

**Allergy and Immunology**  
**Goals and Objectives**

**Program Goal**

The overall goal of the Allergy and Immunology residency program is to ensure the development of the knowledge and skills necessary for the resident to independently provide excellent care for patients with all allergic and immunologic disorders. In order to achieve this, the program provides for 24 continuous months of clinical activity. Throughout this year, the resident is actively involved in the management of various allergic and immunologic problems exhibiting increasing levels of responsibility within different clinical settings, including weekly outpatient clinic visits and inpatient consultation. In these settings, the Allergy and Immunology resident is carefully supervised, with increasing independence, by the Attending. The Allergy and Immunology resident is also expected to assist residents in management of patients in these venues, fostering teaching skills. These clinical activities allow the Allergy and Immunology resident to increase their patient care skills, as well as provide an opportunity for practice-based learning and improvement, enhance their interpersonal and communication skills, professionalism, and develop a systems-based practice. At the end of the residency program, each resident is expected to be able to function competently and independently as a physician specialized in allergy and immunology.

**Allergy and Immunology Objectives**

By the end of the two year Allergy and Immunology residency program, all residents are expected to expand and cultivate skills and knowledge learned during previous training and to achieve the following objectives based on the six general competencies. The resident should exhibit an increasing level of responsibility and independency as he or she progresses throughout the year.

| Competency that is being assessed | Representative tasks residents are expected to perform during this rotation   | Teaching methods used for each of these tasks  | Evaluation Method  | Frequency of Evaluations |
|-----------------------------------|---|--|--|--------------------------|
| Patient Care                      | <b>General Objectives</b>   |  |  |                          |
|                                   | Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients with allergic disorders and immune deficiencies. | One on one teaching<br>Risk management seminar | Focused observation and evaluation<br>360° assessment                      | Daily<br><br>Semi-Annual |
|                                   | Gather essential and accurate information about their patients with allergic and immunologic complaints.  | One on one teaching                            | Focused observation and evaluation<br>Chart review<br>The SEGUE frame work | Daily<br><br>Semi-Annual |

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|                   | Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgments. | One on one teaching<br>Conference<br>Directed reading | Focused observation and evaluation<br>The SEGUE frame work | Daily<br>Weekly<br>Bi-Weekly<br>Semi-Annual |
|                   | Develop and carry out patient management plans.  | One on one teaching                                   | Focused observation and evaluation<br>The SEGUE frame work | Daily<br>Semi-Annual                        |
|                   | Counsel and educate patients and their families about specific allergy and immunology disorders.   | One on one teaching                                   | Focused observation and evaluation<br>The SEGUE frame work | Daily<br>Semi-Annual                        |
|                   | Use information technology to support patient care decisions and patient education.  | PubMed search   | Focused observation and evaluation                         | Daily<br>Semi-Annual                        |
|                   | Perform competently all medical and invasive procedures considered essential for the management of allergy and immunology disorders.   | One on one teaching<br>Workshop at meeting            | Focused observation and evaluation<br><br>Certificate      | Daily<br>Semi-Annual                        |
|                   | Provide health care services aimed at preventing allergy and immunology problems or maintaining health.  | One on one teaching                                   | Focused observation and evaluation<br>360° assessment      | Daily<br>Semi-Ann                           |
|                   | Work with health care professionals, including those from other disciplines, to provide patient-focused care.  | One on one teaching                                   | Focused observation and evaluation                         | Daily<br>Semi-Annual                        |
|                   | <b>Specialty Specific Objectives</b>   |   |  |   |
|                   | See specific rotations.  |   |  |   |
| Medical Knowledge | <b>General Objectives</b>  |   |  |   |

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|   | Demonstrate an investigatory and analytic thinking approach to allergy and immunology clinical situations.   | One on one teaching<br>Conference | Focused observation and evaluation<br>The SEGUE frame work<br>Written In-Training Exam | Daily<br>Semi-Annual<br>Annual      |
|   | Know and apply the basic and clinically supportive sciences which are appropriate to allergy and immunology.   | One on one teaching<br>Conference | Focused observation and evaluation<br>The SEGUE frame work<br>Written In-Training Exam | Daily<br>Semi-Annual<br>Annual      |
|   | <b>Specialty Specific Objectives</b>   |                                   |  |                                     |
|   | See specific rotations.  |                                   |  |                                     |
| Practice Based Learning and Improvement | <b>General Objectives</b>  |                                   |  |                                     |
|   | Analyze practice experience and perform practice-based improvement activities using a systematic methodology.  | One on one teaching               | Focused observation and evaluation<br>Chart review                                     | Daily<br>Semi-Annual                |
|   | Locate, appraise, and assimilate evidence from scientific studies related to their patients' allergic disorders and/or immune deficiencies.  | Conference<br>Journal club        | Focused observation and evaluation   | Weekly<br>Bi-weekly<br>Semi-Annual  |
|   | Obtain and use information about their population of patients and the larger population of patients from which their patients are drawn.   | Small group discussion            | Focused observation and evaluation   | Daily                               |
|   | Apply knowledge of study designs and statistical methods to the appraisal of allergy and immunology clinical studies and other information on diagnostic and therapeutic effectiveness | Conference<br>Journal club        | Focused observation and evaluation   | Bi-weekly<br>Monthly<br>Semi-Annual |
|   | Use information technology to manage information, access on-line medical information; and support their education.   | One on one teaching<br>Conference | Focused observation and evaluation   | Weekly                              |

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| Facilitate the learning of students and other health care professionals.  | One on one teaching<br>Lecture series                       | 360° assessment  | Daily<br>Semi-Annual           |
| <b>Specialty Specific Objectives</b>  |   |  |                                |
| Evaluate allergy and immunology patient care practices, discuss how they meet standards, and develop ways to improve these practices.                             | Small group discussion<br>Seminar                           | Focused observation and evaluation                     | Daily<br>Semi-Annual           |
| Participate in all mandated allergy and immunology conferences, journal club, and grand rounds.   | Outlined in the required curriculum                         | Sign-In Sheet<br>Electronic card reader for attendance | Semi-Annual                    |
| Complete a QA/QI project under faculty direction.   | One on one teaching<br>Committee membership                 | Focused observation and evaluation                     | Semi-Annual                    |
| Demonstrate improvement in clinical management and diagnostic assessment.   | One on one teaching   | Focused observation and evaluation<br>Chart review     | Daily<br>Semi-Annual           |
| Implement new scientific advances and clinical approaches from a variety of sources into current patient care practices.  | Small group discussion                                      | Focused observation and evaluation                     | Daily<br>Semi-Annual           |
| Analyze and evaluate medical literature and examine alternate sources for information that pertains to their patient's allergic disorders or immune deficiencies. | One on one teaching<br>Small group discussion<br>Conference | Focused observation and evaluation                     | Daily<br>Weekly<br>Semi-Annual |
| Take responsibility for lifelong learning.  | Continuing medical education                                | Sign-In Sheet<br>Portfolio                             | Semi-Annual                    |
| Use information technology such as Up-To-Date, PubMed or Ovid to enhance allergy and immunology patient care.   | Orientation<br>One on one teaching                          | Focused observation and evaluation                     | Daily<br>Semi-Annual           |
| Teach fellow residents, medical students, and interns.  | One on one teaching<br>Lecture series                       | 360° assessment  | Daily<br>Semi-Annual           |

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|  | Maintain appropriate records documenting cases and procedures (such as patient logs).  | Orientation<br>One on one teaching | Case logs<br>Procedure logs                           | Quarterly            |
| Interpersonal and Communication Skills | <b>General Objectives</b>  |                                    |   |                      |
|  | Create and sustain a therapeutic and ethically sound relationship with patients with allergic disorders and immune deficiencies.   | One on one teaching                | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|  | Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.   | One on one teaching                | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|  | Work effectively with others as a member or leader of an allergy and immunology team or other professional group.  | One on one teaching                | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|  | <b>Specialty Specific Objectives</b>   |                                    |   |                      |
|  | Carefully listen to patients to assess the patient's health problems including their verbal and non-verbal communications.   | One on one teaching                | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|  | Demonstrating respectful and considerate attitudes, effectively communicate with patients, families, and other health care personnel, when addressing allergy and immunology management plans, patient issues, and especially end-of-life decisions. | One on one teaching                | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|  | Accurately present (verbally and written) a case to attending physicians, fellow residents, and other health care professionals.   | One on one teaching                | Focused observation and evaluation                    | Daily<br>Semi-Annual |
|  | Provide timely, legible, and thorough medical record documentation - histories and physical examinations, admission notes, progress notes, procedure notes and discharge summaries.  | One on one teaching                | Chart review<br>Focused observation and evaluation    | Daily<br>Semi-Annual |

