a).(1) The guidelines should include key clinical and surgical procedures appropriate for each PGY level, along with the level of supervision required. (Core)

VI.E.1.b) Residents must be provided instruction in recognizing situations in which they are overly fatigued or overburdened with duties, and communicating the need for assistance when these situations occur. (Core)

VI.E.2. Teamwork

Residents must care for patients in an environment that maximizes communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty and larger health system. (Core)

VI.E.2.a) Programs must provide a team-oriented learning environment for patient care which incorporates both outpatient and inpatient exposure. The team may include faculty members and residents in ophthalmology, referring and consulting physicians, laboratory and administrative staff, medical students, nurses, optometrists, orthoptists, pharmacists, and technicians, among others. (Detail)

VI.E.2.a).(1) Education in effective communication among team members should be provided. (Detail)

VI.E.3. Transitions of Care

VI.E.3.a) Programs must design clinical assignments to optimize transitions in patient care, including their safety, frequency, and structure. (Core)

VI.E.3.b) Programs, in partnership with their Sponsoring Institutions, must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety. (Core)

VI.E.3.c) Programs must ensure that residents are competent in communicating with team members in the hand-over process. (Outcome)

VI.E.3.d) Programs and clinical sites must maintain and communicate schedules of attending physicians and residents currently responsible for care. (Core)

VI.E.3.e) Each program must ensure continuity of patient care, consistent with the program's policies and procedures referenced in VI.C.2-VI.C.2.b), in the event that a resident may

be unable to perform their patient care responsibilities due to excessive fatigue or illness, or family emergency. (Core)

VI.F. Clinical Experience and Education

Programs, in partnership with their Sponsoring Institutions, must design an effective program structure that is configured to provide residents with educational and clinical experience opportunities, as well as reasonable opportunities for rest and personal activities.

Background and Intent: In the new requirements, the terms "clinical experience and education," "clinical and educational work," and "clinical and educational work hours" replace the terms "duty hours," "duty periods," and "duty." These changes have been made in response to concerns that the previous use of the term "duty" in reference to number of hours worked may have led some to conclude that residents' duty to "clock out" on time superseded their duty to their patients.

VI.F.1. Maximum Hours of Clinical and Educational Work per Week

Clinical and educational work hours must be limited to no more than 80 hours per week, averaged over a four-week period, inclusive of all in-house clinical and educational activities, clinical work done from home, and all moonlighting. (Core)

Background and Intent: Programs and residents have a shared responsibility to ensure that the 80-hour maximum weekly limit is not exceeded. While the requirement has been written with the intent of allowing residents to remain beyond their scheduled work periods to care for a patient or participate in an educational activity, these additional hours must be accounted for in the allocated 80 hours when averaged over four weeks.

Scheduling
While the ACGME acknowledges that, on rare occasions, a resident may work in excess of 80 hours in a given week, all programs and residents utilizing this flexibility will be required to adhere to the 80-hour maximum weekly limit when averaged over a four-week period. Programs that regularly schedule residents to work 80 hours per week and still permit residents to remain beyond their scheduled work period are likely to exceed the 80-hour maximum, which would not be in substantial compliance with the requirement. These programs should adjust schedules so that residents are scheduled to work fewer than 80 hours per week, which would allow residents to remain beyond their scheduled work period when needed without violating the 80-hour requirement. Programs may wish to consider using night float and/or making adjustments to the frequency of in-house call to ensure compliance with the 80-hour maximum weekly limit.

Oversight
With increased flexibility introduced into the Requirements, programs permitting this flexibility will need to account for the potential for residents to remain beyond their assigned work periods when developing schedules, to avoid exceeding the 80-hour maximum weekly limit, averaged over four weeks. The ACGME Review Committees will strictly monitor and enforce compliance with the 80-hour requirement. Where violations

of the 80-hour requirement are identified, programs will be subject to citation and at risk for an adverse accreditation action.

Work from Home

While the requirement specifies that clinical work done from home must be counted toward the 80-hour maximum weekly limit, the expectation remains that scheduling be structured so that residents are able to complete most work on site during scheduled clinical work hours without requiring them to take work home. The new requirements acknowledge the changing landscape of medicine, including electronic health records, and the resulting increase in the amount of work residents choose to do from home. The requirement provides flexibility for residents to do this while ensuring that the time spent by residents completing clinical work from home is accomplished within the 80-hour weekly maximum. Types of work from home that must be counted include using an electronic health record and taking calls from home. Reading done in preparation for the following day's cases, studying, and research done from home do not count toward the 80 hours. Resident decisions to leave the hospital before their clinical work has been completed and to finish that work later from home should be made in consultation with the resident's supervisor. In such circumstances, residents should be mindful of their professional responsibility to complete work in a timely manner and to maintain patient confidentiality.

During the public comment period many individuals raised questions and concerns related to this change. Some questioned whether minute by minute tracking would be required; in other words, if a resident spends three minutes on a phone call and then a few hours later spends two minutes on another call, will the resident need to report that time. Others raised concerns related to the ability of programs and institutions to verify the accuracy of the information reported by residents. The new requirements are not an attempt to micromanage this process. Residents are to track the time they spend on clinical work from home and to report that time to the program. Decisions regarding whether to report infrequent phone calls of very short duration will be left to the individual resident. Programs will need to factor in time residents are spending on clinical work at home when schedules are developed to ensure that residents are not working in excess of 80 hours per week, averaged over four weeks. There is no requirement that programs assume responsibility for documenting this time. Rather, the program's responsibility is ensuring that residents report their time from home and that schedules are structured to ensure that residents are not working in excess of 80 hours per week, averaged over four weeks.

PGY-1 and PGY-2 Residents

PGY-1 and PGY-2 residents may not have the experience to make decisions about when it is appropriate to utilize flexibility or may feel pressured to use it when unnecessary. Programs are responsible for ensuring that residents are provided with manageable workloads that can be accomplished during scheduled work hours. This includes ensuring that a resident's assigned direct patient load is manageable, that residents have appropriate support from their clinical teams, and that residents are not overburdened with clerical work and/or other non-physician duties.

VI.F.2. Mandatory Time Free of Clinical Work and Education

VI.F.2.a) The program must design an effective program structure that is configured to provide residents with educational

opportunities, as well as reasonable opportunities for rest and personal well-being. (Core)

VI.F.2.b) Residents should have eight hours off between scheduled clinical work and education periods. (Detail)

VI.F.2.b).(1) There may be circumstances when residents choose to stay to care for their patients or return to the hospital with fewer than eight hours free of clinical experience and education. This must occur within the context of the 80-hour and the one-day-off-in-seven requirements. (Detail)

Background and Intent: While it is expected that resident schedules will be structured to ensure that residents are provided with a minimum of eight hours off between scheduled work periods, it is recognized that residents may choose to remain beyond their scheduled time, or return to the clinical site during this time-off period, to care for a patient. The requirement preserves the flexibility for residents to make those choices. It is also noted that the 80-hour weekly limit (averaged over four weeks) is a deterrent for scheduling fewer than eight hours off between clinical and education work periods, as it would be difficult for a program to design a schedule that provides fewer than eight hours off without violating the 80-hour rule.

VI.F.2.c) Residents must have at least 14 hours free of clinical work and education after 24 hours of in-house call. (Core)

Background and Intent: Residents have a responsibility to return to work rested, and thus are expected to use this time away from work to get adequate rest. In support of this goal, residents are encouraged to prioritize sleep over other discretionary activities.

VI.F.2.d) Residents must be scheduled for a minimum of one day in seven free of clinical work and required education (when averaged over four weeks). At-home call cannot be assigned on these free days. (Core)

Background and Intent: The requirement provides flexibility for programs to distribute days off in a manner that meets program and resident needs. It is strongly recommended that residents' preference regarding how their days off are distributed be considered as schedules are developed. It is desirable that days off be distributed throughout the month, but some residents may prefer to group their days off to have a "golden weekend," meaning a consecutive Saturday and Sunday free from work. The requirement for one free day in seven should not be interpreted as precluding a golden weekend. Where feasible, schedules may be designed to provide residents with a weekend, or two consecutive days, free of work. The applicable Review Committee will evaluate the number of consecutive days of work and determine whether they meet educational objectives. Programs are encouraged to distribute days off in a fashion that optimizes resident well-being, and educational and personal goals. It is noted that a day off is defined in the ACGME Glossary of Terms as "one (1) continuous 24-hour period free from all administrative, clinical, and educational activities."

VI.F.3. **Maximum Clinical Work and Education Period Length**

VI.F.3.a) **Clinical and educational work periods for residents must not exceed 24 hours of continuous scheduled clinical assignments.** (Core)

Background and Intent: The Task Force examined the question of "consecutive time on task." It examined the research supporting the current limit of 16 consecutive hours of time on task for PGY-1 residents; the range of often conflicting impacts of this requirement on patient safety, clinical care, and continuity of care by resident teams; and resident learning found in the literature. Finally, it heard a uniform request by the specialty societies, certifying boards, membership societies and organizations, and senior residents to repeal this requirement. It heard conflicting perspectives from resident unions, a medical student association, and a number of public advocacy groups, some arguing for continuation of the requirement, others arguing for extension of the requirement to all residents.

Of greatest concern to the Task Force were the observations of disruption of team care and patient care continuity brought about with residents beyond the PGY-1 level adhering to differing requirements. The graduate medical education community uniformly requested that the Task Force remove this requirement. The most frequently-cited reason for this request was the complete disruption of the team, separating the PGY-1 from supervisory faculty members and residents who were best able to judge the ability of the resident and customize the supervision of patient care for each PGY-1. Cited nearly as frequently was the separation of the PGY-1 from the team, delaying maturation of clinical skills, and threatening to create a "shift" mentality in disciplines where overnight availability to patients is essential in delivery of care.

The Task Force examined the impact of the request to consider 16-consecutive-hour limits for all residents, and rejected the proposition. It found that model incompatible with the actual practice of medicine and surgery in many specialties, excessively limiting in configuration of clinical services in many disciplines, and potentially disruptive of the inculcation of responsibility and professional commitment to altruism and placing the needs of patients above those of the physician.

After careful consideration of the information available, the testimony and position of all parties submitting information, and presentations to the Task Force, the Task Force removed the 16-hour-consecutive-time-on-task requirement for PGY-1 residents. It remains crucial that programs ensure that PGY-1 residents are supervised in compliance with the applicable Program Requirements, and that resident well-being is prioritized as described in Section VI.C. of these requirements.

VI.F.3.a).(1) **Up to four hours of additional time may be used for activities related to patient safety, such as providing effective transitions of care, and/or resident education.** (Core)

VI.F.3.a).(1).(a) **Additional patient care responsibilities must not be assigned to a resident during this time.** (Core)

Background and Intent: The additional time referenced in VI.F.3.a).(1) should not be used for the care of new patients. It is essential that the resident continue to function as a member of the team in an environment where other members of the team can assess resident fatigue, and that supervision for post-call residents is provided. This 24 hours and up to an additional four hours must occur within the context of 80-hour weekly limit, averaged over four weeks.

VI.F.4. Clinical and Educational Work Hour Exceptions

VI.F.4.a) In rare circumstances, after handing off all other responsibilities, a resident, on their own initiative, may elect to remain or return to the clinical site in the following circumstances:

VI.F.4.a).(1) to continue to provide care to a single severely ill or unstable patient; (Detail)

VI.F.4.a).(2) humanistic attention to the needs of a patient or family; or, (Detail)

VI.F.4.a).(3) to attend unique educational events. (Detail)

VI.F.4.b) These additional hours of care or education will be counted toward the 80-hour weekly limit. (Detail)

Background and Intent: This requirement is intended to provide residents with some control over their schedules by providing the flexibility to voluntarily remain beyond the scheduled responsibilities under the circumstances described above. It is important to note that a resident may remain to attend a conference, or return for a conference later in the day, only if the decision is made voluntarily. Residents must not be required to stay. Programs allowing residents to remain or return beyond the scheduled work and clinical education period must ensure that the decision to remain is initiated by the resident and that residents are not coerced. This additional time must be counted toward the 80-hour maximum weekly limit.

VI.F.4.c) A Review Committee may grant rotation-specific exceptions for up to 10 percent or a maximum of 88 clinical and educational work hours to individual programs based on a sound educational rationale.

The Review Committee for Ophthalmology will not consider requests for exceptions to the 80-hour limit to the residents' work week.

VI.F.4.c).(1) In preparing a request for an exception, the program director must follow the clinical and educational work hour exception policy from the *ACGME Manual of Policies and Procedures*. (Core)

VI.F.4.c).(2) Prior to submitting the request to the Review Committee, the program director must obtain approval from the Sponsoring Institution's GMEC and DIO. (Core)

Background and Intent: The provision for exceptions for up to 88 hours per week has been modified to specify that exceptions may be granted for specific rotations if the program can justify the increase based on criteria specified by the Review Committee. As in the past, Review Committees may opt not to permit exceptions. The underlying philosophy for this requirement is that while it is expected that all residents should be able to train within an 80-hour work week, it is recognized that some programs may include rotations with alternate structures based on the nature of the specialty. DIO/GMEC approval is required before the request will be considered by the Review Committee.

VI.F.5. Moonlighting

VI.F.5.a) Moonlighting must not interfere with the ability of the resident to achieve the goals and objectives of the educational program, and must not interfere with the resident's fitness for work nor compromise patient safety. (Core)

VI.F.5.b) Time spent by residents in internal and external moonlighting (as defined in the ACGME Glossary of Terms) must be counted toward the 80-hour maximum weekly limit. (Core)

VI.F.5.c) PGY-1 residents are not permitted to moonlight. (Core)

Background and Intent: For additional clarification of the expectations related to moonlighting, please refer to the Common Program Requirement FAQs (available at http://www.acgme.org/What-We-Do/Accreditation/Common-Program-Requirements).

VI.F.6. In-House Night Float

Night float must occur within the context of the 80-hour and one-day-off-in-seven requirements. (Core)

Background and Intent: The requirement for no more than six consecutive nights of night float was removed to provide programs with increased flexibility in scheduling.

