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CHEST DISEASE CURRICULUM

PRPARED BY

SIENTIFIC COMMITTEE OF CHEST DISEASE



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Introduction

The Council of the Syrian Board of Medical Specialties (SBOMS) has been established to improve the quality of medical services provided in Syria by setting standards doctors must meet in their practice.

These standards aim to ensure that the physician acquires the essential core clinical skills, confidence , independence and professionalism required for delivering the highest quality of medical care to patients with diverse types of chronic and acute diseases, and learn the principles of health promotion, population health and evidence- based medicine .

The Scientific Committee of the Chest disease Program supervises the training of “ Residents of Chest disease” in hospitals selected by the **Medical Affairs Committee** of the Council of Syrian Medical Specialties according to strict guidelines these hospitals must fulfill and policies they must follow. This committee also sets the standards of admission to the IM program and the duration of internship.

The Examinations Committee develops the examination materials and supervises the testing process.

An official certificate from the (SBOMS) Council and the Scientific Committee of Chest disease is a certificate of excellence which means that the holder of this certificate has completed all the required training in this specialty and has passed the tests that have been administered and is expected to provide the best medical care services in Chest disease.

Training Program

Objectives:

The Chest disease program aims to train and prepare a specialist in Chest disease who can:

1. Deal with common and rare pulmonary diseases.
2. Able to perform diagnostic and selected therapeutic bronchoscopies, and common procedures in pulmonary medicine.
3. Able to understand the physiology of the lung including lung mechanics, gas exchanges in normal and diseased lungs.
4. Able to understand the physiology of various pulmonary diseases and its systematic effects.
5. Able to perform the procedures of pulmonary function test, quality assurance of pulmonary laboratory, and to know the interpretation of pulmonary function tests, exercise tests, and arterial gas analysis.
6. Manifestations of systemic diseases in the lungs.
7. Able to deal with critical pulmonary cases in the ICU, initiation, titration, weaning from mechanical ventilation and trouble shooting in mechanically ventilated patients.
8. Understand the basic pathology of pulmonary disease.

Admission criteria: Each applicant must satisfy the following criteria:

1. Must be proficient in Arabic.
2. Holds a medical degree from a recognized university.
3. Possess a certificate in Internal Medicine or have successfully completed the written component of the Final Internal Medicine examination. The candidate will not be allowed to have the final examination in pulmonary medicine until the Final Internal Medicine examination in all its components is already cleared.
4. Fill out the application form prepared by the Scientific Council of Chest disease and submit two copies , one to the local representative of the Council and a second copy to the headquarters office of SBOMS .
5. Pay the applicable fees ..

Training PROGRAM STRUCTURE:

The specialty program is 3 years duration as the following:

- 18 months of clinical pulmonary(wards, consultations and procedures).
- 3 Months CCU (in an accredited CCU training center)
- 1 months laboratory rotation (PFT, Cardiopulmonary Exercise Test (CPET), Sleep, Lab, Rehab).
- 1 month thoracic surgery .
- 3 month radiology.
- 10 month ICU.

RESPONSIBILITIES OF THE FELLOW:

1. Outpatient Service:

- The fellow will have opportunity to see and follow pulmonary cases through outpatient clinics under supervision of the assigned pulmonologist.
- He/she should attend at least two clinics per week over the period of 2 years, except during rotation in the ICU.
- His/her responsibilities during outpatient clinic is to see new patients, take history, physical examination, review the appropriate investigations and put forward the management plan which will be reviewed and approved by the consultant pulmonologist.
- He/she will continue follow up of patients seen in subsequent visits to the clinic, under supervision of the consultant.

2. Inpatient and Consultation Services:

- It is the responsibility of the fellow to attend all bedside rounds on inpatients with the consultant according to the department policy, in addition fellows should do their own rounds with the junior members of the team on a daily basis.
- The fellow will see all consultations referred to the service at any time during the day and when he/she is on call.
- Fellows will assess the patients initially and put forward the appropriate preliminary investigations and therapy thereafter discuss the case with the consultant on call in the same day to arrange for further action.

- It is the responsibility of the fellow to follow up all consultations to the pulmonary service and discuss them with the assigned consultant.

3. Participation of the fellows in teaching activities:

The fellow is expected to be fully involved in the activities of the pulmonary division including the following activities are performed:

- Attend morning medicine meeting and share his/her knowledge with members of medical department and medical residents.
- Weekly combined chest round is assigned to discuss interesting and problematic cases with the members from pulmonary, ICU, thoracic surgery, radiology services and pathology department. Therefore, it is expected from the fellow to prepare all cases he/she was involved in taking care of them. This includes patient clinical data, investigations, radiology and management plan. It is expected from him/her to bring all patient information, and give a brief presentation.
- Participate actively in chest club in the same manner described above.
- Participate in resident teaching activities; in the form of approaches to common respiratory problems, MCQs sessions, bedside teaching and supervising resident rotating in pulmonary service.

