COMPETENCY-BASED CORE CURRICULUM in PHILIPPINE ADULT PULMONARY MEDICINE FELLOWSHIP TRAINING

Written by the TRAINING COMMITTEE of the Philippine College of Chest Physicians
Chair of the Training Committee:
Lenora Fernandez MD, FPCCP
Assistant Chair of the Training Committee:
Virginia delos Reyes MD, FPCCP
Members of Training Committee:
  John Aranas MD, FPCCP
  Jubert Benedicto MD, FPCCP
  Daphne Bate MD, FPCCP
  Chona de Vera MD, FPCCP
  Aileen Guzman MD, FPCCP
  Ma. Encarnita Limpin MD, FPCCP
  Patrick Gerard Moral MD, FPCCP
  Gregorio Ocampo MD, FPCCP
  Shirley Panganiban MD, FPCCP
  Janeth Samson MD, FPCCP
  Joel Santiaguel MD, FPCCP
  Roger Sy MD FPCCP
  Jose Edzel Tamayo MD FPCCP
  Dennis Teo MD FPCCP
  Esther Fredelyn Tomas MD, FPCCP
Advisers/PCCP Presidents:
Celeste Mae Campomanes, MD, FPCCP
Benilda Galvez, MD, FPCCP
COMPETENCY-BASED CORE CURRICULUM IN PHILIPPINE ADULT PULMONARY MEDICINE FELLOWSHIP TRAINING

I. INTRODUCTION

The Adult Pulmonary Medicine Fellowship training program is envisioned as a two-year program designed to provide an intensive training experience in the field of adult pulmonary medicine. The core training curriculum manuscript will act as a guide or backbone to the basic structure of any training program on Adult Pulmonary Medicine in the Philippines. The training institutions are encouraged to use this guide and may revise it according to their needs and setting.

This initiative is to standardize and elevate the level of training in Adult Pulmonary Medicine. This manuscript serves only as a guide. The key is to live it.

II. EDUCATIONAL PURPOSE & GOALS OF PCCP in relation to TRAINING INSTITUTIONS

The PCCP, being the premiere organization of all fellows, graduates, and trainees in adult pulmonary medicine, recognizes that it has the collegial task of ensuring excellence in the adult pulmonary medicine training being provided by the medical institutions.

The PCCP is an organization of chest physicians, in relation to the medical institutions with adult pulmonary medicine training programs, that is committed to:

- Set the standards in the pulmonary training programs by specifying the necessary resources, entry & terminal competencies, & training activities.
- Assist these institutions & its trainees in meeting the standards for adequate training
- Formulate/provide innovative activities, programs & linkages to ensure excellence in adult pulmonary medicine training and its specialized branches

III. STRUCTURE & GOVERNANCE

The medical institutions which directly provide the training and facilities for prospective adult pulmonologists exist independently from the PCCP. However, since all the trainors and trainees in all these medical institutions are members of the PCCP, it has been tacitly recognized that the PCCP, as a College, plays an active role in ensuring that the training institutions continue to produce excellent graduates from their programs.
The schema of the inter-relationship between the PCCP and the training institutions as regards training are outlined as follows:

Diagram description:

PCCP sets the standards for an adult pulmonary medicine fellowship training program to aim at and this particular function is performed by the PCCP Training Committee (left side of the diagram). These standards influence the training program utilized by the training institutions in producing the graduates from their respective programs (right side of the diagram). PCCP also influences the current clinical practice milieu within which the medical institution performs its tasks of training.

The Accreditation Board of the PCCP performs the separate function of accrediting and re-accrediting the institutions’ training programs but the requirements are based on the core curriculum agreed upon by the PCCP and training institutions (lower part of the diagram).

The Specialty Board of the PCCP certifies the individual graduates from the training institutions as Diplomates of PCCP when they have passed the Certifying Subspecialty Board Examination given yearly by the PCCP. The content of the Certifying Board Examination is based on knowledge and skills aspired for in the core curriculum.
IV. EDUCATIONAL GOALS FOR THE TRAINING INSTITUTIONS:

The goals of the different pulmonary fellowship training programs should encompass the following:

1. To develop professional, competent, skilled, ethical and compassionate pulmonologists
2. To develop and foster an aptitude for scientific investigation and research in the field of pulmonary medicine.
3. To promote professional, ethical & compassionate practice of pulmonary medicine
4. To encourage social consciousness and civic-mindedness in the practice of pulmonary medicine and pulmonary critical care.
5. To develop pulmonologists with administrative, leadership and/or managerial skills needed in the practice of pulmonary medicine.

V. PROFESSIONAL ROLES & RESPONSIBILITIES OF A PULMONOLOGIST AND THE PULMONARY MEDICINE FELLOWSHIP TRAINING GRADUATE:

A. THE DEFINITION OF A PULMONOLOGIST:

A pulmonologist is a physician who:
1. possesses the specialized knowledge, skills and proper attitude needed for the prevention, diagnosis and treatment of pulmonary diseases
2. possesses a professional, ethical and compassionate attitudes towards his patients, peers, colleagues and community members
3. promotes health advocacy in the field of pulmonary medicine
4. is capable of doing research
5. possesses the leadership/administrative/managerial qualities needed in managing endeavors involving lung health

B. PROFESSIONAL ROLES OF A PULMONOLOGIST:

The graduate of an accredited 2-year pulmonary fellowship training program is envisioned to function as a professional, ethical & compassionate “Pulmonologist” with the following professional roles:
1. Specialized clinician/practitioner dealing with prevention, diagnosis and treatment of pulmonary diseases
2. Professional, ethical and compassionate physician
3. Advocate of lung health (e.g. as an educator, agent/initiator/promoter of social and policy changes)
4. Physician with the capability to conduct & utilize clinically relevant research
5. May be Leaders/Administrators/Managers in endeavors in the field of pulmonary medicine
C. PROFESSIONAL RESPONSIBILITIES OR COMPETENCIES AND TASKS OF A PRACTICING PULMONOLOGIST BASED ON THE ABOVE ROLES:

Professional Competency 1

- Given an actual patient, the pulmonologist is able to proficiently diagnose pulmonary conditions and diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care.
- Proficiently institute preventive and therapeutic interventions for pulmonary conditions & diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care.

Professional Competency 2

- In his/her regular daily professional practice, the pulmonologist is able to demonstrate professionalism and compassion.

Professional Competency 3

- In his/her regular daily professional practice, the pulmonologist is able to participate in advocacies in lung health

Professional Competency 4

- In his/her regular daily professional practice, the pulmonologist is able to utilize clinically relevant research in his daily medical activities
- In his/her regular daily professional practice, the pulmonologist is able to initiate or perform research studies in pulmonary medicine.

Professional Competency 5

- In his/her regular daily professional practice, the pulmonologist is able to lead and manage organizations and health systems in the field of pulmonary medicine.

VI. ENTRY REQUIREMENTS FOR PROSPECTIVE PULMONARY MEDICINE FELLOW-IN-TRAINING:

An applicant to a pulmonary medicine fellowship training program must fulfill the following criteria in order to be considered eligible for the program:

1. Must have a Philippine College of Physicians’ Diplomate in Internal Medicine certification.
2. Must have a basic knowledge of the anatomy and physiology of the respiratory system.
3. Must be able to demonstrate an ability to obtain a comprehensive and accurate history of present illness, demonstrate physical examination skills and a rational differential diagnostic approach to patients with medical diseases.
4. Must be able to explain principles of basic radiography and identify normal chest radiographs.
5. Must have a basic knowledge of arterial blood gas interpretation and spirometry.
6. Must have performed at least one endotracheal intubation during his/her residency training in internal medicine.
7. Must have adequate basic knowledge of mechanical ventilator support and care.
8. Must have basic and advanced knowledge of cardio-pulmonary resuscitation.
9. Must fulfil the institution’s requirements to be a trainee in the institution (e.g. NBI clearance, etc.)
10. Graduates from non-Philippine-based institutions may train in the Philippines for adult pulmonary medicine fellowship as long as they have the permission to train in the Philippines issued by the Philippine Regulatory Commission and their status as regards their Internal Medicine residency training is recognized by the Philippine College of Physicians to be equivalent to a PCP Diplomate in Internal Medicine.

VII. CURRICULUM BLUEPRINT ACCORDING TO PROFESSIONAL COMPETENCIES.

Please see attached document on CORE COMPETENCIES.

VIII. INSTRUCTIONAL DESIGN OR PLAN PER YEAR LEVEL:

The training institution shall formulate and implement its own instructional design for each year level according to the above terminal and intermediate competencies expected from its trainees. The teaching-learning activities shall be based on the tasks needed to be accomplished for each year level in order for the trainees to achieve the competencies expected from them at the end of each training year.

A. FORMAT OF INSTRUCTIONAL DESIGN

The suggested format in constructing the instructional designs is as follows:
PART OF A YEAR LEVEL 1 INSTRUCTIONAL DESIGN: (sample)

<table>
<thead>
<tr>
<th>Terminal Competency</th>
<th>Tasks</th>
<th>Content</th>
<th>Teaching - Learning Activities</th>
<th>Time Allocation</th>
<th>Resources</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given an actual patient, the YL 1 trainee is able to proficiently diagnose pulmonary conditions and diseases in the following settings: ambulatory, emergency &amp; in-patient.</td>
<td>KNOWLEDGE: Demonstrate and apply knowledge to patient care.</td>
<td>(specify here the Knowledge Content areas covered for YL1 )</td>
<td>(please include those that are being actually utilized) Didactic conferences/sessions:</td>
<td>(please indicate)</td>
<td>(please indicate)</td>
<td>Clinical Performance/competence evaluations for different areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M&amp;M- ICU &amp; Ward</td>
<td></td>
<td></td>
<td>Written exam +/- Oral exam</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grand Rounds</td>
<td></td>
<td></td>
<td>Global evaluation of communications, interpersonal skills, professionalism by Faculty &amp; Peer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Case Conference</td>
<td></td>
<td></td>
<td>Conference evaluation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rotations in OPD, ER, Ward</td>
<td></td>
<td></td>
<td>Attendance in PCCP annual convention, midyear convention, Interhospital Conferences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Self-learning Modules</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interhospital Conferences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Extra-institutional (PCCP led workshops)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IX. TEACHING-LEARNING ACTIVITIES:

These are the following teaching-learning activities suggested to accomplish the tasks required:

- Clinical case handling (consult, management) in different clinical rotations
  - 24-hour duty in some rotations may be included as a learning activity since the opportunity to directly handle emergent and critical clinical scenarios sometimes occur after regular office hours.
  - The rotations can be in the medical wards, ICU, ER, out-patient department, pulmonary diagnostic sections, or other service areas as deemed appropriate
- Bedside teaching rounds
- Diagnostic & therapeutic procedure performance
- Diagnostic test interpretation & therapeutic test demonstration
- Didactic Sessions:
  - Pulmonary Didactic Conference
  - Pulmonary Grand Rounds
  - Pulmonary Case Conference
  - Morbidity & Mortality Conference
  - Workshops, seminars, conventions (intra-institutional, PCCP-initiated, extra-institutional):
    - Spirometry workshop
    - Mechanical ventilator workshop
    - Bronchoscopy workshop
    - Chest Imaging workshop
    - Smoking cessation workshop
    - Bioethics workshop
    - Leadership and management workshop
    - Research workshops (including GCP)
    - Health education fora
  - Critically Appraised Topics (CAT) sessions
  - PCCP-initiated Interhospital Symposia:
    - Attendance in the PCCP-initiated Interhospital Symposia is required.
  - PCCP annual and mid-year conventions
- Research Protocol Formulation and Conduct of Actual Research
- Research mentoring sessions
- Research Fora participation
- Case studies
- Simulation sessions
- Self-study (e.g. Self-instructional Modules, internet search, etc.)
• Electives: Rotations in the following special services areas may be included in the Year Level 2 Instructional Design:
  o Pulmonary Rehabilitation and Smoking Cessation Rotation
  o Sleep Medicine Rotation
  o Pulmonary Function Laboratory rotation
  o Thoracic surgery & Anesthesia Rotation
  o MDR-TB/DOTS Rotation
  o Thoracic Radiology Rotation
  o Pulmonary Pathology
  o Interventional pulmonology
  o Occupational/ Environmental Medicine Rotation
  o Thoracic oncology

• Advocacy activities:
  o Trainee-initiated
  o Institution-led
  o PCCP-led:
    ▪ Community-based medical activities:
      - Each fellow-in-training must participate in the PCCP-initiated community service program. A training hospital may, in addition, have its own separate civic and community program.

• Administrative Task performance
• Undergraduate Teaching Activity Performance

X. DIDACTIC GROUP ACTIVITIES/ CONFERENCES

All training institutions are required to conduct these 4 types of conferences mentioned below. This does not hinder, in any way, the institution from having other learning group activities or conferences as it sees fit.

1. PULMONARY DIDACTIC CONFERENCE

Objectives
1. To provide specific, detailed knowledge in basic science and physiology of pulmonary and critical care medicine
2. To provide instruction in specific topics in general pulmonology and critical care
3. To provide education in the indications, contraindications, and complications of common procedures
4. To review current literature relevant to pulmonary medicine

Educational Experience
• All fellows will attend a series of hour-long lectures given by faculty members or by assigned fellows on topics taken from the list of knowledge competencies
• This conference will be held 2x a month and as needed
• An outline of these topics to be completed over 2 years will be given. Basic lectures should be given at the start of the training year and as their training progress, more specialized topics will be discussed.
• Consultants may choose to lecture on specific topics or assign topics to the fellows depending on their expected level of competencies. In the latter case, the consultant will discuss the learning objectives with the fellow beforehand to determine the focus of discussion. He will also serve as the moderator during the conference and encourage participation from the other trainees. He will ensure that the learning objectives are achieved.
• **Consultant attendance recommended:** At least 1 consultant present

**Evaluation and Feedback**
• Fellow presentation skills will be evaluated using the conference evaluation form. Feedback will be given on the content and manner of delivery of the lecture.

2. **PULMONARY CASE CONFERENCE**

**Objectives**
1. To provide trainees opportunity to present clinical cases for peer review
2. To provide trainees the opportunity to learn presentation skills
3. To learn the pathophysiology, diagnosis and management of patients hospitalized with pulmonary disease and critical illness
4. To determine the management issues (diagnosis or treatment) pertinent to the case.
5. To review historic and current literature relevant to the cases presented for discussion

**Educational Experience**
• The case/s will be chosen from the inpatient census.
• The trainees responsible for handling these cases are expected to prepare and present this conference. Cases seen in the wards will be presented by 1st year fellows and cases seen in the ICU will be presented by 2nd year fellows.
• The history, physical exam and course in the wards will be presented and relevant laboratory and radiographic material will be available for review. The presenter will discuss the radiographic features and clinical correlates.
• Following each case presentation, a discussion of the relevant literature will take place
• The discussion will focus on management issues pertinent to the case/s presented.
• This conference will be **held 2x a month** and as needed
• A consultant will be assigned to be the moderator and will guide the presenter in formulating the learning objectives based on the management issues pertinent to the case. Consultants with expertise relevant to the case will be invited as reactors or resource persons.
• **Consultant attendance recommended:** At least 2 consultants
Evaluation and Feedback

• Fellow presentation skills will be evaluated using the conference evaluation form. Feedback will be given on the content and presentation.

3. PULMONARY GRAND ROUNDS

Objectives
1. To understand the evaluation and management of clinical cases from a multidisciplinary perspective
2. To develop professional skills in working with colleagues in other disciplines
3. To provide an educational experience in literature review relevant to pulmonary medicine
4. To provide trainees the opportunity to learn presentation skills

Educational Experience

• The case/s will be chosen from the inpatient census.
• The multidisciplinary team comprises chest radiologists, thoracic surgeons, medical oncologists, anaesthesiologists, pathologists, and pulmonologists, or other relevant specialties.
• This conference will be held 1x a month and as needed
• The pulmonary fellow will present the case and a chest radiologist will discuss the radiographic features. In cases wherein biopsies were performed, the pathologist will then show the corresponding pathology and discuss the pathologic features. Literature relevant to the cases will be presented by the pulmonary fellow. The diagnostic strategy and management is discussed from the perspective of the different specialties. Consultants from the different specialties will act as the reactors or resource persons. A consultant moderator will be assigned to ensure the smooth flow of discussion and encourage participation from the multidisciplinary team.
• Consultant attendance recommended: At least 3 consultants but preferably all consultants available

Evaluation and Feedback

• Fellow presentation skills will be evaluated using the conference evaluation form. Feedback will be given on the content and presentation.

4. MORBIDITY, MORTALITY & IMPROVEMENT (MMI) CONFERENCE

Objective :
1. To evaluate the trend of cases referred and handled, diagnostic and therapeutic procedures performed by the pulmonary service.
2. Among pre-selected cases, to analyze the problems and limitations contributing to the adverse outcomes or mortalities in these cases using a systems-based approach.
3. To identify opportunities and formulate appropriate recommendations for improvement in the quality of care and provision of patient safety in clinical scenarios similar to the discussed cases.

4. To re-evaluate the effectivity of the implementation of the recommendations for improvement in patient care and safety from the previous MMI conferences.

Process and Methodology:

- Conference outline:
  - Census (15 minutes including discussion): A chosen fellow will present a tabulated summary of the number of cases handled by the department in the different service areas, mortalities, pulmonary diagnostic and therapeutic procedures performed, and other quality of care indicators monitored by the department (e.g. turnaround time for the management of pulmonary masses, incidence of VAP and HAP, complications from procedures) with a graphic comparison to data from previous months or years.
  - Systems-based analysis of pre-selected problematic cases (45 minutes for all the cases including discussion)
    - 1 to 3 pre-selected cases to be presented by the fellow/s-in-charge in the following format:
      - 3 to 5-minute summary of clinical course in problem-oriented format
      - Presentation of clinical problem/issue/dilemma/adverse event with a system-based fishbone analysis:

    - Moderator to open discussion, after each case presented, on appropriate system-level interventions or recommendations that would be do-able and high-yield.
  - Moderator will also recall the recommendations made from the previous MMI and subsequent actions taken and open the discussion as to the effectivity of the actions taken.
  - Moderator will wrap up the discussion with action points from the recommendations made by the group.
For the MMI Conference to be effective, participation of all departmental staff should be maximized and staff from the other areas who were involved in the pre-selected cases should be encouraged to attend. Moderator should declare at the start of the conference that the forum is not a fault-finding session and that the discussion will be as objective as possible. Confidentiality will be ensured for the patient’s and department’s welfare.

