Pulmonary and Allergy Subspecialty Clinic  
Rotation Goals and Objectives  
Pulmonary/Critical Care Medicine Fellowship Program  
University of Nebraska Medical Center  
Revised: March 2012

I) Rotation Goals  
A) To accrue clinical experience in the evaluation, diagnosis and management of patients with a variety of illnesses referred to a pulmonary medicine or allergy specialist  
B) To develop skills required of a good consultant  
C) To gain medical knowledge in the fields of allergy, asthma, pulmonary environmental or occupational medicine and severe pulmonary disease including pulmonary hypertension

II) Core competencies for this rotation  

A) Patient Care  
1) To manage patients with a variety of illnesses common to a general pulmonary practice  
2) To order appropriate testing required for the diagnosis and treatment of pulmonary illnesses  
3) The fellow will be expected to perform outpatient procedures which he/she will be expected to perform in practice according to the program requirements outlined by the ACGME  
4) To demonstrate proper management of therapy for pulmonary illnesses  
5) To demonstrate an ability to work with others to provide patient-focused care  
6) Evaluation methods for this competency  
   (a) Attending evaluation  
   (b) Clinic nurses and the PFT Lab staff evaluations  
   (c) Mini-CEX (to be arranged with attending)

B) Medical Knowledge  
1) Demonstrate a fund of knowledge commensurate with the level of training  
2) Demonstrate an ability to use that knowledge to solve outpatient-based medical problems  
3) To read any seminal literature covering topics in allergy, asthma, environmental/occupational pulmonary disease and pulmonary hypertension.  
4) To read the appropriate chapters in a Pulmonary Medicine text covering topics listed above.  
5) Allergy, Asthma and Immunology Objectives  
   (a) Understand the indication(s) for allergy immunotherapy in patients with allergic rhinitis and asthma.  
   (b) Understand the role of aspirin-induced respiratory disease including association with nasal polyposis and alternative aspirin desensitization therapies.  
   (c) Understand the differential diagnosis for bronchiectasis and be able to initiate an immune deficiency evaluation.  
   (d) Understand and recognize vocal cord dysfunction and its diagnosis and treatment.  
6) Evaluation methods for this competency  
   (a) Attending evaluation  
   (b) Chart-stimulated recall sessions

C) Practice-based Learning and Improvement
1) Select one performance measure to demonstrate improvement over the course of the month in clinic
2) Demonstrate an ability to locate and apply scientific evidence to the care of patients including the use of the Cochrane Database and other online sources
3) Demonstrate an ability to read and critically appraise at least one clinical study applicable to a patient seen in clinic
4) Facilitate the learning of other health care professionals
5) Evaluation methods for this competency
   (a) Attending evaluation
   (b) Chart-stimulated recall sessions

D) Interpersonal & Communication Skills
   1) Demonstrate an ability to develop a therapeutic relationship with patients and their families
   2) Demonstrate and ability to use verbal and non-verbal skills to communicate effectively with patients
   3) Demonstrate an ability to work effectively as a team member or leader
   4) Evaluation methods for this competency
      (a) Attending evaluation
      (b) Evaluations from key consultants
      (c) Evaluations from clinic nurses and the PFT Lab staff
      (d) Mini-CEX

E) Professionalism
   1) Demonstrate integrity and honesty
   2) Accept responsibility for direct patient care activities
   3) Always act in the best interest of the patient
   4) Demonstrate a sensitivity to patient’s ethnicity, age and disability
   5) Evaluation methods for this competency
      (a) Attending evaluation
      (b) Evaluations from key consultants
      (c) Evaluations from clinic nurses and the PFT Lab staff
      (d) Mini-CEX

F) System-based Practice
   1) Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society
   2) Practice cost-effective health care and resource allocation that does not compromise quality of care
   3) Advocate for quality patient care and assist patients in dealing with system complexities.
   4) Evaluation methods for this competency
      (a) Attending evaluation
      (b) Evaluations from key consultants
      (c) Evaluations from clinic nurses and the PFT Lab staff
      (d) Mini-CEX
III) Instructional Methods

A) Clinical experience on this selective rotation

1) The PCCM subspecialty resident on this rotation spend up to a full calendar month on the Specialty Outpatient Rotation in the UNMC Physicians Clinic at the Nebraska Medical Center, providing high quality and timely care to include:

