

CURRICULUM FOR THE OUTPATIENT ALLERGY, ASTHMA, AND CLINICAL IMMUNOLOGY ROTATION AT THE UNIVERSITY OF COLORADO HOSPITAL AND THE NATIONAL JEWISH HEALTH

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This paragraph only applies if you are rotating at the University of Colorado Hospital. Please review the rest of the curriculum below.

Specialty Residents must complete the Web-based Training for Touchworks for this rotation. To complete the training, please follow the instructions below and then notify the Ambulatory Training team via email at UCH-AmbulatoryServicesTraining@uch.edu that the training is complete. They will send you a login via email.

1. Type www.uch.edu in the address field of your web browser.
2. Click the **For Employees** option in the upper-right corner of the page.
3. Under the **Other Helpful Links** section, select the Ambulatory Services Training link.
4. Under the **Web Based Training** section, select to complete each section: Lesson1, Lesson 2, Lesson 3 links under title **TouchWorks for Specialty Residents**.

I. Educational Purpose and Goals

Allergy and clinical immunology is predominantly an outpatient practice. This elective rotation in the allergy, asthma, and immunology practices at the University of Colorado Hospital (UCH) and the National Jewish Health (NJH) centers gives residents an opportunity to learn how to evaluate and treat patients with common allergic and immunologic conditions such as asthma, rhinitis, urticaria, angioedema, immunodeficiency diseases, food allergy, and eczema. In addition they should come to understand the pathophysiologic basis of allergic and immunologic diseases.

II. Principle Teaching Methods

A. Supervised Direct Patient Care.

Residents will participate directly in the evaluation and care of patients in the various allergy, asthma, and immunology clinics they attend. Faculty supervise the residents as they acquire the history, order diagnostic studies, and plan for further evaluation and treatment.

B. Directed Reading

Residents are given copies of recent review papers in Allergic and Immunologic Diseases and assigned reading that is apropos to the rotation. This includes articles on Asthma, Rhinitis, Food Allergy, Drug Allergy, Dermatitis, Immunodeficiency diseases.

C. Didactic sessions

1. Denver Allergy/Immunology Rounds: Held each Wednesday morning (September-May) at 7:30 AM at NJH, this session is attended by all allergy fellows, faculty and residents. There are no competing sessions. Talks include a variety of immunologic and clinical topics.
2. Weekly journal club: Held each Thursday morning (all year) at 7:30 AM at UCH, this session is attended by all allergy fellows, residents and UCH faculty. There are no competing sessions. A single important article in the clinical allergy/immunology literature is reviewed and discussed in detail.
3. Weekly Division meeting: Held each Tuesday morning at 7:30 AM at NJMRC, this session is attended by all allergy fellows, faculty and residents. There are no competing sessions. These sessions include case reports and literature reviews given by fellows in allergy and clinical immunology.
4. Medical Grand Rounds: Televised to NJH. Residents are encouraged to view this weekly educational series from the cafeteria at NJH.
5. Airways Forum occurs at NJH at noon each Monday. Residents are encouraged to attend.
6. Friday Fellows Meeting at NJH at noon. Fellows cover the curriculum for the AI board examination. The meeting typically starts with a review of a select chapter from the recommended text books (Abbas or Middleton) followed by a quiz with prepared questions. Residents are encouraged to attend.

III. Educational Content

- A. Mix of diseases. Residents encounter patients with a variety of allergic and immunologic diseases with various degrees of severity. These include immunodeficiencies, asthma, rhinitis, sinusitis, conjunctivitis, urticaria, contact dermatitis, eczema, food allergy, drug allergy, angioedema, hereditary angioedema, and other poorly defined immunologic and pseudo-immunologic processes.
- B. Patient Characteristics. The population includes patients of all socioeconomic, ethnic, and racial groups who a) we see in consultation at the request of primary care providers or allergist/immunologists in the community, b) those referred to our practice by primary care providers for ongoing care, and c) self-referred patients.
- C. Learning Venues. Clinics at UCH and NJH
- D. Procedures. Participate in the application and interpretation of skin tests, patch tests, spirometry, nasal smears for eosinophils, rhinolaryngoscopy. Residents will also learn to

interpret complex immunologic laboratory testing used in the evaluation of patients with suspected immunodeficiency or hereditary angioedema.

E. Ancillary Services

1. Fellows in allergy and clinical immunology
2. Resident and fellows in other training programs
3. Medical Assistants
4. Care team Associates
5. RNs

F. Structure of Rotation. This is an outpatient experience occurring Monday – Friday 7:30 AM until 5:30 PM. There is no weekend or evening call. Each resident has a schedule that is individualized based on the resident’s other responsibilities including continuity clinics and jeopardy call.