- Preparations prior to the MMI Conference:
  - The MMI consultant coordinator or department head will select 1 to 3 problematic cases handled by the department prior to the conference. These cases may be from any of the service areas (ER, ICU, wards, outpatient or from the diagnostics area). The fellow/s in charge will be informed prior to the MMI to prepare for the presentation of the case/s. Cases presented will be identified from the following sources:
    - All in-hospital deaths in the wards and critical care units.
    - Any specific case referred by a staff consultant who considers it interesting, rare and/or good learning material.
    - Any case which may be a sentinel event, critical incident or one that arose from a valid complaint. A sentinel event is a relatively infrequent, clear-cut event that occurs independently of a patient’s condition. They commonly reflect hospital systems and process deficiencies and result in unnecessary outcomes for patients. Examples are: hemolytic blood transfusion reaction resulting from ABO incompatibility, patient suicide in-hospital, medication error, case chosen from patient census or M & M.
  - The pulmonary fellow in charge will prepare a brief and concise case presentation and discussion in an organized and problem-oriented format. He/she will end the presentation with the clinical problem/issue/dilemma/adverse outcome/cause of mortality with a system-based fishbone analysis. The fellow should also appraise the literature on similar problems and interventions that were found to be effective to solve the problem/issue at hand.
  - A consultant moderator is chosen prior to the MMI and the moderator should know about the case/s chosen for discussion as well as the action points from the previous MMI conferences that will be for review in the coming MMI conference.

- This conference will be held **1x a month** and as needed

**Consultant attendance recommended: at least 3 consultants**

**Evaluation and Feedback**
- The fellow/s who presented the cases will be evaluated individually using the MMI Conference Evaluation Form.
Example of a fishbone analysis:

![Fishbone Diagram]

Evaluation Form for Fellow-in-Training Presenting the Case:

<table>
<thead>
<tr>
<th>CRITERION</th>
<th>CORRESPONDING SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinical data presentation: Problem-oriented patient history and course in the hospital/clinic.</td>
<td>1. Not problem-oriented, long-winded, not clear, not relevant to main problem</td>
</tr>
<tr>
<td>3. Brief review of literature presented about the problem/ adverse outcome/ dilemma</td>
<td>1. No related literature on similar problem mentioned</td>
</tr>
<tr>
<td>4. System-based Fishbone analysis</td>
<td>No fishbone analysis done</td>
</tr>
<tr>
<td>5. Interdisciplinary involvement</td>
<td>No effort to invite or obtain viewpoint &amp; recommendations from other service areas concerned</td>
</tr>
</tbody>
</table>
### References:
1. Deis et al. Transforming the Morbidity and Mortality Conference into an Instrument for Systemwide Improvement. Manuscript from ACGME.

Attendance should be checked in all conferences and this is confirmed by affixing their signatures in an attendance log.

### XI. PULMONARY ELECTIVE ROTATIONS:

**Rationale:**

The second year of training is designed to be flexible with a number of elective rotations offered with the opportunity for further off-site clinical training by arrangement. These permit a fellow to tailor the training experience to meet anticipated future career plans.

The specialty rotations for YL2 were incorporated in the curriculum to allow the individual trainee to obtain wider exposure to his particular areas of interest or in areas that he would like to pursue in further subspecialty training. The choice of specialty rotations will be on an elective basis since the basic skills and competencies are already expected to be achieved in the general rotation. What are given in the Subspecialty rotations are additional skills and competencies depending on their areas of interest.

There are 9 suggested rotations and the training objectives, description of educational experience and evaluation are provided to give structure to these rotations. (See description of subspecialty rotations).

**Operationalization of the Elective Rotations:**

Number of weeks may not be definite as long as learning contract objectives set at the start of the rotation will be met. A trainee does not need to take up all the listed electives and the electives can be combined at one time, if the trainee so desires. A trainee may also continue his administrative or service responsibilities in the usual clinical service areas while he is taking up his electives. It is recommended that half of the second year level of training be allotted to these electives while the other half will be devoted to pulmonary critical care exposure.
The electives are preferably conducted within the institution itself but if these services are not available in the training institution, it is possible to go through the electives at other institutions with prior arrangements made and the rules and policies of the institution with the elective rotation being strictly followed. Sharing of resources and expertise through inter-hospital rotations is highly encouraged, hence outside rotations may also be allowed if the resources for these subspecialty rotations are not available in the trainee's institution. All training institutions should identify the rotations that they could support for their trainees and are willing to offer to the other hospitals.

A memorandum of agreement between PCCP and all the training institutions would be drawn up to signify the institutions' commitment in participating in this affiliate training.

The schedule of subspecialty rotations must be finalized on the last quarter of YL1 especially the outside rotations to facilitate scheduling with the host training institutions. The participation of training fellows in the outside rotations may be on a preceptorship/observational basis or they may be allowed to have clinical interaction with patients or perform procedures under the supervision of a consultant. (ex. Endobronchial laser, rigid bronchoscopy, brachytherapy, ultrasound guided and CT guided aspiration biopsy, inhalational studies, exhaled breath studies, CPET). A procedure and patient case logbook will be filled up by the pulmonary fellow and signed by the designated consultant for that subspecialty rotation to verify accomplishment of the training objectives and facilitate their evaluation. Personal learning contracts are highly encouraged to be discussed and agreed upon between the trainee and the elective adviser or supervisor prior to the actual elective rotation. Sample learning contracts are included in the appendix of this manual. The elective adviser/supervisor will then evaluate the trainee based on the learning contract objectives.

Nine elective rotations are recommended to be provided in the following areas:

1. **Pulmonary Rehabilitation and Smoking Cessation Rotation**
   This rotation will expose fellows to issues in rehabilitation of patients with chronic pulmonary diseases.

   **Objectives:**
   
   1. To assess patients for participation in a pulmonary rehabilitation program
   2. To know components of a pulmonary rehab program and assess how patients respond to these interventions
   3. To know how to administer a pulmonary rehab program
Educational experience

- During this rotation, the fellows will learn to conduct a focused history and physical exam for pulmonary rehabilitation patients, assess level of dyspnea, and apply a pulmonary rehab protocol.
- They will learn to supervise patients while undergoing rehab and learn the principles and conduct of breathing exercises, chest physiotherapy, conditioning exercises, 6 minute walk test and cardiopulmonary exercise testing.
- The fellow will apply a smoking cessation intervention plan
- The fellow will attend at least 3 of the 12 sessions of education and supervised exercise during the 6 week program.
- The fellow will lead one of the educational sessions and is expected to observe and supervise at least one of the exercise sessions.
- The fellow will work with the program coordinator to review the educational program and exercise prescriptions for each participant, selecting appropriate candidates and participating in the pre-course evaluation of the participants.
- Length of rotation: 4 weeks

Evaluation and Feedback

- Fellows will be evaluated in their clinical performance by the program coordinator. The educational experience will be recorded in a logbook which would include the cases handled, sessions attended, and procedures that were performed related to pulmonary rehab rotation.

2. Sleep Medicine Rotation

During this rotation, the fellows will learn basic concepts of sleep physiology and sleep disorders and will be involved in the evaluation of patients with various sleep disorders including sleep-disordered breathing.

Objectives

1. To learn basic concepts of sleep physiology and pathophysiology of sleep and sleep disorders.
2. To perform and interpret the diagnostic tests used to evaluate patients with sleep related breathing disorders
3. To recognize, diagnose and treat sleep related breathing disorders
**Educational experience**

- Didactic lectures will be given by the consultant-in-charge of the sleep laboratory which will focus on the physiology of sleep, the physiology of ventilator control during sleep, and the pathophysiology of various sleep disorders.
- The trainees will observe and assist in at least 2 of each of the following laboratory polysomnograms: diagnostic sleep study, and therapeutic or split night sleep study.
- They will participate in the scoring of the laboratory polysomnograms.
- They will participate in the interpretation of a minimum of 4 polysomnograms.
- Length of rotation: 4 weeks

**Evaluation and Feedback**

- They will be evaluated on their knowledge base by including items on sleep medicine in their written exams.
- They will document the tests that they observed and interpreted.

3. **Pulmonary Function Laboratory rotation**

Fellows will gain a thorough understanding of pulmonary function testing, including mechanics, cardiopulmonary exercise testing, and bronchoprovocation challenge testing.

Experience with pulmonary function equipment, techniques, and interpretation will be provided.

**Objectives:**

1. To understand the physiological basis for the understanding and performance of pulmonary function testing and interpretation
2. To perform and interpret tests of pulmonary function
3. To know the basic mechanics and logistics of operating a pulmonary service

**Educational experience**

The major emphasis of this rotation will be the mastery of advanced pulmonary physiology and its application in pulmonary function testing.

- They will have didactic lectures on
  - Flow-volume loops and spirometry
  - Lung volumes
  - Pressure-volume relationships
  - Bronchial challenge testing
Gas exchange and lung diffusion capacity
Symptom limited exercise challenge testing
They will be responsible for reading on the updated guidelines on the above topics.

- Fellows will interpret all PFT’s performed in the hospital and these will be reviewed by the supervising consultant.
- Each fellow will observe the performance of at least 6 of the following: simple spirometry, lung volumes, flows, diffusion, and arterial blood gases, including calibration and set-up. They will also perform each of these tests to allow them to have a better understanding of these procedures.
- Fellows will participate in the supervision required during cardiopulmonary exercise testing, and bronchoprovocation challenge testing.
- Length of rotation: 4 weeks

Evaluation and feedback

- An evaluation check list will be used to evaluate them in performing the tests.
- The consultant supervisor will give them feedback on PFT testing and their PFT interpretations.

4. Thoracic surgery & Anesthesia Rotation

Objectives

1. To gain knowledge and skills in the care of thoracic surgery patients
2. To evaluate and manage patients for thoracic surgery in terms of their pre-operative and post operative care
3. To learn the technical aspects of a variety of thoracic surgeries
4. To gain knowledge and skills in airway management

Educational experience

- In this rotation, fellows will be involved in pre- and postoperative care. They will be introduced to various surgical procedures and will participate in the care of patients who have undergone thoracic surgery.
- During this rotation the fellows will make daily rounds with the attending thoracic surgeon and team, both in the surgical ICU and ward.
- They will observe a variety of surgeries including lung resection, decortication of empyema, video-assisted thoracoscopic surgery, rigid bronchoscopy, and mediastinoscopy. They will gain a thoracic surgical perspective on the placement and management of chest tubes.
- Fellows will work in the operating room setting improving their airway management skills through training with anesthesia colleagues.
• They will also participate in the care of patients in the recovery room including monitoring requirements, selection of type of anesthesia, induction of anesthesia, monitoring and management of the patient during surgery, and patient recovery.
• Didactic teaching or assigned reading in anesthesia pharmacology will be given.

Evaluation and feedback

• Fellows will be evaluated in their clinical performance by the thoracic and anesthesia consultant coordinator. The educational experience will be recorded in a logbook which would include the cases handled, procedures that were performed, observed or assisted in.
• Length of rotation: 4 weeks

5. MDR-TB/DOTS Rotation

Objectives

1. To demonstrate the necessary knowledge, skills, and attitude to provide programmatic management for drug resistant tuberculosis
2. Administer first and second-line drugs and manage adverse drug reactions and other clinical problems associated with these drugs.
3. Monitor the success of drug resistant TB treatment and evaluate treatment outcomes

Educational experience

• Didactic training shall include the orientation on the National Tuberculosis Control Program, modular training on the Programmatic Management of Drug Resistant TB (PMDT), and other lectures or discussions on pertinent topics
• The fellows will be guided through their clinical immersion rotation in the TB treatment center to complete the required competencies. They will present the cases they see during their clinical rotation to the consilium meetings to decide on their management.
• The fellows will acquire the following competencies: screening of patients, infection prevention and control techniques in general and respiratory isolation in particular, instruction on sputum collection, directly observed treatment, preparation and administration of injections, adjusting drug regimens, management of adverse effect, default tracing, and identification of patients for outcome.
• Length of rotation: 2 weeks
Evaluation and Feedback

- Fellows will be evaluated based on the competency checklist given to the trainees prior to clinical immersion.
- A post-training evaluation will be done to assess capacities and identify areas that need improvement and mentoring.
- Trainees who passed the training requirements shall be given certification of training completion

6. Thoracic Radiology Rotation
The thoracic radiology program will provide basic training in thoracic imaging necessary for pulmonary/critical care practice.

Objectives

1. To understand the relative utility of the various thoracic imaging techniques in the evaluation of the patient with chest disease
2. To define the use of imaging studies in guiding invasive diagnostic procedures including bronchoscopy, pleural biopsy, and pleural aspiration and drainage procedures.
3. Understand the complementary role of thoracic imaging with clinical and physiologic measurements of chest disease

Educational experience

- They will receive specific mentoring in the diagnostic interpretation of conventional chest radiographs, CT scans of the thorax, chest ultrasound, duplex-ultrasound, ventilation-perfusion scan, magnetic resonance, and PET scan
- They will acquire the skills in the performance of related procedures, such as percutaneous transthoracic needle biopsy (ultrasound or CT scan guided) and chest tube insertion.
- They will receive clinical instruction on the different imaging patterns of lung disease such as interstitial lung disease, alveolar lung disease, atelectasis, airways and obstructive lung disease, solitary and multiple nodules, benign and malignant neoplasms of the lung and esophagus.
- They will participate in daily radiologic-clinical rounds and imaging conferences with the radiologist coordinator
- Interested fellows may also receive instruction in the performance of radiofrequency ablation for both primary and metastatic disease to the chest through Interventional radiology specialty.
- Length of rotation: 2 weeks
Evaluation and feedback

- Fellows will be evaluated in their clinical performance by the radiology consultant coordinator. The educational experience will be recorded in a logbook which would include the cases handled, procedures that were performed, observed or assisted in.

7. Pulmonary Pathology

Objectives

1. To interpret pathology of common pulmonary diseases, including common lung neoplasms, obstructive lung diseases, infections, and pleural processes
2. To give differential diagnosis of more unusual processes, including interstitial lung diseases, lymphoproliferative diseases, collagen vascular diseases, unusual infections and tumors, vasculitis and other vascular abnormalities, and congenital abnormalities
3. To correlate pathologic lesions with clinical and radiologic findings

Educational experience

- Fellows will be provided with a broad and in-depth exposure to the pathology of pulmonary diseases using a combination of current pulmonary pathology cases and teaching sets
- Fellows will review active cases prior to signout with the attending pathologist to maximize the learning value of the signout experience.
- Independent review of the teaching sets, followed by discussion and review of the cases, will be done to provide a systematic introduction to categories of diseases.
- Fellows will communicate with clinicians and radiologists regarding questions about the clinical history and radiologic findings, provide feedback about pathologic interpretations, and answer questions related to pathologic workup of cases.
- The fellow rotator may present some of these cases at the interdisciplinary pulmonary conference
- Length of rotation: 2 weeks

Evaluation and feedback

- Fellows will be evaluated in their clinical performance by the pathology consultant coordinator. The educational experience will be recorded in a logbook which would include the cases handled, procedures that were performed, observed or assisted in.
8. Interventional pulmonology

Objective

1. To diagnose and manage patients with complex airway disorders, pleural disorders, lung nodules using minimally invasive procedures
2. To develop skills in diagnostic, therapeutic and palliative interventional pulmonology procedures

Educational experience

- Fellows will perform bronchoscopy to become proficient at airway inspection, bronchoalveolar lavage, endobronchial biopsy, transbronchial lung biopsy and transbronchial needle aspiration (TBNA).
- The fellows will perform a variety of interventional bronchoscopic procedures including airway stenting, endobronchial brachytherapy, electrocautery and various biopsy techniques.
- In addition to these procedures, they will gain experience with large and small chest tube placement.
- Fellows will also be exposed to procedures including medical thoracoscopy and endobronchial ultrasound (EBUS).
- Length of rotation: 4 weeks

9. Occupational/ Environmental Medicine Rotation

Objectives

1. To know the principles of occupational and environmental medicine
2. To assess patients in the clinics who have occupational or environmental lung disease
3. To interpret diagnostic tests relevant to evaluation in occupational and environmental disease.

Educational experience

- Didactic lectures and case studies will be given on occupational or environmental lung disease.
- They will be trained on how to conduct a focused occupational and environmental history and basic physical examination in occupational medicine and check for relevant exposures
- They may participate in job site visits and plant tours in order to gain understanding of injuries and exposures in the work environment
- They will learn issues in regional environmental medicine, including indoor and outdoor air quality
They will have didactic lectures on common diagnostic tests used in occupational and environmental diseases such as Chest X-ray, high resolution CT scan, pulmonary function test, and bronchoprovocation testing.

Length of rotation: 2 weeks

Evaluation and feedback

A pre- and post test will be given to evaluate knowledge in the principles of occupational and environmental health.

XII. RESEARCH as a TEACHING-LEARNING ACTIVITY

Rationale:
Pulmonologists are expected to function as competent clinicians, educators, administrators, health advocates and researchers in their respective areas of practice/community. Research, being one of the pillars of clinical medicine and the principal driving force in the development of scientific knowledge, shall be a major activity of FITs during their period of training. The aim, however, is not to produce a person who shall conduct research on a full-time basis but a clinician who is familiar with the research process and able to utilize the basic tools and products of research, and able to mentor trainees on the same.

