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# PDCC IN PEDIATRIC ALLERGY CURRICULUM

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AIIMS KALYANI



JANUARY 8, 2024

ACADEMIC SECTION  
AIIMS Kalyani

## **Post Doctoral Certificate Course in Pediatric Allergy**

### **Introduction:**

The Department of Pediatrics, AIIMS, Kalyani is well established and has trained dedicated faculty having exposure to children with various pediatric allergies and their related immunological diseases. Dedicated Pediatric Allergy care is currently available only at very few selected centres in India and we will be the first among all INIs. A dedicated Pediatric Allergy Training Programme at AIIMS, Kalyani will provide level of experience, training and conceptual tool that will enable a fellow not only expertise as a practitioner, but will give them foundation to ultimately start allergy & applied immunology care for indigent children. It is important to recognize some of these issues such as Allergic Rhinitis and Atopic Eczema early to salvage pulmonary function and reduce the morbidity and burden of end stage lung disease in their adulthood, failure to which the patient may progress if not treated timely. As a trained fellow in Pediatric Allergy, he / she will also be able to develop network to collect data and answer the relevant research questions.

### **Faculty:**

Associate Professor & Head In Charge	Dr. Nihar Ranjan Mishra
Associate Professor	Dr. Rimjhim Sonawal
Assistant Professor	Dr. Rohit Bhowmick Dr Niladri Sekhar Bhunia Dr Aditi Das

### **Infrastructure:**

AIIMS Kalyani has dedicated Pediatrics department which caters good numbers of Pediatric Allergy (till now approx. 400 registered) patients from all over the State and even outside. The department of Pediatrics is currently running Pediatric Allergy clinic on every Monday.

The following Pediatric Allergy equipment will be used for training:

- Skin Prick Tests (SPT) with Standardized Allergens
- Peak Nasal Inspiratory Flowmeter (PNIF)
- Forced Oscillation Technique

- Pediatric Spirometry
- Treadmill
- Subcutaneous Immunotherapy (SCIT)
- Florescence Enzyme Immunoassay (FEIA)
- Microscope for Nasal Eosinophil Count
- FeNO
- Molecular Allergen Testing by Micro Array Technique
- Polysomnography and REM Sleep Scoring

**Entry requirements: -**

- MD or DNB in Pediatrics from an Institute or Medical College recognized by National Medical Commission (NMC) or Medical Council of India (MCI).

**Mode of Selection:-**

- The candidates will be selected on basis of Academic Profile and Interview by the Selection Board.

**Duration: -** 1 year

**Seats: -** 2 per year

**Stipend: -** Under head of senior resident (out of total designated posts of senior resident for department of Pediatrics, two posts will be diverted for PDCC)

**Tuition fees:-** *As per Institutional Norms*

**ASSESSMENT OF TRAINING: -**

As per the institutional guidelines.

Exit Examination- at the end of the training program.

## **Syllabus for PDCC in Pediatric Allergy**

### **Introduction:**

The prevalence of allergic diseases including asthma, rhinitis, anaphylaxis, food, drug or insect allergy, urticaria, is rising worldwide. Allergic rhinitis is one of most common allergic diseases worldwide, affecting about 10-25% of population. It is one of the top ten reasons for visit to primary care physicians. In India, the burden of allergic rhinitis constitutes about 55% of all allergies. Reported incidence of allergic rhinitis in India ranges between 20% and 30% and prevalence of allergic rhinitis has been increasing in India over past few years.

. Allergic Rhinitis (AR) is a chronic allergen specific IgE mediated hypersensitivity disorder characterized by nasal congestion, rhinorrhea, sneezing, nasal itchiness, and postnasal drip. Children suffering from AR in their earlier days of life, not receiving proper treatment, resulted in long term development of asthma and other chronic lung diseases subsequently decreasing their quality of life. Most of the allergic diseases associated with REM sleep abnormalities and which lead to arithmetic problem among children. Food and drug allergies, urticaria and anaphylaxis are the topic which need to be evaluated in detail as their incidence are increasing day by day. Most of the immunodeficiencies are related with allergies, but due to ignorance they are not picked up at right time.

The burden of allergic diseases in India is increasing every year and the number of children requiring immunotherapy and biologicals is on a rise owing to not only the lack of availability of the adequate allergists but also inadequate knowledge among pediatricians.

Most of the pediatricians are either not trained to or are unable to diagnose these cases, and many times the manpower is not trained enough to handle children. It is important that people are specially trained in this area to recognize and handle these problems and provide them utmost guidance and care for them. We need people who can create access for early diagnosis, recognize occult allergy immunology disorders and treat it. This in its own sense would go a long way in decentralizing the care of these children requiring highly specialized care.

AIIMS, Kalyani was established by the Government of India with the aim of correcting regional imbalance in quality tertiary level health care. AIIMS, Kalyani 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. The Department of Pediatrics, AIIMS, Kalyani is well established and has faculty having dedicated exposure to Pediatric Allergy during their training.