VI.F.7. Maximum In-House On-Call Frequency

Residents must be scheduled for in-house call no more frequently than every third night (when averaged over a four-week period). (Core)

VI.F.8. At-Home Call

VI.F.8.a) Time spent on patient care activities by residents on at-home call must count toward the 80-hour maximum weekly limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one

day in seven free of clinical work and education, when averaged over four weeks. (Core)

VI.F.8.a).(1) **At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each resident.** (Core)

VI.F.8.b) **Residents are permitted to return to the hospital while on at-home call to provide direct care for new or established patients. These hours of inpatient patient care must be included in the 80-hour maximum weekly limit.** (Detail)

Background and Intent: This requirement has been modified to specify that clinical work done from home when a resident is taking at-home call must count toward the 80-hour maximum weekly limit. This change acknowledges the often significant amount of time residents devote to clinical activities when taking at-home call, and ensures that taking at-home call does not result in residents routinely working more than 80 hours per week. At-home call activities that must be counted include responding to phone calls and other forms of communication, as well as documentation, such as entering notes in an electronic health record. Activities such as reading about the next day's case, studying, or research activities do not count toward the 80-hour weekly limit.

In their evaluation of residency/fellowship programs, Review Committees will look at the overall impact of at-home call on resident/fellow rest and personal time.

***

*__Core Requirements:__ Statements that define structure, resource, or process elements essential to every graduate medical educational program.

†__Detail Requirements:__ Statements that describe a specific structure, resource, or process, for achieving compliance with a Core Requirement. Programs and sponsoring institutions in substantial compliance with the Outcome Requirements may utilize alternative or innovative approaches to meet Core Requirements.

‡__Outcome Requirements:__ Statements that specify expected measurable or observable attributes (knowledge, abilities, skills, or attitudes) of residents or fellows at key stages of their graduate medical education.

Osteopathic Recognition
For programs with or applying for Osteopathic Recognition, the Osteopathic Recognition Requirements also apply (www.acgme.org/OsteopathicRecognition).

Residency Review Committee for Ophthalmology

Definition of a Surgeon

Basic Principle: To be recorded as the surgeon, a resident must be present for **all** of the critical portions, and must perform the **majority** of the critical portions of the procedure under appropriate faculty supervision. Involvement in the preoperative assessment and the postoperative management of that patient is an important element of that participation. Only the first assistant (not the second, third, etc.) may record a procedure as assistant. A resident may only record a case as assistant if the resident is first assistant to: 1) a faculty member performing the procedure, or, 2) another resident performing the procedure under faculty supervision.

Clarifications:

1. If a resident completes **one** side of a bilateral procedure, the resident can count that as one case, surgeon. If a resident completes **both** sides of a bilateral procedure, this still counts as one case, surgeon. If two residents **each do one** side of a bilateral procedure, each resident can record the procedure as the surgeon, provided that each fulfills the stated criteria for performance as surgeon on one side.

   Example:If a resident performs a bilateral blepharoplasty, then the resident counts it as one case as surgeon.If, however, one resident doesone side of the blepharoplasty and the other resident performs the procedure on the other side, each resident may record the procedure as a surgeon case.

2. If a resident completes an operation which involves multiple procedures, the resident may record all the procedures as separate cases, provided that the resident performs the majority of the critical portions of the procedures. However, if the multiple procedures all fall within the same subspecialty category (e.g., Cataract, Cornea, Strabismus, Glaucoma, Retina/Vitreous, Oculoplastics/Orbit, Globe Trauma), then only one case may be recorded.

   Example:A resident performs a combined procedure involving trabeculectomy and cataract extraction.The resident may record both procedures as surgeon cases.

   Example:A resident performs bilateral medial rectus muscle recessions and anterior transposition of the right superior oblique muscle on a patient.The resident may record only one procedure as surgeon.

   Example:A resident performs a scleral buckle procedure combined with pars plana vitrectomy. The resident may record only one procedure as surgeon.

   Example:A resident performs bilateral blepharoplasty combined with bilateral ptosis repair. The resident may record only one procedure as surgeon.

3. In an operation which involves multiple procedures, more than one resident may be recorded as the surgeon, provided that the resident perform the majority of the critical portions of one or more

of the procedures.

Example:During planned pars plana vitrectomy combined with phacoemulsification of cataract, one resident performs the pars plana vitrectomywhile another resident performs the cataract extraction.Each resident may record the procedure they performed as a surgeon case.

Disclaimer Statement

The stated minimum numbers of listed surgical procedures for ophthalmology residency education reflect the minimum clinical volume of these procedures which is acceptable per resident for program accreditation. Achievement of the minimum number of listed procedures is not tantamount to achievement of competence of an individual resident in a particular listed procedure. A resident may need to perform an additional number of listed procedures before that resident can be deemed competent in each procedure by the program director. Moreover, the listed procedures represent only a fraction of the total operative experience of a resident within the designated program length. The intent is to establish a minimum number of listed procedures for accreditation purposes, without detracting from the latitude that the program director must have to blend the entire educational operative experience for each resident, taking into account each resident's particular abilities.

This requirement does not supplant the requirement that, upon the resident's completion of the program, the program director should verify that the resident has demonstrated sufficient professional ability to practice competently and independently.

ACGME

Required Minimum Number of Procedures for Graduating Residents in Ophthalmology

Review Committee for Ophthalmology

Case logs for all 2014 program graduates will be reviewed for compliance with minimum numbers. Residents graduating in 2014 are expected to achieve the required minimum numbers for all procedures. Achievement of the required minimum numbers is an indicator of experience, but is not considered an indicator of competence. Programs should continue to evaluate procedural competence in order to ensure that graduates are competent to enter practice without direct supervision. Residents must continue logging procedures after the minimum numbers for procedures are met.

S = Surgeon Procedures Only
S+A = Surgeon and Assistant Procedures

Category	Minimums
Cataract – Total (S)	86
Laser Surgery – YAG Capsulotomy (S)	5
Laser Surgery – Laser Trabeculoplasty (S)	5
Laser Surgery – Laser Iridotomy (S)	4
Laser Surgery – Panretinal Laser Photocoagulation (S)	10
Corneal Surgery	
Keratoplasty (S+A)	5
Pterygium/Conjunctival and other cornea (S)	3
Keratorefractive Surgery – Total (S+A)	6
Strabismus – Total (S)	10
Glaucoma – Filtering/Shunting Procedures (S)	5
Retinal Vitreous – Total (S+A)	10
Intravitreal Injection (S)	10
Oculoplastic and orbit – Total (S)	28
Oculoplastic and orbit – Eyelid Laceration (S)	3
Oculoplastic and orbit – Chalazia Excision (S)	3
Oculoplastic and orbit – Ptosis/Blepharoplasty (S)	3
Globe Trauma – Total (S)	4

ACGME

Accreditation Council for Graduate Medical Education

Ophthalmology Case Logs

National Data Report 2018

Prepared by: Department of Applications and Data Analysis

I. National Resident Statistics Main Table

A. This main table provides a national picture of educational experiences. The report is ideal for establishing and assessing national policy related to resident practical experiences. Data is broken out by resident role.

B. Descriptive statistics have been carefully chosen to provide the most useful information for judging performance at that national level.

i. "Natl Res AVE" - The national average describes the mean number of procedures performed per resident in the nation.
ii. "Natl Res STD" - The standard deviation indicates how tightly the scores are clustered around the mean in the set of data.
iii. "Natl Res MIN" - The minimum value among procedure counts in the nation.
iv. "Natl Res MED" - The median value among procedure counts in the nation.
v. "Natl Res MAX" - The maximum value seen among procedure counts in the nation.

II. National Benchmark Table for Resident Statistics
The table displays selected percentile benchmarks of program averages. For example, a score at the 10th percentile indicates that 10% of residents achieved less than the value while the remaining 90% achieved more than the value.

The information on the following pages has been created using specialty specific categories. These data should not be used for comparison across specialties as the definition of the categories will vary among the specialties. In addition, care should be exercised when comparing data from year to year as the definition of certain categories may be revised from time to time.

OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)

Reporting Period: Total Experience of Residents Completing Programs in 2017-2018

Residency Review Committee for Ophthalmology

Report Date: August 24, 2018

[PART 1] Number of Programs in the Nation: 115 Number of Residents in the Nation: 488

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Cataract	Phacoemulsification	**195.9**	67	84	188	504	**63.9**	69	0	43	365	**259.8**	100	85	242	855
	Non-phacoemulsification ECCE	**2.2**	4	0	1	50	**1.6**	3	0	1	29	**3.8**	5	0	2	51
	TOTAL - Cataracts	**198.1**	67	87	189	505	**65.5**	69	0	45	370	**263.6**	100	91	245	865
Other Cataract	Other cataract/IOL surgery	**1.5**	2	0	1	22	**2.6**	10	0	1	181	**4.1**	11	0	2	203
	Anterior vitrectomy	**1.1**	2	0	0	18	**0.5**	1	0	0	14	**1.5**	2	0	1	21
	TOTAL - Other Cataract	**2.5**	3	0	1	34	**3.1**	10	0	1	181	**5.6**	12	0	3	215
Laser Surgery	YAG capsulotomy	**22.2**	15	4	19	88	**0.6**	2	0	0	27	**22.8**	15	5	19	88
	Laser trabeculoplasty	**16.1**	16	0	11	132	**0.6**	2	0	0	42	**16.8**	16	0	11	132
	Laser iridotomy	**15.4**	11	4	12	71	**0.6**	2	0	0	16	**16.0**	11	4	13	71
	Panretinal laser photocoagulation	**36.5**	36	9	23	229	**1.3**	3	0	0	51	**37.8**	37	10	23	235
	Focal laser photocoagulation	**2.1**	3	0	1	26	**0.2**	1	0	0	15	**2.3**	4	0	1	26
	Cyclodestructive procedures	**3.0**	4	0	1	35	**0.5**	1	0	0	15	**3.5**	5	0	1	43
	Other glaucoma lasers (incl iridoplasty)	**0.3**	1	0	0	13	**0.0**	0	0	0	5	**0.4**	1	0	0	18
	TOTAL - Laser Surgery	**95.6**	56	24	80	419	**3.9**	7	0	2	63	**99.5**	56	24	85	437
Corneal Surgery	Keratoplasty	**2.5**	3	0	1	21	**8.0**	6	0	6	38	**10.5**	7	2	8	47
	Conjunctival procs/Pterygium excision	**5.8**	6	0	4	33	**1.1**	2	0	1	16	**6.9**	6	0	5	34
	Other Cornea	**3.9**	4	0	3	28	**2.6**	3	0	1	21	**6.5**	6	0	5	35
	TOTAL - Cornea Surgery	**12.2**	8	2	10	54	**11.8**	9	0	10	54	**24.0**	12	7	21	84

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)
Reporting Period: Total Experience of Residents Completing Programs in 2017-2018
Residency Review Committee for Ophthalmology
Report Date: August 24, 2018

[PART 2] Number of Programs in the Nation: 115 Number of Residents in the Nation: 488

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Keratorefractive Surgery	Incisional procedures	**1.6**	4	0	0	41	**0.9**	4	0	0	48	**2.5**	6	0	0	51
	Laser procedures	**4.9**	14	0	0	125	**8.9**	11	0	7	112	**13.8**	21	0	8	237
	Other (keratorefractive)	**0.0**	0	0	0	3	**0.0**	0	0	0	4	**0.0**	0	0	0	4
	TOTAL - Keratorefractive Surgery	**6.5**	15	0	2	125	**9.8**	11	0	7	112	**16.4**	21	0	10	237
Strabismus	Any muscle surgery	**23.2**	14	**5**	19	87	**9.5**	12	0	**5**	70	**32.7**	21	10	28	156
	Other strabismus	**0.1**	1	0	0	6	**0.2**	1	0	0	5	**0.3**	1	0	0	6
	TOTAL - Strabismus	**23.3**	14	**5**	20	87	**9.7**	12	0	**5**	70	**33.0**	21	10	28	156
Glaucoma	Filtering procedures	**6.2**	7	0	4	71	**4.2**	6	0	2	39	**10.4**	9	0	8	73
	Shunting procedures	**6.6**	5	0	6	34	**4.0**	5	0	2	34	**10.6**	7	0	9	43
	Other glaucoma	**3.0**	6	0	1	60	**1.8**	5	0	0	94	**4.8**	9	0	3	154
	TOTAL - Glaucoma	**15.8**	12	**1**	12	96	**10.0**	12	0	6	123	**25.8**	18	1	21	210
Retinal Vitreous	RRD repair	**0.7**	2	0	0	17	**3.7**	5	0	2	33	**4.4**	5	0	3	34
	Posterior vitrectomy (Pars Plana)	**4.9**	7	0	3	62	**17.0**	13	0	14	113	**21.9**	15	0	18	124
	TOTAL - Retinal Vitreous	**5.5**	8	0	3	63	**20.7**	16	0	17	134	**26.2**	18	0	21	147
Other Retinal	Cryotherapy	**0.3**	1	0	0	10	**0.2**	1	0	0	4	**0.5**	1	0	0	12
	Vitreous tap/inject	**122.8**	121	10	81	647	**1.9**	5	0	1	84	**124.7**	122	10	82	647
	Other retina	**0.2**	1	0	0	7	**0.1**	1	0	0	8	**0.3**	1	0	0	11
	TOTAL - Other Retinal	**123.2**	121	10	82	647	**2.3**	6	0	1	85	**125.5**	122	10	83	647

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)
Reporting Period: Total Experience of Residents Completing Programs in 2017-2018
Residency Review Committee for Ophthalmology
Report Date: August 24, 2018

[PART 3] Number of Programs in the Nation: 115 Number of Residents in the Nation: 488