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|                 | Provide education and counseling to patients, and families using non-technical and clear language. (Use non-verbal and verbal communication skills)  | One on one teaching                                 | 360° assessment<br>Focused observation and evaluation                  | Daily<br>Semi-Annual           |
|                 | Demonstrate skill in handling all difficult patient care situations.   | One on one teaching<br>Multidisciplinary conference | 360° assessment<br>Focused observation and evaluation                  | Daily<br>Semi-Annual           |
|                 | Spend adequate time with patients addressing their questions and concerns.   | One on one teaching                                 | 360° assessment<br>Focused observation and evaluation                  | Daily<br>Semi-Annual           |
|                 | Work well within team consisting of students, residents, attending physicians, nurses, and patients.   | One on one teaching                                 | 360° assessment<br>Focused observation and evaluation                  | Daily<br>Semi-Annual           |
|                 | Function effectively as a consultant for specialty and subspecialty care.  | One on one teaching                                 | Focused observation and evaluation                                     | Daily<br>Semi-Annual           |
| Professionalism | <b>General Objectives</b>  |   |  |                                |
|                 | Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients, society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development. | One on one teaching                                 | 360° assessment<br>Focused observation and evaluation                  | Daily<br>Semi-Annual           |
|                 | Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care confidentiality of patient information, informed consent, and business practices.   | HIPPA internet training<br>One on one teaching      | Internet test<br>360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual<br>Annual |
|                 | Demonstrate a sensitivity and responsiveness to patients' culture, age, gender, and disabilities.  | One on one teaching                                 | 360° assessment<br>Focused observation and evaluation                  | Daily<br>Semi-Annual           |
|                 | <b>Specialty Specific Objectives</b>   |   |  |                                |

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|                        | Demonstrate respect, compassion, integrity, punctuality, reliability, and honesty with regards to patients and colleagues.                                | One on one teaching | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|                        | Demonstrate an understanding of the psychological effects of chronic illness.   | One on one teaching | Focused observation and evaluation                    | Daily<br>Semi-Annual |
|                        | Display initiative and leadership.  | One on one teaching | Focused observation and evaluation                    | Daily<br>Semi-Annual |
|                        | Acknowledge errors, alert patients and appropriate health care providers about the errors, and create a plan of action to minimize them.                  | One on one teaching | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|                        | Volunteer for activities for the good of the institution and community.   | One on one teaching | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|                        | Ask for help when needed and accept constructive feedback.  | One on one teaching | Focused observation and evaluation                    | Daily<br>Semi-Annual |
|                        | Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. | One on one teaching | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
|                        | Maintain patient confidentiality.   | HIPPA training      | Internet test<br>Focused observation and evaluation   | Daily<br>Annual      |
|                        | Compassionately respond to issues of culture, age, gender, ethnicity, and disability in patient care.   | One on one teaching | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual |
| Systems-Based Practice | <b>General Objectives</b>   |                     |   |                      |

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| Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice. | One on one teaching   | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual           |
| Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources.   | One on one teaching   | Focused observation and evaluation                    | Daily<br>Semi-Annual           |
| Practice cost-effective health care and resource allocation that does not compromise quality of care.   | One on one teaching   | Focused observation and evaluation                    | Daily<br>Semi-Annual           |
| Advocate for quality patient care and assist patients in dealing with system complexities.  | One on one teaching   | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual           |
| Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.   | One on one teaching<br>Multidisciplinary conference               | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual           |
| <b>Specialty Specific Objectives</b>  |   |   |                                |
| Demonstrate ability to deliver high-quality medical care in a private, government, and inner city hospital settings.  | One on one teaching   | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual           |
| Demonstrate the knowledge of different types of medical practice and health care delivery systems and understand how this affects patient care.   | One on one teaching   | 360° assessment<br>Focused observation and evaluation | Daily<br>Semi-Annual           |
| Demonstrate knowledge of business aspects of medical practice including coding, billing, patient satisfaction, malpractice, healthcare politics, and insurance.   | One on one teaching<br>Small group discussion<br>National meeting | Focused observation and evaluation                    | Daily<br>Semi-Annual<br>Annual |

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|  | Work with ancillary team members (discharge planners, case managers, and social workers) to provide high quality cost-effective diagnostic testing and therapy. | One on one teaching<br>Multidisciplinary conference  | 360° assessment<br>Focused observation and evaluation                        | Daily<br>Semi-Annual                      |
|  | Use systematic approaches to reduce errors.   | One on one teaching<br><br>Hospital policies (acceptable abbreviations, decimal points, quantity documentation)<br><br>Electronic chart, pharmacy alerts<br><br>CD instructions on effects of fatigue on good medical practice | Focused observation and evaluation<br><br>Chart review<br><br>Duty hour logs | Daily<br><br>Semi-Annual<br><br>Quarterly |
|  | Serve as a patient advocate in the outpatient and inpatient setting.  | One on one teaching<br><br>Home visits   | 360° assessment<br>Focused observation and evaluation                        | Daily<br>Semi-Annual                      |
|  | Direct care in inpatient and outpatient settings as a member of a multidisciplinary team.   | One on one teaching<br>Multidisciplinary conference  | 360° assessment<br>Focused observation and evaluation                        | Daily<br>Semi-Annual                      |
|  | Demonstrate knowledge of how the health care system including other physicians, nurses, and health care professionals affect their patient care practices.      | Multidisciplinary team approach  | 360° assessment  | Semi-Annual                               |

**Rotation Specific Objectives**

| Rotations                          | Primary or unique patient population  | Competency that is being assessed  | Representative tasks residents are expected to perform during this rotation  | Teaching methods used for each of these tasks     | Evaluation  | Frequency of Evaluations   |
|------------------------------------|---|--|--|---|---|--|
| Allergy Clinic (Lew, Michael, POB) | Children (infant to age 18 years) with anatomic abnormality, severe asthma, allergic disorders and immune dysfunction | Patient Care<br>Medical Knowledge  | Evaluate, manage and counsel patients and families including diagnostic work-ups based on differential diagnosis for patients with <ul style="list-style-type: none"> <li>○ Airway pathology such as allergic rhinitis, sinusitis, severe asthma</li> <li>○ Ocular disorders such as allergic conjunctivitis</li> <li>○ Cutaneous disorders such as atopic dermatitis, contact dermatitis, chronic and acute urticaria, hereditary angioedema</li> <li>○ Systemic reactions such as food, drug, insect allergy or anaphylaxis, and biological agents</li> <li>○ Hypersensitivity pneumonitis</li> <li>○ Vaccine reactions</li> <li>○ Primary immunodeficiency i.e. humoral, cellular, phagocytic, complement and other genetic defects</li> <li>○ Acquired immunodeficiency – infectious causes and nutritional/metabolic causes</li> <li>○ Autoinflammatory disorders (e.g. Familial Mediterrean Fever, TRAPS, Hyper-IgD)</li> <li>○ Cystic Fibrosis</li> <li>○ Eosiniphilic Esophagitis/Gatroentropathy</li> </ul> | Small group discussion<br><br>One on one teaching | Weekly Case logs<br><br>Chart review<br><br>The SEGUE frame work<br><br>Written In-Training exam  | Submitted quarterly<br><br>Daily<br><br>Semi-Annual<br><br>Semi-Annual |
|                                    |   | Patient Care<br><br>Interpersonal and Communication Skills<br><br>Practice-Based Learning and Improvement<br><br>Professionalism | Assess diagnostic and evidence-based treatment options.<br><br>Formulate and review patient action care plan with patients and family.<br><br>Critique diagnostic and evidence-based treatment options<br><br>Follow-up laboratory/radiographic results and formulate treatment plan   | One on one teaching                               | Focused observation and evaluation<br><br>360° assesment (Written feed back by patients/ parents) | Daily<br><br>Semi-Annual   |