Pediatric Allergy care is available only at selected centres in India. Starting a dedicated Pediatric Allergy PDCC program at AIIMS, Kalyani 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 allergy immunology care for indigent children. As a trained fellow in Pediatric Allergy, he / she will be able to develop network to collect data and answer the relevant research questions. There are wide variations and regional imbalances in care of children suffering from allergic diseases which are concentrated in Metropolitan cities. It is important to recognize some of these issues such as Allergic Rhinitis, Atopic Eczema early to salvage lung function and reduce the morbidity and burden of end stage lung failure in their adulthood to which the patient may progress if not treated timely.

**Definition:**

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

**Aim of the training:**

The aim of the fellowship is to provide to the candidate an intellectual environment conducive to learning the exemplary practice of Pediatric Allergy and inculcating evidence based practice.

**Objectives of the training:**

The trainee requires a sound understanding of Pediatric Allergy including:

- Management of Allergic Rhinitis, Asthma. Atopic Eczema, Food Allergies, Drug Allergies, Urticaria, Angioedema and Anaphylaxis
- Evaluation of Upper & Lower Airway disorders in their totality and use of biologicals
- Doing and Interpreting SPT, Subcutaneous Immunotherapy, Forced Oscillation Technique and Spirometry, Nasal Eosinophil Count by Hansel Stain / Giemsa Stain, Arterial Blood Gas Analysis and other relevant blood investigations (e.g., Serum Specific IgE for allergen by immunoCAP method, Serum tryptase)
- Assessing need for and performing SPT and SCIT
- Assessing need for and assisting and performing video Polysomnography
- Use and Interpretation of FeNO and molecular allergen testing by Micro Array Technique
- Polysomnography in allergies

**ORGANIZATION OF TRAINING:**

A. Training program would be in a multidisciplinary centre and organized by trained specialist in Pediatric Allergy.

B. The centre would use the guidelines and protocols of national and international professional bodies [such as EAACI (European Academy of Allergy and Clinical Immunology) / ASCIA (Australasian Society of Clinical Immunology and Allergy) / WAO (World Allergy Organization) and AAAAI (American Academy of Allergy, Asthma & Immunology)] which are reviewed at regular intervals.

### **THE MEANS OF TRAINING:**

#### **Entry requirements:-**

- MD or DNB in Pediatrics from an Institute or Medical College recognized by National Medical Commission (NMC) or Medical Council of India (MCI).

1. The trainees would participate in all relevant activities as deemed suitable by the department. Participation in audit and clinical or basic research is essential.

2. The duration of training would be 1 year approved program and would cover the clinical and research aspects.

3. Educational tools

- Text books written by leading and experienced Authors
- Video tapes / CD ROMS
- Simulators

4. The training would be structured throughout with clearly defined targets to be met after specified intervals. An education plan would be drawn up in consultation with the trainees at the beginning of each attachment and progress would be monitored regularly, by means of log book.

### **ASSESSMENT OF TRAINING:-**

- Each student to be evaluated every 3 months by program coordinator.

### **COURSE EVALUATION:-**

- The trainee gets the opportunity to evaluate the course.

### **LOG BOOKS:-**

- The log books are to be submitted for monthly evaluation of the progress and to evaluate the

learning curve.

### **EXIT EXAMS:-**

The degree would be awarded after a final exit examination, at the end of the 1 year training period.

### **TRAINING PROGRAMME SYLLABUS:-**

#### **A: General Principles:**

Each PDCC student is required to possess a comprehensive knowledge in the diagnosis and management of infants, children, and adolescents with allergy disorders. This includes both inpatient and outpatient experience. The fellow would have extensive exposure to the performance and interpretation of skin prick tests, pediatric spirometry, forced oscillation technique, nasal eosinophil count, FeNO, molecular allergen testing by Macro Array Technique, REM Sleep Disorders and subcutaneous immunotherapy. He or she would gain experience in management of Allergic Rhinitis, Atopic Eczema, Food Allergies, Drug Allergies, Childhood Asthma, Urticaria, Angioedema, Anaphylaxis and Immunodeficiency Disorders; and use of biologicals in appropriate cases. He/she would 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 PDCC**

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1. Management of Allergic Rhinitis, Atopic Eczema, Urticaria, Angioedema, Anaphylaxis, Immunodeficiencies, REM Sleep Disorders and Childhood Asthma
2. Skin Prick Tests, Subcutaneous Immunotherapy & appropriate use of biologicals
3. Interpretation of FOT, molecular allergen testing by Macro Array Technique, Pediatric Spirometry, FeNO and Nasal Eosinophil Count
4. Performance of necessary clinical, bedside investigations and interpreting the same to establish the diagnosis and inculcate evidence based practice.