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Oculoplastic and Orbit	Eye removal and implant	**2.7**	3	0	2	25	**1.5**	2	0	1	13	**4.2**	4	0	3	29
	Lacrimal surgery	**5.7**	5	0	4	37	**4.8**	5	0	3	32	**10.6**	9	0	8	60
	Other orbital surgery (eg, orbitotomy)	**1.6**	3	0	1	20	**4.7**	6	0	3	38	**6.3**	7	0	4	45
	Eyelid laceration / canalicular repair	**10.7**	8	0	9	65	**2.9**	4	0	2	23	**13.6**	10	0	11	76
	Chalazia excision	**8.6**	7	0	7	81	**1.1**	2	0	0	16	**9.7**	7	0	8	86
	Tarsorrhaphy	**2.6**	4	0	2	43	**0.9**	2	0	0	14	**3.6**	4	0	2	57
	Ptosis repair	**7.6**	7	0	6	45	**7.6**	9	0	4	78	**15.1**	12	0	12	88
	Entropion / ectropion repair	**4.5**	4	0	3	30	**4.1**	5	0	2	37	**8.6**	7	0	7	47
	Blepharoplasty / reconstruction	**12.3**	12	0	8	103	**7.7**	10	0	3	63	**19.9**	18	0	15	164
	Temporal artery biopsy	**1.4**	2	0	1	12	**0.7**	2	0	0	22	**2.1**	3	0	1	25
	Other oculoplastic surgery	**12.8**	9	0	11	67	**5.0**	6	0	3	50	**17.8**	12	0	16	117
	TOTAL - Oculoplastic and orbit	**70.6**	39	1	63	403	**41.0**	40	0	29	317	**111.6**	67	2	99	720
Globe Trauma	Corneal/corneoscleral laceration, globe rup	**7.9**	5	0	6	29	**1.2**	2	0	1	11	**9.1**	5	0	8	32
	Intraocular foreign body	**0.4**	1	0	0	5	**0.2**	1	0	0	7	**0.6**	1	0	0	7
	Other globe trauma (eg, ant chamber washout)	**0.9**	1	0	0	8	**0.2**	1	0	0	4	**1.1**	1	0	1	9
	TOTAL - Globe Trauma	**9.1**	5	0	8	29	**1.6**	2	0	1	12	**10.7**	6	0	9	35
TOTAL	TOTAL - Credit Procedures	**562.5**	208	223	525	1,341	**179.4**	129	5	148	818	**741.9**	253	283	712	1,718
Non-Tracked	Non-Tracked Codes	**6.3**	11	0	3	118	**3.2**	7	0	1	58	**9.5**	14	0	4	127

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

Reporting Period: Total Experience of Residents Completing Programs in 2017-2018

Residency Review Committee for Ophthalmology

Report Date: August 24, 2018

[PART 1] Programs in the Nation: 115 Residents in the Nation: 488

		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Cataract	Phacoemulsification	118	151	188	228	282	2	20	43	75	153	152	195	242	289	392
	Non-phacoemulsification ECCE	0	0	1	2	5	0	0	1	2	4	0	1	2	4	9
	TOTAL - Cataracts	120	153	189	229	288	2	21	45	77	159	156	200	245	294	403
Other Cataract	Other cataract/IOL surgery	0	0	1	2	4	0	0	1	2	6	0	1	2	4	8
	Anterior vitrectomy	0	0	0	1	3	0	0	0	0	2	0	0	1	2	4
	TOTAL - Other Cataract	0	0	1	3	7	0	0	1	3	7	0	2	3	6	12
Laser Surgery	YAG capsulotomy	8	13	19	26	41	0	0	0	0	2	8	13	19	27	41
	Laser trabeculoplasty	5	7	11	18	31	0	0	0	0	2	5	8	11	18	32
	Laser iridotomy	6	9	12	18	30	0	0	0	0	1	6	9	13	19	31
	Panretinal laser photocoagulation	11	16	23	37	81	0	0	0	1	3	12	17	23	38	85
	Focal laser photocoagulation	0	0	1	2	6	0	0	0	0	1	0	0	1	2	7
	Cyclodestructive procedures	0	0	1	3	8	0	0	0	0	2	0	0	1	4	9
	Other glaucoma lasers (incl iridoplasty)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	TOTAL - Laser Surgery	43	61	80	111	170	0	0	2	4	11	45	64	85	116	173
Corneal Surgery	Keratoplasty	0	0	1	3	7	2	5	6	10	16	5	6	8	12	20
	Conjunctival procs/Pterygium excision	1	2	4	7	15	0	0	1	1	3	1	3	5	8	16
	Other Cornea	0	2	3	5	8	0	0	1	3	7	1	3	5	8	14
	TOTAL - Cornea Surgery	4	7	10	14	23	3	7	10	14	23	12	16	21	28	40

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

Reporting Period: Total Experience of Residents Completing Programs in 2017-2018

Residency Review Committee for Ophthalmology

Report Date: August 24, 2018

[PART 2] Programs in the Nation: 115 Residents in the Nation: 488

		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Keratorefractive Surgery	Incisional procedures	0	0	0	0	6	0	0	0	0	2	0	0	0	2	8
	Laser procedures	0	0	0	2	11	0	4	7	10	19	1	6	8	12	27
	Other (keratorefractive)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL - Keratorefractive Surgery	0	0	2	6	15	0	6	7	10	20	6	8	10	15	30
Strabismus	Any muscle surgery	10	15	19	26	42	0	2	5	11	27	13	20	28	37	60
	Other strabismus	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	TOTAL - Strabismus	10	15	20	26	42	0	2	5	11	27	13	20	28	38	60
Glaucoma	Filtering procedures	0	2	4	8	15	0	0	2	5	12	1	5	8	13	23
	Shunting procedures	2	4	6	7	13	0	1	2	5	11	3	6	9	12	20
	Other glaucoma	0	0	1	3	7	0	0	0	2	5	0	1	3	5	11
	TOTAL - Glaucoma	6	9	12	17	29	0	2	6	12	25	10	15	21	29	48
Retinal Vitreous	RRD repair	0	0	0	1	2	0	1	2	4	9	0	1	3	5	11
	Posterior vitrectomy (Pars Plana)	0	1	3	5	12	6	10	14	19	32	9	13	18	25	38
	TOTAL - Retinal Vitreous	0	1	3	6	13	8	11	17	24	39	11	15	21	30	47
Other Retinal	Cryotherapy	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
	Vitreous tap/inject	18	41	81	141	296	0	0	1	2	5	19	43	82	143	296
	Other retina	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	TOTAL - Other Retinal	18	42	82	143	296	0	0	1	2	6	20	44	83	145	299

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OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

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Residency Review Committee for Ophthalmology
Report Date: August 24, 2018

[PART 3] Programs in the Nation: 115 Residents in the Nation: 488

		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Oculoplastic and Orbit	Eye removal and implant	0	1	2	3	6	0	0	1	2	4	1	2	3	5	9
	Lacrimal surgery	1	3	4	7	12	0	1	3	6	11	2	5	8	12	22
	Other orbital surgery (eg, orbitotomy)	0	0	1	2	5	0	1	3	5	12	0	2	4	7	14
	Eyelid laceration / canalicular repair	4	6	9	13	20	0	0	2	3	8	5	7	11	16	26
	Chalazia excision	3	5	7	10	15	0	0	0	1	3	4	6	8	11	17
	Tarsorrhaphy	0	1	2	3	6	0	0	0	1	3	0	1	2	4	8
	Ptosis repair	1	3	6	9	17	0	2	4	9	20	3	8	12	19	31
	Entropion / ectropion repair	0	2	3	6	10	0	1	2	5	10	1	4	7	10	18
	Blepharoplasty / reconstruction	3	5	8	15	26	0	1	3	8	20	4	9	15	24	41
	Temporal artery biopsy	0	0	1	2	4	0	0	0	1	2	0	0	1	3	5
	Other oculoplastic surgery	3	7	11	16	24	0	1	3	6	13	4	11	16	22	33
	TOTAL - Oculoplastic and orbit	33	47	63	81	117	3	13	29	52	95	45	73	99	127	198
Globe Trauma	Corneal/corneoscleral laceration, globe rup	3	5	6	9	15	0	0	1	1	4	4	6	8	11	17
	Intraocular foreign body	0	0	0	0	1	0	0	0	0	1	0	0	0	1	2
	Other globe trauma (eg, ant chamber washout)	0	0	0	1	2	0	0	0	0	1	0	0	1	1	3
	TOTAL - Globe Trauma	4	6	8	10	16	0	0	1	2	5	5	7	9	13	19
TOTAL	TOTAL - Credit Procedures	342	436	525	619	855	48	100	148	212	354	443	585	712	840	1,104
Non-Tracked	Non-Tracked Codes	0	1	3	6	15	0	0	1	3	9	0	2	4	9	25

Statistics are based upon the number of procedures logged by residents in the indicated role.

ACGME

Accreditation Council for Graduate Medical Education

Ophthalmology Case Logs

National Data Report 2017

Prepared by: Department of Applications and Data Analysis

I. National Resident Statistics Main Table

A. This main table provides a national picture of educational experiences. The report is ideal for establishing and assessing national policy related to resident practical experiences. Data is broken out by resident role.

B. Descriptive statistics have been carefully chosen to provide the most useful information for judging performance at that national level.

i. "Natl Res AVE" - The national average describes the mean number of procedures performed per resident in the nation.
ii. "Natl Res STD" - The standard deviation indicates how tightly the scores are clustered around the mean in the set of data.
iii. "Natl Res MIN" - The minimum value among procedure counts in the nation.
iv. "Natl Res MED" - The median value among procedure counts in the nation.
v. "Natl Res MAX" - The maximum value seen among procedure counts in the nation.

II. National Benchmark Table for Resident Statistics
The table displays selected percentile benchmarks of program averages. For example, a score at the 10th percentile indicates that 10% of residents achieved less than the value while the remaining 90% achieved more than the value.

The information on the following pages has been created using specialty specific categories. These data should not be used for comparison across specialties as the definition of the categories will vary among the specialties. In addition, care should be exercised when comparing data from year to year as the definition of certain categories may be revised from time to time.

OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017

Residency Review Committee for Ophthalmology

Report Date: August 10, 2017

[PART 1] Number of Programs in the Nation: 115 Number of Residents in the Nation: 474

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Cataract	Phacoemulsification	**186.4**	58	82	183	368	**65.6**	67	0	44	373	**252.0**	91	97	235	595
	Non-phacoemulsification ECCE	**2.0**	4	0	1	39	**1.8**	3	0	1	21	**3.8**	5	0	2	42
	TOTAL - Cataracts	**188.4**	58	88	185	372	**67.4**	68	0	48	373	**255.8**	91	97	240	601
Other Cataract	Other cataract/IOL surgery	**1.6**	2	0	1	14	**2.7**	5	0	1	58	**4.3**	5	0	3	63
	Anterior vitrectomy	**1.5**	2	0	1	17	**0.6**	1	0	0	11	**2.1**	3	0	1	20
	TOTAL - Other Cataract	**3.1**	4	0	2	21	**3.3**	5	0	2	58	**6.4**	7	0	5	64
Laser Surgery	YAG capsulotomy	**20.9**	15	4	17	169	**0.6**	1	0	0	10	**21.4**	16	5	17	170
	Laser trabeculoplasty	**15.6**	15	3	11	110	**0.6**	2	0	0	17	**16.1**	16	3	11	110
	Laser iridotomy	**16.1**	13	2	13	122	**0.6**	2	0	0	13	**16.7**	13	2	13	128
	Panretinal laser photocoagulation	**42.3**	51	3	25	453	**1.3**	3	0	0	38	**43.6**	52	3	26	453
	Focal laser photocoagulation	**3.4**	5	0	1	33	**0.3**	1	0	0	18	**3.7**	5	0	2	33
	Cyclodestructive procedures	**2.6**	4	0	1	33	**0.5**	2	0	0	30	**3.2**	4	0	2	35
	Other glaucoma lasers (incl iridoplasty)	**0.4**	1	0	0	10	**0.1**	0	0	0	3	**0.4**	1	0	0	10
	TOTAL - Laser Surgery	**101.3**	69	22	79	502	**3.9**	6	0	2	65	**105.2**	69	23	85	504
Corneal Surgery	Keratoplasty	**2.6**	4	0	1	20	**7.8**	6	0	6	41	**10.5**	7	2	8	48
	Conjunctival procs/Pterygium excision	**5.7**	6	0	4	40	**1.2**	2	0	1	18	**6.9**	6	0	5	43
	Other Cornea	**3.9**	3	0	3	20	**2.7**	3	0	2	21	**6.6**	5	0	5	34
	TOTAL - Cornea Surgery	**12.3**	9	0	9	49	**11.7**	8	0	9	52	**24.0**	12	7	22	75

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017

Residency Review Committee for Ophthalmology

Report Date: August 10, 2017

[PART 2] Number of Programs in the Nation: 115 Number of Residents in the Nation: 474

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Keratorefractive Surgery	Incisional procedures	**1.3**	3	0	0	19	**0.9**	3	0	0	30	**2.2**	4	0	0	35
	Laser procedures	**5.0**	17	0	0	190	**9.0**	13	0	6	130	**14.0**	26	0	8	254
	Other (keratorefractive)	**0.0**	0	0	0	1	**0.1**	0	0	0	5	**0.1**	0	0	0	5
	TOTAL - Keratorefractive Surgery	**6.3**	17	0	1	191	**9.9**	13	0	7	130	**16.2**	25	1	10	255
Strabismus	Any muscle surgery	**23.5**	15	4	18	113	**10.3**	13	0	5	84	**33.7**	23	9	28	159
	Other strabismus	**0.2**	1	0	0	10	**0.1**	1	0	0	7	**0.3**	1	0	0	10
	TOTAL - Strabismus	**23.7**	15	4	19	113	**10.4**	13	0	5	85	**34.1**	23	10	28	165
Glaucoma	Filtering procedures	**5.1**	5	0	4	30	**3.9**	5	0	2	43	**9.1**	8	0	7	57
	Shunting procedures	**6.3**	5	0	5	40	**4.1**	6	0	2	44	**10.4**	8	0	8	53
	Other glaucoma	**2.3**	3	0	1	28	**1.8**	3	0	1	26	**4.1**	5	0	2	33
	TOTAL - Glaucoma	**13.8**	9	3	11	72	**9.8**	11	0	6	66	**23.6**	16	4	20	87
Retinal Vitreous	RRD repair	**0.9**	2	0	0	14	**4.1**	5	0	3	30	**5.0**	6	0	3	35
	Posterior vitrectomy (Pars Plana)	**5.2**	7	0	3	62	**17.8**	14	0	14	102	**23.0**	16	0	18	106
	TOTAL - Retinal Vitreous	**6.1**	8	0	3	63	**21.9**	17	0	17	131	**28.0**	19	0	22	135
Other Retinal	Cryotherapy	**0.2**	1	0	0	10	**0.2**	1	0	0	7	**0.4**	1	0	0	10
	Vitreous tap/inject	**122.6**	134	0	70	756	**2.0**	5	0	1	81	**124.6**	134	10	73	756
	Other retina	**0.1**	0	0	0	5	**0.2**	1	0	0	8	**0.3**	1	0	0	8
	TOTAL - Other Retinal	**122.9**	134	0	71	757	**2.4**	5	0	1	83	**125.3**	134	10	74	757

