

**University of Michigan Health System
Internal Medicine Residency
Allergy/Immunology Curriculum**

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Rotation Goals and Educational Purpose

Acute and chronic allergic conditions are some of the most common problems encountered in medicine. They are a leading cause of medical office visits, and are also commonly seen as primary or complicating conditions for hospitalized patients. In addition, disorders of primary immune deficiency, autoimmunity, and immune dysregulation can result in challenging medical presentations. Allergy/immunology disorders encountered by internists encompass a broad spectrum of maladies, including: allergic rhinitis, conjunctivitis, and sinusitis; anaphylaxis and anaphylactoid reactions; drug allergy; food allergy; latex allergy; asthma; urticaria and angioedema; primary immunodeficiency; and autoimmune rheumatologic conditions. The goal of the dedicated allergy/immunology rotation is to provide internal medicine residents with the skills necessary to initially diagnose and manage common allergic conditions, and to recognize indications for subspecialty consultation.

This rotation is elective for residents at the HO1 and HO2/3 levels.

Rotation Competency Objectives

In supplement to the University of Michigan Longitudinal Learning Objectives, the following provide an overview of the knowledge, skills, and behaviors promoted in this rotation.

- I.** Patient Care and Medical Knowledge
 - a. Core Knowledge
 - i. Reflect knowledge of the pathophysiology, clinical presentations, and natural history of “classic” allergy/immunology conditions:
 1. allergic conjunctivitis
 2. allergic rhinitis
 3. allergic sinusitis
 4. anaphylaxis
 5. urticaria and angioedema
 6. drug allergy

7. food allergy
8. insect venom allergy
9. latex allergy
10. contact allergy
11. asthma
- ii. Understand the basic principles of major allergy and immunology treatment modalities, including: antihistamines, glucocorticoids, immunotherapy/hyposensitization, immunoglobulin replacement therapy.
- b. History & Physical examination - By completion of the rotation, residents should formulate a systematic approach to the patient with allergy/immunology symptoms.
 1. Elicit historical clues and physical exam evidence of specific allergic/immunologic diseases.
 2. Collect and interpret data pertaining to the immune system, and to assess severity of any end organ dysfunction.
 3. Choose and interpret appropriate immunologic tests to support or refute a considered diagnosis.
 4. Choose appropriately from available imaging and invasive modalities to diagnose and monitor disease.
- c. Procedures
 - i. Radiology - Appropriately request and interpret, understanding the indications for and limitations of: X-rays, sinus plain films, sinus CT.
 - ii. Scratch/prick and intradermal skin testing – Understand indications and general procedure for testing. Perform testing under full faculty supervision.
- d. Medical decision making and patient management:
 - i. Form a differential diagnosis, diagnostic plan, and initial therapeutic management plan for the "classic" diseases listed above.
 - ii. Recognize and initiate management of common complications and/or co-morbidities in patients with classic allergic immunologic disorders: therapeutic complications, nasal polyp disease, complicated sinusitis, superinfection.
 - iii. Recognize indications, and appropriately arrange rhinoscopy, desensitization therapy, immunoglobulin replacement infusions, and allergen challenge procedures.

II. Interpersonal and Communication Skills

- a. Recognize the importance of patient education in the treatment of immunologic and allergy disorders. Provide counseling regarding preventive interventions.
- b. Demonstrate communication skills (including listening) that support respectful, culturally competent, and patient-centered care.
- c. Demonstrate verbal and nonverbal communication that compassionately recognizes the impact of chronic allergic and immunologic illness on family and workplace relationships.

- d. Generate written documentation consistent with a hypothesis-generating approach to common allergy/immunology conditions. Complete dictations in a timely manner, using common documentation standards.

III. Professionalism

- a. Respectfully and compassionately respond to patients with a multitude of phenotypic expressions of allergic and immunologic disorders.
- b. Compassionately respond to socio-behavioral and psychiatric complexities of common allergic conditions.
- c. Engage patients in effective informed voluntary consent for recommended interventions.