#### **Infrastructure:**

##### **Machines:**

- Skin Prick Tests (SPT) with Standardized Allergens
- Peak Nasal Inspiratory Flowmeter (PNIF)

- Polysomnography and REM Sleep Scoring
- Forced Oscillation Technique
- Pediatric Spirometry
- Treadmill
- Subcutaneous Immunotherapy (SCIT)
- Florescence Enzyme Immunoassay (FEIA)
- Microscope for Nasal Eosinophil Count
- FeNO
- Molecular Allergen Panel Testing by Micro Array Technique

### **Duration and Rotation:**

- Attend to the pediatric allergy clinic every week consisting of the referred patients from Pediatric OPD, follow up of Allergic Rhinitis, Urticaria, Angioedema, Childhood Asthma, Immunodeficiency disorders etc. under the supervision of consultants. To assist in maintaining record of all pediatric allergy patients and their follow up. Supervising the care of Pediatric allergy & immunology patients admitted in Pediatric wards.
- One month rotation to the Polysomnography unit, Immunotherapy unit, Lung Function unit along with closely supervising all pediatric skin prick tests being conducted by the department.
- Observe/Supervised subcutaneous immunotherapy.
- Take responsibility of arranging and managing other procedures of patients admitted under pediatrics
- To present Journal clubs and seminar pertaining to recent developments in Pediatric Allergy & Immunology and discuss the same with faculty.
- Candidate has to submit one research proposal of 6 months duration with publication which is a mandate for exit exam.

**Total: One Year**

### **Supervision:**

Initially, the fellow will be fully supervised by the Faculty posted in the area. In the course of training, the level of supervision will be tapered according to the experience and confidence gained.



### **On-Call:**

We believe that attending to emergency and unscheduled cases outside duty hours is an essential part of training. The Fellow will be required to attend to all cases visiting the Pediatric Emergency with allergy & related immunological involvement when called to do so, and even those children admitted in other units of the hospital (e.g., CTVS, Pediatric Surgery, ENT and Dermatology) who may develop allergy and immunological related problems during their stay in the hospital and might need urgent care. He / She would be required to discuss the same with faculty before taking any decisions.

### **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 would be emphasized.

The following inter-relationships are important:

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

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

1. Regular academic sessions
2. Case discussion and seminars
2. Paper presentation
4. Audit / Project / Research
5. Conferences / CMEs / Live workshops

**Tentative schedule for fellow in Pediatric Allergy:**

	<b>Morning (9.00 A.M to 13.00 P.M)</b>	<b>Afternoon (14.00 P.M to 17.15 P.M)</b>
<b>Monday</b>	Pediatric Allergy Clinic to attend with faculty	Rounds / Procedures
<b>Tuesday</b>	General Paediatric OPD to attend with faculty	15:30: Multidisciplinary Meeting / Paediatric Allergy seminar / case presentation etc. (Alternate week)
<b>Wednesday</b>	9:00-10:00 A.M: Clinical grand round 10:00 A.M – 13:00 P.M: Ward work and procedures.	14:00 -17:00 Pediatric Allergy Journal Club/Seminar alternate week
<b>Thursday</b>	Pediatric Allergy Procedures	14:00 17.00 Pediatric Allergy Audit of Procedures / Patients discussion
<b>Friday</b>	Undergraduate Tutorial / OSCE classes	Rounds / Procedures
<b>Saturday</b>	9:00-10:00 A.M: General Paediatric seminar 10:00 A.M – 13.00 P.M: Integrated teaching / Ward work	

**ADMINISTRATION :-****Research and audit :-**

The fellow will have to:

- Undertake a project and have at least one publication.
- Present at one regional and one national conference.
- Participate in the daily teaching sessions within the department, and make regular presentations.
- Take part in Inter-departmental meetings relevant to the area posted.

**To sum up:**

The goal of the PDCC in Pediatric Allergy training is to familiarize the trainee with

- A) Managing allergic rhinitis, asthma, urticaria, anaphylaxis and atopic eczema
- B) Identifying the patients requiring immunotherapy along with the most suitable modality (Subcutaneous / Sublingual) and instituting the same for the patient.
- C) Diagnosis and work up of all allergic patients
- D) Assist and perform sleep study and interpret REM sleep disorders associated with allergies.
- E) Performing Skin Prick Tests, Subcutaneous Immunotherapy Forced Oscillation Technique, FeNO etc. and appropriate use of biologicals

- F) The Fellow is expected to complete a project by 6 months and at least one publication during the training.

#### Recommended Readings

Author Name	Name of the Books	Publishing Company
A Wesley Burks, Stephen T Holgate, Robyn E O'Hehir, Leonard B. Bacharier, David H. Broide, Gurjit K. Khurana Hershey, Stokes Peebles	Middleton's Allergy Principles & Practice	Elsevier
Late Prof Major K Nagaraju	Manual of Pediatric Allergy	Jaypee
Elizabeth Secord	Pediatric Immunology and Allergy	Elsevier
Donald Leung, Cezmi Akdis, Leonard Bacharier, Charlotte Cunningham-Rundles, Scott Sicherer, Hugh Sampson	Pediatric Allergy: Principles and Practice	Elsevier