Objective:

The pulmonary training program for research aims to equip trainees with the basic knowledge, skills and experience in research:

1. How to make a research proposal
2. How to conduct/implement a research project
3. How to present a completed research

It is recommended that research work by the trainee be included in their training schedule throughout the two years. Time to write the research protocol during the first year and to perform the research has to specified in the trainee’s schedule.

A timeline or schedule of research output expected throughout the two years is recommended for each trainee with the aim of completing at least one research study that is written in a format that is ready for publication at the end of the second year of training. Each trainee should have a research adviser that will guide him and ensure that his research work is on schedule.

Other research-related activities are also recommended to accomplish the research-oriented professional competency.
The research output expected at each year level are:

1. At the end of the first year of training, the trainee should have submitted a completed research protocol of an analytical study that has been approved by ethics and/or technical review board of the institution and is ready for implementation. A trainee must be able to submit this requirement in order be promoted to the second year level of training.

2. At the end of the second year of training, the trainee should have submitted a completed and written analytical study. Submission for presentation in the Annual PCCP Research Contest and for publication in the Philippine Journal of Chest Diseases is highly recommended.

Summary of Requirements:

FITs will be required to submit a completed research paper, after receiving proper training and supervision from their mentors.

<table>
<thead>
<tr>
<th>Year Level</th>
<th>Requirement at the end of the Year Level</th>
<th>Related Activities</th>
<th>Training Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Complete Research Proposal</td>
<td></td>
<td>Lectures/review:</td>
</tr>
<tr>
<td></td>
<td>• written</td>
<td>• Structured</td>
<td>• Research</td>
</tr>
<tr>
<td></td>
<td>• analytic study</td>
<td>journal</td>
<td>methodology</td>
</tr>
<tr>
<td></td>
<td>• approved by section/department</td>
<td>presentations &amp;</td>
<td>• Critical</td>
</tr>
<tr>
<td></td>
<td>• approved by Institutional</td>
<td>literature</td>
<td>appraisal</td>
</tr>
<tr>
<td></td>
<td>Technical and/or Ethics Review Board</td>
<td>reviews within</td>
<td>• GCP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the appropriate</td>
<td>• Ethics In</td>
</tr>
<tr>
<td></td>
<td></td>
<td>conferences</td>
<td>research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Critically</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>appraised topic</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Submission of</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>research protocol</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>to Institutional</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technical &amp;/or</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ethics Review</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Completed analytic research paper</td>
<td>• Monitoring of</td>
<td>Lectures/review:</td>
</tr>
<tr>
<td></td>
<td>• finished</td>
<td>research progress</td>
<td>• How to write a</td>
</tr>
<tr>
<td></td>
<td>• written</td>
<td>• Submission of</td>
<td>scientific paper</td>
</tr>
<tr>
<td></td>
<td>• submitted to and approved by section/dept.</td>
<td>progress reports</td>
<td>• Presentation</td>
</tr>
<tr>
<td></td>
<td>• presented or for presentation in an</td>
<td>• Reporting of</td>
<td>skills</td>
</tr>
<tr>
<td></td>
<td>appropriate forum</td>
<td>SAE’s and other</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>critical events</td>
<td></td>
</tr>
</tbody>
</table>
An analytic research may fall under any of the different medical research study types*:

I. Basic research
   1. Theoretical
   2. Applied

II. Clinical research
   1. Experimental
   2. Observational
      a. Therapy
      b. Prognostic
      c. Diagnostic
      d. Observational
      e. Secondary data analysis
      f. Case series

III. Epidemiological research
    1. Experimental
    2. Observational
       a. Cohort
       b. Prospective
       c. Historical
       d. Case control
       e. Cross-sectional
       f. Ecological
       g. Monitoring, surveillance
       h. Description with registry data

IV. Secondary research
    1. Meta-analysis
    2. Systematic review

A single case report and simple literature reviews are not sufficient to fulfill the research requirements for pulmonary fellowship training.

* Classification based on: Rohrig et al. Types of Study in Medical Research. Dtsch Arztebl Int 2009; 106(15): 262–8

XIII. STRUCTURE OF LEARNING PROCESS

A proper sequencing of learning activities should be attempted for each trainee so that there is a logical pattern in learning. The sequence of learning activities can be:
   o Simple to complex
   o Based upon prerequisite learning
   o Whole to part for skills
   o According to a chronological time sequence
   o Familiar to remote
   o Concrete to abstract for concepts
   o Normal to abnormal
The training schedule of each trainee should ensure that the tasks recommended for each year level be accomplished with the above sequencing in mind.

A rotation template is recommended below. In the first year of training, emphasis will be on General Pulmonology and the trainee can rotate in the usual clinical service areas:

1. Outpatient department
2. Emergency room
3. Inpatient ward
4. Pulmonary diagnostics area
5. Critical or intensive care unit exposure may also be included during their first year level if needed or during their night-time duties only

In the second year (YL2) of training, the emphasis of training would be in Pulmonary Critical Care. The fellow would be primarily in charge of the ICU and would also have a supervisory role in the general pulmonology areas such as the wards and OPD.

First year level trainees however may already have responsibilities in the ICU, such as night duties, but the overall in charge of the ICU is still the YL2 trainees. This is to preserve the distinction between a junior and senior trainee and differentiate their training level.

The required knowledge, skills, and affective competencies are expected to be met in their general rotation in the ICU and general pulmonology as listed in this document.

The Pulmonary Electives suggested for the second year fellows-in-training are as follows:

1. Interventional Bronchoscopy
2. Pulmonary Rehabilitation
3. Sleep Medicine
4. DOTS/MDR TB
5. Chest Radiology
6. Pulmonary Pathology
7. Thoracic surgery
8. Pulmonary Oncology/ Radio-oncology
9. Occupational/ Environmental Health

A full 6 months may be allotted to the specialty rotations since the ICU rotation for the second year level is for at least 6 months. However a minimum duration of three (3) months of elective specialty rotation covering at least three (3) electives is acceptable.

The scheduling and combinations of these rotations are left to the discretion of the individual training institutions and trainees to best fit their needs and resources and to comply with the above minimum duration and number of electives. These may be purely independent rotations or can be combined with the other rotations. These may also be
incorporated to their ward or OPD rotations. However the ICU rotation is recommended to be a stand alone rotation.

Examples of combined elective rotations or elective rotations with clinical service area rotation:

- Sleep medicine and pulmonary function lab rotation;
- Pulmonary Rehab & smoking cessation/ occupational & environmental
- Thoracic radiology and pulmonary pathology rotation.
- TCVS/anesthesia rotation may be paired up with ward rotation and the trainee will be in charge of answering all patients co-managed with TCVS in the wards.
- MDRTB-DOTS rotator will also be assigned to the OPD TB clinic;

These arrangements are all acceptable as long as the minimum duration and number of elective rotations as well the objectives and requirements of the individual rotations could be met.

Research is performed throughout the two years of training as discussed in the preceding sections.

Administrative, teaching & advocacy-related learning activities are also interspersed throughout and maybe more in the second year of training.
SAMPLE TEMPLATE OF ROTATIONS OF FELLOWS-IN-TRAINING

1st year

General Pulmonology
(rotations in different service areas, Ward, ICU, OPD, diagnostics)

2nd year

Pulmonary Critical care

General Pulmonology

Pulmonary Elective Rotations*

Research

OPD

* Even during elective rotations, seeing out-patients and rotation in the other clinical service areas may still be performed.
XIV. COURSE CONTENT/SYLLABUS

The trainee, throughout his two years of training, will be cognizant of the following pulmonary medicine topics and diseases:

A. Pathophysiology
   - Respiratory system anatomy & mechanics
   - Respiratory cellular and biomolecular mechanisms & abnormalities
   - Host respiratory defenses
   - Respiratory gas exchange & diffusion physiology & abnormalities
   - Pulmonary circulatory physiology & abnormalities
   - Ventilatory control
   - Exercise physiology & abnormal states
   - Pulmonary syndromes

B. Diagnostic & therapeutic respiratory modalities
   - Clinical, pathophysiologic & diagnostic approach to patients with pulmonary Complaints
   - Pulmonary diagnostic procedures – non-invasive & invasive
   - Pulmonary therapeutic procedures – non-invasive & invasive
   - Peri-operative pulmonary management of non-thoracic surgical cases
   - Peri-operative pulmonary management of thoracic cases
   - Pulmonary rehabilitation
   - Smoking cessation
   - Lung transplantation

C. Malignant Disease
   - Lung cancer
   - Benign tumors
   - Metastatic diseases
   - Pleural & mediastinal tumors

D. Infectious disease
   - Pneumonias, bacterial & viral
   - Suppurative lung diseases
   - Mycobacterial diseases, tuberculous and non-tuberculous
   - Fungal lung diseases
   - Parasitic lung diseases
   - Lung infections in immunocompromised hosts
   - Lung diseases associated with HIV
   - Emerging infections

E. Airways disease
   - Asthma
   - COPD
   - Cystic fibrosis
   - Bronchiectasis, ciliary dysfunction
F. Occupational Disease
   Asbestos related lung disease
   Silicosis/coal worker’s pneumoconiosis
   Hypersensitivity pneumonitis
   Occupational asthma
   Toxic fume exposures & metal-induced lung disease

G. Interstitial Lung Diseases
   Sarcoidosis
   IPF & other idiopathic ILDs
   Drug-induced lung disease
   Lung manifestations of collagen vascular & connective tissue diseases
   Radiation, oxygen, diving, and high altitude lung disease, alveolar hemorrhage,
   proteinosis, hemosiderosis
   Eosinophilic lung disease, histiocytosis X, LAM & microlithiasis

H. Pulmonary Vascular Diseases
   Pulmonary embolism
   Pulmonary hypertension & cor pulmonale
   Pulmonary vasculitides

I. Pleural diseases
   Malignant & infectious
   Pneumothorax, hemothorax, chylothorax
   Other non-malignant and non-infectious pleural diseases

J. Critical Care
   Acute lung injury, ARDS
   Acute & chronic respiratory failure
   Mechanical Ventilation, invasive and non-invasive
   Hemodynamic monitoring
   Airway management
   Sedation & Analgesia
   Sepsis
   Multi-organ failure
   Managing acute intoxications with pulmonary complications
   Nutritional support in critically ill patients
   Traumatic pulmonary complications
   BLS, ACLS
   Ethical decision making, end of life issues

K. Disorders of Ventilation & Sleep Medicine

L. Pulmonary problems in other organ systems and pulmonary manifestations of
   other organ system diseases (neuromuscular, endocrinologic, cardiac,
   gastrointestinal, renal, rheumatologic, hematologic, reproductive)

M. Miscellaneous
XV. MINIMUM RESOURCES REQUIRED:

In line with the PCCP Accreditation Board standards and requirements for training institutions for adult pulmonary medicine, a similar list is adopted in this manual. Revisions will happen in the future and this will always be a consensus agreement reached by the Accreditation Board and Training Committee in consultation with the different training institutions.

Standards and Requirements for Training Institutions:

1. A sufficient number of in-patient and outpatient population that will provide the fellow-in-training with adequate supervised exposure to gain expertise in the evaluation and management of pulmonary problems.
2. At least two (2) Intensive Care Unit (ICU) beds with standard ICU monitoring equipment.
3. Basic equipment:
   a. Non-invasive diagnostic equipment/devices:
      i. Pulmonary function testing equipment capable of spirometric measurement, measurement of lung volumes and diffusing capacity
      ii. Arterial blood gas machine
      iii. Pulse oximeter
      iv. Peak flow meters
      v. Chest x-ray
      vi. Chest Ultrasound
      vii. Chest computed tomography (CT) scan
      viii. Access to the following: Body phlethysmograph, Cardio-pulmonary exercise testing machine, Polysomnograph, V/Q scan, Chest MRI, Venous Duplex scan
   b. Invasive diagnostic devices/equipment:
      i. Fiberoptic bronchoscope/ videoendoscope
      iii. Devices for performance of pleural biopsy, pleuroscopy or chest catheter insertion.
      iv. Equipment for performance of percutaneous/ fine needle aspiration lung biopsy
      v. Access to: equipment for chest catheter insertion, video-assisted thoracoscope, rigid bronchoscope
   c. Pulmonary therapeutic equipment/devices:
      i. Nebulization and humidification equipment
      ii. Oxygen therapy devices
      iii. Incentive spirometers
4. Cardio-pulmonary resuscitation and intubation equipment available in the emergency room, intensive care unit and other critical areas of the institution
5. Mechanical Ventilators
   a. Invasive mechanical ventilators with the following features:
      i. Volume, pressure or timed limited with basic monitoring displays for pressure and flow or volume measurements;
      ii. Built-in features for PEEP and minimum modern capabilities for pressure support and SIMV/IMV.
      iii. CPAP and BiPAP capabilities
   b. Basic mechanical ventilator testing equipments: respirometer, oxygen meter, pressure monitor
   c. Non-invasive mechanical ventilators – BIPAP & CPAP machines
6. Access to other diagnostic and therapeutic equipment as follows:
   a. Ventilators with newer forms of mechanical ventilator modes such as Pressure control, Airway pressure release ventilation and Proportional assist ventilation.
   b. Capnograph
   c. Pulmonary catheterization and hemodynamic studies
   d. Heart-lung machine
   e. High-frequency ventilator
   f. Laser bronchoscope
7. Other diagnostic / laboratory facilities:
   a. PPD testing
   b. Gram staining and AFB staining
   c. Cytologic and histologic facilities
   d. Basic microbial isolation and drug sensitivity tests
   e. Access to:
      1. Facility for pulmonary rehabilitation
      2. Facility for TB culture and sensitivity testing
8. Library facilities:
   a. Basic Pulmonary Medicine textbooks (latest edition):
      1. Textbook of Respiratory Medicine by Murray and Nadel
      2. Pulmonary Diseases and Disorders by Alfred Fishman
      3. Textbook of Pulmonary and Critical Care Medicine by Roger Bone
      4. Textbook of Pulmonary Medicine by Fraser and Pare*  
         * for chapter/s on chest radiology only
   b. Journals with up-to-date subscription and/or internet access to:
      1. American Journal of Respiratory and Critical Care Medicine
      2. Chest
      3. Philippine Journal of Chest Diseases
   c. Updated PCCP Consensus publications
9. CONSULTANT STAFF:
   1. The Department/Section Head must be an active Fellow of the PCP and PCCP.
   2. A Training Officer aside from the Department/Section Head must be designated or appointed to oversee and supervise the training of pulmonary fellows.
3. Aside from the Department/Section Head and Training Officer, there must be at least three (3) other pulmonologists who are also active PCP fellows and at least PCCP diplomates who are actively participating in the training program.

XVI. EVALUATION:

A comprehensive evaluation of each fellow-in-training should be undertaken by the training institutions to include aspects such as clinical reasoning, cognitive and procedural skills, communication and presentation skills, and professionalism.

A. Evaluation of Knowledge

1. Written exams - quarterly and annual comprehensive exam
2. Clinical Performance / competence evaluation rating scale for different areas: (ward, ICU, ER, OPD, diagnostics or elective rotations for YL2) accomplished by faculty and peers
3. Oral exam or Mini-CEX – conducted annually at the yearend by the institution
4. Conference evaluation
5. Patient log of cases handled
6. For the second year trainees, assessment by elective adviser/supervisor.

B. Evaluation of Skills

1. Procedure log: required number of procedures per fellow:

<table>
<thead>
<tr>
<th>Procedures</th>
<th>YL1</th>
<th>YL2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchoscopy</td>
<td>10 assisted or performed per year</td>
<td>10 with washings or biopsy per year</td>
</tr>
<tr>
<td>Thoracentesis</td>
<td>20 per year</td>
<td>20 supervised or assisted per year</td>
</tr>
<tr>
<td>Pleural biopsy or equivalent such as chest catheter insertion or medical pleuroscopy</td>
<td>2 assisted per year</td>
<td>2 performed or assisted/year</td>
</tr>
<tr>
<td>Medical pleurodesis</td>
<td>5 per year</td>
<td>5 per year</td>
</tr>
<tr>
<td>ABG</td>
<td>30 interpreted per quarter</td>
<td>30 interpreted per quarter</td>
</tr>
<tr>
<td>PFT</td>
<td>3 performed/year 20 interpreted/quarter</td>
<td>6 performed/year 20 interpreted/quarter</td>
</tr>
<tr>
<td>Intubations</td>
<td>20/year</td>
<td>-</td>
</tr>
</tbody>
</table>
2. Procedure checklist and evaluation for the following:
   a. bronchoscopy
   b. thoracentesis
   c. pleural biopsy or chest catheter insertion or medical pleuroscopy
   d. chemical pleurodesis
   e. spirometry

   Technical procedures will be evaluated using separate forms for each required procedure.
   Bronchoscopy, thoracentesis, pleural biopsy or equivalent, chemical pleurodesis, spirometry checklist evaluation forms will be provided (See Appendices).

3. Procedure log for elective rotations for YL2

4. Conference evaluation – evaluating content, organization, communication, and presentation skills using conference evaluation form (Appendix 3)

5. A practical examination or Mini-CEX may be conducted by the institution to assess the trainees’ basic skills proficiency.

C. Evaluation of Attitude

The clinical performance evaluation form incorporates questions on attitude. It is recommended that a regular interim dialogs with the fellows-in-training be conducted to discuss attitudinal issues, if needed, to correct any limitations or deficiencies. A global assessment (can be through a face-to-face interview or dialog) by the training staff can be done at the end of each year of training for each trainee to assess the attitudinal competencies achieved.