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)
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		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Oculoplastic and Orbit	Eye removal and implant	**2.7**	3	0	2	18	**1.5**	2	0	1	13	**4.2**	4	0	3	21
	Lacrimal surgery	**6.3**	6	0	5	35	**4.8**	5	0	3	26	**11.1**	9	0	9	56
	Other orbital surgery (eg, orbitotomy)	**1.7**	2	0	1	14	**4.6**	6	0	3	50	**6.3**	7	0	4	53
	Eyelid laceration / canalicular repair	**9.7**	7	1	8	50	**2.8**	4	0	2	26	**12.4**	9	2	10	55
	Chalazia excision	**8.4**	6	0	7	66	**1.0**	2	0	0	16	**9.4**	7	0	8	66
	Tarsorrhaphy	**2.4**	3	0	2	22	**1.0**	2	0	0	19	**3.4**	4	0	2	25
	Ptosis repair	**7.3**	7	0	5	55	**7.2**	9	0	4	74	**14.5**	13	0	11	88
	Entropion / ectropion repair	**4.7**	4	0	3	29	**4.3**	5	0	2	46	**9.0**	8	0	7	57
	Blepharoplasty / reconstruction	**12.3**	11	0	9	87	**7.7**	10	0	4	69	**20.1**	17	0	16	115
	Temporal artery biopsy	**1.6**	2	0	1	18	**0.6**	1	0	0	14	**2.2**	3	0	1	18
	Other oculoplastic surgery	**12.5**	10	0	10	68	**5.2**	7	0	3	51	**17.7**	13	0	14	81
	TOTAL - Oculoplastic and orbit	**69.6**	39	15	60	303	**40.8**	41	0	28	244	**110.4**	64	24	93	400
Globe Trauma	Corneal/corneoscleral laceration, globe rup	**7.9**	5	0	7	29	**1.3**	2	0	1	8	**9.1**	5	0	8	34
	Intraocular foreign body	**0.3**	1	0	0	7	**0.3**	1	0	0	6	**0.6**	1	0	0	8
	Other globe trauma (eg, ant chamber washout)	**1.0**	1	0	0	15	**0.3**	1	0	0	5	**1.2**	2	0	1	15
	TOTAL - Globe Trauma	**9.2**	5	1	8	32	**1.8**	2	0	1	13	**11.0**	6	2	9	42
TOTAL	TOTAL - Credit Procedures	**556.7**	233	199	505	1,404	**183.3**	125	0	157	662	**740.0**	265	236	691	1,595
Non-Tracked	Non-Tracked Codes	**7.6**	14	0	4	159	**3.3**	6	0	1	80	**10.9**	18	0	6	211

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017

Residency Review Committee for Ophthalmology

Report Date: August 10, 2017

[PART 1] Programs in the Nation: 115 Residents in the Nation: 474

		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Cataract	Phacoemulsification	115	150	183	214	261	3	22	44	78	156	148	198	235	282	371
	Non-phacoemulsification ECCE	0	0	1	2	5	0	0	1	2	5	0	1	2	4	9
	TOTAL - Cataracts	118	153	185	217	262	4	24	48	79	157	152	202	240	288	374
Other Cataract	Other cataract/IOL surgery	0	0	1	2	4	0	0	1	3	7	0	1	3	5	10
	Anterior vitrectomy	0	0	1	2	4	0	0	0	0	2	0	0	1	3	6
	TOTAL - Other Cataract	0	1	2	4	8	0	0	2	4	9	0	2	5	8	14
Laser Surgery	YAG capsulotomy	8	12	17	23	38	0	0	0	0	2	8	13	17	24	39
	Laser trabeculoplasty	5	7	11	16	32	0	0	0	0	1	5	8	11	16	32
	Laser iridotomy	5	8	13	19	32	0	0	0	0	2	5	9	13	19	32
	Panretinal laser photocoagulation	10	16	25	41	98	0	0	0	1	4	11	17	26	42	100
	Focal laser photocoagulation	0	0	1	4	10	0	0	0	0	1	0	0	2	4	10
	Cyclodestructive procedures	0	0	1	3	7	0	0	0	0	2	0	0	2	3	9
	Other glaucoma lasers (Incl iridoplasty)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	TOTAL - Laser Surgery	43	60	79	113	186	0	1	2	4	10	46	63	85	117	188
Corneal Surgery	Keratoplasty	0	0	1	3	7	2	5	6	9	15	5	6	8	12	19
	Conjunctival procs/Pterygium excision	1	2	4	6	14	0	0	1	1	3	1	3	5	8	16
	Other Cornea	1	2	3	5	8	0	1	2	3	7	1	3	5	8	13
	TOTAL - Cornea Surgery	4	7	9	15	26	4	7	9	14	21	11	16	22	28	40

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017

Residency Review Committee for Ophthalmology

Report Date: August 10, 2017

[PART 2] Programs in the Nation: 115 Residents in the Nation: 474

		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Keratorefractive Surgery	Incisional procedures	0	0	0	1	5	0	0	0	0	2	0	0	0	2	7
	Laser procedures	0	0	0	1	10	0	4	6	10	18	1	6	8	12	26
	Other (keratorefractive)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL - Keratorefractive Surgery	0	0	1	5	13	0	5	7	10	20	6	7	10	14	27
Strabismus	Any muscle surgery	10	14	18	26	43	0	2	5	13	26	13	18	28	40	64
	Other strabismus	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	TOTAL - Strabismus	10	14	19	26	44	0	2	5	13	27	13	19	28	41	64
Glaucoma	Filtering procedures	0	2	4	6	11	0	0	2	5	10	1	4	7	11	20
	Shunting procedures	1	3	5	7	12	0	1	2	5	11	3	6	8	12	21
	Other glaucoma	0	0	1	2	6	0	0	1	2	5	0	1	2	5	11
	TOTAL - Glaucoma	6	8	11	16	25	0	3	6	11	23	8	14	20	27	43
Retinal Vitreous	RRD repair	0	0	0	1	3	0	1	3	5	10	0	2	3	6	12
	Posterior vitrectomy (Pars Plana)	0	1	3	6	13	5	9	14	22	36	9	12	18	27	42
	TOTAL - Retinal Vitreous	0	1	3	7	16	7	11	17	27	44	11	15	22	33	52
Other Retinal	Cryotherapy	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
	Vitreous tap/inject	20	43	70	136	304	0	0	1	2	5	21	45	73	138	305
	Other retina	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
	TOTAL - Other Retinal	20	43	71	136	305	0	0	1	2	6	21	45	74	138	305

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

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		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Oculoplastic and Orbit	Eye removal and implant	0	1	2	3	6	0	0	1	2	4	1	2	3	5	9
	Lacrimal surgery	1	2	5	8	14	0	2	3	6	12	3	5	9	14	23
	Other orbital surgery (eg, orbitotomy)	0	0	1	2	5	0	1	3	5	12	0	2	4	7	15
	Eyelid laceration / canalicular repair	3	5	8	11	18	0	1	2	3	7	4	7	10	14	24
	Chalazia excision	3	5	7	9	15	0	0	0	1	3	3	6	8	11	16
	Tarsorrhaphy	0	1	2	3	6	0	0	0	1	3	0	1	2	4	8
	Ptosis repair	1	3	5	8	17	0	1	4	9	17	3	7	11	17	30
	Entropion / ectropion repair	0	2	3	6	11	0	1	2	5	11	2	4	7	11	19
	Blepharoplasty / reconstruction	3	5	9	14	26	0	1	4	9	20	4	10	16	25	42
	Temporal artery biopsy	0	0	1	2	5	0	0	0	1	2	0	0	1	3	6
	Other oculoplastic surgery	3	7	10	15	25	0	1	3	6	13	5	10	14	21	35
	TOTAL - Oculoplastic and orbit	34	46	60	78	117	3	15	28	47	95	48	72	93	130	191
Globe Trauma	Corneal/corneoscleral laceration, globe rup	3	5	7	9	14	0	0	1	2	4	4	6	8	11	15
	Intraocular foreign body	0	0	0	0	1	0	0	0	0	1	0	0	0	1	2
	Other globe trauma (eg, ant chamber washout)	0	0	0	1	3	0	0	0	0	1	0	0	1	2	3
	TOTAL - Globe Trauma	4	6	8	10	17	0	0	1	2	5	5	7	9	13	19
TOTAL	TOTAL - Credit Procedures	323	412	505	594	909	54	101	157	223	355	439	577	691	835	1,129
Non-Tracked	Non-Tracked Codes	0	1	4	7	18	0	0	1	3	9	0	2	6	11	27

Statistics are based upon the number of procedures logged by residents in the indicated role.

ACGME

Accreditation Council for Graduate Medical Education

Ophthalmology Case Logs

National Data Report 2016.

Prepared by: Department of Applications and Data Analysis

I. National Resident Statistics Main Table

A. This main table provides a national picture of educational experiences. The report is ideal for establishing and assessing national policy related to resident practical experiences. Data is broken out by resident role.

B. Descriptive statistics have been carefully chosen to provide the most useful information for judging performance at that national level.

i. "Natl Res AVE" - The national average describes the mean number of procedures performed per resident in the nation.
ii. "Natl Res STD" - The standard deviation indicates how tightly the scores are clustered around the mean in the set of data.
iii. "Natl Res MIN" - The minimum value among procedure counts in the nation.
iv. "Natl Res MED" - The median value among procedure counts in the nation.
v. "Natl Res MAX" - The maximum value seen among procedure counts in the nation.

II. National Benchmark Table for Resident Statistics
The table displays selected percentile benchmarks of program averages. For example, a score at the 10th percentile indicates that 10% of residents achieved less than the value while the remaining 90% achieved more than the value.

OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)

Reporting Period: Total Experience of Residents Completing Programs in 2015-2016

Residency Review Committee for Ophthalmology

Report Date: September 15, 2016

[PART 1] Number of Programs in the Nation: 116 Number of Residents in the Nation: 473

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Cataract	Phacoemulsification	**181.0**	64	1	173	635	**73.8**	69	0	55	388	**254.7**	99	3	238	771
	Non-phacoemulsification ECCE	**2.7**	7	0	1	122	**2.1**	5	0	1	85	**4.8**	11	0	3	207
	TOTAL - Cataracts	**183.6**	63	87	174	636	**75.9**	70	0	57	393	**259.5**	99	88	242	773
Other Cataract	Other cataract/IOL surgery	**1.9**	3	0	1	20	**2.8**	4	0	1	26	**4.7**	5	0	3	26
	Anterior vitrectomy	**1.6**	2	0	1	12	**0.9**	2	0	0	12	**2.5**	3	0	1	18
	TOTAL - Other Cataract	**3.5**	4	0	2	23	**3.6**	5	0	2	37	**7.1**	7	0	5	40
Laser Surgery	YAG capsulotomy	**20.6**	13	5	18	102	**0.6**	1	0	0	11	**21.2**	13	5	18	111
	Laser trabeculoplasty	**15.5**	17	2	10	164	**0.5**	2	0	0	17	**16.0**	17	2	11	164
	Laser iridotomy	**15.8**	11	2	13	80	**0.6**	2	0	0	25	**16.4**	12	2	14	80
	Panretinal laser photocoagulation	**47.4**	65	4	30	655	**1.5**	3	0	0	39	**48.8**	66	4	31	659
	Focal laser photocoagulation	**5.4**	8	0	3	74	**0.4**	2	0	0	28	**5.9**	8	0	3	74
	Cyclodestructive procedures	**2.4**	4	0	1	25	**0.7**	2	0	0	14	**3.2**	5	0	1	32
	Other glaucoma lasers (Incl Iridoplasty)	**0.5**	1	0	0	10	**0.0**	0	0	0	2	**0.5**	1	0	0	10
	TOTAL - Laser Surgery	**107.6**	80	24	86	740	**4.4**	7	0	2	71	**112.0**	82	24	91	744
Corneal Surgery	Keratoplasty	**2.6**	3	0	1	21	**8.3**	7	0	6	38	**11.0**	7	0	8	45
	Conjunctival procs/Pterygium excision	**6.0**	6	0	4	36	**1.5**	2	0	1	17	**7.4**	6	0	6	53
	Other Cornea	**4.0**	4	0	3	23	**3.2**	4	0	2	21	**7.2**	5	0	6	32
	TOTAL - Cornea Surgery	**12.6**	8	1	10	52	**13.0**	9	0	11	48	**25.6**	13	3	23	73

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OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)

Reporting Period: Total Experience of Residents Completing Programs in 2015-2016

Residency Review Committee for Ophthalmology

Report Date: September 15, 2016

[PART 2] Number of Programs in the Nation: 116 Number of Residents in the Nation: 473

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Keratorefractive Surgery	Incisional procedures	**1.5**	4	0	0	47	**1.1**	4	0	0	51	**2.6**	6	0	0	51
	Laser procedures	**4.8**	17	0	0	176	**8.8**	13	0	6	134	**13.6**	25	0	8	292
	Other (keratorefractive)	**0.0**	0	0	0	3	**0.1**	0	0	0	4	**0.1**	0	0	0	4
	TOTAL - Keratorefractive Surgery	**6.3**	17	0	1	177	**9.9**	13	0	7	137	**16.2**	25	0	9	293
Strabismus	Any muscle surgery	**24.4**	16	4	20	127	**11.5**	14	0	7	82	**35.9**	23	4	30	148
	Other strabismus	**0.2**	1	0	0	9	**0.2**	1	0	0	7	**0.4**	1	0	0	11
	TOTAL - Strabismus	**24.6**	16	4	20	127	**11.7**	14	0	7	83	**36.3**	23	4	31	149
Glaucoma	Filtering procedures	**4.8**	4	0	4	26	**5.2**	7	0	3	43	**10.0**	8	0	8	50
	Shunting procedures	**6.3**	5	0	5	44	**5.3**	7	0	3	55	**11.6**	9	0	9	62
	Other glaucoma	**2.2**	3	0	1	23	**1.5**	2	0	1	19	**3.8**	4	0	3	31
	TOTAL - Glaucoma	**13.4**	8	0	11	69	**12.0**	13	0	8	102	**25.4**	16	3	21	115
Retinal Vitreous	RRD repair	**0.9**	2	0	0	17	**4.5**	5	0	3	30	**5.4**	6	0	4	42
	Posterior vitrectomy (Pars Plana)	**4.8**	8	0	2	95	**19.1**	14	0	15	87	**23.9**	17	0	19	123
	TOTAL - Retinal Vitreous	**5.7**	9	0	2	95	**23.6**	17	0	18	101	**29.3**	21	3	22	147
Other Retinal	Cryotherapy	**0.3**	1	0	0	26	**0.3**	1	0	0	6	**0.6**	2	0	0	28
	Vitreous tap/inject	**116.7**	118	0	74	879	**3.0**	9	0	1	138	**119.7**	120	2	78	879
	Other retina	**0.1**	0	0	0	4	**0.2**	1	0	0	12	**0.3**	1	0	0	12
	TOTAL - Other Retinal	**117.1**	118	0	74	880	**3.5**	10	0	1	140	**120.6**	120	2	79	880