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|  |  | <p>Patient Care</p> <p>Medical Knowledge</p> | <p>Perform and interpret the following procedures including but not limited to:</p> <ul style="list-style-type: none"> <li>○ Conduct immediate epicutaneous tests (minimum 12 cases and identify indications, contraindications, benefits and risks; pitfalls- false positives and false negatives).</li> <li>○ Delayed intradermal tests (minimum 4 cases and identify indications for use, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Patch tests (minimum 2 cases and identify indications, benefits and risks; pitfalls- false positives and false negatives)</li> <li>○ Perform mixing of allergy extract (minimum 12 cases)</li> <li>○ Methacholine challenge (minimum 1 case and identify indications, contraindications, benefits and risks; pitfalls- false positives and false negatives, correct interpretation)</li> <li>○ Nasal cytology (minimum 2 cases and identify indications, benefits and pitfalls- false positives and false negatives)</li> <li>○ Oral food challenge (minimum 1 case and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Physical urticaria tests (minimum 1 case and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Perform and interpret pulmonary function tests (minimum 6 cases, identify indications, calibration error, ethnic variabilities in standards and restrictive pattern requiring further work-ups)</li> <li>○ Inhalant and venom Immunotherapy (minimum 20 cases and identify indications, contraindications, risks and benefits, adjustment of schedule, management of side effects)</li> <li>○ Immunomodulators such as anti-IgE (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> <li>○ Physical urticaria testing</li> <li>○ Food challenge testing</li> <li>○ Provocation testing for hyper-reactive airways</li> <li>○ Rhinolaryngoscopy</li> <li>○ Tests for humoral and cellular immunity</li> </ul> | <p>Directed reading</p> <p>Didactic teaching</p> <p>Demonstration Technique observation</p> | <p>Weekly Procedure logs</p> <p>Focused observation and evaluation</p> | <p>Submitted quarterly</p> <p>Daily</p> |
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|  |  | <p>Patient Care</p> <p>Interpersonal and Communication Skills</p>          | <p>Home visit for environmental survey (minimum 1 case. preparation and sampling of dust mites and molds, counseling the family on environmental changes).</p> <p>Design and review implementation of asthma action care plan</p> <p>Educate patients and families in a multidisciplinary setting<br/>Effective communication with referring physician and other medical team members</p> | <p>Small group hands on teaching</p> <p>One on one teaching</p> | <p>Focused observation and evaluation</p> <p>Written feedback by patients/parents</p> | <p>Daily</p> <p>Semi-annual</p> |
|  |  | Systems-Based Practice   | Utilize system-based learning and encourage sensitivity to diversity.   | One on one teaching   | <p>Focused observation and evaluation</p> <p>360• assessment</p>                      | <p>Daily</p> <p>Semi-Annual</p> |
|  |  | Medical Knowledge  | Demonstrate an understanding of allergen extracts including preparation, standardization, prescription writing, and administration.   | One on one teaching   | Focused observation and evaluation  | Daily                           |
|  |  | <p>Medical Knowledge</p> <p>Patient Care</p> <p>Systems-Based Practice</p> | Demonstrate the knowledge of diagnostic testing of allergic diseases including immediate hypersensitivity skin testing, cost of, sensitivity and specificity to, in vitro testing, specialty laboratory testing, special types of skin testing (e.g. physical urticaria, autologous skin tests), and food challenge tests.  | One on one teaching   | Focused observation and evaluation  | Daily                           |
|  |  | <p>Medical Knowledge</p> <p>Patient Care</p>                               | Perform and demonstrate the knowledge of diagnostic testing of clinical immunology diseases such as cytokines, immune complexes, cryoprecipitable proteins, total serum complement activity and individual components, autoimmunity and vasculitis, and acquired immunodeficiencies.  | One on one teaching   | Focused observation and evaluation  | Daily                           |

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|   |  | Medical Knowledge | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Intravenous immunoglobulins to include mechanism of action, pharmacological properties, administration, development, contraindications and side effects, and cost</li> <li>○ Vaccines and immunotherapies to include mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies</li> <li>○ Gastrointestinal immunology</li> <li>○ Skin immunology</li> <li>○ Diagnostic imaging</li> <li>○ Mechanisms of inflammation</li> <li>○ Knowledge of controversial or unproven drug or therapeutic techniques in asthma, allergic disorders, immunologic disorders and immunodeficiency diseases.</li> </ul> | <p>One on one teaching</p> <p>Weekly conference</p>      | <p>Focused observation and evaluation</p> <p>Didactic lecture</p> <p>Journal clock</p> <p>Written In-Training exam</p>           | <p>Daily</p> <p>Weekly</p> <p>Annual</p>                                 |
| Immune Deficiency clinic (Conley, St. Jude) | Children (infant to age 21 years) with primary immune deficiency | Patient Care      | <p>Evaluate patients with primary immune deficiencies including but not limited to:</p> <ul style="list-style-type: none"> <li>○ X-linked Agammaglobinemia</li> <li>○ Severe Combined Immune Deficiency</li> <li>○ X-linked Proliferative Disease</li> <li>○ Hyper-IgM Syndrome</li> <li>○ Chronic Granulomatous Disease</li> <li>○ Hyper-IgE Syndrome</li> <li>○ Wiskott-Aldrich Syndrome</li> <li>○ Common Variable Immune Deficiency</li> <li>○ Chronic Mucocutaneous Candidiasis</li> <li>○ Di George Syndrome</li> <li>○ Hereditary Angioedema</li> </ul>  | <p>Small group discussion</p> <p>One on one teaching</p> | <p>Weekly Case logs</p> <p>Oral review of differential diagnosis</p> <p>The SEGUE frame work</p> <p>Written In-Training exam</p> | <p>Submitted quarterly</p> <p>Daily</p> <p>Semi-Annual</p> <p>Annual</p> |
|   |  | Medical Knowledge |   |  |  |  |
|   |  | Patient Care      | <p>Differentiating molecular defects of the above disorders and select the appropriate tests indicated to evaluate the disease process and monitoring of related complications</p>  | <p>Small group discussion</p> <p>One on one teaching</p> | <p>The SEGUE frame work</p>  | <p>Daily</p> <p>Semi-Annual</p>  |
|   |  | Medical Knowledge | <p>Provide a diagnosis or differential diagnosis and treatment options for primary immunodeficiency including humoral, cellular, phagocytic, complement and other genetic defects.</p>  | <p>Small group discussion</p> <p>One on one teaching</p> | <p>The SEGUE frame work</p>  | <p>Daily</p> <p>Semi-Annual</p>  |

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|  |  | <p>Patient Care</p> <p>Medical Knowledge</p>   | <p>Perform the following diagnostic testing of clinical immunology diseases that include but not limited to:</p> <ul style="list-style-type: none"> <li>○ Tests for humoral immunity</li> <li>○ Tests for cellular immunity</li> <li>○ Neutrophil function</li> <li>○ Cytokines</li> <li>○ Immune complexes</li> <li>○ Cryoprecipitable proteins</li> <li>○ Total serum complement activity and individual components</li> <li>○ Histocompatibility</li> </ul>  | <p>Small group discussion</p> <p>One on one teaching</p> | <p>Focused observation and evaluation</p> <p>Written In-Training exam</p> | <p>Daily</p> <p>Annual</p>      |
|  |  | <p>Patient Care</p> <p>Medical Knowledge</p>   | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Intravenous Immunoglobulins (i.e. mechanism of action, pharmacological properties, administration, development, contraindications and side effects, and cost)</li> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies)</li> <li>○ Other immunology (i.e. transplantation and molecular/immunobiology)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in immunologic disorders and immunodeficiency diseases.</li> </ul> | <p>Small group discussion</p> <p>One on one teaching</p> | <p>Focused observation and evaluation</p> <p>Written In-Training exam</p> | <p>Daily</p> <p>Annual</p>      |
|  |  | <p>Patient Care</p> <p>Medical Knowledge</p> <p>Interpersonal and Communication Skills</p> | <p>Discuss treatment options such as</p> <ul style="list-style-type: none"> <li>○ Prophylactic antibiotics (review indications for use, risks and benefits)</li> <li>○ IVIG (review indications for use, risks and benefits)</li> <li>○ Bone marrow transplantation (review indications for use, risks and benefits)</li> <li>○ Stem cell transplantation (review indications for use, risks and benefits)</li> </ul>   | <p>Small group discussion</p> <p>One on one teaching</p> | <p>The SEGUE frame work</p>   | <p>Semi-Annual</p> <p>Daily</p> |