D. EVALUATION SCHEME

FELLOW-IN-TRAINING EVALUATION SCHEME AND PORTFOLIO EVALUATION SCHEME

At the end of the year of training, the performance of each fellow-in-training may be evaluated based on the following parameters: (with corresponding percentages)

<table>
<thead>
<tr>
<th>PARAMETER/EVALUATION TOOLS</th>
<th>PERCENTAGE OF TOTAL GRADE FOR THE YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Written examinations held at least every 6 months (assesses 1st, terminal competency)</td>
<td>20%</td>
</tr>
<tr>
<td>2. Performance in the clinical areas of rotation (wards, ICU, etc.) (assesses 1st-5th competency)</td>
<td>25%</td>
</tr>
</tbody>
</table>
3. Skills assessment in performance of required procedures (assesses 1st competency) 20%

4. Assessment as presentors during required conferences (assesses 1st-5th competencies) 20%

5. Training staff interim and year-end global assessment (assesses 1st-5th competencies) 10%

6. Promptness, attendance, completion of Performance portfolio, completion of administrative tasks (assesses 1st-5th competencies) 5%

7. Oral/Practical examinations may be conducted at least once a year but only a “PASS OR FAIL” grade will be given. (recommended but may not be necessary) PASS or FAIL

Failure in these may result in the fellow-in-training incurring additional assignments or rotations as deemed necessary PLUS another oral/practical examination until the trainee can earn a passing grade.

8. Research output for the year level required Required for promotion to next year level or graduation from the program

### EXPECTED TERMINAL COMPETENCIES TO BE ACHIEVED AT THE END OF THE YEAR MATCHED WITH THE EVALUATION TOOLS TO BE UTILIZED

The table also shows which evaluation tools would assess the corresponding terminal competency and the weight allocation of the evaluation tool based on the above table. Since many terminal competencies are assessed in one evaluation tool, the sum of the weight allocation for the set of evaluation tools per terminal competency does not mean it pertains only to that terminal competency. Rather, this sum reflects how much priority is given to the terminal competency.

<p>| YEAR LEVEL 1 |
|--------------|-----------------|-----------------|-----------------|
| PROFESSIONAL COMPETENCY | TERMINAL TRAINEE COMPETENCY AT END OF YL 1 | EVALUATION TOOL | % IN OVERALL EVALUATION |
| Professional Competency 1A | KNOWLEDGE | Clinical Performance/competence evaluations for different areas | 20% - as assessed mainly by Written Exam |
| Given an actual patient, the pulmonologist is able to proficiently diagnose pulmonary conditions and diseases in the following settings: ambulatory, emergency &amp; in-patient, intensive or critical care. | YEAR LEVEL I: | Written exam | 25% - Clinical Performance evaluation (thru rating scale forms) |
| 1. Demonstrate and apply knowledge to patient care in the following areas: | | +/-Oral exam | |</p>
<table>
<thead>
<tr>
<th>Respiratory physiology and pathophysiology</th>
<th>Respiratory failure</th>
<th>Respiratory medical and surgical conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Pulmonary mechanics and gas exchange</td>
<td>- Hypoxaemic respiratory failure including acute respiratory distress syndrome</td>
<td>- Obstructive lung diseases:</td>
</tr>
<tr>
<td>- Dyspnea, cough, cyanosis syndromes</td>
<td>- Acute and chronic hypercapnic respiratory failure</td>
<td>- Asthma, including status asthmaticus</td>
</tr>
<tr>
<td>- Pulmonary haemorrhage and hemoptysis</td>
<td></td>
<td>- Bronchitis</td>
</tr>
<tr>
<td>- Oxygen transport and utilization</td>
<td></td>
<td>- COPD &amp; Emphysema</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Bronchiolitis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Bronchiectasis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Respiratory failure due to obstructive lung disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Pulmonary vascular diseases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>including primary &amp; secondary pulmonary hypertension,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pulmonary hypertension and cor pulmonale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(including pharmacological tx)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vasculitides and pulmonary hemorrhage syndromes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pulmonary embolism — thrombus, air, fat, amniotic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disorders of the pleura and mediastinum</td>
</tr>
</tbody>
</table>

| Global evaluation of communications, interpersonal skills, professionalism by Faculty & Peer |
| Conference evaluation |
| Attendance in PCCP annual convention, midyear convention, Interhospital Conferences |

| 20%: conference presentation |
| Oral Exam or Mini-CEX (Pass or Fail) |
| Assessed also by: |
| - Training staff interim and year-end global assessment: 10% |
- Empyema, Pleural effusion, Pneumothorax, Haemothorax, Chylothorax
- Iatrogenic respiratory disease, including drug induced disease
- Pulmonary manifestations of systemic diseases, including collagen vascular disease and diseases which are primary in other organs
- Bronchopulmonary infections including bronchiolitis, aspiration
- Diseases of the upper airway:
  - Structural defect of the airway including stenosis, malacia, tracheal tear, and fistula
  - Upper airway obstruction
  - Vocal cord dysfunction
  - GERD
- Perioperative assessment & management for thoracotomy & non-thoracic surgical procedures

**Ventilation and airway management**

- Oxygen therapy
- Invasive mechanical ventilation
- PEEP and CPAP
- Indications for and hazards of mechanical ventilation
- Barotrauma and volutrauma, atelectrauma, biotrauma
- Criteria for extubation and weaning techniques
- Airway maintenance
- Emergency airway management
- Endotracheal intubation
- Tracheostomy

**Other respiratory therapies**

- Positional therapy (i.e. prone position, rotational therapy)
• Inhalation therapies and humidification

**Infectious diseases**

• Suppurative lung diseases, including bronchiectasis, lung abscess, empyema
• Pulmonary infections, Community-acquired and health-care associated pneumonias,
• Tuberculosis, Complicated tuberculosis infections (disseminated, MDRTB, XDRTB, in special situations)
• Nontuberculous mycobacterial disease, bacterial, viral, fungal, and those in the immunocompromised host
• Epidemic lung infections (e.g., influenza, SARS, avian influenza, anthrax)
• Antibiotics
• Antifungal agents
• Antituberculosis agents, DOTS
• Antiviral agents
• Infection control for special care units
• Development of antibiotic resistance
• Universal precautions
• Isolation and reverse isolation
• Infectious risks to healthcare workers
• Definition, diagnosis and treatment of sepsis syndrome
• Systemic inflammatory response syndrome

**Pulmonary malignancies, primary and metastatic**

• Lung cancer
• Mediastinal and chest wall tumors
• Paraneoplastic syndromes
• Metastatic cancer to the respiratory system
• Mesothelioma
• Benign respiratory tumors
<table>
<thead>
<tr>
<th><strong>Cardiovascular disorders</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Myocardial infarction and its complications</td>
</tr>
<tr>
<td>- Pulmonary oedema — cardiogenic, noncardiogenic</td>
</tr>
<tr>
<td>- Vasoactive and inotropic therapy</td>
</tr>
<tr>
<td>- Haemodynamic effects caused by ventilatory assist devices</td>
</tr>
<tr>
<td>Recognition, evaluation, and management of hypertensive emergencies and urgencies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Renal disorders</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Regulation of fluid balance and electrolytes</td>
</tr>
<tr>
<td>- Acid-base disorders and their management</td>
</tr>
<tr>
<td>- Evaluation of oliguria</td>
</tr>
<tr>
<td>- Dialysis-related pulmonary complications</td>
</tr>
<tr>
<td>- KT-related pulmonary complications</td>
</tr>
<tr>
<td>- Drug dosing in renal failure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Central nervous system disorders</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Neuromuscular disease causing respiratory failure/ respiratory disorders related to neuromuscular diseases</td>
</tr>
<tr>
<td>- Guillain-Barré syndrome</td>
</tr>
<tr>
<td>- Myasthenia gravis</td>
</tr>
</tbody>
</table>

---

**Professional Competency 1B**

... proficiently institute preventive and therapeutic interventions for pulmonary conditions & diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care.

**SKILLS**

**YEAR LEVEL 1**

1. **Utilize appropriate & cost-effective pulmonary diagnostic (invasive and non-invasive) tests**

2. **Understand the risk, benefits, alternatives and managing**

**EVALUATION**

Procedure Checklist & evaluation (bronchoscopy, thoracentesis, pleural biopsy, chemical pleurodesis, spirometry)

- **Bronchoscopy** (at least 10/yr; assisted or)

**EVALUATION**

20% - as assessed by Procedure checklist/ rating scale proficiency

25% - Clinical Performance evaluation (thru rating scale forms)

Oral/practical exam or
appropriate and cost-effective therapeutic and preventive pulmonary interventions
b. proficiently performs pulmonary therapeutic and preventive interventions
c. proficiently co-manages pulmonary conditions in multi-specialty cases

<table>
<thead>
<tr>
<th>complications for these tests.</th>
<th>performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Interpretation of sputum, bronchopulmonary secretions, and pleural fluid, pleural tissue, lung tissue for infectious agents, cytology and histopathology</td>
<td>• Thoracentesis (at least 20)</td>
</tr>
<tr>
<td>• Arterial puncture for blood gas determination</td>
<td>• Pleural biopsy or equivalent chest catheter insertion or pleuroscopy (at least 2 assist/yr)</td>
</tr>
<tr>
<td>• Arterial blood gas analysis</td>
<td>• Chemical pleurodesis (at least 5/yr)</td>
</tr>
<tr>
<td>• Principles, indications and limitations of pulse oximetry</td>
<td>• ABG interpretation (30/quarter)</td>
</tr>
<tr>
<td>• Pulmonary function testing to assess respiratory mechanics and gas exchange, including spirometry, flow–volume studies, lung volumes, diffusing capacity</td>
<td>• PFT (perform 3/yr &amp; interpret 20/quarter)</td>
</tr>
<tr>
<td>• Modes and principles of oxygen supplementation</td>
<td>• Intubations (20/yr)</td>
</tr>
<tr>
<td>• Airway management including endotracheal intubation Use of airway adjuncts</td>
<td>Practical exam</td>
</tr>
<tr>
<td>• Modes and principles of mechanical ventilation (invasive and noninvasive) - Indications &amp; Setting up of mechanical ventilator - PEEP, modes of mechanical ventilation - Hazards and Trouble shooting - Waveform interpretation - Assessment for &amp; liberation from MV - Set-up and operation of respiratory monitoring system</td>
<td></td>
</tr>
<tr>
<td>• Tracheostomy tube management and decannulation</td>
<td></td>
</tr>
<tr>
<td>• Emergent cardioversion and defibrillation</td>
<td></td>
</tr>
<tr>
<td>• Diagnostic and therapeutic thoracentesis, Pleural biopsy</td>
<td></td>
</tr>
<tr>
<td>• Chest physiotherapy techniques &amp; devices</td>
<td></td>
</tr>
<tr>
<td>• Inhalation, aerosol (inhalers, nebulizers), humidification, &amp; secretion</td>
<td></td>
</tr>
</tbody>
</table>

- Mini-CEX (Pass or fail)

Assessed also by:
- Training staff interim and year-end global assessment: 10%
- Promptness, attendance, completion of Performance portfolio, completion of administrative tasks: 10% of overall grade
<table>
<thead>
<tr>
<th>clearance devices/therapies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance of chest tube and drainage systems,</td>
</tr>
<tr>
<td>insertion of decompression needle for tension pneumothorax</td>
</tr>
<tr>
<td>Chemical pleurodesis</td>
</tr>
<tr>
<td>Diagnostic bronchoscopy including airway examination and bronchoalveolar lavage, biopsy, brushing, transbronchial biopsy</td>
</tr>
<tr>
<td>Insertion of nasal gastric and feeding tubes</td>
</tr>
<tr>
<td>Basic interpretation of chest radiograph</td>
</tr>
<tr>
<td>Advanced cardiac life support</td>
</tr>
<tr>
<td>Tuberculin skin testing</td>
</tr>
<tr>
<td>Smoking cessation techniques</td>
</tr>
</tbody>
</table>

**Professional Competency 2**

In his/her regular daily professional practice, the pulmonologist is able to demonstrate professionalism and compassion.

**Task:**

a. performs clinical and specialty-related activities in an ethical, professional manner

**YEAR LEVELS 1 & 2:**

**Objectives:**

1. To demonstrate ethical and professional behavior towards patients, colleagues and other members of the health team
2. To display compassionate care to patients

- Content
- Professionalism and ethics
- Patient’s and physician’s rights and responsibilities
- Truth telling and delivering bad news
- Informed consent
- Pharmaceutical industry relations
- Ethics of referrals
- Allocation of resources
- Withdrawal and withholding of life sustaining measures
- Ethics of conference attendance
- Professional fees

**Global evaluation of communications, interpersonal skills, professionalism by Faculty, Peer, patients**

- Written exams
- Periodic interview
- Conference presentation assessment (questioning on ethical aspects of case)
- Incident reports

**Embedded in the Evaluation tools below:**

- Clinical Performance evaluation (thru rating scale forms): 25% of overall grade
- Training staff interim and year-end global assessment: 10%
- Conference Presentation (includes ethical issue discussion): 20% of overall grade
- Written exam (questions on ethical issues): 20% of overall grade
- Promptness, attendance (esp in Bioethics Workshop),
Professional Competency 3.
In his/her regular daily professional practice, the pulmonologist is able to participate in advocacies promoting lung health.

Tasks:
- a. seeks an opportunity in each medical encounter to promote preventive care
- b. educates patients and the general public on issues pertaining to lung health (ex: smoking cessation program initiatives, and environmental health)

YEARS LEVELS 1 & 2:
Objectives:
1. to identify areas of advocacy in respiratory health
2. to participate in advocacy programs
3. develop advocacy programs in respiratory health with the PCCP on a national or local level. 
   Advocacy areas:
   - Health policies
   - Disaster preparedness
   - Health education
   - Disease prevention
   - Health community based research
   - Environmental Health

Exit interview/global assessment for YL2
Participation in PCCP initiated community service &/or advocacy activities

Embedded in the evaluation tools below:
- Training staff interim and year-end global assessment: 10% of overall grade
- Promptness, attendance, completion of Performance portfolio, completion of administrative tasks: 10% of overall grade
- Clinical Performance evaluation (thru rating scale forms): 25% of overall grade
- Conference Presentation (inclusion of patient advocacy or preventive aspect discussion): 20% of overall grade

Professional Competency 4
In his/her regular daily professional practice, the pulmonologist is able to:
1. utilize clinically relevant research in his daily medical activities

Tasks:
- a. appraises scientific

YEARS LEVEL 1
Objectives:
1. conduct critical review of the basic science and clinical research literature
2. formulate a well designed research protocol

Conference presentation assessment
Completed research protocol with ethics & budget approval (YL1)

Year end research output (PASS or FAIL)

Embedded in the evaluation tools below:
- Written examination (some questions on EBM): 20% of
<table>
<thead>
<tr>
<th>Literature</th>
<th>Written examination on EBM</th>
<th>Overall grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. updates on relevant research principles for clinical practice</td>
<td></td>
<td>- Conference presentation (inclusion of CAT in presentation): 20% of overall grade</td>
</tr>
<tr>
<td>c. Utilizes updated research findings as part of bases for clinical, diagnostic and therapeutic decisions in handled cases (applies guidelines)</td>
<td></td>
<td>- Clinical performance evaluation (if utilizes CAT &amp; EBM approach for bedside care): 25% of overall grade</td>
</tr>
<tr>
<td>d. Contributes to formulation of local practice guidelines on pulmonary health</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Initiate or perform research studies in pulmonary medicine. Tasks:

a. Updates on research methodology principles and approaches

b. Analyzes and prioritizes research needs in pulmonary health in the local setting

c. Performs research studies in pulmonary medicine

d. Publishes and disseminates research outputs

<table>
<thead>
<tr>
<th>Professional Competency 5.A.</th>
<th>Overall grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>In his/her regular daily professional practice, the pulmonologist is able to lead and manage organizations and health systems in the field of pulmonary medicine. Tasks: a. Monitors and supervises special services, including: critical care units, pulmonary function labs, respiratory care techniques and services, respiratory physical therapy and rehabilitation services, TB DOTS</td>
<td>- Training staff, interim and year-end global assessment: 10% of overall grade</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year Levels 1 &amp; 2:</th>
<th>Global assessment form</th>
<th>Assessed by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives: 1. Coordinate with the health team in the operations of specialized services, including: Critical care units, Isolation units, Pulmonary function laboratories, Respiratory care services, Chest physical therapy and pulmonary rehabilitation services, TB DOTS, occupational lung health services. 2. Display leadership and problem solving skills 3. Form linkages with the health system in providing</td>
<td>Exit interview Clinical Performance/competence evaluations for different areas</td>
<td>- Clinical Performance evaluation (through rating scale forms): 25% of overall grade - Promptness, attendance, completion of Performance portfolio, completion of</td>
</tr>
</tbody>
</table>
b. evaluates health cost and allocates health resources

<table>
<thead>
<tr>
<th>PROFESSIONAL COMPETENCY</th>
<th>TERMINAL TRAINEE COMPETENCY AT END OF YL 2</th>
<th>EVALUATION TOOL</th>
<th>% IN OVERALL EVALUATION</th>
</tr>
</thead>
</table>
| Professional Competency 1A  
Given an actual patient, the pulmonologist is able to proficiently diagnose pulmonary conditions and diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care. | KNOWLEDGE | Clinical Performance/competence evaluations for different areas | 20% - as assessed mainly by Written Exam |
| KNOWLEDGE | Written exam | |
| KNOWLEDGE | +/-Oral exam | |
| YEAR LEVEL II | Global evaluation of communications, interpersonal skills, professionalism by Faculty & Peer | 25% - Clinical Performance evaluation (thru rating scale forms) |
| 1. Demonstrate and apply knowledge to patient care in the following areas: | Conference evaluation | 20%: conference presentation |
| Respiratory physiology and pathophysiology | Attendance in PCCP annual convention, midyear convention, Interhospital Conferences | Oral Exam or Mini-CEX (Pass or Fail) |
| • Ventilatory muscle physiology, pathophysiology, and therapy | Assessed also by: |
| • Polynuropathy of the critically ill and prolonged effect of neuromuscular blockers | - Training staff interim and year-end global assessment: 10% |
| Respiratory medical and surgical conditions | | |
| • Infiltrative & Interstitial lung diseases: | | |
| • Idiopathic fibrotic disorders (eg. IPF) | | |
| • Primary Unclassified diseases (eg. Sarcoidosis, LAM) | | |
| • Secondary: CTD, occupational/environmental, treatment-related/drug-induced | | |
| • Occupational and environmental lung | | |
disease
- Acute lung injury, including radiation, inhalation and chest trauma (e.g. flail chest, pulmonary contusion, rib fractures)
- Sleep disordered breathing, obstructive sleep apnea, central & obesity-related hypoventilation
- Near drowning
- Perioperative thoracotomy conditions
- Congenital & developmental lung diseases
- Care at the end of life for patients with respiratory failure