4. PULMONARY PHYSIOLOGY LABORATORY ROTATION

The fellow will spend the designated rotation time at the pulmonary function tests laboratory. The responsibilities of the fellow during his/her rotation in pulmonary physiology lab will be the following:

- Attend all procedure.
- Take brief clinical information from the patients.
- Do some procedures under supervision of the technician.
- Know indications and contra indications of each test.
- Understand and apply national and international guidelines for each test including the acceptability and reproducibility of the procedures.
- Understand and apply the national and international guidelines regarding quality assurance and supervision of the procedures.
- Do preliminary interpretation of pulmonary function test and pulmonary exercise test and discuss them with the pulmonary consultant assigned to the service.

5. PROCEDURES

- **Bronchoscopy**

Bronchoscopy is an essential part of pulmonary training program. The candidate should acquire the skills to perform a diagnostic and limited therapeutic bronchoscopies in ways and means that are expected from a pulmonary specialist. The minimal procedures that the fellow is expected to acquire such skills during his/her 2 years training is 50 bronchoscopies. (including bronchoscopies done in

CCU) For the candidate to meet the above requirement it is expected from him/her to do the followings:

- Should know the indications and contraindications of the procedure.
- Know the complications that could happen to the patient during and after the procedures and how to deal with it.
- Arrange for the bronchoscopy after discussion with the pulmonary consultant on call.
- Should write the premedications and signs the consent form.
- Trainees should be in the bronchoscopy suit ahead of the consultant and upon the patient arrival to the bronchoscopy room.
- He/she should know the procedures of local anesthesia and preparation of the patient to the bronchoscopy.
- It is responsibility of the fellow to carry the preparation (local anesthesia) of the patient for bronchoscopy under supervision. (The fellow should prepare Minimum of 20 patients).
- No matter how skilled the fellow, he/she should know that it is absolutely prohibited to start the bronchoscopy without the physical presence of pulmonary consultant.
- Pleurocentesis
- Pleural biopsy (optional as most they do not do only VAT)
- Pleurodesis
- Chest tube insertion and removal

- Placement of arterial and pulmonary artery balloon floating catheter.
- Calibration and interpretation of hemodynamic data.
- Upper airway management and intubation.

The fellow should gain skills and experience in performing the above procedures. Although the number of procedures to gain skills is variable, it is important that minimal of 10 procedures are required to gain such experience. The candidate must know the indications, contraindications, and complications of each procedures. should always be done under supervision of the pulmonary consultant, intensivist or thoracic surgeon.

CURRICULUM SUBJECTS

The candidate should know the following subjects in great depth including definition, etiology, pathology, pathogenesis, physiological changes, clinical features, appropriate investigations, radiological features, management and prognosis of the following subjects.

Airway diseases including:

- Upper airway obstruction
- Sinusitis
- Allergic rhinitis
- Bronchial asthma
- Chronic bronchitis, emphysema
- Bronchiolitis
- Bronchiectasis
- Reactive airway disease
- Vocal cord disorders
- Smoke inhalation

Interstitial lung disease including:

- Idiopathic lung fibrosis
- BOOP
- Sarcoidosis
- Histocytosis
- Lymphangiomyomatosis

- Drugs induced lung diseases
- Hypersensitivity pneumonitis
- Occupational lung diseases
- Vasculitis (Wagener's disease, GPS etc)
- Complications of connective tissue diseases

Neoplasm of the lung

- Lung tumors primary and secondary (benign and malignant)

Pulmonary vascular disease:

- Thromboembolism
- Pulmonary haemorrhage
- Pulmonary hypertension primary and secondary
- Pulmonary vasculitis

Pleural disease:

- Pleural effusion
- Pleurisy
- Pneumothorax
- Empyema
- Pleurodesis
- Pleural malignancy

Respiratory failure:

- Central Hypoventilation
- Obesity Hypoventilation Syndrome

- Lung parenchymal disease (ARDS, etc)
- Neuromuscular disease
- Musculoskeletal disease

Pulmonary infection including:

- Pneumonia (community acquired, hospital acquired, ventilator associated pneumonia)
- Tuberculosis
- Fungal infection
- Tropical lung disease
- Aspiration pneumonia
- Pneumonia in the immunocompromised host
- Vaccination (Pneumovax and flu vaccination)

Ventilator Management

- Indications
- Indications between the lung and the ventilation
- Different Modes of ventilation
- Complication of mechanical Ventilation
- PEEP
- Non-invasive ventilation (CPAP. BiPAP)

Others:

- Sepsis and SIRS
- ARDS

- Lung collapse
- Effect of systemic disease on respiratory system
- Oxygen therapy
- Carbon monoxide poisoning
- Smoke inhalation
- Hypoxia
- Hypercapnia
- Methahemoglobinemia
- Congenital disease

Anatomy :

- Anatomy of the lung, rib cage and diaphragm

Physiology:

- Mechanics of lungs
- Physiology of gas exchange
- Physiological changes in different lung diseases, Ventilation control (ventilatory response to hypoxia and hypercapnia)
- Physiology of pulmonary exercise test
- Pathogenesis of hypoxia and hypercapnia
- Cardiopulmonary interaction in normal and diseased lung
- Oxygen and carbon dioxide dissociation curve
- Oxygen carrying capacity
- Shunt Physiology and equation

- Physiology of sleep
- Gases exchanges and ventilatory control during sleep

Continuous Assessment

The evaluation of the fellows will be a continuous process throughout the program. The fellow will be assessed in the clinical judgement, medical knowledge, clinical skill {medical interview, physical examination, and procedure skills} humanistic quality, professionalism, and provision of medical care. This assessment will be documented at regular intervals according to the training schedule, after discussion among pulmonary service members. The aim of such assessment is to ensure feedback to the trainee as part of educational process and to substantiate the basis or delegating the load of responsibilities. All candidates should be given a copy of the periodic evaluation

Exams

Transitional examination

Qualifications needed to take primary exam:

- Applicant should be a current resident in the SBOMS training program .
- He has successfully completed 12 months of training in a center approved by the SBOMS.
- Has submitted the required application for primary exam.

Transitional examination Rules

- No candidate will be allowed to move the next level of training unless he/she successfully passes this examination.

Transitional examination details

- The test is administered over one day period. There will be 100 MCQs questions . (one right answer from 4 choices) .
- The questions will assess the physician ability to recall important medical facts and to apply fundamental of patient-centered skills, through questions that center on disease management and treatment.
- Passing grade is 60%. The Scientific Council retain the right to decide based on its discretion to curve the applicants grades.

FINAL WITTEN EXAMINATION AND CERTIFICATION OF COMPETENCE

Final witten exam is written test . It assesses the trainee's understanding of clinical sciences and their applications considered essential for the provision of patients care.

Qualifications needed to take final witten exam:

- Applicant should have passed Transitional exam
- Applicant have fulfilled the training periods required under SBOMS guidelines
- Applicant must present a Certificate of Completion of training from the training Center approved by SBOMS and other requirements (such as Research papers..) before he is accepted into the test
- The deadline for Applying to Secondary exam is a month prior to test date.

final witten exam Rules

- This test is administered once a year. The test date is posted on the Facebook page of the official site of the SBOMS and is found on the website www.sboms.org
- Each applicants can take the test up to 4 times , all exempted tests could be administered once a year , based on the Scientific Council discretion .
- Passing Secondary exam is a pre requisite for any applicant to graduate .

final written exam details

- The test is administered over one day period. There will be 100 MCQs questions . (one right answer from 5 choices) .
- The questions will assess the physlity to apply fundamental patient-centered skills, through questions that center on disease management and treatment.

Specifications of final written exam test

- The test is administered over a 2 years period, the test format is on paper , all the answers to the multiple choice questions should be marked on the testing paper by filling with a pencil the circle corresponding to the letter of the correct answer .
- Passing grade is 60%.

The following References are recommended to prepare for the final written exam, although the questions will be from the latest Update on Internal Medicine and will not be exclusively chosen from these references .

1. ACCP Pulmonary Medicine Board Review
2. BMJ best practice

Table of questions distribution in Secondary exam:

Topics Covered	Average number of questions each topic	Percentage of the total questions
Obstructive Lung Disease	17	17%
Critical Care Medicine	15	15%
Diffuse Parenchymal Lung Disease (DPLD)	10	10%
Sleep Medicine, Neuromuscular and Skeletal	10	10%
Epidemiology	2	2%
Infections	12	12%
Neoplasia	9	9.5%
Pleural Disease	5	5%
Quality, Safety, and Complications	5	5%
Transplantation	2	2%
Vascular Diseases	6	6%
Respiratory Physiology and Pulmonary Symptoms	4	4%
Occupational and Environmental Diseases	2	2%
TOTAL	100	100%

CLINICAL SKILLS Exam

- This is an oral test to evaluate the trainees' abilities to gather information from patients, perform physical examinations, and communicate their findings to patients and colleagues
- Candidates for this test should have passed all previous exams
- The test is administered twice a year, The test date is posted on the Facebook page of the official site of the SBOMS and is found on the website www.sboms.org
- Applicants are given 4 chances to pass the test , if they fail to do so, then they will be required to repeat final exam before been allowed to take this test again .

Clinical EXAM DESIGN:

- The test is administered over one day , (OSCE type exam)

TEST DETAILS:

- ❖ Total test time is 2 hours
- ❖ with up to 10 stations covering clinical, radiological and laboratory aspects of pulmonary medicine. (including case scenarios, PFT's, ABGs etc.).
- ❖ The stations have a maximum score of 10 point each.
- ❖ Maximum score is 100 points, and the passing grade is 60%

THE END