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| LeBonheur consult service | Children (infant to age 18 years) with anatomic abnormality, severe asthma, allergic disorders and immune dysfunction | Patient Care<br>Medical Knowledge                      | Evaluate and formulate diagnostic work-ups based on differential diagnosis for patients with <ul style="list-style-type: none"> <li>o Airway pathology such as acute severe asthma and recurrent wheeze</li> <li>o Immune deficiency such as failure to thrive or recurrent infections</li> <li>o Ocular disorders such as allergic conjunctivitis</li> <li>o Cutaneous disorders such as severe atopic dermatitis, contact dermatitis, chronic and acute urticaria, hereditary angioedema</li> <li>o Systemic reactions such as food, drug, biological agents and insect allergy or anaphylaxis, and Stevens-Johnson syndrome</li> <li>o Hypersensitivity pneumonitis</li> <li>o Vaccine reactions</li> <li>o Primary immunodeficiency i.e. humoral, cellular, phagocytic, complement and other genetic defects</li> <li>o Acquired immunodeficiency – infectious causes and nutritional/metabolic causes</li> <li>o Autoinflammatory disorders (e.g. Familial Mediterrean Fever, TRAPS, Hyper-IgD)</li> <li>o Cystic Fibrosis</li> </ul> | One on one teaching<br>Small group discussion | Weekly Case logs<br>Chart review<br>The SEGUE frame work<br>Written In-Training exam | Submitted quarterly<br>Daily<br>Semi-Annual<br>Annual |
|                           |   | Patient Care<br>Interpersonal and Communication Skills | Design management plan and educate patients on disease pathology, avoidance of triggers, medic-alert, epipen, need for medication compliance, and importance of close monitoring.  | One on one teaching<br>Small group discussion | Focused observation and evaluation   | Daily   |
|                           |   | Patient Care<br>Interpersonal and Communication Skills | Educate and council patients suffering from anatomic abnormality, sever asthma, allergic disorders and immune dysfunction; and their families about the management and available treatment plans.  | One on one teaching<br>Small group discussion | Focused observation and evaluation<br>Weekly case logs                               | Daily<br>Semi-Annually                                |
|                           |   | Patient Care<br>Medical Knowledge                      | Perform and interpret the following procedures that include but not limited to: <ul style="list-style-type: none"> <li>o Physical urticaria testing</li> <li>o Food challenge testing</li> <li>o Provocation testing for hyper-reactive airways</li> </ul>   | One on one teaching<br>Small group discussion | Focused observation and evaluation<br>Weekly case logs                               | Daily<br>Semi-Annually                                |

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|--|--|-------------------|--|--|--|--|
|  |  | Medical Knowledge | <p>Demonstrate an understanding of the pathophysiology, diagnosis, differential diagnosis, complications and treatment of the following diseases:</p> <ul style="list-style-type: none"> <li>○ Primary immunodeficiency (i.e. humoral, cellular, phagocytic, complement, and other genetic defects)</li> <li>○ Acquired immunodeficiency (i.e. infectious causes and nutritional/metabolic causes)</li> <li>○ Autoinflammatory disorders (e.g. Familial Mediterranean Fever, TRAPS, Hyper-IgD)</li> <li>○ Cystic Fibrosis</li> </ul>   | <p>One on one teaching<br/>Small group discussion</p>  | <p>Weekly case logs</p> <p>Oral review of differential diagnosis</p> <p>The SEGUE frame work</p> | <p>Weekly</p> <p>Daily</p> <p>Semi-Annually</p>        |
|  |  | Medical Knowledge | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Allergen extracts (i.e. preparation, standardization, prescription writing, and administration)</li> <li>○ Pharmacology (i.e. mechanisms of action, pharmacokinetics, drug development, drug metabolism, drug interactions, drug side effects, and preparation and use of monoclonal antibodies)</li> <li>○ Diagnostic testing of allergic diseases (e.g. immediate hypersensitivity skin testing, in vitro testing, specialty laboratory testing, special types of skin testing)</li> <li>○ Provocation challenges for bronchial reactivity</li> <li>○ Intravenous Immunoglobulins (i.e. mechanism of action, pharmacological properties, administration, development, contraindications and side effects, and cost)</li> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies)</li> <li>○ Other immunology (i.e. gastrointestinal, skin, endocrine)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders, immunologic disorders and immunodeficiency diseases.</li> </ul> | <p>One on one teaching<br/>Small group discussion</p> <p>Conference</p> <p>Journal Clock</p> | <p>Focused observation and evaluation</p> <p>Procedure laws</p> <p>The SEGUE frame work</p>      | <p>Daily</p> <p>Weekly</p> <p>Semi-Annually Annual</p> |

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|---------------------------|---|---|--|---|---|---|
|                           |   | <p>Patient Care</p> <p>Medical Knowledge</p>                                | <p>Demonstrate understanding and ability to interpret the following diagnostic testing of clinical immunology diseases that include but not limited to:</p> <ul style="list-style-type: none"> <li>○ Tests for humoral immunity</li> <li>○ Tests for cellular immunity</li> <li>○ Neutrophil function</li> <li>○ Cytokines</li> <li>○ Cryoprecipitable proteins</li> <li>○ Total serum complement activity and individual components</li> <li>○ Tests for autoimmunity and vasculitis</li> </ul> | <p>One on one teaching</p> <p>Conference</p>  | <p>Focused observation and evaluation</p> <p>Written In-Training exam</p>           | <p>Daily</p> <p>Weekly</p>                                  |
|                           |   | <p>Interpersonal and Communication Skills</p> <p>Systems-Based Practice</p> | <p>Demonstrate effective communications with referring physician and other medical team members.</p> <p>Demonstrate awareness of specific patient needs including formulary, social, and educational needs</p>   | <p>One on one teaching</p> <p>Small group discussion and teaching pediatric residents about pathophysiology and therapy</p> | <p>Focused observation and evaluation</p>   | <p>Daily</p>  |
| Rheumatology Clinic (POB) | Children (infant to age 18 years) with various rheumatologic and autoimmune disorders | <p>Patient Care</p> <p>Medical Knowledge</p>                                | <p>Evaluate and manage patients with the following rheumatologic and autoimmune disorders:</p> <ul style="list-style-type: none"> <li>○ Juvenile rheumatoid arthritis</li> <li>○ Systemic Lupus Erythematosus</li> <li>○ Scleroderma, Dermatomyositis</li> <li>○ Sjogren's syndrome, Polyarteritis</li> <li>○ Sarcoidosis, Kawasaki's disease</li> <li>○ Vasculitis, Psoriasis</li> <li>○ Myositis, Chronic fatigue syndrome</li> <li>○ Joint pain of unknown etiology</li> </ul>                | <p>One on one teaching</p> <p>Small group discussion</p>  | <p>Weekly Case logs</p> <p>The SEGUE frame work</p> <p>Written In-Training exam</p> | <p>Submitted quarterly</p> <p>Semi-Annual</p> <p>Annual</p> |
|                           |   | <p>Patient Care</p> <p>Interpersonal and Communication Skills</p>           | <p>Counsel and educate patients and families about the disease process, management plan, and available treatment options.</p> <p>Demonstrate effective communications with referring physicians.</p>   | <p>One on one teaching</p>  | <p>Focused observation and evaluation</p> <p>The SEGUE frame work</p>               | <p>Daily</p> <p>Semi-annual</p>                             |
|                           |   | <p>Medical Knowledge</p>  | <p>Formulate a list of the molecular defects and management of the above disorders.</p>  | <p>One on one teaching</p> <p>Small group discussion</p>  | <p>The SEGUE frame work</p>   | <p>Semi-annual</p>  |

