King George's Medical University, UP, Lucknow

POST DOCTORAL CERTIFICATE COURSE (PDCC) IN INTERVENTIONAL PULMONOLOGY

Department of Pulmonary & Critical Care Medicine

Second Floor, Shatabdi Phase-2,
King George's Medical University, UP, Lucknow-226003
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1. GOALS & OBJECTIVES:

At the end of the course the students will be able to

1. Perform the various diagnostic, therapeutic and surgical procedures related to Interventional Pulmonology.
2. Appreciate trends and issues related to Interventional Pulmonology.
3. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of the patient undergoing the Intervention.
4. Describe the various drugs used in intervention - Responsibility in their administration.
5. Demonstrate advance skills/competence in managing the complication patients including Advance Cardiac Life Support.
6. Demonstrate skill in handling various equipments used in Interventional Pulmonology.
7. Provide comprehensive care for any complication in the patients.
8. Appreciate team work & coordinate activities related to Interventional Pulmonology.
9. Practice infection control measures.
10. Access and manage pain with adequate analgesia and local Anesthesia.
11. Identify complications & take appropriate measures.
12. Assist patients and their family members to cope up with emotional distress, grief and anxiety
13. Identify the sources of stress and manage burnout syndrome among health care providers.
14. Teach and supervise the technicians & allied health workers.
15. Design a layout of Interventional Area and develop standards for Interventional Pulmonology practices

2. REQUIREMENTS/TRAINING PLAN FOR PDCC COURSE.

1. **Eligibility:-** Candidates for admission shall be required to have any one of the following qualifications.

a) DM(Pulmonary Medicine/Pulmonary & Critical Care Medicine/Pulmonary, Critical Care & Sleep Medicine), MD/DNB in Respiratory Medicine/ Pulmonary Medicine/TB & Chest diseases/TB & Respiratory diseases/ General Medicine/ Internal Medicine/ Medicine/ Pediatrics degree recognized by the NMC/MCI.

b) He/she having qualified for the postgraduate degree of any university recognized by the Medical Council of India or any other University recognized as equivalent there to by the Medical Council of India and obtained permanent registration from any of the state Medical Council NMC/MCI.

2. **Duration of the course:** One Year

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3. ORGANIZATION OF TEACHING AND TRAINING

Learning in postgraduate degree course shall essentially be autonomous and self-directed. However, to stimulate the learning process and guiding the student, various academic activities shall be periodically conducted in the department.

A. Methods for the transfer of knowledge:

a. Clinical Case Presentation: One per week.
b. Seminar: One per week.
c. Journal Club: One per week.
d. Teaching Rounds- Two per week.
e. Institutional level CME As per institute's schedule.
f. Inter departmental clinical meets One per Quarter.
g. An effort shall be made to develop integrated teaching with other department as decided by the Head of the Department.
h. Faculty Lecture- Intra/Inter departmental-one per month.
i. Any other academic activities as decided by the Head of the Department.
j. Activities outside institute: PDCC candidates are encouraged to attend conferences and workshops outside institute.
k. Webinars/ Virtual knowledge network/ Podcasts/ Telemedicine broadcasted from and to other institutes of importance.
l. Candidate has to work as Senior Resident in the department and will participate in In patient/out patient/emergency duties and other responsibilities as assigned by the department.

B. Methods of imparting clinical skills, conversion of theory in practice and documentation:

Skills related to use of various diagnostic and therapeutic procedures will be imparted by:

OPD Teaching: PDCC candidates are posted in the OPD and they are expected to work up and present the case to the consultant to develop competencies.

IPD teaching: PDCC candidates are posted in the indoor ward on rotation basis. They work up the admitted cases in detail under the supervision.

Demonstration / Hands on Training: PDCC candidates will be given hands on training in various procedures related to a *specific area* of practice, as applicable.

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4. SYLLABUS & COMPETENCIES

1. Introduction to Interventional Pulmonology

i. Historical review- Progressive care of the patients undergoing Pulmonology Interventions.
ii. Review of anatomy and physiology of vital organs in general & thoracic region in patient along, fluid and electrolyte balance
iii. Concepts of Interventional Pulmonology
iv. Principles and Scope of Interventional Pulmonology
v. Interventional Pulmonology unit set up including equipments supplies, use and care of various type of monitors, OT Table & ventilators etc.

2. Concept of Holistic care applied to Interventional Pulmonology

- Impact of Interventional Pulmonology unit on patients:-Risk factors, Assessment of patients, intervenmtional clostrophobia & burn out syndrome among the team members of health care

3. Review of Drugs/Fluids Pharmacokinetics

i. Analgesics/Anti inflammatory agents/Local & General Anesthesia agents.
ii. Antibiotics, antiseptics
iii. Adverse Drug reaction & toxicity
iv. Drugs used in Interventions including life saving drugs.
v. Drugs used in various body systems
vi. IV fluids and electrolytes
vii. Blood and blood components
viii. Principles of drug administration, role of doctor and care of drugs

4. Pain Management

i. Pain & Sedation local anesthesia in the patients undergoing the procedures.
ii. Pain management-pharmacological and non-pharmacological.

5. Infection control in Interventional Pulmonology unit

- Nosocomial infection in Interventional Pulmonology unit; Disinfection, Sterilization, Standard safety measures, Needle Stick Injury, Prophylaxis for staff Bio Medical Waste Management.

6. Management of other Emergency Conditions/ Trauma

i. Mechanism of injury, Cervical Spine/Thoracic injuries, Abdominal injuries, pelvic fractures, complications of trauma
ii. Shock: Shock syndrome, Hypovolemic, Cardiogenic, Anaphylactic, Neurogenic and Septic shock, Multiple organ dysfunction syndrome, Drug Overdose and Poisoning.

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7. **Cardiovascular Emergencies**

- ECG monitoring. Cardioversion Cardiac arrhythmias, Thrombolytic therapy, Pacemaker – temporary. Cardio pulmonary resuscitation BLS/ ALS, Echo Cardiography.