**Ventilation and airway management**
- Lung-protective mechanical ventilation
- Non-invasive ventilation
- Choice of interfaces
- Ventilator modes including CPAP
- Choice of ventilators
- Oxygen supply during NIV
- Indications and contraindications for NIV
- Indication for withdrawing NIV
- Criteria of failure
- ECMO & other rescue/salvage therapies for refractory hypoxemia (demonstrate knowledge only while unavailable)

**Infectious diseases**
- Hospital-acquired and opportunistic infections in the critically ill
- ICU support of the immunosuppressed patient
- Evaluation of fever in the ICU patient

**Cardiovascular disorders**
- Shock syndromes and hypoperfusion including management principles (obstructive shock, sepsis and sepsis shock, other distributive shock, multi-organ dysfunction cardiogenic shock syndrome, hypovolaemic shock,
- Thrombolytic and anticoagulant therapy
- Pulmonary complications in post CABG conditions

Central nervous system disorders
- Neuromuscular disease causing respiratory failure
- Principles of sedation

Acute haematological and oncological disorders
- Anticoagulation; fibrinolytic therapy
- Prophylaxis against thromboembolic disease
- ICU-acquired anaemia

Environmental hazards
- Drugs and narcotics leading to respiratory failure
- CO poisoning

<table>
<thead>
<tr>
<th>Professional Competency 1B</th>
<th>SKILLS</th>
<th>EVALUATION</th>
</tr>
</thead>
</table>
| … proficiently institute preventive and therapeutic interventions for pulmonary conditions & diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care. | **YEAR LEVEL 2** Utilize appropriate & cost-effective pulmonary diagnostic (invasive and non-invasive) tests & therapeutic procedures Understand the risk, benefits, alternatives and managing complications for these tests & therapeutic procedures. | Procedure Checklist & evaluation (bronchoscopy, thoracentesis, pleural biopsy, chemical pleurodesis, spirometry)
- Bronch with biopsy or washings (at least 10)
- Thoracentesis (at least 20/yr) |
| 20% - as assessed by Procedure checklist/rating scale proficiency | 25% - Clinical Performance evaluation (thru rating scale forms)
Oral/practical exam or Mini-CEX (Pass or
<table>
<thead>
<tr>
<th>Listed for Year Level 1</th>
<th>Supervise or Assist</th>
<th>Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical principles, indications and limitations of end tidal and transcutaneous CO2 monitoring</td>
<td>Pleural biopsy or chest catheter insertion or pleuroscopy (at least 2 performed/yr)</td>
<td>Examined also by:</td>
</tr>
<tr>
<td>Management of the difficult airway</td>
<td>Chemical pleurodesis (at least 5/yr)</td>
<td>- Training staff interim and year-end global assessment: 10%</td>
</tr>
<tr>
<td>Evaluation of sedation</td>
<td>ABG interpretation (30/quarter)</td>
<td>- Promptness, attendance, completion of Performance portfolio, completion of administrative tasks: 10% of overall grade</td>
</tr>
<tr>
<td>Set-up and operation of haemodynamic and respiratory monitoring systems</td>
<td>PFT (6 performed/yr &amp; 20/quarter interpreted)</td>
<td></td>
</tr>
<tr>
<td>Interpretation of haemodynamic and oxygen delivery and extraction data</td>
<td>Practical exam or Mini-CEX (must include CPET, sleep study interpretation)</td>
<td></td>
</tr>
<tr>
<td>Therapeutic bronchoscopy (through an artificial airway) for secretion removal</td>
<td>Subspecialty rotation evaluation – clinical performance &amp; competency check list</td>
<td></td>
</tr>
<tr>
<td>Basic interpretation of imaging techniques commonly employed in the evaluation of patients with critical illness and/or pulmonary disorders – CT scan, radionuclide scans, pulmonary angiograms, PET scan, duplex ultrasound, impedance plethysmography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Competency 2</td>
<td>YEAR LEVELS 1 &amp; 2:</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>In his/her regular daily professional practice, the pulmonologist is able to demonstrate professionalism and compassion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: b. performs clinical and specialty-related activities in an ethical, professional manner</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Objectives:**

1. To demonstrate ethical and professional behavior towards patients, colleagues and other members of the health team
2. To display compassionate care to patients
   - Content
   - Professionalism and ethics
   - Patient’s and physician’s rights and responsibilities
   - Truth telling and delivering bad news
   - Informed consent
   - Pharmaceutical industry relations
   - Ethics of referrals
   - Allocation of resources
   - Withdrawal and withholding of
   - Life sustaining measures
   - Ethics of conference attendance
   - Professional fees

**Global evaluation of communications, interpersonal skills, professionalism by Faculty, Peer, patients**

- Written exams
- Periodic interview
- Conference presentation assessment (questioning on ethical aspects of case)
- Incident reports

**Embedded in the Evaluation tools below:**

- Clinical Performance evaluation (thru rating scale forms): 25% of overall grade
- Training staff interim and year-end global assessment: 10%
- Conference Presentation (includes ethical issue discussion): 20% of overall grade
- Written exam (questions on ethical issues): 20% of overall grade
- Promptness, attendance (esp in Bioethics Workshop), completion of Performance portfolio, completion of administrative tasks: 10% of overall grade
<table>
<thead>
<tr>
<th>Professional Competency 3.</th>
<th>YEAR LEVELS 1 &amp; 2:</th>
</tr>
</thead>
</table>
| In his/her regular daily professional practice, the pulmonologist is able to participate in advocacies promoting lung health. | **Objectives:***
| **Tasks:** | 1. to identify areas of advocacy in respiratory health  
2. to participate in advocacy programs  
3. develop advocacy programs in respiratory health with the PCCP on a national or local level.  
[Advocacy areas:  
- Health policies  
- Disaster preparedness  
- Health education  
- Disease prevention  
- Health community based research  
- Environmental Health  
| **Exit interview/global assessment for YL2** |
| a. seeks an opportunity in each medical encounter to promote preventive care | Participation in PCCP-initiated community service &/or advocacy activities |
| b. educates patients and the general public on issues pertaining to lung health (ex smoking cessation program initiatives, and environmental health) | **Embedded in the evaluation tools below:**

- Training staff interim and year-end global assessment: 10% of overall grade
- Promptness, attendance, completion of Performance portfolio, completion of administrative tasks: 10% of overall grade
- Clinical Performance evaluation (through rating scale forms): 25% of overall grade
- Conference Presentation (inclusion of patient advocacy or preventive aspect discussion): 20% of overall grade

<table>
<thead>
<tr>
<th>Professional Competency 4</th>
<th>YEAR LEVEL 2</th>
</tr>
</thead>
</table>
| In his/her regular daily professional practice, the pulmonologist is able to: | **Objectives:**
| 1. utilize clinically relevant research in his daily medical activities | 1. conduct critical review of the basic science and clinical research literature  
2. perform research methodology, data collection, & data analysis  
3. understand ethical issues in research  
4. complete and publish an analytical research paper  
5. present a completed analytical research paper |
| **Tasks:** | **Conference presentation assessment**
| a. appraises scientific literature  
| b. updates on relevant research principles for clinical practice  
| c. utilizes updated research findings as part of bases for clinical, diagnostic and therapeutic decisions in handled cases (applies | Completed research manuscript of an analytical study (YL2)  
+ Published research in PJCD, PJIM or other journals (YL2)  
+ Awards/certificate of research presentation from research fora  
Written examination on EBM |
| **Exit interview/global assessment for YL2** | **Year end research output (PASS or FAIL)** |
| **Embedded in the evaluation tools below:** | **Embedded in the evaluation tools below:**

- Written examination (some questions on EBM): 20% of overall grade
- Conference presentation (inclusion of CAT in presentation): 20% of overall grade
- Clinical performance evaluation (if
<table>
<thead>
<tr>
<th>Professional Competency 5.A.</th>
<th>YEAR LEVELS 1 &amp; 2:</th>
<th>Global assessment form</th>
<th>Assessed by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>In his/her regular daily professional practice, the pulmonologist is able to lead and manage organizations and health systems in the field of pulmonary medicine.</td>
<td>Objectives: 1. Coordinate with the health team in the operations of specialized services, including: • Critical care units, Isolation units, Pulmonary function laboratories, Respiratory care services, Chest physical therapy and pulmonary rehabilitation services, TB DOTS</td>
<td>Exit interview</td>
<td>- Training staff interim and year-end global assessment: 10% of overall grade</td>
</tr>
<tr>
<td>Tasks: a. Monitors and supervises special services, including: critical care units, pulmonary function labs, respiratory care techniques and services, respiratory physical therapy and rehabilitation services, TB DOTS</td>
<td>4. Display leadership and problem solving skills 5. Form linkages with the health system in providing specialized services</td>
<td>Clinical Performance/competence evaluations for different areas</td>
<td>- Clinical Performance evaluation (thro rating scale forms): 25% of overall grade</td>
</tr>
<tr>
<td>b. Evaluates health cost and allocates health resources</td>
<td></td>
<td></td>
<td>- Promptness, attendance, completion of Performance portfolio, completion of administrative tasks: 10% of overall grade</td>
</tr>
</tbody>
</table>
### THE PERFORMANCE PORTFOLIO CONTENT:

<table>
<thead>
<tr>
<th>EVALUATION TOOL</th>
<th>% of total grade</th>
<th>COMPETENCY/IES BEING ASSESSED</th>
<th>ITEMS INCLUDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinical performance</td>
<td>25%</td>
<td>1,2,3,4,5</td>
<td>Clinical performance evaluation form accomplished by Faculty &amp; Peer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Patient Census</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For YL2: Electives learning contracts with grades</td>
</tr>
<tr>
<td>2. Written exam</td>
<td>20%</td>
<td>1,2,3,4</td>
<td>Written exam answer sheets</td>
</tr>
<tr>
<td>3. Conference performance</td>
<td>20%</td>
<td>1,2,3,4</td>
<td>Conference performance forms</td>
</tr>
<tr>
<td>4. Training staff evaluation</td>
<td>10%</td>
<td>1,2,3,4,5</td>
<td>Global evaluation form accomplished by training staff</td>
</tr>
<tr>
<td>5. Skills performance</td>
<td>20%</td>
<td>1,2,3</td>
<td>Procedure log</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Procedure performance evaluation forms</td>
</tr>
<tr>
<td>6. Oral/practical examination (year-end)</td>
<td>Pass or fail</td>
<td>1,2,3,4</td>
<td>Oral/practical exam or Mini-CEX results</td>
</tr>
<tr>
<td>7. Research</td>
<td>Pass or fail for research output</td>
<td>4</td>
<td>Research output:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Research utilization Embedded also in Evaluation tools 1-4</td>
<td>- protocol with TRB/ERB approval &amp; budget proposal (YL1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Completed research manuscript of an analytical study (YL2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Awards/certificates of participation in research fora if present</td>
</tr>
<tr>
<td>8. Workshops/conferences attended</td>
<td>5%</td>
<td>1,2,3,4,5</td>
<td>Certificates of attendance</td>
</tr>
<tr>
<td>9. Administrative assignments</td>
<td></td>
<td></td>
<td>Description of administrative assignment</td>
</tr>
<tr>
<td>10. Advocacy work</td>
<td>Pass or fail</td>
<td>3, 5</td>
<td>Description of advocacy work</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Attendance in PCCP Advocacy activities</td>
</tr>
<tr>
<td>11. Trainee’s reflection on training</td>
<td>Feedback in writing to Training Staff and Program</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Procedure log: required number of procedures per fellow:

<table>
<thead>
<tr>
<th>Procedures</th>
<th>YL1</th>
<th>YL2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchoscopy</td>
<td>10 assisted or performed per year</td>
<td>10 with washings or biopsy per year</td>
</tr>
<tr>
<td>Thoracentesis</td>
<td>20 per year</td>
<td>20 supervised or assisted per year</td>
</tr>
<tr>
<td>Pleural biopsy or equivalent chest catheter insertion or pleuroscopy</td>
<td>2 assisted per year</td>
<td>2 performed/year</td>
</tr>
<tr>
<td>Medical pleurodesis</td>
<td>5 per year</td>
<td>5 per year</td>
</tr>
<tr>
<td>ABG</td>
<td>30 interpreted per quarter</td>
<td>30 interpreted per quarter</td>
</tr>
<tr>
<td>PFT</td>
<td>3 performed/year 20 interpreted/quarter</td>
<td>6 performed/year 20 interpreted/quarter</td>
</tr>
<tr>
<td>Intubations</td>
<td>20/year</td>
<td>-</td>
</tr>
</tbody>
</table>

REMINDEERS TO INSTITUTIONS:
1. The passing grade will be determined by the institution.
2. Records of the performance of the trainees will be kept by the institution for re-accreditation purposes.

XVII. GRADUATION OR PROMOTION FROM ADULT PULMONARY MEDICINE FELLOWSHIP TRAINING

Requirements for promotion or graduation from Training:
1. Overall evaluation score considered “Passed” based on the Evaluation Scheme
2. No deficiencies in attendance and punctuality in activities of the Department including conferences, lectures, 24-hour duties.
4. Submission of required research output for the year.
5. For graduation, the trainee should complete the clearance required by the hospital institution.

XVIII. MONITORING/QUALITY CONTROL/REGULAR EVALUATION OF CURRICULUM EFFECTIVITY

Curricular evaluation will be done regularly and be led by the Training Committee of PCCP, in cooperation with the different training institutions, every 5 years.

The training institutions are also encouraged to evaluate their training program on a regular basis.
Changes in the core curriculum, especially in relation to the requirements for accreditation and re-accreditation, may be made accordingly in the interim with due process observed.

**XIX. APPENDIX**

Appendix 1. Clinical Performance Evaluation Form
Appendix 2. Peer Evaluation Form
Appendix 3. Conference Evaluation Form
Appendix 4. Morbidity, Mortality & Improvement Conference Form
Appendix 5. Bronchoscopy Evaluation Form
Appendix 6. Thoracentesis Evaluation Form
Appendix 7. Pleural Biopsy Evaluation Form
Appendix 8. Pleurodesis Evaluation Form
Appendix 9. Spirometry Evaluation Form
Appendix 10. Learning Contract for Elective Form (may be used for within and outside the institution electives); this will still be revised and a Memorandum of Understanding between training institution and accepting institution for outside electives will still be formulated
PCCP CORE CURRICULUM

Professional Competency 1A
Given an actual patient, the pulmonologist is able to proficiently diagnose pulmonary conditions and diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care.
Tasks:
   a. elicits relevant historical data.
   b. performs appropriate physical examination.
   c. formulates rational differential diagnoses based on the correlation of anatomic, physiologic and clinical findings
   d. utilizes appropriate & cost-effective pulmonary diagnostic (invasive and non-invasive) tests
   e. proficiently performs pulmonary diagnostic tests
   f. proficiently and correctly interprets pulmonary and related diagnostic test results
   g. correctly arrives at the final diagnosis after a critical analysis of the clinical and diagnostic findings

Professional Competency 1B
Proficiently institute preventive and therapeutic interventions for pulmonary conditions & diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care.
Tasks:
   a. prescribes the most appropriate and cost-effective therapeutic and preventive pulmonary interventions
   b. proficiently performs pulmonary therapeutic and preventive interventions
   c. proficiently co-manages pulmonary conditions in multi-specialty cases

Professional Competency 2
In his/her regular daily professional practice, the pulmonologist is able to demonstrate professionalism and compassion.
Task:
   a. performs clinical and specialty-related activities in an ethical and professional manner

Professional Competency 3
In his/her regular daily professional practice, the pulmonologist is able to participate in advocacies in lung health
Tasks:
   a. seeks an opportunity in each medical encounter to promote preventive care
b. educates patients and provides services to the general public on issues pertaining to lung health (i.e. Actively involves him/herself on smoking cessation program initiatives, and environmental health)

**Professional Competency 4.**

1. In his/her regular daily professional practice, the pulmonologist is able to utilize clinically relevant research in his daily medical activities

   **Tasks:**
   a. Appraises scientific literature
   b. Utilizes updated research findings as part of bases for clinical, diagnostic and therapeutic decisions in handled cases
   c. Contributes to formulation of local practice guidelines on pulmonary health

2. In his/her regular daily professional practice, the pulmonologist is able to initiate or perform research studies in pulmonary medicine.

   **Tasks:**
   a. Analyzes and prioritizes research needs in pulmonary health in the local setting
   b. Performs research studies in pulmonary medicine
   c. Publishes and disseminates research outputs

**Professional Competency 5.**

In his/her regular daily professional practice, the pulmonologist is able to lead and manage organizations and health systems in the field of pulmonary medicine.

