

Fellowship in Paediatric Pulmonology

Department of Paediatrics



All India Institute of Medical Sciences (AIIMS)

Jodhpur, Rajasthan, India

Syllabus for Fellowship in Paediatric Pulmonology

Introduction:

Respiratory illnesses are of variable etiology and may be acute, sub-acute or chronic. Development of Paediatric Pulmonology as a specialty in India is steadily improving in past few decades. In a recent estimate about 1.6 million children under the age of 5 years died in India every year. Of these 0.397 million (24%) died due to pneumonia alone. It has been reported that outpatient attendance of acute respiratory infections is as high as 20-40% of all outpatients and 12-35% of all inpatients. Burden of asthma in school going children varies from 4-20% in different parts of India. Apart from these illnesses drug sensitive and drug resistant pulmonary tuberculosis and human immunodeficiency virus (HIV) associated pulmonary diseases also add to burden of respiratory illnesses. Other emerging diseases like cystic fibrosis (CF), bronchopulmonary dysplasia, interstitial lung diseases and opportunistic infections in group of immunocompromised hosts, though do not form a significant burden now, but are emerging as a challenge in future. The Department of Pediatrics, AIIMS, Jodhpur is well established and had faculties having dedicated exposure to Paediatric Pulmonology.

AIIMS, Jodhpur was established by the Government of India with the aim of correcting regional imbalance in quality tertiary level health care. AIIMS, Jodhpur is a Centre of excellence in medical education, training, health care and research imbued with scientific culture, compassion for the sick and commitment to serve the underserved. Paediatric pulmonology care is available only at selected centres in India. Starting Paediatric Pulmonology fellowship at AIIMS, Jodhpur will provide level of experience, training and conceptual tool that will enable fellow not only expertise as a practitioner, but will give them foundation to ultimately start paediatric pulmonology care for indigent children. As a trained fellow in Pediatric Pulnomology, he will be able to develop network to collect data and answer the relevant research questions.

Definition:

Fellows in Paediatric Pulmonology will be fully qualified Pediatrician who will have a further period of training in Paediatric Pulmonology programs which will be practical and evidence based. The development of such educational programs will adequately prepare pediatric resident for Paediatric Pulmonology in their practice.

Aim of the training:

The aim of the fellowship is to enable the candidate to intellectual environment conducive to learning the exemplary practice of Paediatric Pulmonology.

Objectives of the training:

The trainee requires a sound understanding of Paediatric Pulmonology including:

- Management of acute and chronic respiratory problems with special emphasis on bronchial asthma and tuberculosis
- Doing and Interpreting pulmonary function tests (conventional and impulse oscillometry spirometer)
- Doing and interpreting FeNO and nasal NO
- Performing sweat chloride test
- Interpretation of chest X-ray and CT scan
- Performing flexible bronchoscopy

ORGANIZATION OF TRAINING:

A. Training programs will be in a multidisciplinary Centre and will be organized by trained specialist in Paediatric Pulmonology

B. The Centre will use the guidelines and protocols of national and international professional bodies [such as IAP Respiratory Chapter and European Respiratory Society (ERS)/American Thoracic Society (ATS)] which are reviewed at regular intervals.

THE MEANS OF TRAINING:

1. The trainees will participate in all relevant activities of the training unit such as the care of Out -Patients and In -Patients, on call duties during both day and night, also participating in educational activities, including the teaching of other health professionals. Participation in audit and clinical or basic research is essential.
2. The duration of training will be a Minimum of One Year approved program and will cover the clinical and research aspects.
3. Educational tools
 - Good text books written by leading and experienced Authors
 - Video tapes /CD ROMS
 - Simulators
 - Special instruments:
 - To learn hand and eye co-ordination
 - To learn depth perception
 - To learn tactile sensations
4. The training will be structured throughout with clearly defined targets to be met after specified intervals. An education plan will be drawn up in consultation with the trainees at the beginning of each attachment and progress will be monitored regularly, by means of log book.

ASSESSMENT OF TRAINING: -

LOG BOOKS: -

The log books are to be submitted for evaluation of the progress and to evaluate the learning curve.