8. **Respiratory System**

- Acid-base balance Assesment : History & Physical Examination Pulse Oximetry, End – Tidal Carbon Dioxide, Arterial blood gas studies, chest radiography, pulmonary Angiography, Bronchoscopy Medical, Surgical management of Common pulmonary disorders:- Pneumonia, Status asthmaticus, Interstitial drug disease, Pleural effusion, Chronic obstructive pulmonary disease, Pulmonary tuberculosis. Pulmonary edema, Pulmonary embolism, Acute respiratory distress syndrome (ARDS), Chest Trauma - Haemothorax, Pneumothorax Management Modalities:-Airway Management Ventilatory Management:-Invasive, non- invasive, long term mechanical ventilations Bronchial Hygiene:-Nebulization, deep breathing exercise, chest physiotherapy, postural drainage, Inter Costal Drainage.

9. **Legal and ethical issues in Interventional Pulmonology**

- Brain death. Organ donation & Counseling Do Not Resuscitate (DNR)

10. **Quality assurance**

- Standards, Protocols, Policies, Procedures Infection control; Standard safety measures Technical audit Staffing, Design of Interventional Pulmonology.

Proposed Rotation	
Unit	**No. of Months**
Bronchoscopy & Associated procedures (Flexible & Rigid)*	3 Months
Thoracoscopy & Associated procedures (Semi Rigid & Rigid)*	2 Months
EBUS & CRYO Biopsy	2 Months
USG Guided Procedures	1 Months
Thoracostomy	1 Months
RICU/CCU*	3 Months

*** For candidates of MD/DNB (Medicine)/ MD/DNB (Pediatrics) backgrounds will undergo Bronchoscopy & Associated procedures posting for 04 months, and Thoracoscopy & Associated procedures posting for 03 months & RICU/CCU posting for 01 months.**

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COMPETENCIES

A Record of competencies will be issued by the recognized teacher/guide at the end of training. The following are the competencies that shall be assessed and signed after the end of each posting.

I. Quality Bronchoscopy
II. Quality Thoracosopy
III. Quality EBUS
IV. Quality CRYO Biopsy
V. Quality Thoracostomy
VI. Quality Emergency Procedures in ICU
VII. Quality Tracheostomy
VIII. Quality Intubation(Endotracheal)
IX. Quality Venous /Arterial access
X. Should know about tissue handling and relevant test to be advise according to particular case
XI. Recognition, assessment and stabilization of a patient with complication during the interventional procedure
XII. Manages cardiopulmonary resuscitation
XIII. Manages the patient post-resuscitation
XIV. Timely admission assessment to ICU, timely admission to ICU timely
XV. Obtain a history and performs an accurate clinical examination
XVI. Undertakes timely and appropriate investigations
XVII. Describes indications for Endotracheal Intubation
XVIII. Performs ECG and interprets the results
XIX. Recognizes and manages electrolyte, glucose and acid-base disturbances
XX. Chest x-rays - Liaises with radiologists to organize and interpret clinical imaging
XXI. Monitors and responds to trends in physiological variables
XXII. Co-ordinates and provides nutritional assessment and support.
XXIII. The minimum no. of procedures that a candidate is required to observe/assist/perform is as follows:

Sl.No.	Procedure	No. of Procedures observed	No. of Procedures Assisted	No. of Procedures Performed
01	Broncoscopy	10	20	50
02	Thoracoscopy	05	15	15
03	EBUS	05	05	05

5. LOG BOOK

i. PDCC candidate shall maintain a record log book of the work carried out by them during the period of training.
ii. The log book has to be maintained as recommended by the department, checked, and assessed periodically and signed by the senior resident weekly and consultant fortnightly and, checked and signed by the HOD at the end of every month.
iii. Scanned copy of the log book will be kept in the departmental record for future purposes.

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6. POSTER/RESEARCH PRESENTATION AND PUBLICATION:

During the training period PDCC candidate has:

1. To present at least one poster presentation in a National conference.
2. To read at least one paper in a National conference.
3. To submit at least one research paper, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
4. Data should have been collected during the training period

7. SCHEME OF ASSESSMENT:

Examination:

Formative Assessment:

Formative assessment includes various formal and informal assessment procedure by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/faculty to improve student attainment. Formative assessment test (FAT) is called as "Formative "as it informs the in process teaching and learning modifications. FAT is an integral part of the effective teaching. The goal of the FAT is to collect information which can be used to improve the student learning process. Formative assessment is essentially positive in indent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount informative assessment and should take precedence over concerns for reliability. The assessment scheme consists of three parts which has to be essentially completed by the candidates.

The scheme including:-

Part I:- Conduction of theory examination
Part II:- Feedback session on the theory performance
Part III:- Work place based clinical assessment

Scheme of Formative assessment

PART –I CONDUCT OF THEORY EXAMINATION
Candidate has to appear for
Theory Exam and it will be held for One day.

PART – II
FEEDBACK SESSION ON THE THEORY EXAMINATION
Candidate has to appear for his/her Theory Exam
Assessment workshop

PART – III WORK PLACE BASED

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CLINICAL ASSESSMENT

After Theory Examination,
Candidate has to appear for Clinical Assessment.
The performance of the resident during the training period should be monitored throughout the course and duly recorded in the books as evidence of the ability and daily work of the student.

1. **Personal Attributes:**

   Behavior and Emotional Stability: Dependable, disciplined, dedicated, stable in emergency situation, shows positive approach.

   Motivation and Initiative: Takes responsibility, innovation, enterprising, dose not shirk duties or leave any work pending.

   Honesty and Intergrity : Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.

   Interpersonal Skills and leadership Quality: has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to senior, has good communication skills.

2. **Clinical Work :**

   Availability: Punctual, available continuously on duty, responds prompty on calls and takes proper permission for leave.