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OPHTHALMOLOGY: NATIONAL RESIDENT REPORT (Main Table)
Reporting Period: Total Experience of Residents Completing Programs in 2015-2016
Residency Review Committee for Ophthalmology
Report Date: September 15, 2016

[PART 3] Number of Programs in the Nation: 116 Number of Residents in the Nation: 473

		Surgeon					Assistant					Surgeon + Assistant				
		Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MED	Natl Res MAX
RRC Area	**RRC Type**															
Oculoplastic and Orbit	Eye removal and implant	**2.6**	3	0	2	17	**1.6**	2	0	1	14	**4.3**	4	0	3	28
	Lacrimal surgery	**6.4**	5	0	5	39	**5.4**	6	0	4	34	**11.8**	9	0	10	63
	Other orbital surgery (eg, orbitotomy)	**1.6**	2	0	1	18	**4.8**	6	0	3	45	**6.4**	7	0	5	45
	Eyelid laceration / canalicular repair	**10.2**	7	0	9	41	**3.2**	5	0	2	50	**13.4**	10	0	11	65
	Chalazia excision	**8.2**	5	0	7	46	**1.0**	2	0	0	13	**9.2**	6	0	8	46
	Tarsorrhaphy	**2.6**	3	0	2	19	**1.1**	2	0	0	20	**3.7**	4	0	2	28
	Ptosis repair	**6.9**	7	0	5	59	**7.6**	10	0	5	84	**14.4**	13	0	11	92
	Entropion / ectropion repair	**4.7**	5	0	3	31	**4.4**	5	0	3	37	**9.1**	7	0	7	47
	Blepharoplasty / reconstruction	**11.5**	10	0	9	73	**8.1**	11	0	4	94	**19.6**	18	0	15	167
	Temporal artery biopsy	**1.6**	2	0	1	19	**0.6**	1	0	0	7	**2.2**	3	0	1	22
	Other oculoplastic surgery	**13.6**	10	0	11	55	**5.5**	7	0	3	61	**19.1**	14	0	16	79
	TOTAL - Oculoplastic and orbit	**70.0**	37	15	61	248	**43.3**	45	0	30	326	**113.3**	68	18	99	476
Globe Trauma	Corneal/corneoscleral laceration, globe rup	**8.1**	5	0	7	31	**1.3**	2	0	1	11	**9.4**	5	0	8	38
	Intraocular foreign body	**0.4**	1	0	0	6	**0.3**	1	0	0	3	**0.6**	1	0	0	7
	Other globe trauma (eg, ant chamber washout)	**0.9**	1	0	1	7	**0.3**	1	0	0	5	**1.2**	1	0	1	8
	TOTAL - Globe Trauma	**9.4**	5	0	8	37	**1.9**	2	0	1	15	**11.2**	6	0	9	47
TOTAL	TOTAL - Credit Procedures	**553.8**	228	197	511	1,599	**202.8**	131	3	179	646	**756.6**	273	224	729	1,825
Non-Tracked	Non-Tracked Codes	**8.9**	13	0	4	111	**3.9**	8	0	1	82	**12.8**	18	0	6	132

Statistics are based upon the number of procedures logged by residents in the indicated role.

OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

Reporting Period: Total Experience of Residents Completing Programs in 2015-2016

Residency Review Committee for Ophthalmology

Report Date: September 15, 2016

[PART 1] Programs in the Nation: 116 Residents in the Nation: 473

		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Cataract	Phacoemulsification	112	145	173	205	253	6	28	55	92	168	146	196	238	284	392
	Non-phacoemulsification ECCE	0	0	1	3	5	0	0	1	2	5	0	1	3	5	9
	TOTAL - Cataracts	114	147	174	208	263	7	31	57	94	172	151	201	242	289	395
Other Cataract	Other cataract/IOL surgery	0	0	1	2	5	0	0	1	3	7	0	1	3	6	11
	Anterior vitrectomy	0	0	1	2	4	0	0	0	1	3	0	0	1	3	7
	TOTAL - Other Cataract	0	1	2	4	9	0	0	2	4	10	1	3	5	9	17
Laser Surgery	YAG capsulotomy	8	12	18	24	37	0	0	0	0	2	8	13	18	25	39
	Laser trabeculoplasty	5	7	10	15	30	0	0	0	0	2	5	7	11	16	32
	Laser iridotomy	5	9	13	18	30	0	0	0	0	2	5	9	14	19	31
	Panretinal laser photocoagulation	11	19	30	46	88	0	0	0	1	4	13	21	31	47	88
	Focal laser photocoagulation	0	1	3	6	14	0	0	0	0	1	0	1	3	7	15
	Cyclodestructive procedures	0	0	1	3	6	0	0	0	0	2	0	0	1	3	8
	Other glaucoma lasers (incl iridoplasty)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
	TOTAL - Laser Surgery	46	68	86	116	180	0	1	2	4	11	49	70	91	121	183
Corneal Surgery	Keratoplasty	0	0	1	3	6	2	5	6	9	17	5	6	8	13	21
	Conjunctival procs/Pterygium excision	1	2	4	7	14	0	0	1	2	4	1	3	6	9	16
	Other Cornea	0	2	3	5	9	0	1	2	4	8	1	4	6	9	15
	TOTAL - Cornea Surgery	4	7	10	14	24	3	7	11	15	26	11	17	23	31	45

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OPHTHALMOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

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		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Keratorefractive Surgery	Incisional procedures	0	0	0	1	5	0	0	0	0	3	0	0	0	2	7
	Laser procedures	0	0	0	1	9	0	4	6	9	17	2	6	8	11	25
	Other (keratorefractive)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL - Keratorefractive Surgery	0	0	1	4	14	0	6	7	10	18	6	7	9	14	27
Strabismus	Any muscle surgery	10	14	20	27	45	0	3	7	15	28	13	22	30	43	63
	Other strabismus	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
	TOTAL - Strabismus	10	14	20	27	45	0	3	7	15	29	13	22	31	43	64
Glaucoma	Filtering procedures	0	2	4	6	10	0	1	3	6	14	2	4	8	12	21
	Shunting procedures	1	3	5	8	13	0	1	3	6	14	2	6	9	14	23
	Other glaucoma	0	0	1	3	6	0	0	1	2	4	0	1	3	4	9
	TOTAL - Glaucoma	6	8	11	16	25	0	3	8	14	29	9	15	21	30	47
Retinal Vitreous	RRD repair	0	0	0	1	3	0	1	3	5	11	0	2	4	7	12
	Posterior vitrectomy (Pars Plana)	0	1	2	5	12	7	11	15	22	36	9	13	19	28	46
	TOTAL - Retinal Vitreous	0	1	2	6	16	9	13	18	28	47	11	16	22	34	57
Other Retinal	Cryotherapy	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
	Vitreous tap/inject	20	41	74	135	282	0	0	1	2	6	21	44	78	136	295
	Other retina	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	TOTAL - Other Retinal	20	41	74	136	282	0	0	1	3	7	22	44	79	138	295

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		Surgeon					Assistant					Surgeon + Assistant				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Oculoplastic and Orbit	Eye removal and implant	0	1	2	3	6	0	0	1	2	4	1	2	3	5	8
	Lacrimal surgery	1	3	5	8	13	0	2	4	7	13	2	6	10	14	23
	Other orbital surgery (eg, orbitotomy)	0	0	1	2	4	0	1	3	6	12	1	2	5	7	14
	Eyelid laceration / canalicular repair	3	6	9	12	19	0	0	2	4	7	4	7	11	16	25
	Chalazia excision	3	5	7	10	15	0	0	0	1	3	3	6	8	11	17
	Tarsorrhaphy	0	1	2	3	6	0	0	0	1	3	0	1	2	4	9
	Ptosis repair	1	3	5	8	17	0	1	5	10	18	3	7	11	18	28
	Entropion / ectropion repair	0	2	3	6	11	0	1	3	5	11	2	5	7	11	19
	Blepharoplasty / reconstruction	2	5	9	13	25	0	1	4	10	21	4	8	15	24	41
	Temporal artery biopsy	0	0	1	2	4	0	0	0	1	2	0	0	1	3	5
	Other oculoplastic surgery	3	7	11	16	28	0	1	3	6	15	5	10	16	23	38
	TOTAL - Oculoplastic and orbit	34	48	61	79	117	3	14	30	56	96	47	75	99	126	199
Globe Trauma	Corneal/corneoscleral laceration, globe rup	3	5	7	10	14	0	0	1	2	4	4	6	8	11	17
	Intraocular foreign body	0	0	0	0	1	0	0	0	0	1	0	0	0	1	2
	Other globe trauma (eg, ant chamber washout)	0	0	1	1	2	0	0	0	0	1	0	0	1	2	3
	TOTAL - Globe Trauma	4	6	8	11	17	0	0	1	2	5	5	7	9	13	20
TOTAL	TOTAL - Credit Procedures	324	421	511	603	868	51	121	179	246	402	431	588	729	861	1,124
Non-Tracked	Non-Tracked Codes	0	2	4	9	21	0	0	1	3	11	1	3	6	13	32

Statistics are based upon the number of procedures logged by residents in the indicated role.

EXAMPLE:

ACGME/Accreditation Council for Graduate Medical Education
Neurosurgery required minimum procedure numbers

"5" Pediatric brain tumors
"5" ICP monitor placements

(What is an ICP monitor.....?)

Placing the Intraparenchymal Pressure Microsensor

- This pressure microsensor will be placed by the neurosurgeon in the operating room under general anesthesia
- Your scalp will be prepped with an antiseptic solution and a small hole will be drilled in your skull
- A small pressure microsensor will calibrated and passed through the hole a short distance into the brain.
- When you wake up you may feel the normal side effects of anesthesia and some discomfort at the site of the probe placement in your skull. You will be taken to the intensive care unit for monitoring.
- The pressure probe is then connected to the ICP recording system and intracranial pressure is measured continuously.
- In order to accurately measure CSF pressure, you must notify the nurse whenever you adjust the head of the bed elevation, and always call for assistance when getting up to use the bathroom.

Source: Hopkinsmedicine.org

Take away point: "Low" resident minimum procedure number requirements do not equal "simple" or "easy" tasks. Resident experience commonly exceeds minimum numbers.

ACGME

Neurological Surgery Case Log Defined Case Categories and Required Minimum Numbers

Review Committee for Neurological Surgery[1]

Defined Case Category	Required Minimum Number
Adult Cranial	
DC1 Craniotomy for brain tumor	60
DC2 Craniotomy for trauma	40
Total vascular lesion (Combined DC3a and DC3b)	50
DC3a Craniotomy for intracranial vascular lesion	Must be reported
DC3b Endovascular therapy for tumor or vascular lesion	Must be reported
DC4 Craniotomy for pain	5
DC5 Transsphenoidal sellar/parasellar tumors (endoscopic and microsurgical)	15
DC6 Extracranial vascular procedures	5
DC7 Radiosurgery	10
DC8 Functional procedures	10
DC9 VP shunt	10
Total Adult Cranial	**205**
Adult Spinal	
DC10 Anterior cervical approaches for decompression/stabilization	25
DC11 Posterior cervical approaches for decompression/stabilization	15
DC12 Lumbar discectomy	25
DC13 Thoracic/lumbar instrumentation fusion	20
DC14 Peripheral nerve procedures	10
Total Adult Spinal	**95**
Pediatric	
DC15 Brain tumor	5
DC16 Trauma (uses adult trauma codes)	10
DC17 Spinal procedures	5
DC18 VP shunt	10
Total Pediatric	**30**
DC19 Adult and Pediatric Epilepsy	**10**
Critical Care	
DC20 ICP monitor placement	5
DC21 External ventricular drain	10
DC22 VP shunt tap/programming	10
DC23 Cervical spine traction	5
DC25 CVP line placement	10
DC26 Airway management	10
DC27 Arterial line placement	10
Total Critical Care	**60**
TOTAL ALL DEFINED CASE CATEGORIES	400
Reportable but Non-tracked Categories	
Arteriography	
Stereotactic frame placement	

[1]**Residents graduating in 2019 and 2020 will be reviewed for compliance with these minimums**

06/2019

Accreditation Council for Graduate Medical Education

Neurological Surgery Case Logs

National Data Report

Prepared by: Department of Applications and Data Analysis

I. National Resident Statistics Main Table

A. This main table provides a national picture of educational experiences. The report is ideal for establishing and assessing national policy related to resident practical experiences.

B. Descriptive statistics have been carefully chosen to provide the most useful information for judging performance at that national level.

i. "Natl Res AVE" - The national average describes the mean number of procedures performed per resident in the nation.
ii. "Natl Res STD" - The national standard deviation indicates how tightly the procedure counts are clustered around the national mean.
iii. "Natl Res MED" - The median value among procedure counts in the nation.
iv. "Natl Res MIN" - The minimum value among procedure counts in the nation.
v. "Natl Res MAX" - The maximum value seen among procedure counts in the nation.

II. National Benchmark Table for Resident Statistics

The table displays selected percentile benchmarks of program averages. For example, a score at the 10th percentile indicates that 10% of residents achieved less than the value while the remaining 90% achieved more than the value.

The information on the following pages has been created using specialty specific categories. These data should not be used for comparison across specialties as the definition of the categories will vary among the specialties. In addition, care should be exercised when comparing data from year to year as the definition of certain categories may be revised from time to time.