(a) Pulmonary consultative care for outpatients in the UNMC Physicians Clinic.
   (i) Patients will be seen in Allergy, Asthma and Immunology Clinic, Cystic Fibrosis Clinic, Pulmonary Hypertension Clinic, Lung Nodule/Cancer Clinic and Occupational Pulmonary Medicine Clinic.
(b) Primary care for patients seen in Pulmonary, Critical Care, Sleep Medicine and Allergy Section subspecialty clinics

B) Clinical Teaching

1) Faculty will be expected to discuss each clinical presentation by the fellow and provide guidance as needed on diagnosis and treatment
2) The fellow will be expected to gather appropriate data and present in a succinct, yet complete manner

C) Performance Feedback

1) The faculty will provide feedback on a regular basis, at least weekly, on what the fellow has done well and what could be improved

D) Didactic Sessions

1) Attend all scheduled conferences within the PCCM Section, especially the clinical case conference.
2) Attend all internal medicine conferences as appropriate.

E) Self-Learning

1) Review literature appropriate to care of patients in the subspecialty outpatient clinics.
2) Fellows will be expected to read the appropriate chapters in a Pulmonary Medicine textbook of their choice. Appropriate sections of eMedicine or Up-to-Date may be substituted.
3) Complete the reading assignments for each specialty clinic as outlined below. Time not scheduled in clinic should be used for completing the readings.

IV) Responsibilities

A) Fellow

1) These guidelines for the Subspecialty Outpatient rotation will be made available to each fellow and must be read prior to starting the rotation
2) Participate in all patient care responsibilities expected in the clinic
3) Provide education to any residents or students who may be assigned to the clinic.
4) Complete an evaluation of the rotation and the attending.
5) Take at-home call as scheduled

B) Clinic Attending

1) These guidelines for the Subspecialty Outpatient rotation will be made available to clinic attendings and the attending-specific goals and objectives must be reviewed with the fellow at the start of the rotation
2) The attending should review the clinic schedule prior to the day of clinic to provide reading assignments for the fellow regarding specific problems to be seen. This makes the interaction a greater learning experience for the fellow.
3) Supervise procedures performed by the fellow
4) Provide education to the fellow regarding management of patients
   (a) Education will include instructions on filling out the billing sheet for the attending’s clinic
   (b) Attendings are encouraged to arrange time to discuss topics or specific readings related to the patient problems typically seen in their clinic or for chart-stimulated recall sessions.
5) Complete an evaluation of the fellow.

C) Rotation

1) Clinic Responsibility
   (a) Attend each assigned clinic unless excused by the attending for that clinic
   (b) Be in the clinic at the assigned start time and remain until excused by the attending

2) On Call Responsibility
   (a) Be available from 8:00 am to 5:00 PM except for officially sanctioned events, i.e. any section conferences
   (b) Take after hours call as assigned by the Program Director.

3) Vacation
   (a) Vacation time may be taken during this rotation.
   (b) Emergency leave may be requested after discussion with the Program Director or surrogate (Clinic attending for days to be missed)

V) Methods of Evaluation

A) Focused Observation and Evaluation

1) The Clinic Attending should give immediate feedback after each patient presentation and a formal verbal evaluation should be given at the mid-point of the rotation. A mini-CEX form
may be used to formalize observation of the fellow and their evaluation of the patient. These are available from Sheryl Latenser, the program coordinator. (943-5515)

B) Clinical Performance Ratings

1) Each clinic attending must prepare a written evaluation of the fellow at the conclusion of the rotation. This evaluation will assess each of the competencies as listed in the educational objectives above.
2) The assessment should be reviewed personally by the fellow in the presence of the attending physician.

C) 360 degree Assessment

1) Evaluations will be sent to health care professionals in the clinic who interact with the fellow. They will include PA’s, Nurse Practitioners, Nurses, Respiratory Therapists and Clerks. These evaluations will focus on the fellow’s professionalism.

D) Fellow Evaluations of Attending(s) and Rotation

1) At the conclusion of the fellow’s service period, he/she should complete an evaluation form assessing the quality of the rotation; he/she should also address the teaching undertaken by the attending physician(s).