   Diligence: Dedicated, hardworking, dos not shirk duties, leave no work pending, does not sit idle, competent in clinical case work up and management.

   Academic ability: Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.

   Clinical Performance: Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

   Academic Activity: Performance during presentation at Journal club/Seminar/Case discussion /Stat meeting and other academic sessions. Proficiency in skills as mention job responsibilities.

FINAL EXAMINATION:

The summative assessment of competence will be done in the form of PDCC exit Examination leading to the awards of the degree of PDCC course in Interventional Pulmonology. The PDCC Exit Examination is a two-stage examination comprising the theory and practical part.

Theory examination:

1. The Theory Examination comprises of one paper with maximum marks of 100.
2. There are 10 short notes of 10 marks each in the theory paper.
3. Maximum time permitted is 3 hours.

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Practical Examination:

1. Maximum marks : 300
2. Comprises of Clinical Examination and viva

   The candidate has to score a minimum of 50% marks in aggregate i.e. 200 out of total 400 marks (Theory & Practical) with at least 50 % marks in theory examination to qualify in the PDCC Exit Exam.

   The theory and Practical of PDCC Exit Examination shall be conducted at the same examination center of the concerned specialty.

Declaration of PDCC Exit Result:

1. PDCC Exit Examination is a qualifying examination.
2. Results of PDCC Exit Examination (theory & practical) are declared as PASS/FAIL.
3. PDCC degree is awarded to a trainee in the convocation of KGMU.

Eligibility Criteria to appear for the PDCC Examination:

8. **Attendance :**

   The candidate must have attendance as per rules laid down by the academic council.

9. **Poster, Paper, Research Presentation and Publication:**

   i. To present one poster presentation National/International Conference.
   ii. To read one paper at a National/International conference.
   iii. To submit at least one research papers, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
   iv. Data should have been collected during the training period.

10. **Semester Examinations:**

   i. The candidate must secure at least an average of 50% marks semester examination separately in theory as well as practical.
   ii. In the pre-professional examination, the candidate must secure at least 50% marks separately in theory as well as practical.

11. **Formative assessment:**

- The candidate must secure at least 50% marks in the formative assessment.

12. **Recommendation from the Department**

   Department will provide in writing a certificate of good standing of the candidate for being eligible to appear in the professional examination.

**May be modified and finalized as per university rules.*

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POST DOCTORAL FELLOWSHIP (PDF) IN SLEEP MEDICINE

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CURRICULUM FOR POST DOCTORAL FELLOWSHIP (PDF) COURSE IN SLEEP MEDICINE

ONE YEAR (TWO SEMESTERS) COURSE

1. GOALS, OBJECTIVES AND COMPETENCIES:

Goals

1. The goal of Post Doctoral Certificate Course in Sleep Medicine course is to produce a competent Sleep Physician who has in-depth knowledge in a *specific category* of Sleep Disorders.
2. Recognizes the needs of patients having *specific category of* Sleep Disorders and carries out professional obligations in keeping with principles of discipline, prevailing guidelines and professional ethics.
3. Has acquired the competencies pertaining to *specific area* of Sleep Medicine (including knowledge, clinical skills and soft skills) that are required to practice in the community and at all levels of health care system.
4. Is aware of the contemporary advances and developments in medical sciences as related to *specific area* of Sleep Medicine.
5. Is able to apply principles of research methodology and evidence based medicine to *specific area* of clinical practice.
6. Has acquired skills in teaching and training of medical and paramedical professionals.
7. Is able to follow the principles of team approach in various capacities- as a member and as a leader.

Objectives

1. Able to recognize, diagnose and manage cases that belong a *specific category* of sleep disorders.
2. Identify situations calling for urgent or early intervention and refer at the optimum time to the appropriate centers / specialties, if required.
3. Perform various procedures related to a *specific area of* Sleep Medicine (e.g.: Polysomnography, Actigraphy, Cognitive Behavior Therapy, Sleep EEG, as applicable).
4. Should be able to read and interpret the PSG Graph independently.
5. Should be able to prescribe correct CPAP and BIPAP therapy and other drugs as needed.
6. Should know about troubleshooting of machine.
7. Provide adequate follow-up care to all patients belonging to a *specific category* of sleep disorders.
8. Plan and advice measures for the prevention and rehabilitation of patients belonging to a *specific category* of sleep disorders.
9. Counsel and guide (in a structured manner) patients and their caregivers regarding needs and implications of a *specific category* of sleep disorders.
10. Able to discharge effectively the supervised clinical care to the patients and comply with the standard operating protocols of the department and institute.

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11. Discharge effectively medico-legal and ethical responsibilities and practice his specialty ethically.

12. Effectively and coherently communicate with patients, care-givers, fellow professionals and scientific community as a member of multidisciplinary team.
13. Organize and participate in relief measures during situations of mass disasters leading to a *specific category* of sleep disorders
14. Should be effectively able to transfer conceptual and skills based knowledge related to the subject to the undergraduates, postgraduates and members of medical fraternity
15. Plan and perform clinical and medical audits
16. Demonstrate sufficient understanding of basic sciences related to the specialty
17. Demonstrate competence in basic concepts of research methodology and evidence- based medicine so as to interpret scientific data, conduct research and guide others
18. Able to represent department in various academic forum through presentations (paper/ poster/symposium) and research publications

COMPETENCIES:

Theoretical knowledge:

1. Comprehensively understands the concepts of a *specific category* of sleep disorders related to etiopathogenesis, symptomatology, diagnostic methods, investigations, management and prognostications.
2. Comprehensively understands a *specific category* sleep disorders from the perspectives of behavioral sciences, neuroscience, epidemiology, and genetics.
3. Has adequate knowledge of other medical disorders including Psychiatric, Neurological, Pulmonary, Medical, Otorhinolaryngological, and Dental from the perspectives of Sleep Medicine.
4. Able to coherently comprehend data gathered from laboratory investigations

Clinical Skills:

1. Gathering essential and accurate information about the patient.
2. Providing transfer of care that ensures seamless transitions.
3. Building up rapport and therapeutic alliance.
4. Interviewing patients/families about particulars of the medical condition for which they seek care, with specific attention to medical, behavioral, psychosocial and environmental correlates of disease.
5. Performing complete and accurate physical examinations.
6. Making informed diagnostic and therapeutic decisions.
7. Developing and carrying out management plans.
8. Advising and performing all medical procedures.
9. Providing effective health maintenance and anticipatory guidance.
10. Providing long term continuous care to the patients and caregivers.
11. Performing, scoring and interpreting data from relevant investigationns viz., Home Sleep Testing, In Lab Attended Polysomnography, Actigraphy and Sleep Diary, as applicable
12. Performing manual titration of PAP devices, *if applicable.*
13. Performing various diagnostic methods using polysomnography.
14. Using information technology to optimize patient care.

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Leadership Quality:

1. Able to lead the team consisting of colleagues, younger colleagues, paramedical staff, other mental health professionals and members from other medical disciplines in various settings
2. Able to effectively and coherently communicate with community, leaders, administrators and members of health care team using principles of evidence based medicine
3. Able to effectively participate and lead the team in various health care programs of national and international importance
4. Able to effectively organize and conduct scientific meetings and awareness programs

Administrative and managerial skills:

1. Able to manage and improve the routine work in the outpatient, in-patient settings of the department
2. Able to manage and maintain smooth flow of work in community, primary and secondary care setting settings to ensure optimal diagnosis and care to the patients.

1. REQUIREMENTS/TRAINING PLAN FOR PDF COURSE.

1. **Eligibility:-** Candidates for admission shall be required to have any one of the following qualifications.

a) DM(Pulmonary Medicine/Pulmonary & Critical Care Medicine/Pulmonary, Critical Care & Sleep Medicine), MD/DNB in Respiratory Medicine/ Pulmonary Medicine/TB & Chest diseases/TB & Respiratory diseases/ General Medicine/ Internal Medicine/ Medicine/ Pediatrics degree recognized by the NMC/MCI.

b) He/she having qualified for the postgraduate degree of any university recognized by the Medical Council of India or any other University recognized as equivalent there to by the Medical Council of India and obtained permanent registration from any of the state Medical Council NMC/MCI.

2. **Duration of the course:** One Year

3. ORGANIZATION OF TEACHING AND TRAINING

The course will be conducted in collaboration with the Department of Neurology, Department of Otorhinolaryngology, Department of Prosthodontics and Department of Psychiatry, KGMU, UP, Lucknow.

Learning in postgraduate degree course shall essentially be autonomous and self-directed. However, to stimulate the learning process and guiding the student, various academic activities shall be periodically conducted in the department.

A. **Methods for the transfer of knowledge:**

a. Clinical Case Presentation: One per week.
b. Seminar: One per week.
c. Journal Club: One per week.
d. Teaching Rounds- Two per week.
e. Institutional level CME As per institute's schedule.
f. Inter departmental clinical meets One per Quarter.
g. An effort shall be made to develop integrated teaching with other department as decided by the Head of the Department.

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h. Faculty Lecture- Intra/Inter departmental-one per month.
i. Any other academic activities as decided by the Head of the Department.
j. Activities outside institute: PDCC candidates are encouraged to attend conferences and workshops outside institute.
k. Webinars/ Virtual knowledge network/ Podcasts/ Telemedicine broadcasted from and to other institutes of importance.
l. Candidate has to work as Senior Resident in the department and will participate in In patient/out patient/emergency duties and other responsibilities as assigned by the department.

B. Methods of imparting clinical skills, conversion of theory in practice and documentation:

Skills related to use of various diagnostic and therapeutic procedures in Sleep Medicine will be imparted by:

OPD Teaching: PDF candidates are posted in the OPD and they are expected to work up and present the case to the consultant to develop competencies.

IPD teaching: PDF candidates are posted in the indoor ward on rotation basis. They work up the admitted cases in detail under the supervision.

Demonstration / Hands on Training: PDF candidates will be given hands on training in various procedures related to a *specific area* of Sleep Medicine practice, as applicable. It includes:

a. Use of sleep diary and actigraphy data to assess sleep
b. Recording and analysis of Polysomnography data during diagnostic study
   i. Adults
   ii. Pediatric
c. Recording and analysis of Polysomnography data during diagnostic study with extended EEG montage
   i. Adults
   ii. Pediatric
d. Conduction and analysis of data from Home Sleep Testing
e. Manual titration of PAP device (CPAP, Bi-Level PAP)
f. Conduction and interpretation of following tests using PSG:
   i. Multiple Sleep Latency Test
   ii. Maintenance of Wakefulness Test
   iii. Suggested Immobilization Test
g. Cognitive Behavior Therapy for Insomnia A log book shall be maintained for all the procedures.

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4. SYLLABUS FOR PDF (Sleep Medicine)

Semester wise division of topics:

Considering the examination process as mentioned in section 6, syllabus is divided in two semesters. At the end of each semester, examination will be held from the syllabus mentioned for respective semester.

