Pulmonary Medicine Rotation Curriculum with Goals & Objectives

Community Outpatient Pulmonary Subspecialty Clinic — Internal Medicine Residency

Goals & Objectives Stratified by Level of Training (PGY-1 / PGY-2 / PGY-3)

Effective with PEC Approval: July 1, 2025

Subspecialty Director:

Team A: Dr. Rohinder Sandhu

California Pulmonary Associates

500 N Euclid Ave Upland CA 91786

Tel: 1-626-914-5219

Team B: Dr. Rick Siriratsivawong

Inland Physicians Medical Group

Overview and Organization

Organization / Site: SARH and Clinics — outpatient pulmonary subspecialty clinic. This is a purely ambulatory rotation: residents spend the entire rotation in the pulmonary clinic and carry no inpatient, consult-service, night, or weekend responsibilities.

The Internal Medicine resident functions as a key member of the ambulatory pulmonary care team, whose primary objective is to provide compassionate, evidence-based care. The clinic team comprises an attending pulmonologist, medical residents, medical students, clinic nursing staff, and respiratory therapy, and is led by the attending, who bears final responsibility for patient management. Residents see clinic patients independently, present to the attending, and gradually assume more autonomous decision-making in a graded fashion. Residents are expected to teach junior residents and medical students and to collaborate with primary care providers and other specialists in a multidisciplinary environment.

This rotation is conducted entirely in the ambulatory subspecialty clinic. Residents evaluate new referrals and follow established patients longitudinally, managing common pulmonary symptoms and diseases, gaining exposure to rarer pulmonary conditions, and identifying pulmonary manifestations of systemic disease. The emphasis is on the diagnosis, evaluation, and longitudinal management of chronic pulmonary disease in the outpatient setting, including post-hospitalization follow-up visits. Residents develop competence in the maintenance of pulmonary health, identification of common and rare diseases, indications for and interpretation of commonly ordered outpatient tests, ambulatory management of disease exacerbations, recognition of patients who require escalation to emergency or inpatient care, and appropriate indications for procedural or surgical referral.

General Educational Goals

Across the rotation and progressively across all three years, residents will:

- Practice evidence-based medicine and apply current national guidelines to patient care.
- Develop competence in the maintenance of pulmonary health and identification of common and rare pulmonary disease.
- Understand the indications for and interpretation of commonly ordered pulmonary tests and procedures.
- Manage exacerbations of chronic pulmonary disease in the ambulatory setting, and recognize when a patient requires escalation to the emergency department, hospital admission, or procedural/surgical referral.
- Coordinate multidisciplinary care and communicate effectively with patients, families, and the team.
- Assume responsibility in a graded fashion, progressing toward independent practice by the end of three years of training.

Levels of Supervision

Residents are supervised by an attending pulmonologist for all patients. Levels of supervision include:

- Direct Supervision — the supervising physician is physically present with the resident and patient; residents are initially directly observed to build history-taking and examination skills.
- Indirect Supervision, with direct supervision immediately available — the supervising physician is within the site and immediately available.
- Indirect Supervision, with direct supervision available — the supervising physician is immediately available by phone or electronic means.

As residents become more proficient, they interact independently with patients and present cases to faculty, progressing from diagnosis and basic management toward independent medical decision-making.

Assessment Scale — Entrustment

The basic evaluation unit is entrustment. Attendings determine the level at which they trust the resident to perform each skill:

- 1 — Cannot perform the skill even with assistance (critical deficiency).
- 2 — Can perform the skill under proactive, full supervision.
- 3 — Can perform the skill with reactive supervision (readily available upon request).
- 4 — Can perform the skill independently.
- 5 — Can act as a supervisor and instructor for the skill.

The Six ACGME Core Competencies — Objectives by Level of Training

Objectives are stratified for PGY-1, PGY-2, and PGY-3 residents, reflecting increasing entrustment. Senior objectives are cumulative — PGY-2 residents also meet PGY-1 objectives, and PGY-3 residents meet all prior objectives.

1. Patient Care and Procedural Skills

All residents must provide compassionate, culturally sensitive, and appropriate care to prevent and treat pulmonary disease, take a pertinent history, and perform a focused physical examination. All residents should be competent in a thorough pulmonary examination and chest ultrasound, and knowledgeable about current pneumonia guidelines.