A typical schedule is shown in this Table.

| Time | Monday | Tuesday | Wednesday | Thursday | Friday | Sat/Sun |
|--------------------|-------------------------|---------------------------------|---|-----------------------------|------------------|---------|
| 7:30-8:30 AM | Free | Allergy Division Meeting at NJH | Denver Allergy Immunology Rounds | Allergy Journal Club at UCH | Free | Free |
| 8:30AM - Noon | AI Clinic at NJH | Immunology Clinic at UCH | AI Clinic at NJH | AI Clinic at UCH | AI Clinic at UCH | Free |
| 12 Noon – 1:00 PM | Travel | Travel | Medical Grand Rounds via closed circuit TV at NJMRC | Travel | Travel | Free |
| 1:00 PM to 5:30 PM | AI Clinic at NJH or UCH | Medicine continuity clinic | AI Clinic at NJH or UCH | AI Clinic at NJH | AI Clinic at NJ | Free |

IV. Principle Ancillary Educational Materials

- A. All residents and supervising faculty are provided with the Outpatient Allergy, Asthma, and Immunology Curriculum and Learning Objectives prior to the start of each rotation.
- B. Residents are assigned targeted reading as noted above.
- C. Full service libraries are available at UCH and NJMRC.
- D. Computer-based resources are available at both facilities to facilitate patient care, education and communication. The following are made available:
 1. Computer-assisted diagnosis and decision support

2. Drug information including side effect and drug-drug interactions
 3. Electronic Medical Record internet accessibility
 4. Electronic textbooks of medicine
 5. E-mail services
 6. Internet access to medical sites on the World Wide Web
 7. Laboratory and radiology results retrieval
 8. Multimedia procedures training
 9. Patient education materials
- E. The medical record at the Allergy Clinic at UCH have been fully computerized since 2008 and that at NJH since 2009.

V. Method of Evaluation

A. Resident performance

1. Faculty are asked to provide competency-based evaluations by emails to the Chief of Service, Dr. Dreskin. Dr. Dreskin completes the computerized resident evaluation forms. The evaluation is shared with the resident by the director of the residency and the resident receives a copy. Finally, this is internally reviewed by the residency office. The evaluation is part of the resident file and is incorporated into the semiannual performance review for directed resident feedback.
2. Computerized patient records are reviewed by attendings who provide specific feedback to the resident on data-gathering and documentation skills.
3. Residents should
 - a. Evaluate and care for patients in a competent and caring fashion. They should know the clinical manifestations, presentations, pathophysiology and management of common allergic and immunologic diseases including asthma, rhinitis, urticaria, angioedema, selected immunodeficiency diseases, food allergy, and eczema.
 - b. Learn how to interpret spirometry
 - c. Learn how to interpret percutaneous skin tests
 - d. Participate in our journal clubs and conferences

B. Program and Faculty Performance

Upon completion of the rotation, residents complete a service evaluation commenting on the faculty, facilities and service experience. Evaluations are reviewed by the program and attending faculty physicians receive anonymous copies of completed evaluation. Collective evaluations serve as a tool to assess faculty development needs. The Chief of the rotation reviews results annually.

VI. Institutional Resources: Strengths and Limitations

A. Strengths

1. Faculty. Faculty is nationally and internationally recognized for their expertise in the field of Allergy and Clinical Immunology.
2. Facilities. The UCH practice is in a new state-of-the-art building on the Fitzsimmons campus, adjacent to a new inpatient facility. We are well connected to the NJMRC clinical immunology laboratory and have full capabilities for evaluation of the upper

and lower respiratory tracts. The NJH practice is in a modern facility with an internationally known, state-of-the-art, immunology laboratory full capabilities for evaluation of the upper and lower respiratory tracts.

3. Patients. There is an excellent disease mix including “bread and butter” allergy as well as tertiary and quaternary care.
4. Teaching of residents is emphasized at both institutions
5. The EMR at UCH is currently being further upgraded.

B. Limitations

1. Residents must travel 7.5 miles between institutions
2. Continuity clinics and jeopardy call can conflict with important clinic time