1. **Syllabus common for all semesters:**
2. **Review Articles/ Meta-analysis published in following journals during the semester**
   I. Sleep
   II. Sleep Medicine
   III. Journal of Clinical Sleep Medicine
   IV. Sleep and Breath
   V. North American Clinics of Sleep Medicine
   VI. Sleep and Vigilance
   VII. Journal of Sleep Research
   VIII. Sleep and Biological Rhythms
3. **Semester wise division of syllabus:**

Syllabus include following topics and their extensions. PDF is encouraged to read relevant literature from the reading material suggested in the Reading list

First Semester:

Instrumentation and Methodology:-

1. Polysomnography and Beyond
2. Sleep Stage Scoring
3. Central Nervous System Arousals & Cyclic Alternating Patterns
4. Neurologic Monitoring Techniques
5. Monitoring Techniques for Evaluating Suspected Sleep-Related Breathing Disorders
6. Home Sleep Testing
7. Cardiopulmonary Coupling Sleep Spectrograms
8. Pulse Wave Analysis During Sleep
9. Recording and Scoring Sleep-Related Movements
10. Evaluating Sleepiness
11. Chronobiologic Monitoring Techniques
12. Actigraphy

Normal Sleep and Its Variance

1. History of Sleep Physiology and Medicine
2. Normal Human Sleep: An Overview
3. Normal Aging
4. Daytime Sleepiness and Alertness
5. Sleep Deprivation
6. Genetics of Normal Human Sleep

Sleep Mechanisms and Phylogeny

1. Neural Control of Sleep in Mammals
2. Rapid Eye Movement Sleep
3. Novel Techniques for identifying Sleep Mechanisms and Disorders.
4. Sleep in Animals: A State of Adaptive Inactivity

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Physiology in Sleep

1. Relevance of Sleep Physiology for Sleep Medicine Clinicians
2. What Brain Imaging Reveals about Sleep Generation and Maintenance?
3. Cardiovascular Physiology and Coupling with Respiration: Central and Autonomic Regulation
4. Cardiovascular Physiology: Autonomic Control in Health and in Sleep Disorders
5. Respiratory Physiology: Central Neural Control of Respiratory Neurons and Motoneurons during Sleep
6. Respiratory Physiology: Understanding the Control of Ventilation
7. Physiology of Upper and Lower Airways
8. Respiratory Physiology: Sleep at High Altitudes
9. Sleep and Host Defense
10. Endocrine Physiology in Relation to Sleep and Sleep Disturbances
11. Thermoregulation in Sleep and Hibernation
12. Memory Processing in Relation to Sleep
13. Sensory and Motor Processing During Sleep and Wakefulness
14. Opiate Action on Sleep and Breathing
15. Pathophysiology of Sleep-wake Disturbances After Traumatic Brain Injury.

Chronobiology

1. Introduction: Master Circadian Clock and Master Circadian Rhythm
2. Anatomy of the Mammalian Circadian System
3. Physiology of the Mammalian Circadian System
4. Human Circadian Timing System and Sleep-Wake Regulation
5. Sleep Homeostasis and Models of Sleep Regulation
6. Circadian Rhythms in Sleepiness. Alertness, and Performance
7. Central and Peripheral Circadian Clocks
8. Circadian Dysregulation and Mental and Physical Health
9. Circadian Disorders of the Sleep-Wake Cycle

Pharmacology

1. Hypnotic Medications: Mechanisms of Action and Pharmacologic Effects
2. Clinical Pharmacology of Other Drugs Used as Hypnotics
3. Wake-Promoting Medications: Basic Mechanisms and Pharmacology
4. Wake-Promoting Medications: Efficacy and Adverse Effects
5. Drugs That Disturb Sleep and Wakefulness
6. Effects of Hypnotic Drugs on Driving Performance

Impact, Presentation, and Diagnosis

1. Approach to the Patient with Disordered Sleep
2. Cardinal Manifestations of Sleep Disorders
3. Physical Examination in Sleep Medicine
4. Use of Clinical Tools and Tests in Sleep Medicine
5. Classification of Sleep Disorders
6. Epidemiology of Sleep Medicine
7. Sleep Medicine, Public Policy, and Public Health
8. Sleep and Athletic Performance

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Second Semester, as applicable to the candidate.

Sleep Breathing Disorders

1. Sleep Related Breathing Disorders: Classification
2. Sleep Breathing Disorders: Clinical Overview
3. Central Sleep Apnea: Definitions, and Pathophysiology, Genetics, and Epidemiology
4. Central Sleep Apnea: Diagnosis and Management
5. Anatomy and Physiology of Upper Airway Obstruction
6. Snoring and Pathologic Upper Airway Resistance Syndromes
7. Obstructive Sleep Apnea: Phenotypes and Genetics
8. Obstructive Sleep Apnea: Clinical Features, Evaluation, and Principles of Management
9. Positive Airway Pressure Treatment for Obstructive Sleep Apnea
10. Medical and Device Treatment for Obstructive Sleep Apnea: Alternative, Adjunctive, and Complementary Therapies
11. Obstructive Sleep Apnea and the Central Nervous System: Neural Adaptive Processes, Cognition and Performance
12. Obstructive Sleep Apnea and Metabolic Disorders
13. Overlap Syndromes of Sleep and Breathing Disorders
14. Obesity Hypoventilation Syndrome
15. Obstructive Sleep Apnea, Obesity, and Bariatric Surgery
16. Sleep and Breathing at High Altitude

Insomnia

1. Insomnia: Recent Developments and Future Directions
2. Insomnia: Epidemiology and Risk Factors
3. Etiology and Pathophysiology of Insomnia
4. Insomnia Diagnosis Assessment, and Evaluation
5. Insomnia and Health
6. Cognitive Behavioral Therapies for Insomnia I: Approaches and Efficacy
7. Psychological and Behavioral Treatments for Insomnia II: Implementation and Specific Population
8. Pharmacologic Treatment of Insomnia: Benzodiazepine Receptor Agonists
9. Pharmacologic Treatment of Insomnia: Other Medication

Disorders of Hypersomnolence

1. Narcolepsy: Genetic, Immunology, and Pathophysiology
2. Narcolepsy: Diagnosis and Management
3. Idiopathic Hypersomnia
4. Insufficient Sleep Syndrome
5. Kleine-Levin Syndrome

Sleep Related Movement Disorders:

1. Restless Legs Syndrome and Periodic Limb Movements During Sleep
2. Sleep Bruxism: Definition, Prevalence, Classification, Aetiology, and Consequences
3. Sleep Bruxism: Diagnostic Considerations
4. Other Sleep Related Movement Disorders

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Parasomnia

1. Parasomnias: Overview and Approach
2. Non-Rapid Eye Movement Parasomnias: Clinical Spectrum, Diagnostic Features, and Management
3. Rapid Eye Movement Sleep Parasomnias
4. Nightmares and Dream Disturbances
5. Other Parasomnias
6. Sleep-Related Movement Disorders and Their Unique Motor Manifestations

5. LOG BOOK

1. PDF candidate shall maintain a record log book of the work carried out by them during the period of training.
2. The log book has to be maintained as recommended by the department, checked, and assessed periodically and signed by the senior resident weekly and consultant fortnightly and, checked and signed by the HOD at the end of every month.
3. Scanned copy of the log book will be kept in the departmental record for future purposes.