IV. Practice-Based Learning and Improvement

- a. Utilize information technology to enhance patient education.
- b. Demonstrate willingness to learn from error, use information technology to support self education, and facilitate learning of others.
- c. In response to measures of quality care, personally monitor and strive to improve skills necessary for optimal management of patients with allergic disorders, including asthma.

V. Systems-Based Practice

- a. Understand how disability related to allergic and immunologic conditions is determined.
- b. Refer patients appropriately for respiratory or nutrition services/dietary therapy.
- c. Constructively work with medical assistants and nurses. Appropriately collaborate with nursing education staff for patient education regarding inhaler therapy, subcutaneous testing/therapy, and allergy preventive care.
- d. Appropriately consult and coordinate with non-medical services, including ophthalmologists, otolaryngologists, and dermatologists. Appropriately consult other medical services including gastrointestinal, pulmonary, infectious diseases, and genetics colleagues as indicated.
- e. Strive to provide cost-effective care, incorporating awareness of available ancillary services.
- f. Strive to assist patients in navigating systems of chronic care.

Teaching Methods

- I. Supervised Patient Care (including mix of diseases, patient characteristics, types of clinical encounters, procedures, pathological material, services, the level of faculty supervision for all resident patient-care activities, and other services interacted with)
 - a. The emphasis of the rotation is on experiential learning through consultative management of ambulatory patients. Residents are under the full supervision of a faculty physician. Residents first independently evaluate each patient, then present each patient to a supervising faculty physician, who then confirms the H&P. Patient-centered, case-based faculty discussions review each patient, and the supervising faculty physician works with the resident to develop a diagnostic and therapeutic plan. Chosen procedures are then performed by the resident under

faculty supervision, and treated patients are closely monitored for immediate responses by both faculty and resident physicians. Residents also work cooperatively with fellows. Residents should consider all supervised patient care interactions as opportunities for education.

- b. Patients present from a broad range of age and socioeconomic background. Pediatric (including adolescent) through adult patients are seen in the allergy-immunology clinic setting.
 - c. Procedures performed by residents under supervision include skin testing, spirometry interpretation, and radiology interpretation. Residents may observe faculty or fellows perform rhinoscopy, with the assistance of bedside teaching broadcast video.
- II.** Structured Didactics and Small Group Learning - Residents on a full elective Allergy/Immunology block experience are expected to attend each of the following unless in conflict with their personal continuity clinic. Residents on mixed ambulatory block must attend residency Ambulatory Morning Report.
- a. Tuesday Seminar core conference: Tuesdays 8-9 AM. Core clinical topic presentations.
 - b. Thursday Case Conference: Thursdays 8-9 AM.
 - c. Journal Club: Thursday 8-9 AM once monthly (in place of Case Conference)
- III.** Special projects
- a. Residents rotating on Allergy/Immunology for a full block elective experience are encouraged to present one clinical case for Thursday Case Conference during the month.
 - b. Residents with special interest in attending a national allergy meeting should access the ACAAI website (see below) for travel funding and mentor opportunities.
- IV.** Independent study - Residents are expected to actively read core content regarding both their patient-based experiences and the common conditions as noted under the rotation learning objectives. They are expected to search primary literature databases (PubMed, Ovid) for evidence to support individual patient care. The following additional resources are suggested:
- a. Texts and manuals
 - i. Be sure to read “An Introduction to Patient Evaluation in Allergy Clinic” as provided by the clinic in your introductory packet.
 - ii. Allergy & Immunology MKSAP is available for pdf download from the American Academy of Allergy Asthma & Immunology (AAAAI) at: <http://www.aaaai.org/professionals/careers/mksap.pdf>
 - iii. Northwestern University Allergy-Immunology Syllabus: Residents and Students. Allergy and Asthma Proceedings. 25(4, Suppl 1):S1-S63. Provided to rotating residents in your introductory packet.
 - iv. *Cellular and Molecular Immunology*. Abdul K. Abbas, Andrew H. Lichtman, Shiv Pillai. 2007 (or most recent edition). Available for loan through Taubman Medical Library.