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RRC Area	**RRC Procedure**																				
Adult Craniotomy - Brain Tumor	Biopsy	**2.8**	3	2	0	19	**7.8**	7	6	0	35	**0.2**	1	0	0	6	**10.6**	8	8	0	39
	Intra-axial	**27.6**	22	21	0	120	**52.1**	34	47	0	188	**1.8**	4	0	0	27	**79.7**	35	75	26	239
	Extra-axial	**11.5**	9	9	0	44	**22.9**	15	21	0	125	**0.8**	1	0	0	9	**34.4**	16	32	3	134
	Skull base and other	**14.2**	12	10	0	66	**27.6**	23	24	0	178	**0.9**	2	0	0	11	**41.8**	24	39	9	212
	TOTAL - Ad Craniotomy - Brain Tum	**56.0**	40	45	0	186	**110.4**	65	109	0	425	**3.7**	6	1	0	35	**166.4**	63	161	60	432
Adult Craniotomy - Trauma	Cranioplasty	**8.6**	7	7	0	39	**11.3**	8	10	0	42	**0.3**	2	0	0	20	**19.9**	10	18	1	56
	Depressed skull fract or extra-ax	**24.4**	18	19	0	87	**34.0**	24	29	0	119	**1.5**	4	0	0	32	**58.4**	31	51	10	171
	Craniect for abscss, contusn, or	**9.4**	7	8	0	37	**16.2**	12	14	0	62	**0.6**	1	0	0	10	**25.6**	13	23	2	75
	Other (adult craniotomy - trauma)	**8.5**	7	7	0	45	**12.7**	14	10	0	121	**0.3**	1	0	0	15	**21.2**	18	18	1	151
	TOTAL - Ad Craniotomy - Trauma	**50.9**	32	44	0	151	**74.2**	46	70	0	230	**2.7**	7	0	0	73	**125.1**	54	118	40	331
Adult Craniotomy-Intracran Vasc	AVM (adult craniotomy)	**4.9**	5	3	0	30	**7.5**	6	6	0	38	**0.2**	1	0	0	4	**12.4**	7	11	0	43
	Aneurysm (adult craniotomy)	**13.4**	10	12	0	77	**19.9**	15	16	0	74	**0.9**	2	0	0	14	**33.3**	17	29	5	96
	Other (adult craniotomy)	**1.7**	3	1	0	32	**3.1**	4	2	0	34	**0.1**	0	0	0	4	**4.8**	5	4	0	34
	TOTAL - Adult Craniotomy for IVL	**20.0**	15	18	0	107	**30.5**	20	28	1	105	**1.2**	3	0	0	16	**50.5**	21	47	13	129
Endovasc Therp Tumor or Vasc	AVM (endovasc therapy)	**2.9**	6	1	0	40	**4.0**	12	1	0	125	**0.1**	1	0	0	5	**6.8**	14	3	0	127
	Aneurysm (endovasc therapy)	**7.1**	14	3	0	106	**10.4**	26	3	0	222	**0.3**	1	0	0	6	**17.4**	33	8	0	292
	Tumor embo, thrombectomy, or stent	**6.7**	14	3	0	131	**9.1**	25	2	0	217	**0.2**	1	0	0	4	**15.7**	31	7	0	237
	TOTAL - Endovasc Therp Tum or	**16.6**	30	8	0	235	**23.4**	57	8	0	403	**0.6**	2	0	0	11	**40.0**	71	20	0	447
Adult Craniotomy - Pain	Pain (adult craniotomy)	**10.2**	9	7	0	43	**19.5**	13	16	0	62	**0.6**	1	0	0	7	**29.7**	15	26	5	79
	TOTAL - Adult Craniotomy - Pain	**10.2**	9	7	0	43	**19.5**	13	16	0	62	**0.6**	1	0	0	7	**29.7**	15	26	5	79

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RRC Area	**RRC Procedure**																				
Adult	Transphen-sel/parasel tumors	**12.3**	11	10	0	65	**23.7**	18	19	0	123	**0.5**	1	0	0	8	**36.0**	19	32	15	150
	TOTAL - Transphen-Sell/Parasellar	**12.3**	11	10	0	65	**23.7**	18	19	0	123	**0.5**	1	0	0	8	**36.0**	19	32	15	150
Adult - Cranial-Extracran Vasc	Bypass, CEA, Ligation	**3.8**	4	3	0	19	**6.8**	7	5	0	48	**0.3**	1	0	0	7	**10.7**	7	8	1	50
	TOTAL - Extracran Vascular Procs	**3.8**	4	3	0	19	**6.8**	7	5	0	48	**0.3**	1	0	0	7	**10.7**	7	8	1	50
Adult - Radiosurgery	Radiosurgery	**8.9**	16	5	0	123	**12.3**	19	9	0	111	**0.4**	2	0	0	31	**21.2**	26	12	10	182
	TOTAL - Radiosurgery	**8.9**	16	5	0	123	**12.3**	19	9	0	111	**0.4**	2	0	0	31	**21.2**	26	12	10	182
Adult Functional Procedures	Vagal nerve stimulation	**3.1**	4	2	0	32	**5.4**	7	3	0	57	**0.1**	0	0	0	2	**8.5**	9	6	0	72
	Stimulation for pain	**7.5**	9	5	0	60	**10.5**	15	5	0	90	**0.4**	2	0	0	19	**18.0**	18	12	0	104
	DBS or lesioning	**13.2**	15	8	0	90	**17.8**	20	12	0	127	**0.2**	1	0	0	6	**31.0**	24	26	0	130
	Cordotomy/rhizotomy	**0.6**	2	0	0	24	**1.0**	3	0	0	24	**0.1**	1	0	0	16	**1.7**	4	0	0	44
	Sympathectomy	**0.1**	1	0	0	7	**0.2**	1	0	0	6	**0.0**	0	0	0	0	**0.3**	1	0	0	12
	Intrathecal & implantable pumps	**7.2**	9	4	0	79	**9.1**	10	6	0	59	**0.2**	1	0	0	5	**16.2**	14	13	0	82
	Other (adult functional proc)	**8.2**	10	4	0	42	**10.5**	15	6	0	89	**0.3**	1	0	0	9	**18.8**	18	14	0	110
	TOTAL - Functional Procedures	**39.9**	37	29	0	256	**54.5**	50	40	1	288	**1.3**	4	0	0	31	**94.5**	58	81	10	297
Adult VP Shunt (CSF Diversn)	VPS	**28.2**	19	24	0	96	**37.3**	25	33	0	137	**1.0**	2	0	0	11	**65.5**	30	60	14	169
	ETV	**1.6**	2	1	0	13	**2.8**	3	2	0	16	**0.1**	0	0	0	2	**4.4**	4	4	0	16
	Other CSF diversion	**5.0**	5	4	0	48	**6.8**	8	5	0	59	**0.2**	1	0	0	5	**11.8**	10	9	0	68
	TOTAL - VP Shunt	**34.8**	23	30	0	144	**46.9**	30	42	2	154	**1.3**	3	0	0	14	**81.7**	35	75	15	212
TOTAL - Adult Cranial	TOTAL - Adult Cranial	**253.5**	143	237	0	774	**402.3**	202	406	13	898	**12.7**	21	4	0	125	**655.8**	187	644	229	1,244

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RRC Area	**RRC Procedure**																				
Adt Spinal - ACD with Instrumentn	Antr cervical appr for	**28.0**	27	20	0	182	**54.7**	34	51	2	172	**1.6**	3	0	0	20	**82.7**	41	78	25	305
	TOTAL - ACD	**28.0**	27	20	0	182	**54.7**	34	51	2	172	**1.6**	3	0	0	20	**82.7**	41	78	25	305
Adt Spin - C-spin Fract Op Stabiliz	Postr cervical appr for	**23.1**	21	16	0	132	**43.4**	24	42	0	131	**1.2**	3	0	0	14	**66.5**	28	64	15	214
	TOTAL - C-spine Fract Op Stabil	**23.1**	21	16	0	132	**43.4**	24	42	0	131	**1.2**	3	0	0	14	**66.5**	28	64	15	214
Adult Spinal - Lumbar Discectomy	Lumbar discectomy	**49.2**	46	37	0	317	**82.0**	52	71	1	330	**2.3**	6	0	0	39	**131.2**	65	121	33	471
	TOTAL - Lumbar Discectomy	**49.2**	46	37	0	317	**82.0**	52	71	1	330	**2.3**	6	0	0	39	**131.2**	65	121	33	471
Adult Spinl - Thorac/Lumb	Thoracic/lumbar	**57.0**	54	40	0	278	**97.1**	62	90	0	437	**3.1**	8	0	0	76	**154.0**	83	136	20	715
	TOTAL - Thorac/Lumb	**57.0**	54	40	0	278	**97.1**	62	90	0	437	**3.1**	8	0	0	76	**154.0**	83	136	20	715
Adult Spinal - Peripheral Nerve	Neurolysis/transposition	**0.3**	1	**0**	0	4	**0.5**	1	0	0	10	**0.0**	0	0	0	1	**0.8**	1	0	0	10
	Nerve repair	**6.9**	9	3	0	63	**9.2**	9	6	0	54	**0.4**	1	0	0	11	**16.1**	14	12	1	75
	Peripheral nerve tumor	**1.0**	2	0	0	15	**1.8**	2	1	0	15	**0.0**	0	0	0	1	**2.8**	3	2	0	16
	Other (peripheral nerve procs)	**3.1**	4	2	0	21	**3.7**	4	3	0	19	**0.1**	0	0	0	3	**6.8**	5	6	0	24
	TOTAL - Peripheral Nerve Procs	**11.3**	12	7	0	81	**15.2**	12	12	0	58	**0.5**	2	0	0	13	**26.5**	16	23	10	98
TOTAL - Adult Spinal	TOTAL - Adult Spinal	**168.5**	138	121	0	760	**292.3**	151	283	3	748	**8.7**	19	1	0	119	**460.8**	177	432	113	1,344

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RRC Area	**RRC Procedure**																				
Pediatric Craniotomy - Brain Tumor	Craniotomy - brain tumor (ped)	**5.9**	6	4	0	32	**12.0**	10	9	0	54	**0.4**	2	0	0	16	**17.9**	10	16	5	86
	TOTAL - Ped Craniotomy - Brain	**5.9**	6	4	0	32	**12.0**	10	9	0	54	**0.4**	2	0	0	16	**17.9**	10	16	5	86
Pediatric Craniotomy for Trauma	Craniotomy for trauma (ped)	**6.2**	7	4	0	45	**10.3**	7	9	0	39	**0.4**	1	0	0	10	**16.5**	8	14	1	59
	TOTAL - Ped Craniotomy for	**6.2**	7	4	0	45	**10.3**	7	9	0	39	**0.4**	1	0	0	10	**16.5**	8	14	1	59
Pediatric Spinal Procedures	Spinal procedures (ped)	**5.5**	6	3	0	47	**9.8**	8	8	0	46	**0.3**	1	0	0	12	**15.3**	9	13	4	51
	TOTAL - Ped Spinal Procedures	**5.5**	6	3	0	47	**9.8**	8	8	0	46	**0.3**	1	0	0	12	**15.3**	9	13	4	51
Pediatric VP Shunt	VP shunt (ped)	**17.0**	20	9	0	116	**28.1**	22	23	0	107	**1.0**	4	0	0	27	**45.0**	26	39	10	123
	TOTAL - Ped VP Shunt	**17.0**	20	9	0	116	**28.1**	22	23	0	107	**1.0**	4	0	0	27	**45.0**	26	39	10	123
TOTAL - Pediatric	TOTAL - Pediatric	**34.5**	36	24	0	202	**60.2**	40	53	1	195	**2.2**	7	0	0	50	**94.8**	43	87	25	281
Craniotomy for Epilepsy (Adult and	Craniotomy for epilepsy	**9.4**	9	7	0	47	**13.3**	10	11	0	54	**0.3**	1	0	0	7	**22.7**	13	19	10	81
	TOTAL - Epilepsy	**9.4**	9	7	0	47	**13.3**	10	11	0	54	**0.3**	1	0	0	7	**22.7**	13	19	10	81

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RRC Area	**RRC Procedure**																				
Minor Procedures/Critical Care	ICP monitor placement	**16.2**	18	10	0	80	**7.7**	8	5	0	54	**0.2**	1	0	0	12	**23.8**	20	17	3	128
	Ext ventricular drain placmnt	**15.3**	17	11	0	102	**23.1**	23	16	0	141	**0.3**	1	0	0	11	**38.4**	29	30	10	147
	VP shunt tap/programming	**17.5**	22	11	0	196	**16.7**	18	10	0	89	**0.2**	1	0	0	4	**34.1**	29	23	7	205
	Cervical spine traction	**3.8**	5	2	0	35	**5.8**	6	5	0	41	**0.0**	0	0	0	2	**9.5**	7	7	2	51
	Stereotactic frame placmnt	**6.9**	11	4	0	110	**6.3**	8	4	0	56	**0.1**	0	0	0	4	**13.1**	13	10	0	121
	CVP line placement	**6.2**	9	4	0	62	**8.9**	10	8	0	82	**0.1**	1	0	0	10	**15.2**	12	11	1	88
	Airway management	**5.8**	6	5	0	31	**7.2**	6	7	0	36	**0.3**	2	0	0	13	**12.9**	6	11	0	56
	Arterial line placement	**6.5**	11	3	0	87	**10.5**	12	10	0	100	**0.1**	1	0	0	11	**17.0**	17	12	1	150
	Arteriography	**23.7**	42	12	0	376	**39.5**	91	13	0	648	**1.7**	6	0	0	61	**63.2**	108	29	0	696
	TOTAL - Critical Care	**101.7**	82	80	0	467	**125.5**	108	93	2	707	**3.1**	8	0	0	65	**227.2**	137	188	57	843
TOTAL - Tracked Procedures	TOTAL - Credit Procedures	**567.7**	321	519	0	1,703	**893.6**	396	893	37	1,883	**27.0**	44	8	0	208	**1,461.3**	366	1,404	479	2,662
Additional Procedures	Craniofacial	**4.5**	5	3	0	36	**6.2**	7	4	0	49	**0.4**	1	0	0	11	**10.7**	9	8	0	67
	Tumor resection: primary/metast	**6.3**	7	4	0	33	**11.8**	9	10	0	42	**0.3**	1	0	0	3	**18.2**	12	17	0	57
	Spinal vascular lesion resectio	**2.6**	3	2	0	16	**3.2**	4	2	0	18	**0.1**	0	0	0	2	**5.8**	5	4	0	25
	Reconstructive secondary proc	**0.2**	1	0	0	4	**0.4**	1	0	0	9	**0.0**	0	0	0	1	**0.6**	1	0	0	10
	Miscellaneous/unclassified	**16.1**	19	12	0	199	**14.9**	13	11	0	89	**0.7**	2	0	0	12	**31.0**	23	26	2	201
	TOTAL - Additional Procs	**29.8**	27	23	0	249	**36.5**	24	33	0	144	**1.5**	3	0	0	20	**66.2**	35	62	3	251
Non-Tracked Procedures	Non-Tracked Procedures	**20.5**	104	6	0	1,410	**9.7**	15	6	0	155	**0.4**	1	0	0	16	**30.2**	109	15	0	1,466

Statistics are based upon the numbers of primary credit procedures logged by residents in the indicated role.