6. POSTER/RESEARCH PRESENTATION AND PUBLICATION:

During the training period PDF candidate has:

1. To present at least one poster presentation in a National conference.
2. To read at least one paper in a National conference.
3. To submit at least one research paper, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
4. Data should have been collected during the training period

7. SCHEME OF ASSESSMENT:

Examination:

Formative Assessment:

Formative assessment includes various formal and informal assessment procedure by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/faculty to improve student attainment. Formative assessment test (FAT) is called as "Formative "as it informs the in process teaching and learning modifications. FAT is an integral part of the effective teaching. The goal of the FAT is to collect information which can be used to improve the student learning process. Formative assessment is essentially positive in indent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount informative assessment and should take precedence over concerns for reliability. The assessment scheme consists of three parts which has to be essentially completed by the candidates.

The scheme including:-

Part I:- Conduction of theory examination

Part II:- Feedback session on the theory performance

Part III:- Work place based clinical assessment

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Scheme of Formative assessment

PART –I CONDUCT OF THEORY EXAMINATION

Candidate has to appear for

Theory Exam and it will be held for One day.

PART – II

FEEDBACK SESSION ON THE THEORY EXAMINATION

Candidate has to appear for his/her Theory Exam

Assessment workshop

PART – III WORK PLACE BASED

CLINICAL ASSESSMENT

After Theory Examination,

Candidate has to appear for Clinical Assessment.

The performance of the resident during the training period should be monitored throughout the course and duly recorded in the books as evidence of the ability and daily work of the student.

1. **Personal Attributes:**

Behavior and Emotional Stability: Dependable, disciplined, dedicated, stable in emergency situation, shows positive approach.

Motivation and Initiative: Takes responsibility, innovation, enterprising, dose not shirk duties or leave any work pending.

Honesty and Integrity : Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.

Interpersonal Skills and leadership Quality: has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to senior, has good communication skills.

2. **Clinical Work :**

Availability: Punctual, available continuously on duty, responds prompty on calls and takes proper permission for leave.

Diligence: Dedicated, hardworking, dos not shirk duties, leave no work pending, does not sit idle, competent in clinical case work up and management.

Academic ability: Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.

Clinical Performance: Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

Academic Activity: Performance during presentation at Journal club/Seminar/Case discussion /Stat meeting and other academic sessions. Proficiency in skills as mention job responsibilities.

FINAL EXAMINATION:

The summative assessment of competence will be done in the form of fellowship exit Examination leading to the awards of the degree of Post Doctoral Fellowship in Sleep Medicine. The fellowship Exit Examination is a two-stage examination comprising the theory and practical part.

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Theory examination:

1. The Theory Examination comprises of one paper with maximum marks of 100.
2. There are 10 short notes of 10 marks each in the theory paper.
3. Maximum time permitted is 3 hours.

Practical Examination:

1. Maximum marks : 300
2. Comprises of Clinical Examination and viva

The candidate has to score a minimum of 50% marks in aggregate i.e. 200 out of total 400 marks (Theory & Practical) with at least 50 % marks in theory examination to qualify in the fellowship Exit Exam.

The theory and Practical of Fellowship Exit Examination shall be conducted at the same examination center of the concerned specialty.

Declaration of Fellowship Exit Result:

1. Fellowship Exit Examination is a qualifying examination.
2. Results of fellowship Exit Examination (theory & practical) are declared as PASS/FAIL.
3. PDF degree is awarded to a trainee in the convocation of KGMU.

Eligibility Criteria to appear for the PDF Examination:**

1.Attendance :

The candidate must have attendance as per rules laid down by the academic council.

2.Learning of skills:

i. At least 50 PSG scored independently with 80% agreement with Expert scoring
ii. Out of 50 PSGs, 25 should be titration studies done independently to the level of Good to Optimal level, *as applicable*
iii. Conducting and Reporting at least 5 cases of MSLT/MWT, as applicable
iv. Conducting and Reporting at least 5 cases of Suggested Immobilization Test, as applicable
v. At least 15 cases of Cognitive Behavior Therapy for insomnia completed and recorded, as applicable

3.Poster, Paper, Research Presentation and Publication:

i. To present one poster presentation National/International Conference.
ii. To read one paper at a National/International conference.
iii. To submit at least one research papers, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
iv. Data should have been collected during the training period.

4.Semester Examinations:

i.The candidate must secure at least an average of 50% marks semester examination separately in theory as well as practical.
ii.In the pre-professional examination, the candidate must secure at least 50% marks separately in theory as well as practical.

5. Formative assessment:

- The candidate must secure at least 50% marks in the formative assessment.

6. Recommendation from the Department

Department will provide in writing a certificate of good standing of the candidate for being eligible to appear in the professional examination.