PGY-1 — Build foundational skills under supervision

- Differentiate stable from unstable patients and elicit key historical details:
  - Risk factors that predispose to particular infections (occupational or environmental exposures, recent contacts, pets, travel, vaccination history, and tobacco and alcohol use)
  - Sleep symptoms
  - History of respiratory symptoms and vocal changes
  - Medication use
- Characterize the following physical findings: abnormal lung sounds, dullness to percussion, thoracic cage abnormalities, prolonged expiration and pursed-lip breathing, accessory muscle use and paradoxical respiration, and lymphadenopathy.
- Become competent in office-based pulmonary testing: peak flow measurement, office spirometry with bronchodilator response, interpretation of full pulmonary function tests, resting and ambulatory pulse oximetry, and lung POCUS. Understand the indications, contraindications, complications, limitations, and interpretation of procedures performed outside of clinic (thoracentesis, bronchoscopy, chest tube placement) and recognize when to refer for them.

PGY-2 — Manage complexity and seek consultation (in addition to PGY-1)

- Seek directed, appropriate specialty or surgical consultation when necessary to further patient care.
- Manage the longitudinal follow-up of chronic pulmonary disease (asthma, COPD, ILD, OSA, pulmonary nodules), assessing interval symptom control, adherence, device technique, and treatment response across visits, and adjusting therapy accordingly.
- Recognize the contribution of genetic, epidemiologic, and disease-related factors and comorbidities to the clinical picture.
- Characterize extrapulmonary manifestations of pulmonary disease (e.g., abnormal heart sounds, clubbing, lower-extremity edema, skin and joint abnormalities).
- Become competent in the ambulatory management of positive airway pressure therapy (CPAP/BiPAP) for sleep apnea and home noninvasive ventilation, home oxygen prescription and titration, inhaler and nebulizer device selection with assessment of technique at each visit, and tuberculin skin testing and interferon-gamma release assays.

PGY-3 — Lead, supervise, and manage transitions (in addition to PGY-1 and PGY-2)

- Independently obtain the above history for patients with complex chronic pulmonary disease and multiple comorbid conditions.
- Determine when ambulatory management has failed and coordinate escalation of care — emergency department referral, hospital admission, or referral for advanced diagnostics and therapies (bronchoscopy, VATS, pulmonary hypertension therapy, transplant evaluation).
- Ensure seamless transitions of care and closure of the referral loop between the pulmonary clinic, the referring primary care provider, and hospital teams — including timely post-hospitalization follow-up visits after admission for COPD, asthma, pneumonia, or pulmonary embolism.
- Characterize physical findings including respiratory pattern (e.g., Cheyne-Stokes, Kussmaul), palpation (fremitus, diaphragmatic excursions, subcutaneous emphysema), and subtle auscultatory abnormalities (e.g., friction rub).
- Troubleshoot home noninvasive ventilation and CPAP/BiPAP, including interpretation of adherence and efficacy download data, mask and pressure adjustment, and home oxygen systems.

Instructional / Training Methods: Supervised patient care in the outpatient pulmonary clinic (new consultations and continuity follow-up visits), direct observation in clinic, office spirometry/PFT interpretation sessions, lung ultrasound instruction, case-based learning.

Evaluation Methods: *Bedside Mini-CEX, direct observation and feedback, faculty entrustment ratings.*

---

2. Medical Knowledge

Residents will demonstrate knowledge of the basic mechanisms, clinical manifestations, and evidence-based management of pulmonary disease and apply it to patient care.

PGY-1 — Develop foundational knowledge under supervision

- Understand the basic pathophysiology and approach to the evaluation and treatment of the following presenting conditions:
  - Chest pain
  - Cough
  - Dyspnea
  - Fever with pulmonary symptoms
  - Hemoptysis
  - History of positive PPD or tuberculosis exposure
  - Hoarseness
  - Insomnia
  - Pleural effusion
  - Pulmonary nodule
  - Pulmonary preoperative evaluation
  - Snoring or excessive daytime somnolence
  - Stridor
  - Wheezing
- Understand the pathophysiology, clinical presentation, and therapy for the following pulmonary diseases:
  - Asthma
  - Atelectasis
  - Bronchitis
  - COPD
  - Cor pulmonale
  - HIV-related lung disease
  - Lung cancer
  - Pneumonia (aspiration, community-acquired, hospital-associated)
  - Pneumothorax
  - Pulmonary contusion/rib fracture
  - Pulmonary embolism and infarction
  - Sleep apnea and obesity hypoventilation syndrome
  - Tuberculosis
- Understand the indications for ordering and the interpretation of the following laboratory values and procedures:
  - Analysis of pleural fluids
  - Arterial blood gas
  - Chest imaging (radiograph, CT, CT angiography, MRI, ultrasound)
  - Methacholine challenge
  - NT-proBNP

    - Overnight oximetry
    - Polysomnography
    - PPD
    - Procalcitonin
    - Pulmonary angiography
    - Sputum Gram stain, culture, and cytology
    - Sweat chloride test
    - Tagged WBC scan and gallium scan
    - Urine Legionella antigen
    - Ventilation-perfusion scan