**Tasks:**

a. Monitors and supervises special services, including: critical care units, pulmonary function labs, respiratory care techniques and services, respiratory physical therapy and rehabilitation services, TB DOTS
   
   b. Evaluates health cost and ensures equitable allocation of health resources
<table>
<thead>
<tr>
<th>Competencies</th>
<th>Objectives/Content</th>
<th>Teaching-Learning Activities</th>
<th>Resources</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professional Competency 1A</strong>&lt;br&gt;Given an actual patient, the pulmonologist is able to proficiently diagnose pulmonary conditions and diseases in the following settings: ambulatory, emergency &amp; in-patient, intensive or critical care.</td>
<td>KNOWLEDGE&lt;br&gt;<strong>YEAR LEVEL I:</strong>&lt;br&gt;1. Demonstrate and apply knowledge to patient care in the following areas:&lt;br&gt;&lt;br&gt;<strong>Respiratory physiology and pathophysiology</strong>&lt;br&gt;- Pulmonary mechanics and gas exchange&lt;br&gt;- Dyspnea, cough, cyanosis syndromes&lt;br&gt;- Pulmonary haemorrhage and hemoptysis&lt;br&gt;- Oxygen transport and utilization&lt;br&gt;&lt;br&gt;<strong>Respiratory failure</strong>&lt;br&gt;- Hypoxaemic respiratory failure including acute respiratory distress syndrome&lt;br&gt;- Acute and chronic hypercapnic respiratory failure&lt;br&gt;&lt;br&gt;<strong>Respiratory medical and surgical conditions</strong>&lt;br&gt;- Obstructive lung diseases:&lt;br&gt;- Asthma, including status asthmaticus&lt;br&gt;- Bronchitis&lt;br&gt;- COPD &amp; Emphysema</td>
<td>Didactic conferences/sessions&lt;br&gt;M&amp;M- ICU &amp; Ward&lt;br&gt;Grand Rounds&lt;br&gt;Case Conference&lt;br&gt;Rotations in OPD, ER, Ward&lt;br&gt;Self-learning Modules&lt;br&gt;Interhospital Conferences&lt;br&gt;Extra-institutional (PCCP led workshops)</td>
<td>Patients (in various hospital settings: ICU, Bronchoscopy unit, ER, OPD, wards)&lt;br&gt;Training Core/other PCCP Consultants&lt;br&gt;Peers (co-trainees, including outside rotators)&lt;br&gt;Monitoring/Diagnostic/Therapeutic services/equipment&lt;br&gt;Data Forms (history and PE, progress notes, diagnostic tests)</td>
<td>Clinical Performance/competence evaluations for different areas&lt;br&gt;Written exam +/- Oral exam&lt;br&gt;Global evaluation of communications, interpersonal skills, professionalism by Faculty &amp; Peer&lt;br&gt;Conference evaluation&lt;br&gt;Attendance in PCCP annual convention, midyear convention, Interhospital Conferences</td>
</tr>
<tr>
<td>Diseases</td>
<td>Laptops/Desktop PC's</td>
<td>AV equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------------------</td>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronchiolitis</td>
<td>Textbook of Respiratory Medicine by Murray and Nadel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronchiectasis</td>
<td>Pulmonary Diseases and Disorders by Fishman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory failure due to obstructive lung disease</td>
<td>Fundamentals of Respiratory Care by Egan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulmonary vascular diseases including primary &amp; secondary pulmonary hypertension, Pulmonary hypertension and cor pulmonale (including pharmacological tx) vasculitides and pulmonary hemorrhage syndromes Pulmonary embolism — thrombus, air, fat, amniotic</td>
<td>Pulmonary Diseases and Disorders by Fishman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disorders of the pleura and mediastinum</td>
<td>Fundamentals of Respiratory Care by Egan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empyema, Pleural effusion, Pneumothorax, Haemothorax, Chylothorax</td>
<td>Pulmonary Diseases and Disorders by Fishman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iatrogenic respiratory disease, including drug induced disease</td>
<td>Fundamentals of Respiratory Care by Egan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulmonary manifestations of systemic diseases, including collagen vascular disease and diseases which are primary in other organs</td>
<td>Pulmonary Diseases and Disorders by Fishman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bronchopulmonary infections including bronchiolitis, aspiration</td>
<td>Pulmonary Diseases and Disorders by Fishman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diseases of the upper airway: Structural defect of the airway including stenosis, malacia, tracheal tear, and fistula Upper airway obstruction Vocal cord dysfunction GERD</td>
<td>Pulmonary Diseases and Disorders by Fishman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pleural Diseases by Light</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| | Respiratory Physiology &
<table>
<thead>
<tr>
<th>Perioperative assessment &amp; management for thoracotomy &amp; non-thoracic surgical procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ventilation and airway management</strong></td>
</tr>
<tr>
<td>• Oxygen therapy</td>
</tr>
<tr>
<td>• Invasive mechanical ventilation</td>
</tr>
<tr>
<td>• PEEP and CPAP</td>
</tr>
<tr>
<td>• Indications for and hazards of mechanical ventilation</td>
</tr>
<tr>
<td>• Barotrauma and volutrauma, atelectrauma, biotrauma</td>
</tr>
<tr>
<td>• Criteria for extubation and weaning techniques</td>
</tr>
<tr>
<td>• Airway maintenance</td>
</tr>
<tr>
<td>• Emergency airway management</td>
</tr>
<tr>
<td>• Endotracheal intubation</td>
</tr>
<tr>
<td>• Tracheostomy</td>
</tr>
<tr>
<td><strong>Other respiratory therapies</strong></td>
</tr>
<tr>
<td>• Positional therapy (i.e. prone position, rotational therapy)</td>
</tr>
<tr>
<td>• Inhalation therapies and humidification</td>
</tr>
<tr>
<td><strong>Infectious diseases</strong></td>
</tr>
<tr>
<td>• Suppurative lung diseases, including bronchiectasis, lung abscess, empyema</td>
</tr>
<tr>
<td>• Pulmonary infections, Community-acquired and healthcare associated pneumonias,</td>
</tr>
<tr>
<td>• Tuberculosis, Complicated tuberculosis infections (disseminated, MDRTB, XDRTB, in special situations)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pathophysiology by West</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Journal of Respiratory and Critical Care Medicine</td>
</tr>
<tr>
<td>Chest</td>
</tr>
<tr>
<td>Philippine Journal of Chest Diseases</td>
</tr>
<tr>
<td>Phil J of Internal Medicine</td>
</tr>
<tr>
<td>Access to internet &amp; library within the institution</td>
</tr>
<tr>
<td>Updated PCCP &amp; PCCP-acknowledged international Consensus Statements/ Clinical Practice Guidelines</td>
</tr>
<tr>
<td>Clinics in Chest Medicine</td>
</tr>
<tr>
<td>Thorax</td>
</tr>
<tr>
<td>European</td>
</tr>
</tbody>
</table>
- Nontuberculous mycobacterial disease, bacterial, viral, fungal, and those in the immunocompromised host
- Epidemic lung infections (e.g., influenza, SARS, avian influenza, anthrax)
- Antibiotics
- Antibacterial agents
- Antifungal agents
- Antituberculosis agents, DOTS
- Antiviral agents
- Infection control for special care units
- Development of antibiotic resistance
- Universal precautions
- Isolation and reverse isolation
- Infectious risks to healthcare workers
- Definition, diagnosis and treatment of sepsis syndrome
- Systemic inflammatory response syndrome

**Pulmonary malignancies, primary and metastatic**
- Lung cancer
- Mediastinal and chest wall tumors
- Paraneoplastic syndromes
- Metastatic cancer to the respiratory system
- Mesothelioma
<table>
<thead>
<tr>
<th><strong>Benign respiratory tumors</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardiovascular disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Myocardial infarction and its complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pulmonary oedema — cardiogenic, noncardiogenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Vasoactive and inotropic therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Haemodynamic effects caused by ventilatory assist devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recognition, evaluation, and management of hypertensive emergencies and urgencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Renal disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Regulation of fluid balance and electrolytes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Acid–base disorders and their management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Evaluation of oliguria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Dialysis-related pulmonary complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• KT-related pulmonary complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Drug dosing in renal failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Central nervous system disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Neuromuscular disease causing respiratory failure/ respiratory disorders related to neuromuscular diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Guillain-Barré syndrome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Myasthenia gravis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### KNOWLEDGE

#### YEAR LEVEL II

1. Demonstrate and apply knowledge to patient care in the following areas:

**Respiratory physiology and pathophysiology**
- Ventilatory muscle physiology, pathophysiology, and therapy
- Polynuropathy of the critically ill and prolonged effect of neuromuscular blockers

**Respiratory medical and surgical conditions**
- Infiltrative & Interstitial lung diseases:
- Idiopathic fibrotic disorders (eg. IPF)
- Primary Unclassified diseases (eg. Sarcoidosis, LAM)
- Secondary: CTD, occupational/environmental, treatment-related/drug-induced
- Occupational and environmental lung disease
- Acute lung injury, including radiation, inhalation and chest trauma (e.g. flail chest, pulmonary contusion, rib fractures)
- Sleep disordered breathing, obstructive sleep apnea, central

<table>
<thead>
<tr>
<th>Didactic conferences/sessions</th>
<th>M&amp;M- ICU &amp; Ward</th>
<th>Grand Rounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotations in OPD, ICU, Ward</td>
<td>Self-learning Modules</td>
<td>Interhospital Conferences</td>
</tr>
<tr>
<td>Extrainstitutional (PCCP led workshops)</td>
<td>Subspecialty rotations</td>
<td>Electives: Pulmonary Rehabilitation and Smoking Cessation Rotation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patients (in various hospital settings: ICU, Bronchoscopy unit, OR, ER, OPD, wards, Pulmo Lab, TB-DOTS, Pulmo Rehab)</th>
<th>Training Core/other PCCP Consultants</th>
<th>Peers (co-trainees, including outside rotators)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring/Diagnostic /Therapeutic (remove therapeutic) services/equipment Data Forms (history and PE, progress notes, diagnostic tests)</td>
<td>Conference/meeting Clinical Performance/competence evaluations for different areas</td>
<td></td>
</tr>
<tr>
<td>M&amp;M evaluation form Subspecialty rotation evaluation – clinical performance &amp; competency check list</td>
<td>Attendance in PCCP annual convention, midyear convention, Interhospital Conferences</td>
<td></td>
</tr>
</tbody>
</table>
| & obesity-related hypoventilation  
  - Near drowning  
  - Perioperative thoracotomy conditions  
  - Congenital & developmental lung diseases  
  - Care at the end of life for patients with respiratory failure |
|-----------------------------------------------|
| Ventilation and airway management  
  - Lung-protective mechanical ventilation  
  - Non-invasive ventilation  
  - Choice of interfaces  
  - Ventilator modes including CPAP  
  - Choice of ventilators  
  - Oxygen supply during NIV  
  - Indications and contra-indications for NIV  
  - Indication for withdrawing NIV  
  - Criteria of failure  
  - ECMO & other rescue/salvage therapies for refractory hypoxemia (demonstrate knowledge only while unavailable) |
| Infectious diseases  
  - Hospital-acquired and opportunistic infections in the critically ill  
  - ICU support of the immunosuppressed patient  
  - Evaluation of fever in the ICU |
| Sleep Medicine Rotation  
  - Pulmonary Function Laboratory rotation  
  - Thoracic surgery & Anesthesia Rotation  
  - MDR-TB/DOTS Rotation  
  - Thoracic Radiology Rotation  
  - Pulmonary Pathology  
  - Interventional pulmonology  
  - Occupational/Environmental Medicine Rotation  
  - Thoracic oncology |
| ng rooms  
  - Laptops/Desktop PC's  
  - AV equipment  
  - Textbook of Respiratory Medicine by Murray and Nadel  
  - Pulmonary Diseases and Disorders by Fishman  
  - Fundamentals of Respiratory Care by Egan  
  - Textbook of Pulmonary and Critical Care Medicine by Roger Bone  
  - Principles and Practice of Mechanical Ventilation by Tobin  
  - Pleural Diseases by Light |

---

62
<table>
<thead>
<tr>
<th>Patient</th>
<th>Cardiovascular disorders</th>
<th>Respiratory Physiology &amp; Pathophysiology by West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Shock syndromes and</td>
<td>American Journal of Respiratory and Critical Care Medicine</td>
</tr>
<tr>
<td></td>
<td>hypoperfusion including</td>
<td>Chest</td>
</tr>
<tr>
<td></td>
<td>management principles</td>
<td>Philippine Journal of Chest Diseases</td>
</tr>
<tr>
<td></td>
<td>(obstructive shock,</td>
<td>Phi J of Internal Medicine</td>
</tr>
<tr>
<td></td>
<td>sepsis and sepsis</td>
<td>Access to internet &amp; library within the institution</td>
</tr>
<tr>
<td></td>
<td>shock, other distributive</td>
<td>Updated PCCP &amp; PCCP-acknowledged international Consensus Statements/ Clinical Practice Guidelines</td>
</tr>
<tr>
<td></td>
<td>shock, multi-organ</td>
<td>Clinics in Chest Medicine</td>
</tr>
<tr>
<td></td>
<td>dysfunction cardiogenic</td>
<td>Thorax</td>
</tr>
<tr>
<td></td>
<td>shock, hypovolaemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>shock, cardiogenic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>syndrome, hypovolaemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>shock, multi-organ</td>
<td></td>
</tr>
<tr>
<td>Central nervous system disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Neuromuscular disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>causing respiratory failure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Principles of sedation</td>
<td></td>
</tr>
<tr>
<td>Acute haematological and oncological disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Anticoagulation;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fibrinolytic therapy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prophylaxis against</td>
<td></td>
</tr>
<tr>
<td></td>
<td>thromboembolic disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICU-acquired anaemia</td>
<td></td>
</tr>
<tr>
<td>Environmental hazards</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Drugs and narcotics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>leading to respiratory failure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CO poisoning</td>
<td></td>
</tr>
</tbody>
</table>
### Professional Competency 1B

… proficiently institute preventive and therapeutic interventions for pulmonary conditions & diseases in the following settings: ambulatory, emergency & in-patient, intensive or critical care.

**Tasks:**
- a. prescribes the most appropriate and cost-effective therapeutic and preventive pulmonary interventions
- b. proficiently performs pulmonary therapeutic and preventive interventions

### SKILLS

**YEAR LEVEL I**

1. **Utilize appropriate & cost-effective pulmonary diagnostic (invasive and non-invasive) tests**

   - Interpretation of sputum, bronchopulmonary secretions, and pleural fluid, pleural tissue, lung tissue for infectious agents, cytology and histopathology
   - Arterial puncture for blood gas determination
   - Arterial blood gas analysis
   - Principles, indications and limitations of pulse oximetry
   - Pulmonary function testing to assess respiratory mechanics and gas exchange, including

2. **Understand the risk, benefits, alternatives and managing complications for these tests.**

### TEACHING-LEARNING ACTIVITIES

- Diagnostic and therapeutic procedures in the different clinical rotations (OPD, ward, ER)
- Spirometry workshop
- Mech vent workshop
- Bronchoscopy workshop
- Imaging workshop
- Smoking cessation workshop

### Patients (in various hospital settings: ICU, Bronchoscopy unit, OR, ER, OPD, wards, Pulmo Lab)

- Training Core/other PCCP Consultants
- Peers (co-trainees, including outside rotators)

### Facility for sputum GS, and AFB staining, microbiologic culture and drug sensitivity testing,

### EVALUATION

- Procedure Checklist & evaluation (bronchoscopy, thoracentesis, pleural biopsy, chemical pleurodesis, spirometry)

- **Bronchoscopy** (at least 10/yr; assisted or performed)
- **Thoracentesis** (at least 20)
- **Pleural biopsy or equivalent chest catheter insertion or pleuroscopy** (at least 2)
| c. proficiently co-manages pulmonary conditions in multi-specialty cases | spirometry, flow–volume studies, lung volumes, diffusing capacity  
- Modes and principles of oxygen supplementation  
- Airway management including endotracheal intubation  
  Use of airway adjuncts  
- Modes and principles of mechanical ventilation (invasive and noninvasive)  
  - Indications & Setting up of mechanical ventilator  
  - PEEP, modes of mechanical ventilation  
  - Hazards and Trouble shooting  
  - Waveform interpretation  
  - Assessment for & liberation from MV  
  - Set-up and operation of respiratory monitoring system  
- Tracheostomy tube management and decannulation  
- Emergent cardioversion and defibrillation  
- Diagnostic and therapeutic thoracentesis,  
- Pleural biopsy  
- Chest physiotherapy techniques & devices  
- Inhalation, aerosol (inhalers, nebulizers), humidification, & secretion clearance devices/therapies  
- Maintenance of chest tube and drainage systems, |
| --- | --- |
|  | TB culture and sensitivity testing  
Cytologic and histologic facilities  
ABG machine  
Pulse oximeter  
Peak flow meter  
Simple spirometer  
Lung volume and DLCO measurement machine  
Oxygen delivery devices & systems  
Intubation equipment  
Airway adjuncts  
CPR equipment  
Mechanical ventilators (invasive, noninvasive)  
Ventilator & respiratory monitoring systems  
Thoracentesis equipment  
Pleural biopsy equipment |
|  | assist/yr  
- Chemical pleurodesis (at least 5/yr)  
- ABG interpretation (30/quarter)  
- PFT (perform 3/yr & interpret 20/quarter)  
- Intubations (20/yr) |
<p>|  | Practical exam |</p>
<table>
<thead>
<tr>
<th>Insertion of decompression needle for tension pneumothorax</th>
<th>Chest physiotherapy devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical pleurodesis</td>
<td>Inhalers, nebulizers, aerosol &amp; humidification delivery devices, incentive spirometer</td>
</tr>
<tr>
<td>Diagnostic bronchoscopy including airway examination and bronchoalveolar lavage, biopsy, brushing, transbronchial biopsy</td>
<td>Chest tube &amp; drainage systems</td>
</tr>
<tr>
<td>Insertion of nasal gastric and feeding tubes</td>
<td>Flexible Bronchoscopy equipment and accessories</td>
</tr>
<tr>
<td>Basic interpretation of chest radiograph</td>
<td>X ray machine CT scan machine, chest ultrasound (suggest to include in Year Level I as well)</td>
</tr>
<tr>
<td>Advanced cardiac life support</td>
<td>PPD testing</td>
</tr>
<tr>
<td>Tuberculin skin testing</td>
<td>Smoking cessation services</td>
</tr>
<tr>
<td>Smoking cessation techniques</td>
<td>Simulation devices/equipment</td>
</tr>
<tr>
<td>YEAR LEVEL II</td>
<td>Diagnostic and therapeutic procedures in the different clinical rotations (OPD, Ward, ICU)</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Utilize appropriate &amp; cost-effective pulmonary diagnostic (invasive and non-invasive) tests &amp; therapeutic procedures. Understand the risk, benefits, alternatives and managing complications for these tests &amp; therapeutic procedures.</td>
<td>Spirometry workshop</td>
</tr>
<tr>
<td>- Proficiency in the skills listed for year level 1</td>
<td>Mech vent workshop</td>
</tr>
<tr>
<td>- Physical principles, indications and limitations of end tidal and transcutaneous CO2 monitoring</td>
<td>Bronchoscopy workshop</td>
</tr>
<tr>
<td>- Management of the difficult airway</td>
<td>Imaging workshop</td>
</tr>
<tr>
<td>- Evaluation of sedation</td>
<td>Smoking cessation workshop</td>
</tr>
<tr>
<td>Therapeutic bronchoscopy (through an artificial airway) for secretion removal</td>
<td></td>
</tr>
<tr>
<td>Basic interpretation of imaging techniques commonly employed in the evaluation of patients with critical illness and/or pulmonary disorders – ct scan, radionuclide scans, pulmonary angiograms, PET scan, duplex ultrasound, impedance plethysmography</td>
<td></td>
</tr>
<tr>
<td>Endobronchial laser therapy, rigid tube bronchoscopy, brachytherapy</td>
<td></td>
</tr>
<tr>
<td>Critical review of polysomnographic reports, polysomnographic recognition of various patterns of apnea and hypopnea, Sleep studies</td>
<td></td>
</tr>
<tr>
<td>Percutaneous fine needle aspiration biopsy under fluoroscopic, ultrasound, or Ct scan guidance</td>
<td></td>
</tr>
<tr>
<td>Interpretation of inhalational challenges including metacholine</td>
<td></td>
</tr>
<tr>
<td>Exhaled breath studies</td>
<td></td>
</tr>
<tr>
<td>CPET</td>
<td></td>
</tr>
<tr>
<td>Components of pulmonary rehabilitation program</td>
<td></td>
</tr>
<tr>
<td>Interpretation of sputum, bronchopulmonary secretions, and pleural fluid, pleural tissue, lung tissue for infectious agents, cytology and histopathology</td>
<td></td>
</tr>
</tbody>
</table>