NEUROLOGICAL SURGERY : NATIONAL RESIDENT REPORT (Percentiles Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017

'Residency Review Committee for 'Neurological Surgery

Report Date: August 11, 2017

 Programs in the Nation: 97 Residents in the Nation: 186

		Senior Resident Surgeon					Lead Resident Surgeon					Assistant Resident Surgeon				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Adult Craniotomy - Brain Tumor	Biopsy	0	1	2	4	7	1	2	6	11	18	0	0	0	0	1
	Intra-axial	5	15	21	34	60	11	33	47	65	92	0	0	0	2	5
	Extra-axial	2	5	9	14	24	6	15	21	29	41	0	0	0	1	3
	Skull base and other	3	6	10	17	31	5	15	24	34	51	0	0	0	1	3
	TOTAL - Ad Craniotomy - Brain Tum	11	30	45	72	118	24	76	109	135	184	0	0	1	4	11
Adult Craniotomy - Trauma	Cranioplasty	1	4	7	11	18	2	6	10	15	22	0	0	0	0	1
	Depressed skull fract or extra-ax hematoma	4	12	19	30	55	7	20	29	42	68	0	0	0	1	4
	Craniect for abscss, contusn, or parnchyml	2	5	8	12	20	4	9	14	20	31	0	0	0	0	2
	Other (adult craniotomy - trauma)	1	4	7	10	19	1	5	10	16	26	0	0	0	0	1
	TOTAL - Ad Craniotomy - Trauma	17	30	44	67	99	16	48	70	90	138	0	0	0	2	7
Adult Craniotomy-Intracran Vasc Lesion	AVM (adult craniotomy)	0	2	3	7	11	1	4	6	9	15	0	0	0	0	1
	Aneurysm (adult craniotomy)	2	6	12	18	26	3	11	16	25	41	0	0	0	1	3
	Other (adult craniotomy)	0	0	1	2	4	0	1	2	4	7	0	0	0	0	0
	TOTAL - Adult Craniotomy for IVL	4	10	18	26	38	6	20	28	37	56	0	0	0	1	4
Endovasc Therp Tumor or Vasc Lesion	AVM (endovasc therapy)	0	0	1	2	7	0	0	1	2	8	0	0	0	0	0
	Aneurysm (endovasc therapy)	0	1	3	6	15	0	1	3	8	19	0	0	0	0	1
	Tumor embo, thrombectomy, or stent	0	1	3	6	13	0	0	2	6	20	0	0	0	0	1
	TOTAL - Endovasc Therp Tum or Vasc Lesn	0	3	8	14	33	0	3	8	15	41	0	0	0	0	2
Adult Craniotomy - Pain	Pain (adult craniotomy)	1	4	7	12	23	5	11	16	24	38	0	0	0	0	2
	TOTAL - Adult Craniotomy - Pain	1	4	7	12	23	5	11	16	24	38	0	0	0	0	2

Statistics are based upon the numbers of primary credit procedures logged by residents in the indicated role.

NEUROLOGICAL SURGERY : NATIONAL RESIDENT REPORT (Percentiles Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017
'Residency Review Committee for 'Neurological Surgery
Report Date: August 11, 2017

 Programs in the Nation: 97 Residents in the Nation: 186

		Senior Resident Surgeon Resident Percentiles					Lead Resident Surgeon Resident Percentiles					Assistant Resident Surgeon Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Adult Cran-Transphen-Sell/Parasellar Tum	Transphen-sel/parasel tumors	2	5	10	16	27	5	14	19	28	44	0	0	0	0	2
	TOTAL - Transphen-Sell/Parasellar Tum	2	5	10	16	27	5	14	19	28	44	0	0	0	0	2
Adult - Cranial-Extracran Vasc Proc	Bypass, CEA, Ligation	0	2	3	5	9	1	3	5	8	14	0	0	0	0	1
	TOTAL - Extracran Vascular Procs	0	2	3	5	9	1	3	5	8	14	0	0	0	0	1
Adult - Radiosurgery	Radiosurgery	0	1	5	10	19	0	4	9	11	22	0	0	0	0	1
	TOTAL - Radiosurgery	0	1	5	10	19	0	4	9	11	22	0	0	0	0	1
Adult Functional Procedures	Vagal nerve stimulation	0	1	2	4	9	0	1	3	6	14	0	0	0	0	0
	Stimulation for pain	0	1	5	9	18	0	2	5	10	28	0	0	0	0	1
	DBS or lesioning	0	3	8	17	33	0	6	12	21	41	0	0	0	0	1
	Cordotomy/rhizotomy	0	0	0	0	2	0	0	0	1	3	0	0	0	0	0
	Sympathectomy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Intrathecal & implantable pumps	0	2	4	8	17	0	3	6	12	22	0	0	0	0	1
	Other (adult functional proc)	0	2	4	10	22	0	3	6	11	21	0	0	0	0	1
	TOTAL - Functional Procedures	6	16	29	49	87	9	24	40	62	123	0	0	0	1	4
Adult VP Shunt (CSF Diversn)	VPS	8	16	24	35	51	8	21	33	46	72	0	0	0	1	4
	ETV	0	0	1	2	4	0	1	2	4	7	0	0	0	0	0
	Other CSF diversion	0	2	4	6	11	1	3	5	7	16	0	0	0	0	1
	TOTAL - VP Shunt	10	20	30	43	64	12	29	42	59	84	0	0	0	1	5
TOTAL - Adult Cranial	TOTAL - Adult Cranial	90	164	237	313	450	120	292	406	495	673	0	0	4	12	40

Statistics are based upon the numbers of primary credit procedures logged by residents in the indicated role.

NEUROLOGICAL SURGERY : NATIONAL RESIDENT REPORT (Percentiles Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017
'Residency Review Committee for 'Neurological Surgery
Report Date: August 11, 2017

 Programs in the Nation: 97 Residents in the Nation: 186

		Senior Resident Surgeon Resident Percentiles					Lead Resident Surgeon Resident Percentiles					Assistant Resident Surgeon Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Adt Spinal - ACD with Instrumentn	Antr cervical appr for decom/stabiliz	4	12	20	32	69	17	32	51	66	99	0	0	0	1	5
	TOTAL - ACD	4	12	20	32	69	17	32	51	66	99	0	0	0	1	5
Adt Spin - C-spin Fract Op Stabiliz Proc	Postr cervical appr for decom/stabiliz	3	9	16	28	54	14	26	42	56	75	0	0	0	1	4
	TOTAL - C-spine Fract Op Stabil	3	9	16	28	54	14	26	42	56	75	0	0	0	1	4
Adult Spinal - Lumbar Discectomy	Lumbar discectomy	7	19	37	63	104	28	49	71	101	144	0	0	0	1	6
	TOTAL - Lumbar Discectomy	7	19	37	63	104	28	49	71	101	144	0	0	0	1	6
Adult Spinl - Thorac/Lumb Instrum & Fusn	Thoracic/lumbar instrumentn & fusion	7	24	40	67	129	29	56	90	120	179	0	0	0	2	9
	TOTAL - Thorac/Lumb Instrum & Fusn	7	24	40	67	129	29	56	90	120	179	0	0	0	2	9
Adult Spinal - Peripheral Nerve Procs	Neurolysis/transposition	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0
	Nerve repair	0	2	3	7	17	1	3	6	11	22	0	0	0	0	1
	Peripheral nerve tumor	0	0	0	1	3	0	0	1	2	5	0	0	0	0	0
	Other (peripheral nerve procs)	0	1	2	3	7	0	1	3	4	9	0	0	0	0	0
	TOTAL - Peripheral Nerve Procs	2	5	7	13	26	3	8	12	18	31	0	0	0	0	1
TOTAL - Adult Spinal	TOTAL - Adult Spinal	35	77	121	224	364	105	199	283	366	500	0	0	1	6	29

Statistics are based upon the numbers of primary credit procedures logged by residents in the indicated role.

NEUROLOGICAL SURGERY : NATIONAL RESIDENT REPORT (Percentiles Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017
'Residency Review Committee for 'Neurological Surgery
Report Date: August 11, 2017

 Programs in the Nation: 97 Residents in the Nation: 186

		Senior Resident Surgeon					Lead Resident Surgeon					Assistant Resident Surgeon				
		Resident Percentiles					Resident Percentiles					Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Pediatric Craniotomy - Brain Tumor	Craniotomy - brain tumor (ped)	0	2	4	8	14	1	6	9	16	26	0	0	0	0	1
	TOTAL - Ped Craniotomy - Brain Tum	0	2	4	8	14	1	6	9	16	26	0	0	0	0	1
Pediatric Craniotomy for Trauma	Craniotomy for trauma (ped)	0	2	4	7	15	2	7	9	13	19	0	0	0	0	1
	TOTAL - Ped Craniotomy for Trauma	0	2	4	7	15	2	7	9	13	19	0	0	0	0	1
Pediatric Spinal Procedures	Spinal procedures (ped)	0	2	3	6	13	2	5	8	12	21	0	0	0	0	1
	TOTAL - Ped Spinal Procedures	0	2	3	6	13	2	5	8	12	21	0	0	0	0	1
Pediatric VP Shunt	VP shunt (ped)	0	5	9	18	48	5	13	23	36	59	0	0	0	0	2
	TOTAL - Ped VP Shunt	0	5	9	18	48	5	13	23	36	59	0	0	0	0	2
TOTAL - Pediatric	TOTAL - Pediatric	3	12	24	40	83	11	35	53	81	111	0	0	0	1	5
Craniotomy for Epilepsy (Adult and Ped)	Craniotomy for epilepsy	1	4	7	10	21	2	7	11	15	27	0	0	0	0	1
	TOTAL - Epilepsy	1	4	7	10	21	2	7	11	15	27	0	0	0	0	1

Statistics are based upon the numbers of primary credit procedures logged by residents in the indicated role.

NEUROLOGICAL SURGERY : NATIONAL RESIDENT REPORT (Percentiles Table)

Reporting Period: Total Experience of Residents Completing Programs in 2016-2017
'Residency Review Committee for 'Neurological Surgery
Report Date: August 11, 2017

 Programs in the Nation: 97 Residents in the Nation: 186

		Senior Resident Surgeon Resident Percentiles					Lead Resident Surgeon Resident Percentiles					Assistant Resident Surgeon Resident Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
RRC Area	**RRC Procedure**															
Minor Procedures/Critical Care	ICP monitor placement	0	4	10	19	45	1	3	5	8	19	0	0	0	0	0
	Ext ventricular drain placmnt	1	5	11	17	36	4	10	16	24	57	0	0	0	0	1
	VP shunt tap/programming	1	5	11	21	40	2	6	10	18	41	0	0	0	0	0
	Cervical spine traction	0	1	2	5	8	0	3	5	6	11	0	0	0	0	0
	Stereotactic frame placmnt	0	2	4	7	16	0	1	4	7	16	0	0	0	0	0
	CVP line placement	0	1	4	7	13	0	5	8	10	16	0	0	0	0	0
	Airway management	0	0	5	9	13	0	3	7	10	14	0	0	0	0	0
	Arterial line placement	0	0	3	8	14	1	4	10	12	20	0	0	0	0	0
	Arteriography	0	3	12	25	51	0	4	13	25	80	0	0	0	0	3
	TOTAL - Critical Care	19	48	80	122	210	37	65	93	148	231	0	0	0	2	9
TOTAL - Tracked Procedures	TOTAL - Credit Procedures	197	356	519	733	1,002	339	683	893	1,097	1,378	0	2	8	24	79
Additional Procedures	Craniofacial	0	1	3	5	11	0	1	4	7	16	0	0	0	0	1
	Tumor resection: primary/metast	0	2	4	7	16	1	6	10	16	25	0	0	0	0	1
	Spinal vascular lesion resectio	0	1	2	3	6	0	1	2	4	8	0	0	0	0	1
	Reconstructive secondary proc	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	Miscellaneous/unclassified	2	7	12	19	35	3	7	11	18	31	0	0	0	0	2
	TOTAL - Additional Procs	5	15	23	36	63	10	20	33	48	63	0	0	0	1	5
Non-Tracked Procedures	Non-Tracked Procedures	0	2	6	11	42	0	2	6	10	23	0	0	0	0	1

Statistics are based upon the numbers of primary credit procedures logged by residents in the indicated role.

ACGME

Minimum Numbers: Obstetrics and Gynecology

Review Committee for Obstetrics and Gynecology

Category	Minimum *Graduates through June 30, 2018**	Minimum *Graduates on or after June 1, 2019*
Spontaneous vaginal delivery	200	200
Cesarean delivery	145	145
Operative vaginal delivery	15	15
Obstetric ultrasound[1]	50	50
Abdominal hysterectomy	35	15
Vaginal hysterectomy	15	15
Laparoscopic hysterectomy	20	15
Minimally invasive hysterectomy (includes vaginal hysterectomy, laparoscopic hysterectomy, laparoscopic assisted vaginal hysterectomy, and robotic hysterectomy)	35 *(Sum of vaginal and laparoscopic hysterectomy minimums prior to update)*	70
Hysterectomy-total number (includes minimally invasive and abdominal hysterectomy)	70 *(Sum of abdominal, vaginal, and laparoscopic hysterectomy minimums prior to update)*	85
Incontinence and pelvic floor procedure (excludes cystoscopy)	25	25
Cystoscopy	10	10
Laparoscopy	60	60
Hysteroscopy	40	40
Abortion	20	20
Transvaginal ultrasound	50	50
Surgery for invasive cancer	25	25

*Includes off-cycle residents

Notes

- Minimum numbers represent what the Review Committee believes to be an acceptable minimal experience.
- Minimum numbers are not a final target number and achievement does not signify competence.
- Program directors must ensure that residents continue to report their procedures in the Case Log System after minimums are achieved.
- Programs are considered compliant with obstetrics and gynecology procedural requirements if all graduating residents in a program achieve the minimum number in each category.
- Minimum counts include the roles of Surgeon and Teaching Assistant. See Counting Teaching Assistants: Obstetrics and Gynecology for more information regarding the Teaching Assistant role.