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|                            |   | <p>Patient Care</p> <p>Medical Knowledge</p>                      | <p>Demonstrate understanding and ability to interpret the following diagnostic testing for clinical immunology diseases:</p> <ul style="list-style-type: none"> <li>○ Immune complexes</li> <li>○ Cryoprecipitable proteins</li> <li>○ Tests for autoimmunity and vasculitis</li> </ul>   | <p>One on one teaching</p> <p>Small group discussion</p> <p>Conference</p> | <p>Focused observation and evaluation</p> <p>Written In-Training exam</p>           | <p>Daily</p> <p>Weekly</p> <p>Annual</p>                    |
| Allergy Clinic (Lieberman) | Adult patients with rare allergic disorders | <p>Patient Care</p> <p>Medical Knowledge</p>                      | <p>Evaluate and manage patients with the following rare allergic disorders:</p> <ul style="list-style-type: none"> <li>○ Airway pathology (e.g. allergic rhinitis, non-allergic rhinitis, sinusitis, severe asthma, occupational asthma, ABPA)</li> <li>○ Cutaneous disorders (e.g. mastocytosis, angioedema, urticaria, vasculitis)</li> <li>○ Systemic reactions (e.g. drug allergy, anaphylaxis, biological agents)</li> <li>○ Multi-systemic diseases (e.g. hypereosinophilia)</li> <li>○ Hypersensitivity pneumonitis</li> </ul> | <p>One on one teaching</p> <p>Small group discussion</p>                   | <p>Weekly Case logs</p> <p>The SEGUE frame work</p> <p>Written In-Training exam</p> | <p>Submitted quarterly</p> <p>Semi-annual</p> <p>Annual</p> |
|                            |   | <p>Patient Care</p> <p>Interpersonal and Communication Skills</p> | <p>Assess the molecular defects and management of the above disorders.</p> <p>Develop and review patient action care plan.</p> <p>Counsel and educate patients and families about the disease process, management plan and available treatment options.</p>   | <p>One on one teaching</p> <p>Small group discussion</p>                   | <p>The SEGUE frame work</p>   | <p>Semi-Annual</p>  |

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|  |  | Patient Care      | <p>Perform the following tests and incorporate the results into diagnostic decisions:</p> <ul style="list-style-type: none"> <li>○ Immediate epicutaneous tests</li> <li>○ Patch tests (minimum 2 cases and identify indications, risks and benefits; pitfalls- false positives and false negatives).</li> <li>○ Nasal cytology (minimum 2 cases and identify indications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Circulating eosinophil counts (minimum 5 cases and identify indications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Immunotherapy (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> <li>○ Demonstrate understanding and ability to interpret chest and sinus radiographs (minimum 10 cases and identify indications, contraindications and benefits; pitfalls- false positives and false negatives)</li> <li>○ Total serum complement activity and individual components</li> </ul> | <p>One on one teaching<br/>Small group discussion</p> | <p>Focused observation and evaluation</p> <p>Weekly Procedure logs</p>                    | <p>Daily</p> <p>Submitted quarterly</p>               |
|  |  | Medical Knowledge | <p>Demonstrate an understanding of the pathophysiology, diagnosis, differential diagnosis, complications, and treatment of the following diseases and circumstances:</p> <ul style="list-style-type: none"> <li>○ Hypersensitivity pneumonias</li> </ul>   | <p>One on one teaching<br/>Small group discussion</p> | <p>Focused observation and evaluation</p> <p>Case log</p> <p>Written In-Training exam</p> | <p>Daily</p> <p>Submitted quarterly</p> <p>Annual</p> |
|  |  | Medical Knowledge | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders</li> </ul>  | <p>One on one teaching<br/>Small group discussion</p> | <p>Focused observation and evaluation</p> <p>Written In-Training exam</p>                 | <p>Daily</p> <p>Annual</p>                            |

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| Allergy Clinic (Blais) | Adult and pediatric patients with allergic disorders in private practice setting | Patient Care<br>Medical Knowledge                          | Evaluate and manage patients with the following allergic diseases including but not limited to: <ul style="list-style-type: none"> <li>o Airway pathology (e.g. allergic rhinitis, asthma, recurrent wheeze)</li> <li>o Ocular disorders (e.g. allergic conjunctivitis)</li> <li>o Cutaneous disorders (e.g. atopic dermatitis, urticaria)</li> <li>o Systemic reactions (e.g. food allergy or anaphylaxis, drug and biological agent allergies)</li> <li>o Acquired and hereditary angioedema</li> <li>o Mast cell enteropathy</li> </ul>   | One on one teaching<br>Small group discussion | Weekly Case logs<br><br>The SEGUE frame work<br><br>Written In-Training exam | Submitted quarterly<br><br>Semi-annual<br><br>Annual |
|                        |  | Patient Care<br><br>Interpersonal and Communication Skills | Construct and review patient action plan.<br><br>Counsel and educate patients and families about the disease process, management plan, and available treatment options.  | One on one teaching                           | The SEGUE frame work   | Semi-annual  |
|                        |  | Patient Care<br>Medical Knowledge                          | Perform the following tests and incorporate the results into diagnostic decisions: <ul style="list-style-type: none"> <li>o Immediate epicutaneous tests (minimum 5 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>o Patch tests (minimum 2 cases and identify indications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>o Immunotherapy (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> <li>o Immunomodulators (minimum 2 cases and identify indications, contraindications, risks and benefits)</li> <li>o Perform and interpret open food challenge (minimum 1 case; identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> </ul> | Didactic teaching and demonstration           | Focused observation and evaluation<br><br>Weekly Procedure logs              | Daily<br><br>Submitted quarterly                     |

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|   |   | Medical Knowledge     | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Immunomodulator such as anti-IgE (i.e. mechanism of action, pharmacological properties, administration, development, contraindications and side effects, and cost)</li> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders</li> </ul> | One on one teaching  | <p>Written In-Training exam</p> <p>Weekly Procedure logs</p> | <p>Daily</p> <p>Submitted quarterly</p> |
| Allergy Clinic (VAMC, Yoo, on suspension) | Elderly males with allergic disease and multiple chronic diseases | Patient Care          | Evaluate and manage diseases of the airway such as asthma, COPD, obstructive sleep apnea, allergic and non-allergic rhinitis, sinusitis; Cutaneous disorders such as urticaria and angioedema; Systemic reactions such as insect allergy, aspirin sensitivity, drug and food allergy   | One on one teaching<br>Small group discussion              | Weekly Case logs   | Submitted quarterly                     |
|   |   | Medical Knowledge     |  |  |  |   |
|   |   | Patient Care          | Choosing resources available at the VAMC   | One on one teaching  | Written In-Training exam                                     | Annual                                  |
|   |   | Professionalism       | Professionalism in respecting the needs of the veteran patients  |  | Focused observation and evaluation                           | Daily                                   |
|   |   | Patient Care          | Interpretation of pulmonary function tests (minimum 15 cases and identify indications and benefits)<br>Aspirin desensitization (minimum 1 case and identify indications, contraindications, risks and benefits; pitfalls-false positives and false negatives)<br>Immunotherapy (minimum 15 cases and identify indications, contraindications, risks and benefits)  | One on one teaching<br>Didactic teaching and demonstration | Focused observation and evaluation                           | Daily                                   |
| Medical Knowledge                         |   | Weekly Procedure logs |  |  |  |   |

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| Allergy Consult Service at VAMC<br>On suspension | Elderly males with allergic disease and multiple chronic diseases           | Patient Care                           | Evaluate patients with diseases of the airway such as allergic and nonallergic rhinitis, occupational asthma, severe asthma, COPD; Cutaneous disorders such as urticaria and angioedema; and Systemic reactions such as drug allergy and autoimmune disorders   | One on one teaching<br>Small group discussion | Weekly Case logs<br><br>The SEGUE frame work<br><br>Written In-Training exam | Submitted quarterly<br><br>Semi-annual<br><br>Annual |
|  |   | Medical Knowledge                      |   |   |  |  |
|  |   | Patient Care                           | Manage patients regarding disease pathology, medication use, environmental control, and arrange follow-up   | One on one teaching                           | Focused observation and evaluation   | Daily  |
|  |   | Interpersonal and Communication Skills | Effective communication with the referring physician and other medical team members   | One on one teaching<br>Small group discussion | Weekly Procedure logs<br><br>Focused observation and evaluation              | Submitted quarterly<br><br>Daily                     |
|  |   |  |   |   |  |  |
| MEDPLEX Allergy Clinic                           | Urban adult population with a variety of allergic and immunologic disorders | Patient Care<br><br>Medical Knowledge  | Evaluate and manage patients with a variety of allergic and immunologic disorders that include but not limited to: <ul style="list-style-type: none"> <li>○ Airway disease (e.g. allergic and non-allergic rhinitis, sinusitis, occupational asthma, obstructive sleep apnea, pregnant asthmatic patients)</li> <li>○ Ocular disorders (e.g. allergic and infectious conjunctivitis)</li> <li>○ Cutaneous disorders (e.g. urticaria and angioedema)</li> <li>○ Systemic reactions (e.g. insect allergy, drug and food allergy, biological agent allergy, and sarcoidosis)</li> <li>○ Allergic bronchopulmonary aspergillosis</li> <li>○ Hypersensitivity pneumonitis</li> <li>○ Occupational lung and skin disease</li> </ul> | One on one teaching<br>Small group discussion | Weekly Case logs<br><br>The SEGUE frame work<br><br>Written In-Training exam | Submitted quarterly<br><br>Semi-annual<br><br>Annual |