VI) Readings

A) Readings are from the ATS Reading List (unless otherwise noted) found at:

1) http://www.thoracic.org/sections/career-development/fellows-and-fellowships/ats-reading-list-intro.html

B) Severe Asthma – Jill A. Poole, MD

Web site for latest treatment guidelines:

http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf

Inhaled steroids vs. bronchodilators

1) Nelson HS, Weiss ST, Bleecker ER, Yancey SW, Dorinsky PM, SMART Study Group. The salmeterol multicenter asthma research trial. Chest 2006; 130:928. This randomized, double-blinded, placebo-controlled, observational study (N= 26,355) showed a small, but statistically significant increase in respiratory-related and asthma-related deaths for the population receiving salmeterol. It is uncertain whether poor outcomes were due to physiologic treatment effects, genetic factors, or patient behaviors.http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=ShowDetailView&TermToSearch=16424409&ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

2) Haahtala T, Jarvinen M, Kava T, et al. Comparison of a beta-agonist, terbutaline, with an inhaled corticosteroid, budesonide, in newly detected asthma. New Engl J Med 1991; 325:388-92. This randomized, blinded comparison of the above two drugs was important in establishing inhaled corticosteroids as the first line treatment for asthma.
3) Suissa S, Blais L, Ernst P. Patterns of increasing beta-agonist use and the risk of fatal or near-fatal asthma. Eur Respir J 1994;7:1602-9. Nested case control study found increased and escalating use of beta-agonists was associated with an increased risk of death from asthma. Findings suggest poorly controlled asthma should not be managed with increased dosage of beta-agonists alone.


Inhaled steroid vs. leukotrience receptor antagonists


Mild persistent asthma

7) O’Byrne PM, Barnes PJ, Rodriguez-Roisin R, et al. Low dose inhaled budesonide and formoterol in mild persistent asthma: the OPTIMA randomized trial. Am J Respir Crit Care Med 2001;164:1392-7. Large RCT found adding a long-acting beta-agonist in mild persistent asthmatics already on ICS was more efficacious than doubling the dose of ICS. Patients not already on an ICS had fewer severe exacerbations and better symptom control compared to placebo after addition of low dose ICS.

8) Pauwels RA, Pedersen S, Busse WW, et al. Early intervention with budesonide in mild persistent asthma: a randomized, double-blind trial. Lancet 2003;361:1071-6. Large RCT of steroid-naive patients with asthma history of less than 2 years found use of ICS reduced risk of severe asthma exacerbation by 44% (about 6% vs. 3.4%) compared to placebo after 3 years of follow-up.
Use of combination therapy for maintenance and rescue

10) O’Byrne PM, Bisgaard H, Godard PP, et al. Budesonide/formoterol combination therapy as both maintenance and reliever medication in asthma. Am J Respir Crit Care Med 2005; 171;129-36. This study included 2,760 asthmatics with a history of at least one exacerbation in the previous year and regular need for rescue bronchodilators despite baseline use of, on average, moderate doses of inhaled corticosteroid. Patients randomized to budesonide/formoterol (80/4.5) bid and prn had prolonged time to exacerbations requiring medical intervention compared to combination therapy with terbutaline prn or higher dose steroid (budesonide 320 bid) plus terbutaline prn. Subsequent RCTs have also shown favor outcomes with this approach.

Anti-IgE therapy

11) Busse WW. Anti-immunoglobulin E (omalizumab) therapy in allergic asthma. Am J Respir Crit Care Med 2001;164(8Pt2):S12-7. Review summarizes several large RCTs studying the role of anti-IgE antibody in allergic asthma. The use of anti-IgE is associated with decreased frequency of exacerbations, reductions in corticosteroid dose, and improved quality of life in symptomatic patients with moderate to severe allergic asthma.

Exercise-induced

Airway remodeling


C) Allergy, Asthma & Immunology Clinic Rotation - Jill A. Poole, MD

1) Required Reading List for Pulmonary Fellows:

(a) Allergic Rhinitis and its Impact on Asthma (ARIA) WHO
(b) Allergen Immunotherapy
   (i) Poole JA. Washington Manual 2004; pg 141-146.
   (ii) Allergy Immunotherapy: Pro/Con Editorials
(c) Prevention (PAT)-Study.
(d) The Salmeterol Multicenter Asthma Research Trial & Editorial Comment
   (ii) Byrne PM & Adelroth E. Chest 2006.
(e) Aspirin-induced asthma: Review
(f) Bronchiectasis: Causative Factors
(g) Allergic bronchopulmonary aspergillosis
(h) Vocal Cord Dysfunction

2) Optional Reading List for Pulmonary Fellows:


D) Pulmonary Environmental/Occupational Medicine – Susanna VonEssen, MD

From the ATS Reading List http://www.thoracic.org/sections/career-development/fellows-and-fellowships/ats-reading-list/occupational-medicine.html


Associations with interstitial lung disease and neoplasia


9) Adverse effects of crystalline silica exposure. American thoracic society committee of the scientific assembly on environmental occupational health. Am J Respir Crit Care Med 1997; 155:761-8. Reviews the epidemiology and prevention of silica-associated lung diseases including silicosis, asthma, tuberculosis, and extrapulmonary diseases. This document is also
available in Up-To-Date.
&list_uids=9032226
&list_uids=3282464
11) Infante PF, Newman LS. Beryllium exposure and chronic beryllium disease. Lancet 2004;363:415-6. The authors highlight the lack of adequate protection for workers, the underdiagnosis of CBD by providers, and the growing number of industries in which exposure occurs.
&list_uids=14962519

Air pollution and cardiopulmonary disease

12) Dockery DW, Pope CA 3rd, Xu X, et al. An association between air pollution and mortality in six U.S. cities. New Engl J Med 1993; 329:1753-9. This seminal article linked fine particular air-pollution with lung cancer and cardiopulmonary mortality, associations that have been duplicated in subsequent studies and been highly influential in public health policy.
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Environmental tobacco smoke

The following 2 articles are good examples of research documenting the impact of legislation to limit secondhand smoke on the health of non-smoking bar workers. See also “Smoking Cessation”.

15) Eissner MD, Smith AK, Blanc PD. Bartenders’ respiratory health after establishment of smoke-free bars and taverns. JAMA 1998; 280:1909-14. This study of 53 bartenders found a substantial reduction in respiratory and nasopharyngeal irritation symptoms along with modest improvements in spirometry.
16) Menzies D, Nair A, Williamson PA, et al. Respiratory symptoms, pulmonary function, and markers of inflammation among bar workers before and after a legislative ban on smoking in public places. JAMA 2006; 296:1742-8. This study of 77 non-smoking, asthmatic and non-asthmatic, bar workers found a significant decline in respiratory symptoms and improvement in FEV1 (FEV1 % predicted improved by 5.1%) in the first 2 months following a smoking ban. Asthmatics experienced greater improvement in FEV1 than non-asthmatics and had a significant reduction in exhaled nitric oxide.


E) Pulmonary Hypertension - Austin Thompson, MD
From the ATS Reading List http://www.thoracic.org/sections/career-development/fellows-and-fellowships/ats-reading-list/pulmonary-hypertension.html


4) Badesch DB, Tapson VF, McGoon MD, et al. Continuous intravenous epoprostenol for pulmonary hypertension due to scleroderma spectrum of disease. Ann Intern Med 2000; 132:425- 34. Noteworthy for showing benefit from prostacyclin in patients with a secondary cause of pulmonary hypertension. RCT found prostacyclin improved exercise tolerance, modestly reduced PA pressures, and improved dyspnea scores in some patients, but was associated with frequent side effects and more adverse events. No difference in survival, but trial was only 12 weeks duration.  


study, bosentan was well-tolerated and improved cardiac index and exercise capacity (70 meter gain in 6-minute walk). Similar results were obtained in a subsequent larger study of 213 patients (Rubin LJ et al. New Engl J Med 2002; 346:896-903).


6) Arcasoy SM, Christie JD, Ferrari VA, et al. Echocardiographic assessment of pulmonary hypertension in patients with advanced lung disease. Am J Respir Crit Care Med 2003; 167:735-40. The cardiology literature indicates echocardiography-derived estimates of pulmonary artery pressures are accurate. This study found 52% of echo estimates were inaccurate (off by > 10 mmHg) in 166 lung transplant candidates and the difference was > 20 mmHg in 28%. In patients without hypertension, echo was more likely to overestimate pressures while in patients with pulmonary hypertension; it was as likely to over as underestimate. Accuracy and ability to obtain an estimate varied with the underlying disease.

University of Nebraska Medical Center  
Pulmonary, Critical Care, Sleep & Allergy Medicine Section  
Specialty Clinic Schedule

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Contact information

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<tr>
<td>Peter J. Murphy, MD</td>
<td>559-4087</td>
<td>888-2636</td>
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<tr>
<td>Jill Poole, MD</td>
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<td>888-1786</td>
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<td>Austin Thompson, MD</td>
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