PGY-2 — Understand targeted therapy and advanced diagnostics (in addition to PGY-1)

- Understand the pathophysiology, clinical presentation, targeted therapy, and duration of therapy for the following pulmonary diseases:
    - Allergic bronchopulmonary aspergillosis
    - Alveolar proteinosis and BOOP
    - Bronchiolitis/tracheitis
    - Cystic fibrosis
    - Hypersensitivity pneumonitis and eosinophilic pneumonia
    - Interstitial lung disease
    - Laryngeal dyskinesia
    - Lung abscess
    - Lung colonization
    - Lung transplant
    - Pleural disease
    - Pulmonary hypertension
    - Pulmonary manifestations of systemic diseases (e.g., neoplasm, vasculitis, connective tissue disorders)
    - Respiratory muscle disorders
    - Thoracic cage disorders
- Demonstrate knowledge of the indications for ordering and interpretation of: bronchoscopy, cardiopulmonary exercise testing, mediastinoscopy, PET scanning, phrenic nerve studies, pleurodesis, and VATS and open lung biopsy.

PGY-3 — Independent management and interpretation (in addition to PGY-1 and PGY-2)

- Understand the epidemiology of the above conditions.
- Understand statistical concepts such as pretest probability and number needed to treat, and their effect on diagnostic workup and treatment.
- For the most part, independently manage patients with evidence-based therapies.
- Recognize a lack of response to therapy, identify possible causes, and formulate an alternate treatment plan.
- Independently and appropriately order studies and interpret results within the context of patient comorbidities, pretest probability of disease, and patient values.

Instructional / Training Methods: *Case-based learning, specialty didactics, journal club, journal and textbook reading, guideline review (GOLD, GINA, ATS/ERS).*

Evaluation Methods: *Case-based questioning, chart review, faculty written evaluation.*

---

3. Practice-Based Learning and Improvement

Residents will investigate and evaluate their patient-care practices, appraise and assimilate scientific evidence, and improve their practices.

PGY-1 — Build foundational skills under supervision

- Access current national guidelines (e.g., GOLD for COPD) to apply evidence-based strategies to patient care.
- Participate in case-based therapeutic decision-making involving the referring primary care provider, the pulmonologist, and, where appropriate, thoracic surgery or interventional pulmonology.
- Coordinate care as part of the larger ambulatory team, including clinic nursing, pharmacy, respiratory therapy, pulmonary rehabilitation, durable medical equipment vendors, dietitians, and social work, and respond with positive changes to feedback from team members.

PGY-2 — Manage independently (in addition to PGY-1)

- Develop skills in evaluating new studies in the published literature through journal club and independent study.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Take a leadership role in coordinating multidisciplinary, team-based patient care.
- Facilitate the learning of junior residents and students.

Instructional / Training Methods: *Journal club, guideline review, case-based decision-making, multidisciplinary care coordination.*

Evaluation Methods: *Self-assessment and reflection, journal-club participation, teaching evaluations.*

---

4. Interpersonal and Communication Skills

Residents will demonstrate communication skills that result in effective information exchange with patients, families, and professional associates.

PGY-1 — Build foundational skills under supervision

- Demonstrate organized, articulate electronic and verbal communication that builds rapport with patients and families.
- Convey information to other healthcare professionals and provide timely clinic documentation, including a concise consultation letter or note returned to the referring provider.

PGY-2 — Manage independently (in addition to PGY-1)

- Develop interpersonal skills that facilitate collaboration with patients, their families, and other health professionals.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Demonstrate leadership skills to build consensus and coordinate a multidisciplinary approach to care.
- Elicit information or agreement in situations with complex social dynamics (e.g., identifying the power of attorney or surrogate decision maker and resolving conflict among family members with disparate wishes).

Instructional / Training Methods: *Direct observation, supervised patient encounters, family meetings, case presentations.*

Evaluation Methods: *Direct observation, Mini-CEX, faculty and multisource feedback.*

---

5. Professionalism

Residents will demonstrate a commitment to professional responsibilities, ethical principles, and sensitivity to a diverse patient population.

PGY-1 — Build foundational skills under supervision

- Demonstrate a strong commitment to professional responsibilities through conduct, ethical behavior, professional attire, collegial interactions, and devotion to patient care.
- Educate patients and families in a manner respectful of gender, age, culture, race, religion, disability, national origin, socioeconomic status, and sexual orientation regarding choices about their care.