Contact Review Committee Executive Director Kathleen Quinn-Leering, PhD (kquinn@acgme.org) with any questions.

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[1]Obstetric ultrasound includes fetal biometry performed at over 14 weeks gestation

Accreditation Council for

Graduate Medical Education

Obstetrics And Gynecology Case Logs

National Data Report

Prepared by: Department of Applications and Data Analysis

I. National Resident Statistics Main Table

A. This main table provides a national picture of educational experiences. The report is ideal for establishing and assessing national policy related to resident practical experiences. Data is broken out by resident role.

B. Descriptive statistics have been carefully chosen to provide the most useful information for judging performance at that national level.

i. "Natl Res MED" - The median value among procedure counts in the nation.
ii. "Natl Res AVE" - The national average describes the mean number of procedures performed per resident in the nation.
iii. "Natl Res STD" - The standard deviation indicates how tightly the scores are clustered around the mean in the set of data.
iv. "Natl Res MIN" - The minimum value among procedure counts in the nation.
v. "Natl Res MAX" - The maximum value seen among procedure counts in the nation.

II. National Benchmark Table for Resident Statistics
The table displays selected percentile benchmarks of resident averages. For example, a score at the 10th percentile indicates that 10% of residents achieved less than the value while the remaining 90% achieved more than the value.

The information on the following pages has been created using specialty specific categories. These data should not be used for comparison across specialties as the definition of the categories will vary among the specialties. In addition, care should be exercised when comparing data from year to year as the definition of certain categories may be revised from time to time.

OBSTETRICS AND GYNECOLOGY: NATIONAL RESIDENT REPORT (Main Table)

Reporting Period: Total Experience of Residents Completing Programs in 2017-2018
Residency Review Committee for Obstetrics And Gynecology
Report Date: September 20, 2018

Obstetrics — Number of Programs in the Nation: 241 — Number of Residents in the Nation: 1,277

	Surgeon					Surgeon + Yr4 Teach Asst				
	Natl Res MED	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MAX	Natl Res MED	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MAX
RRC Procedure										
Spontaneous deliveries	**239**	254.3	69.2	93	654	**266**	283.9	71.6	193	677
Cesarean deliveries	**195**	209.2	71.6	62	737	**217**	233.0	71.3	101	739
Operative vaginal deliveries	**18**	21.7	11.6	1	127	**20**	23.4	11.6	1	133
Forceps	**4**	6.5	7.9	0	114	**5**	7.0	8.3	0	120
Vacuum	**14**	15.2	9.8	0	89	**15**	16.4	10.0	0	89
Obstetric ultrasound	**105**	141.4	111.2	7	874	**105**	144.5	113.0	47	874

Statistics are based on all procedures logged in the roles indicated.

OBSTETRICS AND GYNECOLOGY: NATIONAL RESIDENT REPORT (Main Table)

Reporting Period: Total Experience of Residents Completing Programs in 2017-2018
Residency Review Committee for Obstetrics And Gynecology
Report Date: September 20, 2018

Gynecology Number of Programs in the Nation: 241 Number of Residents in the Nation: 1,277

	Surgeon					Surgeon + Yr4 Teach Asst				
	Natl Res MED	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MAX	Natl Res MED	Natl Res AVE	Natl Res STD	Natl Res MIN	Natl Res MAX
RRC Procedure										
Abdominal hysterectomy	**37**	40.0	12.9	6	125	**39**	42.5	13.3	6	145
Vaginal hysterectomy	**20**	22.8	10.6	2	117	**21**	23.9	10.8	4	117
Laparoscopic hysterectomy	**43**	47.7	22.9	8	169	**44**	49.7	23.5	9	178
Incontinence and pelvic floor	**45**	55.7	34.3	0	287	**46**	57.3	35.2	0	287
Cystoscopy (Def Ctgy)	**44**	49.6	28.7	6	245	**45**	51.6	30.4	10	255
Laparoscopy	**94**	102.0	36.4	32	287	**97**	107.2	38.6	53	310
Operative hysteroscopy	**69**	76.5	32.7	19	267	**72**	79.4	32.9	32	267
Abortion	**34**	44.6	28.5	8	216	**36**	46.2	28.4	12	217
Transvaginal ultrasound	**63**	79.7	44.6	24	503	**64**	81.0	44.9	34	503
- Total Hysterectomy Procedures	**105**	110.4	31.3	41	350	**110**	116.1	32.0	56	350
- Total Laparoscopy Procedures	**138**	149.7	51.1	49	407	**145**	156.9	53.8	73	416
Total Invasive Cancer	**47**	56.0	32.1	10	322	**47**	57.8	33.1	16	324
Total Robotic Procedures	**24**	32.9	34.5	0	273	**24**	33.6	35.0	0	273

Statistics are based on all procedures logged in the roles indicated.

OBSTETRICS AND GYNECOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

Reporting Period: Total Experience of Residents Completing Programs in 2017-2018
Residency Review Committee for Obstetrics And Gynecology
Report Date: September 20, 2018

Obstetrics — Programs in the Nation: 241 — Residents in the Nation: 1,277

	Surgeon							Surgeon + Yr4 Teach Asst						
	Percentiles							Percentiles						
	10	15	30	50	70	90	95	10	15	30	50	70	90	95
RRC Procedure														
Spontaneous deliveries	184	196	214	239	273	349	391	209	216	236	266	307	384	429
Cesarean deliveries	139	147	168	195	231	292	338	160	168	189	217	257	323	357
Operative vaginal deliveries	13	14	16	18	23	35	44	15	15	17	20	25	37	45
Forceps	0	0	2	4	8	16	20	0	0	2	5	8	17	21
Vacuum	6	7	11	14	17	26	35	7	8	12	15	18	28	37
Obstetric ultrasound	53	57	75	105	153	276	357	54	58	77	105	157	281	381

Statistics are based on all procedures logged in the roles indicated.

OBSTETRICS AND GYNECOLOGY: NATIONAL RESIDENT STATISTICS REPORT (Benchmarks Table)

Reporting Period: Total Experience of Residents Completing Programs in 2017-2018

Residency Review Committee for Obstetrics And Gynecology

Report Date: September 20, 2018

Gynecology Programs in the Nation: 241 Residents in the Nation: 1,277

	Surgeon							Surgeon + Yr4 Teach Asst						
	Percentiles							Percentiles						
	10	15	30	50	70	90	95	10	15	30	50	70	90	95
RRC Procedure														
Abdominal hysterectomy	27	29	34	37	43	57	65	30	35	36	39	44	59	66
Vaginal hysterectomy	14	15	17	20	25	34	41	15	15	17	21	26	36	44
Laparoscopic hysterectomy	23	25	32	43	56	79	94	25	28	34	44	59	82	99
Incontinence and pelvic floor	27	29	35	45	62	98	126	28	30	36	46	63	101	128
Cystoscopy (Def Ctgy)	19	23	31	44	59	86	104	20	24	32	45	61	92	111
Laparoscopy	66	70	80	94	110	146	170	70	73	84	97	115	156	185
Operative hysteroscopy	43	46	55	69	86	122	139	45	49	58	72	89	125	142
Abortion	21	23	27	34	48	85	104	22	24	28	36	50	86	105
Transvaginal ultrasound	50	50	54	63	82	132	159	50	51	55	64	82	134	164
- Total Hysterectomy Procedures	78	82	92	105	121	150	167	83	87	96	110	127	156	173
- Total Laparoscopy Procedures	98	103	118	138	165	213	251	102	108	124	145	172	226	265
Total Invasive Cancer	27	30	36	47	62	100	121	29	31	37	47	63	103	126
Total Robotic Procedures	1	3	11	24	40	75	104	1	3	12	24	41	77	105

Statistics are based on all procedures logged in the roles indicated.

March 19, 2019
K Ray Shrum, OD, MD
Berkeley Eye Center
18700 W. Lake Houston Pkwy, Suite B101
Humble, Texas 77346

Dear Honorable Senator/Representative:

As an ophthalmologist who previously trained as an optometrist, I am writing you today to offer my unique perspective on House Bill 1798 and Senate Bill 1223, both of which call for the expanded scope of practice for optometrists in Texas.

These bills would allow non-physician optometrists to perform surgeries with lasers, scalpels, knives, and needles. They would also allow optometrists to prescribe Schedule III, IV, and V controlled substances along with all hydrocodone-combination medications. Furthermore, they would remove the current mandate of an ophthalmologist's confirmation in the case of a glaucoma diagnosis.

I value my optometry background, but I decided to go to medical school because my optometric education sorely lacked in the diagnosis and treatment of ocular disease and injuries. After having experienced both optometric training and medical training, I can assure you that the education and training optometrists receive is <u>not</u> sufficient to prepare them to safely handle any of the proposed medical and surgical privileges.

The clinical training provided in optometry school is dramatically different than that provided in medical school and ophthalmology residency. One significant difference is that optometry students primarily encounter patients with "well eyes" because of the setting of an optometry school. The bulk of their education focuses on refractions and primary eye care. In contrast, during medical school, internship, and residency, I trained in a hospital, where my colleagues and I cared for patients suffering from all types of eye disease and trauma, as well as the medical problems often associated with eye disease.

Ocular surgical training is intense, and it takes years to become a skilled surgeon who can treat not just the surgery itself, but any and all complications. During my residency, I worked under the close, personal supervision of my physician educators for three years, participating in approximately 1,000 surgical cases before I was prepared to perform surgery on my own.

Looking back, I've realized that this medical and residency training was the *bare minimum* needed in order to safely practice medicine and surgery. The education and training in optometry school is not "less of the same;" it is a completely different model.

Optometrists are not physicians and have no in-depth medical training regarding the systemic diseases they may encounter. They do not have the experience or knowledge to anticipate drug interactions or the adverse effects of oral antivirals and oral steroids.

Glaucoma is a devastating disease with no cure. A therapeutic optometrist (also known as an optometric glaucoma specialist) has completed optometry school, an instructional clinical review course, and passed an examination conducted by the Texas Optometry Board. The co-management model currently utilized for the care of glaucoma patients works well and can be convenient for patients, but only when optometrists and ophthalmologists collaborate. Initial and ongoing consultation with an ophthalmologist is absolutely necessary whenever glaucoma is detected.

I strongly encourage you to oppose HB 1798 and SB 1223 and reject the lowering of educational standards and threats to patient safety in Texas. I can be reached in Humble at 281-812-4000.

Sincerely,

K. Ray Shrum, O.D., M.D.

Maine Optometric Association Advanced Procedures

Augusta, Maine

Thursday, September 12, 2019

1:00-2:00 p.m. Intro to Optometric Surgery and Ophthalmic Surgical Instruments
Dr. Castillo

2:00-3:00 p.m. Review of Surgical Anatomy of the Face
Dr. Castillo

3:00-4:00 p.m. Oculofacial Surgical Asepsis
Dr. Castillo

4:00-5:00 p.m. Review of Eyelid Anatomy & Eyelid Lesions
Dr. Lighthizer

5:00-6:00 p.m. Dinner

6:00-7:00 p.m. Office-based Local Anesthesia
Dr. Castillo

7:00-8:00 p.m. Radio Frequency Surgery in Optometric Practice
Dr. Lighthizer

8:00-9:00 p.m. Introduction to Oculofacial Biopsy
Dr. Castillo

Friday, September 13, 2019

7:00-8:00 a.m. Breakfast

8:00-9:00 a.m. Chalazion Management
Dr. Lighthizer

9:00-12:00 p.m. Video Grand Rounds & Surgical Concepts
Dr's Lighthizer & Castillo

Friday, September 13, 2019

12:00-1:00 p.m. Lunch

1:00-2:00 p.m. Intro to Suturing
Dr. Castillo

2:00-6:00 p.m. Suture Techniques Lab
Dr's Castillo, Lighthizer, Shetler & Penisten

Lab Rotations
Injection Techniques
Dr's Shetler & Penisten

Radiosurgical Techniques
Dr. Lighthizer

Oculofacial Biopsy
Dr. Castillo

Saturday, September 14, 2019

7:00-8:00 a.m. Breakfast

8:00-9:00 a.m. Laser Physics, Hazards & Safety
Doug Penisten, O.D., Ph.D.

9:00-10:00 a.m. Laser Tissue Interactions
Nate Lighthizer, O.D.

10:00-12:00 p.m. Clinical Workshops: Intro to Therapeutic Lasers
Dr's Castillo, Lighthizer, Shetler & Penisten

12:00-1:00 p.m. Gonioscopy: How to Interpret What You Are Seeing
Doug Penisten, O.D., Ph.D.

1:00-2:00 p.m. Lunch

2:00-4:00 p.m. Laser Therapy for the Open Angle Glaucomas: ALT & SLT
Nathan Lighthizer, O.D.

Saturday, September 14, 2019

4:00-5:00 p.m. Laser Therapy in Narrow Angles/Angle Closure: LPI and ALPI
Nathan Lighthizer, O.D.

5:00-6:00 p.m. YAG Laser Posterior Capsulotomy
Joseph Shetler, O.D.

6:00-7:00 p.m. Managing Potential Laser Complications
Richard Castillo, O.D., D.O.

7:00-8:00 p.m. Medicolegal Aspects of Anterior Segment Laser Procedures: Panel Discussion
Dr.'s Castillo, Lighthizer, Penisten & Shetler

Sunday, September 15, 2019

7:00 a.m. Breakfast

7:30-11:30 a.m. Lab Rotations

YAG Capsulotomy
Dr. Shetler

Laser Peripheral Iridotomy
Dr. Castillo

Gonioscopy & Laser Lenses
Dr. Penisten

Laser Trabeculoplasty: ALT & SLT
Dr. Lighthizer

11:30 a.m-1:00 p.m.. Review & Final Exam
Nathan Lighthizer

Thank you!