**ELECTIVES:**

- Pulmonary Rehabilitation and Smoking Cessation Rotation
- Sleep Medicine Rotation
- Pulmonary Function Laboratory rotation
- Thoracic surgery & Anesthesia Rotation
- MDR-TB/DOTS Rotation
- Thoracic Radiology Rotation
- Pulmonary Pathology
- Interventional pulmonology
- Occupational/Environmental Medicine Rotation

**Practical exam or Mini-CEX (must include CPET, sleep study interpretation)**

- Subspecialty rotation evaluation – clinical performance & competency check list
- Chemical pleurodesis (at least 5/yr)
- ABG interpretn (30/quarter)
- PFT (6 performed/yr & 20/quarter interpreted)

**PRACTICAL EQUIPMENT:**

- Oxygen meter, pressure monitor, peak flow meter, pulse oximeter, capnometer
- Respiratory and *hemodynamic monitoring equipment with Swan-Ganz catheterization capability*
- Flexible bronchoscope with accessories
- Fogarty catheter
- Rigid bronchoscope
- Laser, brachytherapy equipment
- Pleural biopsy needle or equivalent, chest catheter, pleuroscope
- Polysomnography equipment/laboratory
- Inhalational
| Principles of management of bronchopleural fistulas, |
| Indications, contraindications and technique of Thoracoscopy, thoracotomy, Mediastinotomy, |
| Insertion, maintenance of chest tube and drainage systems |
| Principles of lung transplantation (understand only, not utilize while not available in the Phils) |

<table>
<thead>
<tr>
<th><strong>Thoracic oncology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge equipment/set-up</td>
</tr>
<tr>
<td>Exhaled breath studies equipment (eg. eNO)</td>
</tr>
<tr>
<td>CPET machine</td>
</tr>
<tr>
<td>Pathology laboratory</td>
</tr>
<tr>
<td>CT scan machine, chest ultrasound</td>
</tr>
<tr>
<td>Thoracoscope/Vid eo-assisted thoracoscope</td>
</tr>
<tr>
<td>Thoracic surgery unit</td>
</tr>
<tr>
<td>Access to: Radionuclide scans, pulmonary angiograms, PET scan, duplex UTZ, Radiation Oncology Unit</td>
</tr>
<tr>
<td>Facilities for pulmonary rehab Lung transplantation</td>
</tr>
</tbody>
</table>
### Professional Competency 2.

In his/her regular daily professional practice, the pulmonologist is able to demonstrate professionalism and compassion.

**Task:**
- a. performs clinical and specialty-related activities in an ethical, professional manner

**YEAR LEVELS 1 & 2:**

**Objectives:**
1. To demonstrate ethical and professional behavior towards patients, colleagues and other members of the health team
2. To display compassionate care to patients

- Content
- Professionalism and ethics
- Patient's and physician's rights and responsibilities
- Truth telling and delivering bad news
- Informed consent
- Pharmaceutical industry relations
- Ethics of referrals
- Allocation of resources
- Withdrawal and withholding of life sustaining measures
- Ethics of conference attendance
- Professional fees

**Didactics**
- Simulation
- Case studies
- Clinical rotations
- Conferences (to always include ethical aspect of clinical case being discussed, etc.)
- Mentor/medical team-trainee interaction
- Patient-trainee interaction
- PCCP Workshops (ethics, professionalism, etc.)

**Simulation equipment**
- Patients
- Consultants
- Ethics
- Committee within Pulmonary Department/Section (council of elders?)
- PMA Code of Ethics
- PCP Code of Ethics
- Selected sections from the American Medical Association Code of Ethics
- PCCP Guidelines on Life Support Withholding/Withdrawal
- PHAP Guidelines

**Written exams**
- Periodic interview
- Global evaluation of communications, interpersonal skills, professionalism by Faculty, Peer, patients
- Conference presentation assessment (questioning on ethical aspects of case)
- Incident reports
- Exit interview/global assessment for YL2
<table>
<thead>
<tr>
<th><strong>Professional Competency 3.</strong></th>
<th><strong>YEAR LEVELS 1 &amp; 2:</strong></th>
<th><strong>Electronic journals</strong></th>
<th><strong>Institutional Bioethics Committee/Body</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In his/her regular daily professional practice, the pulmonologist is able to participate in advocacies promoting lung health</strong></td>
<td><strong>Objectives</strong>&lt;br&gt;1. to identify areas of advocacy in respiratory health&lt;br&gt;2. to participate in advocacy programs&lt;br&gt;3. develop advocacy programs in respiratory health with the PCCP on a national or local level. Advocacy areas:&lt;br&gt;• Health policies&lt;br&gt;• Disaster preparedness&lt;br&gt;• Health education&lt;br&gt;• Disease prevention&lt;br&gt;• Health community based research&lt;br&gt;• Environmental Health</td>
<td><strong>Trainee-initiated advocacy activity</strong>&lt;br&gt;<strong>Institution-led activities</strong>&lt;br&gt;<strong>PCCP-led activities</strong>&lt;br&gt;<strong>Smoking cessation</strong>&lt;br&gt;<strong>Vaccination drive etc</strong>&lt;br&gt;<strong>Health education forums</strong>&lt;br&gt;<strong>Leadership training</strong></td>
<td><strong>Patients</strong>&lt;br&gt;<strong>Consultants</strong>&lt;br&gt;<strong>Peers</strong>&lt;br&gt;<strong>/ Communities (PCCP and local)</strong>&lt;br&gt;<strong>medical missions)</strong>&lt;br&gt;<strong>target Institutions (schools, companies)</strong>&lt;br&gt;<strong>Institutional support</strong>&lt;br&gt;<strong>PCCP</strong>&lt;br&gt;<strong>Extra-institutional NGO’s/GO’s</strong>&lt;br&gt;<strong>Documentation of activities (camera, video, print)</strong>&lt;br&gt;<strong>Exit interview/global assessment for YL2</strong>&lt;br&gt;<strong>Participation in PCCP-initiated community service &amp;/or advocacy activities</strong></td>
</tr>
<tr>
<td><strong>Tasks:</strong>&lt;br&gt;a. seeks an opportunity in each medical encounter to promote preventive care&lt;br&gt;b. educates patients and the general public on issues pertaining to lung health (ex smoking cessation program initiatives, and environmental health)</td>
<td><strong>YEAR LEVEL I</strong>&lt;br&gt;<strong>Objectives:</strong>&lt;br&gt;1. conduct critical review of the basic science and clinical research literature</td>
<td><strong>Research workshops</strong>&lt;br&gt;<strong>Research protocol making</strong>&lt;br&gt;<strong>Trainee-consultant</strong></td>
<td><strong>Completed research protocol with ethics &amp;</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Professional Competency 4</strong></th>
<th><strong>In his/her regular daily professional practice, the pulmonologist is able to:</strong></th>
<th><strong>Institutional/PCCP</strong></th>
<th><strong>Conference presentation assessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YEAR LEVEL I</strong>&lt;br&gt;<strong>Objectives:</strong>&lt;br&gt;1. conduct critical review of the basic science and clinical research literature</td>
<td><strong>Research workshops</strong>&lt;br&gt;<strong>Research protocol making</strong>&lt;br&gt;<strong>Trainee-consultant</strong></td>
<td><strong>Patients</strong>&lt;br&gt;<strong>Consultants</strong>&lt;br&gt;<strong>Statisticians</strong>&lt;br&gt;<strong>Peers</strong>&lt;br&gt;<strong>Institutional/PCCP</strong></td>
<td><strong>Conference presentation assessment</strong>&lt;br&gt;<strong>Completed research protocol with ethics &amp;</strong></td>
</tr>
</tbody>
</table>
1. utilize clinically relevant research in his daily medical activities

Tasks:
- a. appraises scientific literature
- b. updates on relevant research principles for clinical practice
- c. Utilizes updated research findings as part of bases for clinical, diagnostic and therapeutic decisions in handled cases (applies guidelines)
- d. contributes to formulation of local practice guidelines on pulmonary health

2. initiate or perform research studies in pulmonary medicine.

Tasks:
- a. updates on research methodology principles and approaches

<table>
<thead>
<tr>
<th>YEAR LEVEL II</th>
<th>Year Level II</th>
<th>Other-Agency Support</th>
<th>Budget Approval (YL1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. conduct critical review of the basic science and clinical research literature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. perform research methodology, data collection, &amp; data analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. understand ethical issues in research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. complete and publish an analytical research paper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. present a completed analytical research paper</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(critical appraisal of literature &amp; data on topic being discussed)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Other-Agency Support | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |

<table>
<thead>
<tr>
<th>Completed Research Manuscript of an Analytical Study (YL2)</th>
<th>Published Research in PJCD, PJIM or Other Journals (YL2)</th>
<th>Awards/Certificate of Research Presentation from Research Fora</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>72</td>
</tr>
</tbody>
</table>
b. Analyzes and prioritizes research needs in pulmonary health in the local setting

c. Performs research studies in pulmonary medicine

d. Publishes and disseminates research outputs

<table>
<thead>
<tr>
<th>Professional Competency 5.A.</th>
<th>YEAR LEVELS 1 &amp; 2:</th>
</tr>
</thead>
</table>
| In his/her regular daily professional practice, the pulmonologist is able to lead and manage organizations and health systems in the field of pulmonary medicine. Tasks: a. Monitors and supervises special services, including: critical care units, pulmonary function labs, respiratory care techniques and services, respiratory physical therapy and | **Objectives:** 1. Coordinate with the health team in the operations of specialized services, including:  
- Critical care units, Isolation units, Pulmonary function laboratories, Respiratory care services, Chest physical therapy and pulmonary rehabilitation services, TB DOTS, occupational lung health services.  
2. Display leadership and problem solving skills  
3. Form linkages with the health system  
**Leadership and management workshop**  
**Academic/Administrative work assigned by Institution**  
**ICU Rotation**  
**Subspecialty rotations:**  
- Pulmonary Rehabilitation and Smoking Cessation Rotation  
**Patients Consultants Peers**  
**Institution/PCCP/Other agency support:**  
- Administrative services  
- Academic units  
- Specialized services  
- Quality assurance systems  
- Workshops/seminars  
*Positions available for senior trainees in these areas*  
**Global assessment form**  
**Exit interview**  
**Clinical Performance/competence evaluations for different areas**  
**Subspecialty rotation evaluation – clinical performance & competency check list** |
<table>
<thead>
<tr>
<th>rehabilitation services, TB DOTS</th>
<th>in providing specialized services</th>
<th>Pulmonary Function Laboratory rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. evaluates health cost and allocates health resources</td>
<td></td>
<td>MDR-TB/DOTS Rotation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupational Lung Health rotation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sleep Lab rotation</td>
</tr>
</tbody>
</table>
**PULMONARY FELLOW-IN-TRAINING**

**APPENDIX 1: CLINICAL PERFORMANCE EVALUATION FORM**

<table>
<thead>
<tr>
<th>Fellow-in-Training: ___________________</th>
<th>Date of Evaluation: _______________</th>
<th>Score: ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluator: ___________________________</td>
<td>Area of evaluation:  □ Wards □ ICU □ OPD □ Elective</td>
<td>Year Level: ________</td>
</tr>
</tbody>
</table>

**Direction:** Please encircle the number that corresponds to your objective evaluation of the trainee. (*Minimum Pass Level)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3*</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Skills:</strong> History taking &amp; physical examination</td>
<td>History &amp; PE are incomplete or inaccurate; important information is frequently missing &amp; emphasizes irrelevant findings</td>
<td>History &amp; PE are usually complete &amp; accurate but occasionally important findings are missing</td>
<td>History &amp; PE are complete &amp; accurate; important findings are included &amp; emphasized</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3*</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3*</td>
<td>4</td>
</tr>
<tr>
<td><strong>Humanistic &amp; interpersonal skills</strong></td>
<td>Lacks integrity, empathy, compassion, empathy. Displays insensitivity and intolerance of patient’s need for comfort, encouragement and information. Poor rapport with patients and families.</td>
<td>Erratically demonstrates integrity, respect, compassion and empathy for patients. Credibility and rapport with patients and families sometimes questioned and not demonstrated.</td>
<td>Regularly demonstrates integrity, respect, compassion and empathy for patients. Maintains credibility and good rapport with patients and families.</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3*</td>
<td>4</td>
</tr>
<tr>
<td>Professionalism</td>
<td>1</td>
<td>2</td>
<td>3*</td>
</tr>
<tr>
<td>-----------------</td>
<td>---</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>Frequently irresponsible, avoids work and lacks conscientiousness.</td>
<td>Sometimes irresponsible &amp; does not complete his share of workload.</td>
<td>Performs his share of workload to completion and usually responsible.</td>
<td>Exceptionally hard worker; accepts extra workload when needed. Spends additional time in providing optimal care to patients. Always shows respect to other team members and acts on recommendations and criticisms made by them. Records always accomplished on time and legible.</td>
</tr>
<tr>
<td>Disruptive and disrespectful of other health care professionals. Does not listen and follow suggestions of other colleagues &amp; team members. Records are frequently tardy and illegible.</td>
<td>Sometimes disrespectful of other health care professionals and does not listen to their suggestions &amp; recommendations. Sometimes resents constructive criticisms given. Records sometimes tardy.</td>
<td>Shows respect to other health care professionals and listens to comments and criticisms. Records accomplished on time and legible.</td>
<td></td>
</tr>
<tr>
<td>Sometimes irresponsible &amp; does not complete his share of workload.</td>
<td>Sometimes disrespectful of other health care professionals and does not listen to their suggestions &amp; recommendations. Sometimes resents constructive criticisms given. Records sometimes tardy.</td>
<td>Shows respect to other health care professionals and listens to comments and criticisms. Records accomplished on time and legible.</td>
<td></td>
</tr>
<tr>
<td>Sometimes disrespectful of other health care professionals and does not listen to their suggestions &amp; recommendations. Sometimes resents constructive criticisms given. Records sometimes tardy.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always shows respect to other health care professionals and acts on recommendations and criticisms made by them. Records always accomplished on time and legible.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Practice-based learning</th>
<th>1</th>
<th>2</th>
<th>3*</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepts data and explanations as they are. Satisfied with current fund of knowledge. No effort to teach younger colleagues.</td>
<td>Sporadically investigates further clinical issues and knowledge at hand about his/her cases. Sporadic effort to teach younger colleagues.</td>
<td>Consistently investigates further clinical issues and knowledge at hand about his/her cases. Regularly teaches younger colleagues.</td>
<td>Always investigates clinical issues and knowledge at hand about his/her cases. Enthused and stimulated by new comprehensions. Always teaches younger colleagues and recognized to have a good teaching reputation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporadically investigates further clinical issues and knowledge at hand about his/her cases. Sporadic effort to teach younger colleagues.</td>
<td>Consistently investigates further clinical issues and knowledge at hand about his/her cases. Regularly teaches younger colleagues.</td>
<td>Always investigates clinical issues and knowledge at hand about his/her cases. Enthused and stimulated by new comprehensions. Always teaches younger colleagues and recognized to have a good teaching reputation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistently investigates further clinical issues and knowledge at hand about his/her cases. Regularly teaches younger colleagues.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistently investigates further clinical issues and knowledge at hand about his/her cases. Regularly teaches younger colleagues.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always investigates clinical issues and knowledge at hand about his/her cases. Enthused and stimulated by new comprehensions. Always teaches younger colleagues and recognized to have a good teaching reputation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evidence-based learning</th>
<th>1</th>
<th>2</th>
<th>3*</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has no knowledge of relevant clinical practice guidelines &amp; updated research literature pertinent to handled cases.</td>
<td>Displays poor understanding of bases of evidence or application of CPGs related to patient care.</td>
<td>Usually utilizes updated research literature and appropriate CPGs as part of bases for clinical, diagnostic and therapeutic decisions in handled cases.</td>
<td>Always utilizes critically appraised research literature and appropriate CPGs as part of bases for clinical, diagnostic &amp; therapeutic decisions in handled cases. Prescribes the most appropriate and cost-effective therapeutic and preventive pulmonary interventions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SCORE: ___________ (Passing = 21, Perfect Score = 28)**