- v. *Allergy: Principles and Practice*. Elliott Middleton, Jr. et al. St. Louis: Mosby, 5th (or most recent) edition. Available for loan through Taubman Medical Library.
- b. Clinical practice guidelines
 - i. AAAAI practice guidelines:
http://www.aaaai.org/members/resources/practice_guidelines/
 - ii. University of Michigan Clinical Practice Guidelines
<http://www.med.umich.edu/i/oca/practiceguides/>
 - 1. Allergic rhinitis
 - 2. Asthma
 - 3. Sinusitis and rhinosinusitis in adults
 - iii. American College of Allergy, Asthma & Immunology (ACAAI) Practice Parameters: <http://www.acaai.org/Member/PracticeParam/>
 - iv. NIH asthma guidelines:
<http://www.nhlbi.nih.gov/guidelines/asthma/index.htm>
- c. General allergy/immunology websites
 - i. American Academy of Allergy Asthma & Immunology (AAAAI):
<http://www.aaaai.org/>
 - ii. American College of Allergy Asthma & Immunology (ACAAI):
<http://www.acaai.org/>
 - iii. National Institute of Allergy and Infectious Diseases, National Institutes of Health: <http://www3.niaid.nih.gov/>
- d. Core clinical journals, with free access available through the Taubman Medical Library e-journal resources:
 - i. Journal of Allergy and Clinical Immunology:
<http://www.sciencedirect.com/science/journal/00916749>
 - ii. Annals of Allergy, Asthma & Immunology:
<http://allergy.edoc.com/index.html>
- e. Other online resources
 - i. Residents are encouraged to access the most recent versions of the following Johns Hopkins Internet Learning Center modules, available to all Michigan residents using their ambulatory care login (select from the list of available modules): <http://www.hopkinsilc.org/>
 - 1. Asthma
 - 2. Dermatitis
 - ii. Clinical Otolaryngology Online (COOL) provides interactive case studies for common allergic ENT conditions, including allergic rhinitis, allergy emergency, and rhinosinusitis. Launch the interactive courses at: <http://www.entnet.org/EducationAndResearch/COOL.cfm>

Rotation Schedule

All clinical care occurs at Domino's Farms Suite H-2100 (look for "Lobby H" to park) unless otherwise noted in advance. Clinics start on time – please be prompt (early!).

This rotation does not include overnight call. Residents on block allergy/immunology elective rotation have weekends free of duty.

Resident continuity clinic continues during this rotation and may pre-empt any half-day assignment. Please communicate with the U of M Allergy Specialty Clinic faculty and staff to ensure they are aware of your scheduled general medicine continuity clinic responsibilities.

All clinic sessions include general allergy-immunology patients. Possible areas of clinical emphasis are noted in brackets:

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	8-noon A/I Clinic [aspirin challenges]	8 – 9 Core conference 9-noon A/I clinic [aspirin desensitization]	8-noon A/I Clinic	8-9 Core conference 9-noon A/I clinic [asthma]	8-noon A/I Clinic [mastocytosis and idiopathic anaphylaxis]
PM	12:00 Noon Conference 1-5 A/I Clinic [food allergies]	12:30 Intern Report 1-5 A/I Clinic (at Domino's Farms or University Health Service)	12:00 Noon Conference 1-5 A/I Clinic [aeroallergy]	12:00 Noon Conference 1-5 A/I Clinic (at Domino's Farms or University Health Service)	12:00 Grand Rounds 1-5 A/I Clinic [immunodeficiency]

Clinic locations:

Domino's Farms
24 Frank Lloyd Wright Drive
PO Box 442, Suite H-2100
Phone: 936-5634

University Health Services
207 Fletcher Street
Phone: 764-8304 or 764-8320

Evaluation Methods

Formative face-to-face feedback to residents by attendings occurs at mid-month. Each month, attendings complete online competency-based evaluations of each resident. The evaluation is shared with the resident, is available for on-line review by the resident at his/her convenience, and is sent to the residency office for internal review. The evaluation is part of the resident file and is incorporated into semiannual performance reviews for directed resident feedback.

Residents complete a service evaluation of the rotation faculty on completion of the rotation.