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Suggested Reading List*

1. International Classification of Sleep Disorders. 3rd ed.,Darien, IL : American Academy of Sleep Medicine; 2014 .
2. Principles and Practice of Sleep Medicine. Meir Kryger, Thomas Roth, William Dement. (Eds) 6th Edition. Elsevier; 2017: Chicago
3. Principles and Practice of Pediatric Sleep Medicine. Stephen Sheldon, Richard Ferber, Meir Kryger David Goza. (Eds) 2 Edition. Elsevier; 2014: Chicago
4. Berry R, Albertario C, Harding S, for the American Academy of Sleep Medicine. The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications. Darien, IL: 2018
5. Gupta R, Pandi-Perumal SR, BaHammam A. Clinical Atlas of Polysomnography. Apple Academic Press. 1st Ed. New Jersy, USA. 2018
6. Chakroverty S, Thomas RJ. Atlas of Sleep Medicine. Elsevier. 2nd Ed. Philapdelphia, PA. 2014
7. Edinger JD, Carney CE., Treatments that work. Overcoming insomnia: A cognitive-behavioral therapy approach. therapist guide. Oxford University Press. 2nd Ed. 2015

Guidelines:

1. Guidelines from World Sleep Society
2. Guidelines from American Academy of Sleep Medicine
3. Guidelines from European Sleep Society

Journals:

1. Sleep
2. Sleep Medicine
3. Journal of Clinical Sleep Medicine
4. Sleep and Breath
5. North American Clinics of Sleep Medicine
6. Sleep and Vigilance
7. Journal of Sleep Research
8. Sleep and Biological Rhythms

**Suggested reading list may be modified from time to time. Please use the latest edition of the book available in the market.*

***May be modified and finalized as per university rules.*

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POST DOCTORAL CERTIFICATE COURSE (PDCC) IN PULMONARY & CRITICAL CARE MEDICNE

Department of Pulmonary & Critical Care Medicine

Second Floor, Shatabdi Phase-2,
King George's Medical University, UP, Lucknow-226003
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Contents

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Chhatrapati Shahu Ji Maharaj's Medical University, U.P. Lucknow

1. GOALS & OBJECTIVES

Goals:- The goals of the program would be to prepare candidates so as he/she.

1. Recognizes the health needs of patients having pulmonary complaints and carries out professional obligations in keeping with principles of National Health Policy and professional ethics.
2. Has acquired the competencies pertaining to Pulmonary and Critical Care Medicine that are required to be practiced in the community and at all levels of health care system. Has acquired skills in effectively communicating with the patient, family and the community.
3. Is aware of the contemporary advances and developments in medical sciences as related to Pulmonary and Critical Care Medicine.
4. Is oriented to principles of research methodology and epidemiology and should be able to analysis published research literature properly.
5. Has acquired skills in educating medical and paramedical professionals.

2. REQUIREMENTS/TRAINING PLAN FOR PDCC COURSE.

1. **Eligibility:-** Candidates for admission shall be required to have any one of the following qualifications.

a) MD/DNB in Respiratory Medicine/ Pulmonary Medicine/TB & Chest diseases/TB & Respiratory diseases/ General Medicine/ Internal Medicine/ Medicine/ Pediatrics degree recognized by the NMC/MCI.

b) He/she having qualified for the postgraduate degree of any university recognized by the Medical Council of India or any other University recognized as equivalent there to by the Medical Council of India and obtained permanent registration from any of the state Medical Council NMC/MCI.

2. **Duration of the course:** One Year

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3. ORGANIZATION OF TEACHING AND TRAINING

Learning in postgraduate degree course shall essentially be autonomous and self-directed. However, to stimulate the learning process and guiding the student, various academic activities shall be periodically conducted in the department.

A. Methods for the transfer of knowledge:

a. Clinical Case Presentation: One per week.
b. Seminar: One per week.
c. Journal Club: One per week.
d. Teaching Rounds- Two per week.
e. Institutional level CME As per institute's schedule.
f. Inter departmental clinical meets One per Quarter.
g. An effort shall be made to develop integrated teaching with other department as decided by the Head of the Department.
h. Faculty Lecture- Intra/Inter departmental-one per month.
i. Any other academic activities as decided by the Head of the Department.
j. Activities outside institute: PDCC candidates are encouraged to attend conferences and workshops outside institute.
k. Webinars/ Virtual knowledge network/ Podcasts/ Telemedicine broadcasted from and to other institutes of importance.
l. Candidate has to work as Senior Resident in the department and will participate in In patient/out patient/emergency duties and other responsibilities as assigned by the department.

B. Methods of imparting clinical skills, conversion of theory in practice and documentation:

Skills related to use of various diagnostic and therapeutic procedures will be imparted by:

OPD Teaching: PDCC candidates are posted in the OPD and they are expected to work up and present the case to the consultant to develop competencies.

IPD teaching: PDCC candidates are posted in the indoor ward on rotation basis. They work up the admitted cases in detail under the supervision.

Demonstration / Hands on Training: PDCC candidates will be given hands on training in various procedures related to a *specific area* of practice, as applicable.

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4. **SYLLABUS / COMPETENCIES:**

- **Respiratory**

1. **Clinical Sciences:-**

i. Evaluation and interpretation of following signs and symptoms:-

a. Dyspnea
b. Wheeze
c. Chest pain
d. Cough
e. Sputum production
f. Stridor
g. Hoarseness of voice
h. Haemoptysis
i. Snoring
j. Daytime somnolence
k. General symptoms of diseases including fever, weight loss, edema, nocturia
l. General examination findings:- anemia, cyanosis, clubbing, lymphadenopathy

2. Pathophysiology, clinical menifestations, diagnosis, managemnt & prognosis of the following diseases:-

i. Airway disease:

a. Sinusitis & Epiglottitis
b. Laryngotracheobronchitis
c. Tracheitis
d. Foreign bodies
e. Asthma
f. Chronic obstructive pulmonary disease (chronic bronchitis, emphysema)
g. Bullous Lung diseases
h. Bronchiectasis
i. Cystic fibrosis
j. Bronchiolitis
k. Dysmotility Syndromes