**Consultant’s Comments:**
________________________________________________________________________________
**APPENDIX 2: Pulmonary Fellows' Peer Evaluation Rating Scale Form**

<table>
<thead>
<tr>
<th>Trainee: ________________________</th>
<th>Date of Evaluation: ________________________</th>
<th>Score: ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluator: ______________________</td>
<td>Area of evaluation: __________</td>
<td>Year Level: ________</td>
</tr>
</tbody>
</table>

**Direction:** Please encircle the number that corresponds to your objective evaluation of the trainee. *Minimum Pass Level*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3*</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoids work whenever possible; unreliable.</td>
<td>Does not complete his share of workload.</td>
<td>Performs his share of workload to completion.</td>
<td>Exceptionally hard worker; spends additional time in providing optimal care to patients</td>
</tr>
<tr>
<td>Cannot decide on his own</td>
<td>Dependent on supervision on decision-making even on simple cases</td>
<td>Usually needs supervision in decision-making in difficult cases.</td>
<td>Displays initiative &amp; independence. Needs little supervision in decision making even in difficult cases.</td>
</tr>
<tr>
<td>Inconsiderate &amp; difficult to work with. Disrespectful to members of health team.</td>
<td>Sometimes difficult to work with; sometimes inconsiderate to the health care team</td>
<td>Easy to work with most of the time, extends help when asked; coordinates his actions with the health care team.</td>
<td>Consistently shows active coordination &amp; cooperation with health care team.</td>
</tr>
<tr>
<td>Does not follow rules &amp; regulations despite reminders. Negligent of responsibilities.</td>
<td>Inconsistently follows rules &amp; regulations pertinent to rotation Needs constant reminders to perform responsibilities</td>
<td>Usually follows rules &amp; regulations &amp; performs responsibilities.</td>
<td>Consistently follows rules &amp; regulations pertinent to rotation. Dutifully performs all responsibilities even without supervision.</td>
</tr>
<tr>
<td>Disrespectful to patients; shows insensitivity &amp; lack of concern for patients &amp; their needs</td>
<td>Usually displays empathy, respect &amp; concern for patients; occasionally displays irritation &amp; impatience</td>
<td>Usually displays empathy, respect &amp; concern for patients. Able to deal with conflicts in a calm &amp; professional manner</td>
<td>Consistently displays empathy, respect &amp; concern for patients. Consistently able to deal with conflicts in a calm &amp; professional manner.</td>
</tr>
<tr>
<td>Does not attempt to communicate with patients regarding their disease &amp; management</td>
<td>Unable to communicate effectively with patients regarding their disease &amp; management plans</td>
<td>Usually communicates effectively with patients regarding their disease &amp; management plans</td>
<td>Consistently communicates effectively with patients regarding their disease &amp; management plans</td>
</tr>
</tbody>
</table>
APPENDIX 3: CONFERENCE EVALUATION FORM

| TRAINEE: _________________________ | YL: ______ | DATE: ______________________ |
| EVALUATOR: ______________________ | CONFERENCE: ______________________ |

Instruction: please encircle the number that corresponds to your evaluation:
1 – UNSATISFACTORY; 2 – POOR; 3 – AVERAGE; 4 – GOOD; 5 – EXCELLENT; * Minimum Pass Level

| A. CONTENT | | | | |
| 1. Patient data: Complete, factual, concise | 1 | 2 | 3* | 4 | 5 |
| 2. Discussion: | | | | |
| a. Fulfilled set objectives | 1 | 2 | 3* | 4 | 5 |
| b. Well-researched | 1 | 2 | 3* | 4 | 5 |
| c. Clear, logical, organized | 1 | 2 | 3* | 4 | 5 |
| 3. Ability to answer questions: Correctly, clearly, concise, straight to the point, confidently | 1 | 2 | 3* | 4 | 5 |

| B. DELIVERY | | | | |
| 1. Language & time management skills: correct grammar & pronunciation, finished at allotted time | 1 | 2 | 3* | 4 | 5 |
| 2. Delivery skills: eye contact, audience rapport, self-confidence | 1 | 2 | 3* | 4 | 5 |
| 3. Visual aids: clear, concise, interesting, effective | 1 | 2 | 3* | 4 | 5 |

C. OVERALL PREPAREDNESS | 1 | 2 | 3* | 4 | 5 |

TOTAL SCORE: ____________
(Perfect Score = 45; Passing Score = 27)

Comment on what the presenter DID WELL:
_________________________________________________________________________________________
_________________________________________________________________________________________

CAN DO BETTER: ________________________________________________________
_________________________________________________________________________________________

Signature of Evaluator: _____________________________
### PULMONARY FELLOWS-IN-TRAINING
### APPENDIX 4. MORBIDITY, MORTALITY & IMPROVEMENT CONFERENCE EVALUATION FORM

**TRAINEE:** _________________________  **YL:** ______  **DATE:** ______________________

**EVALUATOR:** _____________________

Please encircle the score corresponding to the criterion in the fellow’s presentation.

<table>
<thead>
<tr>
<th>CRITERION</th>
<th>CORRESPONDING SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinical data presentation: Problem-oriented patient history and course in the hospital/clinic.</td>
<td>1  2  3*  4</td>
</tr>
<tr>
<td>Not problem-oriented, long-winded, not clear, not relevant to main problem</td>
<td>Not problem-oriented, presentation longer than expected, many salient points pertaining to main problem missed</td>
</tr>
<tr>
<td>2. Statement of the main problem/adverse outcome/dilemma</td>
<td>1  2  3*  4</td>
</tr>
<tr>
<td>Main problem/adverse outcome/dilemma not stated</td>
<td>Main problem/adverse outcome/dilemma not stated clearly and concisely</td>
</tr>
<tr>
<td>3. Brief review of literature presented about the problem/adverse outcome/dilemma</td>
<td>1  2  3*  4</td>
</tr>
<tr>
<td>No related literature on similar problem mentioned</td>
<td>Some related literature mentioned</td>
</tr>
<tr>
<td>4. System-based Fishbone analysis</td>
<td>1  2  3*  4</td>
</tr>
<tr>
<td>No fishbone analysis done</td>
<td>Fishbone analysis inappropriate and lacking many salient points</td>
</tr>
<tr>
<td>5. Interdisciplinary involvement</td>
<td>1  2  3*  4</td>
</tr>
<tr>
<td>No effort to invite or obtain viewpoint &amp; recommendations from other service areas concerned</td>
<td>Viewpoints from other necessary service areas obtained but incomplete</td>
</tr>
<tr>
<td>6. Ability to answer questions</td>
<td>1  2  3  4</td>
</tr>
<tr>
<td>Not able to answer questions</td>
<td>Answers to questions vague, not relevant and long-winded</td>
</tr>
</tbody>
</table>

**TOTAL SCORE = ___________**  (Perfect score = 24; Passing score = 18)

Signature of Evaluator: _____________________________
APPENDIX 5: RATING SCALE FOR PERFORMANCE OF FLEXIBLE BRONCHOSCOPY

Name of Trainee: _______________________________  Date: ______________
Year Level: _____________________________________  Evaluator: __________
Name of Patient: ________________________________

DIRECTION: Please rate the trainee based on the competencies listed below by checking the number that corresponds to your evaluation:
4 = Competent
3 = Acceptable
2 = Needs improvement
1 = Poor
NA = Not applicable/ Not observed

*Score of 3 is the minimum passing level for each criterion.

<table>
<thead>
<tr>
<th>Critical Performance</th>
<th>1</th>
<th>2</th>
<th>3*</th>
<th>4</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Properly selects patients to undergo bronchoscopy. Knows indications &amp; contraindications of bronchoscopy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Explains the procedure to the patient clearly &amp; in a reassuring manner.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Selects appropriate anesthetic agents, as well as drugs, to prevent procedural complications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Demonstrates the proper technique of local anesthetic application.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Correlates radiographic findings in predicting location of lesions on bronchoscopy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Introduces a flexible bronchoscope properly &amp; with ease via the different routes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Completes an endoscopic inspection of the entire tracheobronchial tree and directs the tip of the bronchoscope into any given segment of the tracheobronchial tree with ease.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Maintains a patent adequate airway at all times.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Displays good judgment in the performance of bronchoscopic diagnostic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>procedures (ex. Bronchial biopsy, brushing, washing, lavage.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Describes in detail and correctly documents bronchoscopic findings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Correctly manages complications as they arise.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Properly cleans and maintains bronchoscope &amp; accessories.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SCORE = ________**  *(Perfect = 48, Passing = 36)*

Signature of Evaluator: _____________________________
APPENDIX 6. CHECKLIST FOR PERFORMANCE OF THORACENTESIS

Name of Trainee: __________________________  Date: ______________________
Year Level: ________________________________  Evaluator: ___________________________
Name of Patient: ____________________________

Directions: Check column "Yes if identified skill is correctly demonstrated. Check column " No" if identified behavior/skill is not demonstrated. Check NA if not applicable or if unable to observe.

<table>
<thead>
<tr>
<th>Critical Performance</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Checks the completeness of materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Assists the patient in the proper, comfortable position.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Percussess the interspaces using the correct technique.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Checks for chest lag.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Auscultates the interspaces properly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Correlate CXR film finds with PE correctly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Correctly identifies the best site for thoracentesis as one interspace below the spot where the tactile fremitus is lost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Cleans thoracentesis site using aseptic technique &amp; maintains aseptic technique throughout procedure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Advices patient before proceeding with needle puncture.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Instill local anesthesia properly into the site, aspirating each time to ascertain that a blood vessel has not been entered.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Inserts the catheter with the needle bevel up.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Inserts the catheter in the chosen interspace above the rib to avoid the neurovascular bundle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Advances the needle and removes the sylet when pleural space is reached.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Occludes the catheter completely &amp; immediately upon withdrawal of stylet.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Attaches syringes with 3-way stopcock to the hub of the catheter carefully.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16. Aspirate fluid into the syringe or connects to a suction machine using appropriate negative suction to drain fluid.

17. Collects adequate specimen and orders appropriate examinations

18. Gradually withdraws catheter upon draining fluid.

19. Places dressing over the puncture site correctly.

20. Orders post-thoracentesis chest X-ray.
APPENDIX 7. CHECKLIST FOR PERFORMANCE OF PLEURAL BIOPSY

Name of Trainee: _____________________________ Date: _______________________
Year Level: __________________________ Evaluator: ___________________
Name of Patient: _____________________

Directions: Check column "Yes if identified skill is correctly demonstrated. Check column " No" if identified behavior/skill is not demonstrated. Check NA if not applicable or if unable to observe.

<table>
<thead>
<tr>
<th>Critical Performance</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Checks the completeness of materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Assists the patient in the proper, comfortable position.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Correlate CXR film findings with PE correctly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Correctly identifies the best site for pleural biopsy as one interspace below the spot where the tactile fremitus is lost.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Cleans pleural biopsy site using aseptic technique &amp; maintains aseptic technique throughout procedure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Instill local anesthesia properly into the site, aspirating each time to ascertain that a blood vessel has not been entered and to determine depth of pleural space.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Makes a 2mm long skin incision at the selected site using a No. 11 scalpel blade.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Inserts the Cope needle into the outer cannula.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Insert the obturator into the Cope needle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Adjusts the movable sleeve of the outer cannula to the depth of the pleural cavity as determined during anesthetic infiltration.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Inserts the Cope needle along the abestgesuzed tract.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
12. Withdraws the obturator and attaches the needle to a 10-ml syringe, and aspires to confirm for the presence of fluid.

13. Gently withdraws the cannula and needle while applying negative pressure to the syringe until no more fluid can be aspirated.

14. Removes the needle and syringe from the cannula.

15. Detaches the syringe from the needle and attaches the syringe to curette.

16. Inserts the curette into the cannula until entrance to the pleural cavity is confirmed by aspiration of fluid into the syringe.

17. Angles the cannula & curette downwards and gently withdraws the curette until it hooks the parietal pleura.

18. Holds steady and advances the cannula with a twisting motion to cut off the hooked portion of the parietal pleura.

19. Withdraws the cannula and the curette slightly to just outside the pleural cavity. Removes the curette and extract the hooked specimen.

20. Preserves the specimen in 10% formalin and sends for pathological examination.

APPENDIX 8. CHECKLIST FOR THE PERFORMANCE OF PLEURODESI

Name of Trainee: ________________________  Date: __________________
Year Level: _____________________________  Evaluator: __________________
Name of Patient: ___________________________

Directions: Check column "Yes if identified skill is correctly demonstrated. Check column " No" if identified skill is not demonstrated. Check NA if not applicable or if unable to observe.

<table>
<thead>
<tr>
<th>Critical Performance</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Properly selects patients for pleurodesis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Correctly and clearly explains the benefits, technique, &amp; possible complications of the procedure to the patient.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Checks patency of the tube prior to pleurodesis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Cleans CTT site as well as the tube and observes aseptic technique at all times.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Using sterile technique, properly mixes 5 g of talc, 50 cc normal saline and lidocaine (4mg/kg) into the talc slurry.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Using sterile technique, correctly injects talc slurry into the self sealing rubber portion of the connecting tube and allowed to run retrogradely into the patient's chest.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Correctly clamps, the tube and orders in the chart to unclamp in 2 hours or when patient develops dyspnea.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Properly instructs patient to change position in bed frequently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Unclamps the tube after 2 hours and maintains it for at least 24 hours and until the pleural drainage is less than 150 ml/day. (May attach it to a negative pressure suction - 15 to - 20 cm H2O).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Orders a repeat chest xray (usually after 24 hours of talc instillation) prior to decision to remove the tube.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Correctly determines if the lung has full expansion and correctly decides the removal of the tube.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Performance</td>
<td>Yes</td>
<td>No</td>
<td>NA</td>
<td>Comment</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>---------</td>
</tr>
<tr>
<td>1. Properly selects patients to undergo spirometry. Knows the indications &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>contraindications of spirometry. Checks patient preparation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Explains the procedure to the patient &amp; in a reassuring manner.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Obtains height and weight correctly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Assists the patient in the proper, comfortable position with chin slightly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>elevated and the neck slightly extended.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Instructs the patient the proper use of mouthpiece and nose clip.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Instructs patient perform rapid inspiration to total lung capacity (TLC).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Instructs patient to perform forced expiration immediately and rapidly upon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reaching TLC.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Actively coaches the patient to sustain forced exhalation until flow ceases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(sustained for 6-12 secs).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Instructs patient to perform a rapid and forced inhalation after the forced</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>expiratory maneuver.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Checks spirometry tracings using acceptability and reproducibility criteria.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Continue efforts until three acceptable maneuvers are obtained.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Administers inhaled bronchodilator correctly for the post-bronchodilator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reversibility testing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Wait for 10-15 mins after administration of inhaled bronchodilator before</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>repeating the pulmonary functions tests.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Asks the patient to breath in and out as fast as possible for 10 to 15 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in measuring the maximal voluntary ventilation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PHILIPPINE COLLEGE OF CHEST PHYSICIANS

LEARNING CONTRACT FORM
Elective Course

Name_____________________________________ Date of Rotation_______________________________
Name of Elective:___________________________ Adviser Name/s__________________
Fellow-in-Training’s Grade (perfect = 100%):______________________ Date grade given: _____________

I. My objectives for this elective are:
   1.
   2.
   3.

II. To accomplish the above objectives, the learning activities I will undertake for each objective and their dates of
completion are:
   1.
   2.
   3.

III. I may need help on the following areas:
   1.
   2.
   3.

IV. I will demonstrate achievement of the objectives by:
   1.
   2.
   3.

V. I expect to receive a certain grade based on the following:
   1.
   2.

Name & Signature of Fellow-in-Training

PRIOR TO ROTATION: ________________________________ POST ROTATION : ________________________________

Name & Signature of Adviser (if applicable) (Outside Mother Institution) Name & Signature of Adviser (if applicable) (Outside Mother Institution)

Name & Signature of Adviser or Training Officer (Home Institution Adviser or Training Officer) Name & Signature of Adviser or Training Officer (Home Institution Adviser or Training Officer)
GUIDELINES FOR GRADING OF FELLOWS-IN-TRAINING IN ELECTIVE ROTATIONS

1. Grades should be given based on the achievement of the learning contract.
2. The numeric grade description is:

<table>
<thead>
<tr>
<th>Numerical Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Excellent</td>
</tr>
<tr>
<td>90%</td>
<td>Very good</td>
</tr>
<tr>
<td>80%</td>
<td>Good</td>
</tr>
<tr>
<td>75%</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>70%</td>
<td>Passing</td>
</tr>
<tr>
<td>&lt; 70%</td>
<td>Failed</td>
</tr>
<tr>
<td>INC</td>
<td>Incomplete</td>
</tr>
</tbody>
</table>

3. Write the numeric grade and your signature in the learning contract after the rotation.
4. If the adviser believes that a numeric grade is not appropriate, the adviser will indicate in the contract BEFORE the rotation that only a PASS/FAIL/INCOMPLETE mark will be given to the trainee.
5. A descriptive evaluation of the fellow-in-training’s performance may in addition also be submitted.
PHILIPPINE COLLEGE OF CHEST PHYSICIANS
Advancing the Frontiers of Pulmonary Medicine in the Philippines.

PHILIPPINE COLLEGE OF CHEST PHYSICIANS
84-A Malakas St., Pinyahan, Quezon City 1100
☎ (632) 924-9204
Fax No. (632) 924-0144
Text Link No. 0920-9605979
E-mail address: secretariat@philchest.org
Website address: www.philchest.org