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|  |  | Medical Knowledge  | Demonstrate an understanding of the pathophysiology, diagnosis, differential diagnosis, complications and treatment of the following diseases: <ul style="list-style-type: none"> <li>○ Acute and Chronic Urticaria/Angioedema</li> <li>○ Acquired Angiodema</li> <li>○ Acquired Immunodeficiency (i.e. malignancy)</li> <li>○ Anaphylaxis</li> <li>○ Contact and Atopic Dermatitis</li> </ul>  | One on one teaching<br><br>Conference         | Focused observation and evaluation<br><br>Written In-Training exam | Daily<br><br>Annual              |
|  |  | Patient Care<br><br>Medical Knowledge  | Perform the following tests and incorporate the results into diagnostic decisions: <ul style="list-style-type: none"> <li>○ Epicutaneous and delayed intradermal testing (minimum 12 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Patch tests (minimum 2 cases and identify indications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Immunotherapy (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> </ul> | One on one teaching                           | Weekly Procedure logs<br><br>Focused observation and evaluation    | Submitted quarterly<br><br>Daily |
|  |  | Medical Knowledge  | Demonstrate an understanding of the following: <ul style="list-style-type: none"> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies)</li> <li>○ Other immunology (e.g. skin, reproductive, endocrine, tumor)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders</li> </ul>   | One on one teaching                           | Focused observation and evaluation<br><br>Written In-Training exam | Daily<br><br>Annual              |
|  |  | Patient Care<br><br>Interpersonal and Communication Skills<br><br>Systems-Based Practice | Arrange and educate patients on diagnostic and evidence-based treatment options<br><br>Demonstrate awareness of specific patient needs including formulary, social, and educational needs   | One on one teaching<br>Small group discussion | Focused observation and evaluation                                 | Daily                            |

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| Allergy Consult, MED | Adult patients with allergic disorders in an urban area | Patient Care      | Evaluate and manage patients with a variety of allergic and immunologic disorders that include but not limited to:  | One on one teaching<br>Small group discussion | Weekly Case logs                   | Submitted Quarterly |
|                      |   | Medical Knowledge | <ul style="list-style-type: none"> <li>○ Airway disease (e.g. allergic and non-allergic rhinitis, sinusitis, occupational asthma, obstructive sleep apnea, pregnant asthmatic patients)</li> <li>○ Ocular disorders (e.g. allergic and infectious conjunctivitis)</li> <li>○ Cutaneous disorders (e.g. urticaria and angioedema)</li> <li>○ Systemic reactions (e.g. insect allergy, drug and food allergy, biological agent allergy, and sarcoidosis)</li> <li>○ Allergic bronchopulmonary aspergillosis</li> <li>○ Hypersensitivity pneumonitis</li> <li>○ Occupational lung disease</li> </ul>   |   | The SEGUE frame work               | Semi-Annually       |
|                      |   | Medical Knowledge | <p>Demonstrate an understanding of the pathophysiology, diagnosis, differential diagnosis, complications and treatment of the following diseases:</p> <ul style="list-style-type: none"> <li>○ Acute and Chronic Urticaria/Angioedema</li> <li>○ Acquired Angiodema</li> <li>○ Acquired Immunodeficiency (i.e. malignancy)</li> <li>○ Anaphylaxis</li> <li>○ Contact and Atopic Dermatitis</li> </ul>   | One on one teaching<br>Small group discussion | Focused observation and evaluation | Daily               |
|                      |   | Patient Care      | Perform the following tests and incorporate the results into diagnostic decisions:  | One on one teaching                           | Weekly Procedure logs              | Submitted Quarterly |
|                      |   | Medical Knowledge | <ul style="list-style-type: none"> <li>○ Epicutaneous and delayed intradermal testing (minimum 12 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Patch tests (minimum 2 cases and identify indications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Immunotherapy (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> <li>○ Antibiotic, aspirin, and other medication desensitization (minimum 1 case and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> </ul> |   | Focused observation and evaluation | Daily               |

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|                      |   | Medical Knowledge  | Demonstrate an understanding of the following: <ul style="list-style-type: none"> <li>Other immunology (e.g. skin, reproductive, endocrine, tumor)</li> <li>Diagnostic Imaging</li> <li>Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders</li> </ul>  | One on one teaching<br>Small group discussion | Focused observation and evaluation   |  |
|                      |   | Patient Care<br>Systems-Based Practice<br>Interpersonal and Communication Skills | Arrange and educate patients on diagnostic and evidence-based treatment options (interpreter, social worker, and pharmacy programs)   | One on one teaching<br>Small group discussion | Focused observation and evaluation   | Daily  |
| Allergy Clinic (Yoo) | Adult patients with allergic disorders in a suburban area | Patient Care<br>Medical Knowledge  | Evaluate and manage patients with the following allergic disorders that include but not limited to: <ul style="list-style-type: none"> <li>Airway disorders (e.g. allergic and non-allergic rhinitis, sinusitis, otitis media)</li> <li>Ocular disease (e.g. allergic and infectious conjunctivitis)</li> <li>Cutaneous disorders (e.g. urticaria and angioedema)</li> <li>Systemic reactions (e.g. insect, drug, biological agent, and food allergy)</li> <li>Hypersensitivity pneumonitis</li> <li>Occupational lung disease</li> </ul> | One on one teaching<br>Small group discussion | Weekly Case logs<br><br>The SEGUE frame work<br><br>Written In-Training exam | Submitted quarterly<br><br>Semi-Annual<br><br>Annual |
|                      |   | Patient Care<br>Practice Based Learning and Improvement                          | Organize and review patient action care plan.<br><br>Critique diagnostic and evidence-based treatment options with patients.  | One on one teaching<br>Small group teaching   | Focused observation and evaluation   | Daily  |

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|                 |   | <p>Patient Care</p> <p>Medical Knowledge</p>                            | <p>Perform the following tests and incorporate the results into diagnostic decisions:</p> <ul style="list-style-type: none"> <li>○ Allergy epicutaneous skin testing (minimum 12 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Delayed skin testing (minimum 2 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Immunotherapy (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> <li>○ Aspirin desensitization (minimum 1 case and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> </ul> | <p>One on one teaching</p>  | <p>Weekly Procedure logs</p> <p>Focused observation and evaluation</p> <p>360° assessment</p> | <p>Submitted quarterly</p> <p>Daily</p> <p>Semi-Annually</p> |
|                 |   | <p>Medical Knowledge</p>  | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Immunomodulators such as anti-IgE (i.e. mechanism of action, pharmacological properties, administration, development, contraindications and side effects, and cost)</li> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders</li> </ul>  | <p>One on one teaching</p> <p>Small group teaching</p>  | <p>Focused observation and evaluation</p> <p>The SEGUE frame work</p>                         | <p>Daily</p> <p>Semi-Annually</p>                            |
| <p>Research</p> | <p>Chosen project under supervision of faculty, either laboratory based or clinical</p> | <p>Medical Knowledge</p> <p>Practice-Based Learning and Improvement</p> | <p>Literature search</p> <p>Critique and analyze background information</p> <p>Formulate hypothesis</p> <p>Design experiments or clinical studies</p>  | <p>PubMed and Medline search</p> <p>Reading relevant materials</p> <p>Introductory lectures on research and statistics to peers</p> | <p>Oral review of differential diagnosis</p> <p>Focused observation and evaluation</p>        | <p>Daily</p> <p>Daily</p>                                    |