PGY-2 — Manage independently (in addition to PGY-1)

- Counsel patients and families on both diagnostic and treatment decisions and on withdrawal of care.
- Use clinic time efficiently to see patients within scheduled visit lengths, complete documentation, and close the loop on pending results between visits.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Provide constructive criticism and feedback to more junior members of the team.
- Serve as a professional role model and advocate for patients.

Instructional / Training Methods: *Role modeling by attendings, direct patient care, patient and family encounters.*

Evaluation Methods: *Faculty ratings, multisource feedback, self-reflection.*

---

6. Systems-Based Practice

Residents will demonstrate awareness of the larger health-care system and provide care of optimal value.

PGY-1 — Build foundational skills under supervision

- Understand that diagnostic and treatment decisions involve cost and risk and affect quality of care.

PGY-2 — Manage independently (in addition to PGY-1)

- Identify current ambulatory quality issues in pulmonary medicine, such as patient education, inhaler technique, medication adherence, smoking-cessation rates, lung-cancer screening uptake, and the outpatient management of asthma and COPD.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Demonstrate awareness of alternative therapies and their costs, risks, and benefits, and of how insurance coverage, prior authorization, inhaler formularies, and access to home oxygen and durable medical equipment affect adherence in the outpatient setting.

Instructional / Training Methods: Supervised ambulatory care, cost-and-value case discussion, clinic-based quality-improvement discussion.

Evaluation Methods: *Direct observation, chart review, faculty ratings.*

Health Maintenance and Counseling

Across all levels, residents should counsel patients appropriately on the following issues pertinent to maintaining pulmonary health:

- Immunizations
- Need for oxygen therapy
- Pulmonary rehabilitation
- Smoking cessation

- Isolation for infectious pulmonary disease, with familiarity with diagnoses requiring Public Health notification

Teaching Methods

Supervised Patient Care

- Residents are initially directly observed with patients to facilitate the acquisition of excellent history-taking and physical examination skills.
- As residents become more proficient, they interact independently with patients and present cases to faculty.
- Initial emphasis is on diagnosis and basic management; once mastered, focus shifts to medical decision-making and finalizing the care plan with supervising physicians.

Conferences and Independent Study

- Specialty-specific didactics.
- Journal and textbook reading as assigned by the pulmonology attending.
- Case-based learning with patient-based questions and short topic presentations to the group.

Manuals, Guidelines, and Online Resources

- The Sanford Guide to Antimicrobial Therapy (Gilbert, Moellering, Sande), current edition, and the SARH hospital antibiogram.
- GINA Guidelines for Asthma (2024) and GOLD Guidelines for COPD (2024).
- ATS updated guidelines for IPF and PPF; ATS guidelines on treatment of drug-susceptible and drug-resistant tuberculosis.
- ATS guidelines on nucleic acid amplification testing for non-influenza viral respiratory diseases, including in suspected community-acquired pneumonia.
- ERS/ATS technical standard on interpretive strategies for routine lung function tests (2021).
- ESC/ERS Guidelines for the Diagnosis and Treatment of Pulmonary Hypertension (2022).
- ESC Guidelines for the Diagnosis and Management of Acute Pulmonary Embolism (2019).
- IDSA guidelines for community-acquired and hospital/ventilator-associated pneumonia; CDC resources on respiratory infections and HIV/AIDS.
- Reconsidering the use of race correction in clinical algorithms.
- Radiology Assistant — HRCT Basics of Interpretation; thoracic ultrasound basics (POCUS 101 lung ultrasound guide).
- UpToDate and ClinicalKey.

Evaluation

- Mini-CEX bedside evaluation tool.
- Verbal mid-rotation individual feedback.
- Attending written evaluation of the resident at the end of the month, based on rotation observations and chart review.

Rotation Structure

- Residents should contact the pulmonology attending three days prior to the rotation to determine start time and location.

- Residents interested in focusing on sleep disturbances and disorders should notify the attending at the beginning of the rotation; additional elective time in sleep medicine can be arranged.
- Residents spend the entire rotation in the outpatient pulmonary clinic. There are no inpatient, consult-service, night-float, or weekend responsibilities on this rotation.
- Rotations are a hands-on learning experience; residents are sent in to see patients independently, and are expected to see their own patients back for follow-up visits during the rotation to build continuity and observe treatment response.
- Case-based learning is emphasized, with patient-based questions to research and short topic presentations to the group.
- For referral visits, residents should understand the specific question asked by the referring provider and provide a concise, actionable answer in a consultation note returned to that provider.
- There are no call or weekend responsibilities on this rotation. Clinic sessions and start times are determined by the attending; hours must comply with ACGME requirements and are subject to approval by the Program Director.
- Residents have noon conferences and should be excused in a timely fashion to attend.