VII. Rotation Specific Competency Objectives

A. Patient Care

1. History taking. Residents at all levels of training will collect a thorough history by soliciting patient information and by consulting other sources of primary data in a logical and organized fashion. History taking will be hypothesis driven. Interviewing will adapt to the time available, use appropriate nonverbal techniques, and demonstrate consideration for the patient. The resident will inquire about the emotional aspects of the patient’s experience while demonstrating flexibility based on patient need.
2. Physical Exam. Residents at all levels of training will perform a physical exam that is focused according to the patient’s chief complaint and is varied according to new information obtained by taking a complete history. The Resident will describe the physiological and anatomical basis for normal and abnormal findings.
3. Charting. Residents at all levels of training will record data in a thorough, systematic manner.
4. Procedures. Residents will demonstrate knowledge of: procedural indications, contraindications, necessary equipment, specimen handling, patient after-care, and risk and discomfort minimization. They will participate in informed consent and assist patients with decision making. They will correctly identify the meaning of test results. PGY1 residents will initially observe and then perform procedures prior to the completion of the first training year.
5. Medical Decision Making, Clinical Judgment, and Management Plans. All residents will demonstrate improving skills in assimilating information that they have gathered from the history and physical exam.
 - a. PGY-1 residents will be able to identify patient problems and develop a prioritized differential diagnosis. Abnormal findings will be interrelated with altered physiology. They will understand their limitation of knowledge and seek the advice of more advanced clinicians. PGY-1 residents will begin to develop therapeutic plans that are evidenced or consensus based. Residents will establish an orderly succession of testing based on their history and exam findings. Specific organ dysfunction will be anticipated based on known side effects of therapy. Additionally, residents will understand the correct administration of drugs, describe drug-drug interactions, and be familiar with expected outcomes.
 - b. PGY-2 residents will also regularly integrate medical facts and clinical data while weighing alternatives and keeping in mind patient preference. They will regularly incorporate consideration of risks and benefits when considering testing and

therapies. They will present up-to-date scientific evidence to support their hypotheses. They will consistently monitor and follow-up patients appropriately. They will develop plans to avoid or delay known treatment complications and be able to identify when illness has reached a point where treatment no longer contributes to improved quality of life.

- c. PGY-3 residents will demonstrate the above and in addition, will demonstrate appropriate reasoning in ambiguous situations, while continuing to seek clarity. Residents at this level of training will not overly rely on tests and procedures. PGY-3 residents will continuously revise assessments in the face of new data.

6. Patient counseling

- a. PGY-1 residents will be able to describe the rationale for a chosen therapy and will be able to describe medication side effects in lay terms. They will assess patient understanding and provide more information when necessary. Residents will demonstrate the ability to be a patient advocate.
- b. PGY-2 residents, in addition to the above, will be able to explain the pros and cons of competing therapeutic interventions. PGY-2 residents will be expected to counsel patients regarding adverse habits. PGY-2 residents will be able to educate patients and families for enhanced compliance.
- c. PGY-3 residents, in addition to the above, will effectively communicate with critically ill patients and those making life-style modifications.

B. Medical Knowledge

1. All residents will demonstrate satisfactory knowledge of common allergic and immunologic conditions.
2. PGY-1 Residents will consistently apply current concepts in the basic sciences to clinical problem solving. They will use information from the literature and other sources including electronic databases.
3. PGY-2 and PGY-3 residents will demonstrate a progression in knowledge and analytical thinking in order to develop well-formulated differential diagnoses for multi-problem patients. They will also demonstrate socio-behavioral knowledge.

C. Interpersonal and Communication Skills

Residents will continue to develop and refine their individual style when communicating with patients. They will strive to create ethically sound relationships with patients, the physician team and supporting hospital personnel. They will create effective written communications through accurate, complete, and legible notes. They will exhibit listening skills appropriate to patient-centered interviewing and communication. Residents will recognize verbal and nonverbal cues from patients.

D. Professionalism

All residents will demonstrate integrity, accountability, respect, compassion, patient advocacy, and dedication to patient care that supercedes self-interest. Residents will demonstrate a commitment to excellence and continuous professional development. They will be punctual and prepared for teaching sessions. Residents will demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, and informed consent. Residents are expected to show sensitivity and responsiveness to patients' culture, age, gender and disabilities.

E. Practice Based Learning and Improvement

1. PGY-1 residents will use hospital and University library resources to critically appraise medical literature and apply evidence to patient care. They will use hand-held computers, desktop PC's and Internet electronic references to support patient care and self-education. They will model these behaviors to assist medical students in their own acquisition of knowledge through technology.
2. PGY-2 residents will in addition consistently seek out and analyze data on practice experience, identify areas for improvement in knowledge or patient care performance and make appropriate adjustments. They will regularly demonstrate knowledge of the impact of study design on validity or applicability to individual practice.
3. PGY-3 residents will additionally model independent learning and development.

F. Systems Based Practice

1. PGY-1 residents will be sensitive to health care costs while striving to provide quality care. They will begin to effectively coordinate care with other health care professionals as required for patient needs.
2. PGY-2 residents, in addition to the above, will consistently understand and adopt available clinical practice guidelines and recognize the limitations of these guidelines. They will work with patient care managers, discharge coordinators and social workers to coordinate and improve patient care and outcomes.
3. PGY3 residents, in addition to the above, will enlist social and other out-of-hospital resources to assist patients with therapeutic plans. PGY-3 residents are expected to model cost-effective therapy.