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|                          |   | <p>Medical Knowledge</p> <p>Practice-Based Learning and Improvement</p> <p>Interpersonal and Communication Skills</p> <p>Professionalism</p> | <p>Develop laboratory techniques</p> <p>Set-up experiments</p> <p>Construct protocol for clinical studies</p> <p>Analyze and interpret results</p> <p>Develop collaborative spirit with laboratory personnel</p> <p>Prepare for presentation and publication</p>   | <p>One on one teaching</p> <p>Small group discussion</p> <p>Demonstration of technique</p> | <p>Focused observation and evaluation</p> <p>Abstract presentation and peer-reviewed publication</p> | <p>Daily</p> <p>3 times during research block</p>           |
| Allergy Clinic (Michael) | Adult patients with allergic, immune and autoimmune disorders in urban area | <p>Patient Care</p> <p>Medical Knowledge</p>   | <p>Evaluate and manage patients with the following allergic disorders that include but not limited to:</p> <ul style="list-style-type: none"> <li>○ Airway disorders (e.g. allergic and non-allergic rhinitis, sinusitis)</li> <li>○ Ocular disease (e.g. allergic and infectious conjunctivitis) Recurrent infection</li> <li>○ Adult-Immunodeficiency such as HIV and CVID</li> <li>○ Cutaneous disorders (e.g. urticaria and angioedema)</li> <li>○ Systemic reactions (e.g. insect, drug, biological agent and food allergy)</li> <li>○ Hypersensitivity pneumonitis</li> <li>○ Occupational lung disease</li> <li>○ Autoimmune disease</li> </ul> | <p>One on one teaching</p> <p>Small group discussion</p>                                   | <p>Weekly Case logs</p> <p>The SEGUE frame work</p> <p>Written In-Training exam</p>                  | <p>Submitted quarterly</p> <p>Semi-annual</p> <p>Annual</p> |
|                          |   | <p>Patient Care</p> <p>Practice-Based Learning and Improvement</p> <p>Interpersonal and Communication Skills</p>                             | <p>Organize and review patient action care plan.</p> <p>Critique diagnostic and evidence-based treatment options with patients.</p> <p>Effectively communicate diagnosis and treatment plans to patient</p>  | <p>One on one teaching</p> <p>Small group teaching</p>                                     | <p>Focused observation and evaluation</p> <p>360° Assessment</p>                                     | <p>Daily</p> <p>Semi-Annual</p>                             |

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|  |  | Medical Knowledge | <p>Perform the following tests and incorporate the results into diagnostic decisions:</p> <ul style="list-style-type: none"> <li>○ Allergy epicutaneous skin testing (minimum 12 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Delayed skin testing (minimum 2 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Immunotherapy (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> </ul> <p>Demonstrate understanding and ability to interpret the following test:</p> <ul style="list-style-type: none"> <li>○ T and B cell enumeration, mitogen studies, immunoglobulins, total serum complement activity and individual components</li> <li>○ Autoantibodies to thyroid and FcεRI, and tissue transglutaminase</li> <li>○ Cryoprecipitable proteins</li> <li>○ RAST</li> </ul> | One on one teaching                         | <p>Weekly Procedure logs</p> <p>Focused observation and evaluation</p>    | <p>Submitted quarterly</p> <p>Daily</p> |
|  |  | Medical Knowledge | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Intravenous Immunoglobulins (i.e. mechanism of action, pharmacological properties, administration, development, contraindications and side effects, and cost)</li> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders</li> </ul>  | One on one teaching<br>Small group teaching | <p>Focused observation and evaluation</p> <p>Written In-Training exam</p> | <p>Daily</p> <p>Annual</p>              |

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| Inpatient Allergy Consult, MUH | Adult patients with allergic disorders | Patient Care<br>Medical Knowledge  | Evaluate and manage patients with the following allergic disorders that include but not limited to: <ul style="list-style-type: none"> <li>o Airway disorders (e.g. allergic and non-allergic rhinitis, sinusitis)</li> <li>o Ocular disease (e.g. allergic and infectious conjunctivitis)</li> <li>o Recurrent infection</li> <li>o HIV, Acquired Immunodeficiency - malignancy</li> <li>o Cutaneous disorders (e.g. urticaria and angioedema)</li> <li>o Systemic reactions (e.g. insect, drug, biological agent and food allergy)</li> <li>o Allergic bronchopulmonary aspergillosis</li> <li>o Hypersensitivity pneumonitis</li> <li>o Occupational lung disease</li> </ul> | One on one teaching<br>Small group discussion | Weekly Case logs<br><br>The SEGUE frame work<br><br>Written In-Training exam | Submitted quarterly<br><br>Semi-annual<br><br>Annual |
|                                |  | Patient Care<br><br>Practice-Based Learning and Improvement<br><br>Professionalism<br><br>Interpersonal and Communication Skills | Organize and review patient action care plan.<br><br>Critique diagnostic and evidence-based treatment options with patients.<br><br>Effectively communicate diagnosis, treatment options, and recommendations to patient and referring physician  | One on one teaching<br>Small group teaching   | Focused observation and evaluation   | Daily  |

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|  |  | Medical Knowledge | <p>Perform the following tests and incorporate the results into diagnostic decisions:</p> <ul style="list-style-type: none"> <li>○ Allergy epicutaneous skin testing (minimum 12 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Delayed skin testing (minimum 2 cases and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> <li>○ Immunotherapy (minimum 5 cases and identify indications, contraindications, risks and benefits)</li> <li>○ Aspirin desensitization (minimum 1 case and identify indications, contraindications, risks and benefits; pitfalls- false positives and false negatives)</li> </ul> <p>Demonstrate understanding and ability to interpret the following test:</p> <ul style="list-style-type: none"> <li>○ Cryoprecipitable proteins</li> <li>○ Total serum complement activity and individual components</li> <li>○ In vitro testing</li> <li>○ Immediate hypersensitivity skin testing</li> <li>○ Acquired immunodeficiency tests</li> <li>○ Autoimmunity and vasculitis tests</li> </ul> | One on one teaching | <p>Weekly Procedure logs</p> <p>Focused observation and evaluation</p> <p>Written In-Training exam</p> | <p>Submitted quarterly</p> <p>Daily</p> <p>Annual</p> |
|  |  | Medical Knowledge | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Allergen extracts (i.e. preparation, standardization, prescription writing, and administration)</li> <li>○ Intravenous Immunoglobulins (i.e. mechanism of action, pharmacological properties, administration, development, contraindications and side effects, and cost)</li> <li>○ Vaccines and immunotherapies (i.e. mechanism of action, administration, development, contraindications and side effects, tests for vaccine response, and use in immunodeficiencies)</li> <li>○ Other immunology (e.g. skin, endocrine, tumor)</li> <li>○ Diagnostic Imaging</li> <li>○ Controversial or unproven drug or therapeutic techniques in allergy asthma allergic disorders</li> <li>○ Mechanisms of inflammation</li> </ul>   | One on one teaching | <p>Focused observation and evaluation</p> <p>Written In-Training exam</p>                              | <p>Daily</p> <p>Annual</p>                            |