EXIT EXAMS: -

The degree is awarded after a final exit examination, at the end of the one year training period as per institute policy.

TRAINING PROGRAMME SYLLABUS: -

A: General Principles:

Each Fellowship student is required to possess a comprehensive knowledge in the diagnosis and management of infants, children, and adolescents with respiratory disorders. This includes both inpatient and outpatient experience. The fellow will have extensive exposure to the performance and interpretation of routine pulmonary function test. He or she will gain experience in asthma, bronchopulmonary dysplasia, cystic fibrosis, pulmonary infections, respiratory disorders in systemic diseases and in immunocompromised hosts, neuromuscular disease, disorders of ventilatory control, interstitial lung diseases, congenital malformations of the respiratory system, etc. He/she will also possess sufficient knowledge and experience in research methodology and development and is expected to complete a research project during the tenure of his fellowship.

CLINICAL SKILLS FOR FELLOWSHIP

1. Management of acute and chronic respiratory disorders with special emphasis on asthma and tuberculosis
2. Interpretation and performance of pulmonary function test
3. Interpretation of pulmonary radiology
4. Performance of flexible bronchoscopy

Infrastructure:

Machines:

- Spirometer
- Impulse oscillometry
- Flexible video bronchoscope
- FeNO meter

Duration and Rotation:

Attend one to two sessions of pediatric chest clinic per week consisting of high risk asthma clinic, pulmonary tuberculosis and other chronic respiratory disorders under the supervision of consultants

Roster to run the Paediatric Pulmonology service

One month rotation to the spirometry

One month rotation to sweat testing

Observe/Supervised flexible bronchoscopy

Total: one year

Overview of training

Clinical knowledge will be acquired by a variety of means, including close liaison with appropriate medical and surgical and radiological meetings. Multidisciplinary meetings will be emphasized.

The following inter-relationships are important:

- Paediatric Pulmonology case discussion with AIIMS, New Delhi and PGI, Chandigarh by telemedicine
- Chest radiology meeting
- Collaborative meeting with other Paediatric Pulmonology unit in the country and abroad

1. The trainee will be encouraged and given the opportunity to attend and lead appropriate clinico-radiological and multidisciplinary meetings.
2. The trainee will be encouraged to attend appropriate educational meetings and courses.
3. The trainee will participate in and initiate relevant clinical audit.
4. Trainees will be expected to be familiar with current Paediatric Pulmonology literature.
5. The trainee will be encouraged to participate in research, and to pursue one or more projects including publication. An understanding of the principles and techniques used in research, including the value of clinical trials and basic biostatistics, will be acquired. Presentation of research and audit results at state and national meetings would be encouraged.
6. The trainee will continue to participate in the on-call rotation, with appropriate consultant back up.

The academic activities of the program in the hospital would include: -

Regular academic sessions

Case discussion and seminars

Tentative schedule for fellow in Paediatric Pulmonology:

- Paediatric Pulmonology case presentation (once a week by Telemedicinea0
- Radiology meeting (once a week)
- Clinical grand round (once a week)
- General Paediatric case presentation (once a week)
- Seminar (once a week)
- Journal Club (once a week)
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To sum up:

The goal of the Paediatric Pulmonology training is to familiarize the trainee with

2. Managing acute and chronic respiratory disorders
3. Performing and interpreting pulmonary function test (conventional and infant PFT)
4. Assisting/performing flexible bronchoscopy
5. Performing sweat chloride testing

The fellow will have to:

1. See 20 cases of quality analysing and discussing which will be certified by the faculty of the department.
2. Present at one regional and one national conference.

Recommended reading

Author Name	Name of the Books	Publishing Company
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Robert Wilmott et al	Kending's Disorder of respiratory tract in children	Elsevier, Philadelphia
Jurg Hammer et at	Pediatric Pulmonary Function testing	Karger, Basel, Switzerland
Michel J et al	Paediatric Pulmonology	American academy of Pediatrics
Priftis KN et al	Pediatric Bronchoscopy	Karger, Basel, Switzerland
Kabra SK et al	Essential Paediatric Pulmonology	Nobel Publisher, New Delhi