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| Asthma Clinic<br>(Rotating staff,<br>POB) | Children (infant to age 18 years) with high-risk, fatality-prone, severe persistent asthma and allergic disorders | Patient Care                            | Evaluate, manage and counsel patients and families including diagnostic work-ups based on differential diagnosis for patients with <ul style="list-style-type: none"> <li>o Airway pathology such as allergic rhinitis, sinusitis, severe asthma</li> <li>o Ocular disorders such as allergic conjunctivitis</li> <li>o Cutaneous disorders such as atopic dermatitis, contact dermatitis, chronic and acute urticaria, hereditary angioedema</li> <li>o Systemic reactions such as food, drug, insect allergy or anaphylaxis, and biological agents</li> </ul>   | Small group discussion              | Weekly Case logs  | Submitted quarterly |
|   |   | Medical Knowledge                       |   | One on one teaching                 | Chart review  | Daily               |
|   |   |   |   |                                     | The SEGUE frame work                                    | Semi-Annual         |
|   |   |   |   |                                     | Written In-Training exam                                | Semi-Annual         |
|   |   | Patient Care                            | Assess diagnostic and evidence-based treatment options.   | One on one teaching                 | Focused observation and evaluation                      | Daily               |
|   |   | Interpersonal and Communication Skills  | Formulate and review patient action care plan with patients and family.   |                                     | 360° assesment (Written feed back by patients/ parents) | Semi-Annual         |
|   |   | Practice-Based Learning and Improvement | Critique diagnostic and evidence-based treatment options  |                                     |   |                     |
|   |   | Professionalism                         | Follow-up laboratory/radiographic results and formulate treatment plan  |                                     |   |                     |
|   |   | Patient Care                            | Perform and interpret the following procedures including but not limited to: <ul style="list-style-type: none"> <li>o Conduct immediate epicutaneous tests (minimum 12 cases and identify indications, contraindications, benefits and risks; pitfalls- false positives and false negatives).</li> <li>o Delayed intradermal tests (minimum 4 cases and identify indications for use, risks and benefits; pitfalls- false positives and false negatives)</li> <li>o Patch tests (minimum 2 cases and identify indications, benefits and risks; pitfalls- false positives and false negatives)</li> <li>o Perform mixing of allergy extract (minimum 12 cases)</li> <li>o Perform and interpret pulmonary function tests (minimum 6 cases, identify indications, calibration error, ethnic variabilities in standards and restrictive pattern requiring further work-ups)</li> </ul> | Directed reading                    | Weekly Procedure logs                                   | Submitted quarterly |
|   |   | Medical Knowledge                       |   | Didactic teaching                   | Focused observation and evaluation                      | Daily               |
|   |   |   |   | Demonstration Technique observation |   |                     |

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|  |  | <p>Patient Care</p> <p>Interpersonal and Communication Skills</p>          | <p>Home visit for environmental survey (minimum 1 case. preparation and sampling of dust mites and molds, counseling the family on environmental changes).</p> <p>Design and review implementation of asthma action care plan</p> <p>Educate patients and families in a multidisciplinary setting<br/>Effective communication with referring physician and other medical team members</p> | <p>Small group hands on teaching</p> <p>One on one teaching</p> | <p>Focused observation and evaluation</p> <p>Written feed back by patients/parents</p>                                 | <p>Daily</p> <p>Semi-annual</p>          |
|  |  | Systems-Based Practice   | Utilize system-based learning and encourage sensitivity to diversity.   | One on one teaching   | <p>Focused observation and evaluation</p> <p>360• assessment</p>   | <p>Daily</p> <p>Semi-Annual</p>          |
|  |  | <p>Medical Knowledge</p> <p>Patient Care</p> <p>Systems-Based Practice</p> | Demonstrate the knowledge of diagnostic testing of allergic diseases including cost, sensitivity and specificity of immediate hypersensitivity skin testing and in vitro testing,   | One on one teaching   | Focused observation and evaluation   | Daily                                    |
|  |  | Medical Knowledge  | <p>Demonstrate an understanding of the following:</p> <ul style="list-style-type: none"> <li>○ Diagnostic imaging</li> <li>○ Mechanisms of inflammation</li> <li>○ Knowledge of controversial or unproven drug or therapeutic techniques in asthma and allergic disorders.</li> </ul>   | <p>One on one teaching</p> <p>Weekly conference</p>             | <p>Focused observation and evaluation</p> <p>Didactic lecture</p> <p>Journal clock</p> <p>Written In-Training exam</p> | <p>Daily</p> <p>Weekly</p> <p>Annual</p> |

**Required Scholarly Activities**

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| Board Review (Lieberman)   | Review of basic science and clinically relevant topics              | Practice-Based Learning and Improvement   | Critique and analyze background information (weekly):<br>Clinical Immunology by Parslowe, Stites, et al; Allergy Principles and Practice edited by Middleton, et al; Medical Knowledge Self Assessment Program)<br><br>Devise didactic lectures<br>Question and answer sessions for evaluation of content | Reading relevant materials<br>Small group discussion   | Focused observation and evaluation<br><br>In-training written exam    | Semi-Annually<br><br>Annual               |
| Wed Noon conference        | Lecture/conference series for continuing medical education          | Practice-Based Learning and Improvement<br><br>Interpersonal and Communication Skills | Critique and analyze background information (minimum 6 presentations)<br><br>Compose didactic lectures based on either clinical cases or the state of art literature by power point presentations<br><br>Perform group discussion of topics   | Reading relevant materials and preparation of presentation<br>Small group discussion                     | Peer review and Faculty evaluation<br><br>Written In-Training exam    | Weekly<br><br>Semi-Annually<br><br>Annual |
| Journal Club (Blaiss)      | Review of current clinical literature                               | Practice-Based Learning and Improvement<br><br>Interpersonal and Communication Skills | Literature search (biweekly and minimum 6 presentations)<br><br>Critique and analyze clinical studies<br><br>Critical evaluation of clinical studies Preparation for small group discussions - round table discussions or power point presentations   | PubMed and Medline search<br>Reading relevant materials<br>One on one teaching<br>Small group discussion | Oral review<br><br>Focused evaluation<br><br>Written In-Training exam | Bi-Weekly<br><br>Annual                   |
| Case-based study (Michael) | Review of relevant literature to formulate problem-solving strategy | Practice-Based Learning and Improvement<br><br>Interpersonal and Communication Skills | Literature search<br>Evidence based medicine<br>Preparation for small group discussions - round table discussions on diagnostic approach and treatment plan   | PubMed and Medline search<br>Reading relevant materials<br>One on one teaching<br>Small group discussion | Oral review<br><br>Focused evaluation<br><br>Written In-Training exam | Daily<br><br>Daily<br><br>Annual          |

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| Elective in Adult Pulmonology Consultation Service         | Adult patients in hospital setting  | Patient Care<br>Medical Knowledge | Evaluate and manage adult patients with severe Asthma, COPD with cardiac complications, Occupational lung disease, and Interstitial Lung disease.<br><br>Perform and interpret pulmonary function tests. | One on one teaching<br>Small group discussion | The SEGUE Frame work<br><br>Focused evaluation | Semi-Annual<br><br>Daily |
| Elective in Pediatric inpatient and outpatient Pulmonology | Pediatric patients with airway and interstitial lung disease                | Patient Care<br>Medical Knowledge | Evaluate patients with pulmonary manifestations mimicking asthma.<br><br>Perform and interpret pulmonary function tests.   | One on one teaching<br>Small group discussion | The SEGUE Frame work<br><br>Focused evaluation | Semi-annual<br><br>Daily |
| Elective in ENT  | Pediatric and adult patients with   | Patient Care<br>Medical Knowledge | Evaluate and manage patients with nasal polyps, fungal sinusitis and upper airway obstruction.<br><br>Perform 1-2 rhinoscopy procedure   | One on one teaching<br>Small group discussion | The SEGUE Frame work<br><br>Focused evaluation | Semi-annual<br><br>Daily |
| Elective in Dermatology                                    | Adult and pediatric patients in primarily outpatient hospital-based setting | Patient Care<br>Medical Knowledge | Evaluate and manage patients with atopic and contact dermatitis.<br><br>Identify eosinophilic cutaneous manifestations on skin biopsy  | One on one teaching<br>Small group discussion | The SEGUE Frame work<br><br>Focused evaluation | Semi-annual<br><br>Daily |
| Elective in Diagnostic Laboratory Immunology               | Diagnostic immunologic laboratory testing                                   | Patient Care<br>Medical Knowledge | Perform and interpret flow cytometry, mitogen stimulation of lymphocytes, antibody titers by ELISA   | One on one teaching                           | Focused evaluation                             | Daily                    |

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|-------------------------------------|--|---|--|---|---|--|
| Elective in Research                | Chosen research project  | Practice-Based Learning and Improvement | Completion of the on-going research project.<br>Manuscript preparation for publication.  | One on one teaching                     | Direct observation<br>Peer-review process | Daily<br>3 times during research block |
| Elective in Private Practice Office | Pediatric and adult patients with allergy in suburban private practice setting | Practice-Based Learning and Improvement | Acquire knowledge and administrative skills required for private practice office set up. | One on one teaching<br>Group discussion | Direct observation                        | Daily                                  |