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ii. **Pleural disorders:**

a. Pleural effusions
b. Empyema
c. Pneumothorax
d. Pleural plaques and thickening
e. Mesothelioma and other Pleural malignancies

iii. **Mediastinum:**

a. Mediastinitis
b. Pneumomediastinum
c. Mediastinal Masses
d. Vascular Abnormalities

iv. **Neoplastic disorders:**

a. Pathogenesis
b. Approach to the patient with Pulmonary nodules
c. Pathology of Bronchogenic Carcinoma
d. Clinical evaluation and diagnosis
e. Natural history
f. Genetic and Molecular changes
g. Prospects for a Personalized Pharmacological Approach to treatment
h. Epidemiology of the lung cancer
i. Clinical evaluation, diagnosis & staging of lung cancer
j. Treatment of non-small cell lung cancer: Surgery
k. Treatment of Non-Small cell lung cancer: Chemotherapy
l. Small Cell Lung Cancer: Diagnosis,Treatment, and natural history.
m. Primary lung tumors other than Bronchogenic Carcinoma: Benign and Malignant.
n. Extrapulmonary Syndromes associated with Lung Tumors
o. Metastatic Pulmonary tumours: The role of Surgical Resection
p. Mesothelioma
q. Metastatic & Other pleural tumours
r. Benign intrathoracic tumours
s. Mediastinal tumours
t. Chest wall tumours
u. Sarcoma

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A. Infectious diseases:

Non Tubercular Infectious Diseases of the Lungs

a. Pulmonary clearance of Infectious agents
b. Approach to the patient with Pulmonary Infection
c. Pulmonary Infection in Immunocompromised hosts
d. Microbial Virulence factors in Pulmonary Infections
e. Principles of Antibiotic Use and the Selection of Empiric therapy for Pneumonia
f. HIV, AIDS and pulmonary disorders
g. Upper Respiratory Infections
h. Lower respiratory infections
i. Community acquired pneumonia
j. Nosocomial pneumonia
k. Pneumonia in the immunocompromised host
l. Other pneumonias
m. Parapneumonic effusion & Empyema
n. Lung abscess
o. Fungal infections
p. Parasitic infections
q. Epidemic Viral infections
r. Others infections

Tuberculosis

a. Pulmonary TB
b. Extrapulmonary TB
c. TB in the immunocompromised host
d. Latent TB infections
e. Non tuberculous mycobacterial diseases
f. Drug resistant Tuberculosis
g. Tuberculosis control programme, including Programmatic management of drug resistant Tuberculosis (PMDT).

B. Industrial and environmental disease:

a. Inorganic and organic pneumoconiosis
b. Air pollution, sick building syndrome, and smoking
c. Occupational asthma, reactive airways dysfunction syndrome
d. Occupational lung diseases.
e. High altitude physiology and clinical disorder, Diving injuries and air embolism, thermal lung injury and acute smoke inhalation
f. Lung mechanics and disorder related to special circumstances such as aviation and sports.
g. Disability evaluation and compensation

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C. Complications of aspiration:-

a. Gastric Contents
b. Foreign bodies
c. Lipoid material
d. Water, including immersion injuries

D. Immunologic Diseases:

a. Rhinitis
b. Asthma, Allergic bronchopulmonary aspergillosis
c. Extrinsic allergic alveolitis
d. Eosinophilic lung disease
e. Respiratory manifestations of collagen vascular disease
f. Pulmonary vasculitis
g. Bronchiolitis obliterans organizing pneumonia

E. Lung injury:

a. Trauma
b. Drugs (including recreational and illicit drugs)
c. Oxygen
d. Thermal
e. Barotrauma

F. Restrictive lung diseases:

a. Chest wall deformities
b. Neuromuscular diseases

G. Diffuse Parenchymal (interstitial) Lung Diseases:

a. Sarcoidosis.
b. Hypersensitivity pneumonitis.
c. Eosinophilic lung diseases.
d. Drug induced pulmonary diseases.
e. Idiopathic Interstitial pneumonias including Idiopathic Pulmonary Fibrosis (IPF)
f. NSIP,COP, AIP, RB-ILD, DIP, LIP.
g. ILD associated with CTDs.
h. Interstitial lung diseases specific to Infancy
i. Pulmonary haemorrhage syndromes

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H. Disorders of the pulmonary circulation:

a. Pulmonary embolism (thrombo-embolism, fat, air, tumor, amniotic fluid)
b. Pulmonary hypertension
c. Pulmonary edema
d. Cor pulmonale
e. Pulmonary arteriovenous malformations, fistulas and other vascular abnormalities.
f. Hepato-pulmonary and hepato-renal syndrome
g. Vasculitis

I. Sleep disorders:

a. Sleep disordered breathing
b. Hypoventilation syndromes
c. Non-respiratory sleep disorders (restless legs syndrome, periodic limb movement disorder, narcolepsy, parasomnias insomnia)

J. Respiratory manifestations of extra pulmonary disorders.
K. Respiratory complications of pregnancy.
L. Oxygen therapy and various inhalational devices.
M. Newer Emerging Pulmonary Diseases.

3. Demonstrate an understanding of indications, benefit, contraindications, complications and general techniques of the following therapeutic/ diagnostic interventions:

a. Pulmonary rehabilitation.
b. Radiation therapy.
c. Chemotherapy.
d. Respiratory therapy.
e. Physical therapy.
f. Interventional bronchoscopy including endoronchial ultrasound (EBUS), foreign body removal, tumor debulking and airway stenting.

i. **Common surgical intervention:-**

a. Mediastinoscopy.
b. Thoracotomy and lung resection.
c. Thoracoscopy.
d. Surgical management of empyema.
e. Lung Reduction surgery.
f. Lung transplantation.

ii. Palliative care.
iii. End of life decision making.

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5. CRITICAL CARE MEDICINE

i. Hemodynamic and respiratory monitoring.
ii. Respiratory failure : pathogenesis, causes, diagnosis and management.
iii. Sepsis.
iv. Resuscitation of the critically ill including multiple organ failure.
v. Principles of mechanical ventilation:-

   a. Non-invasive ventilation
   b. Invasive ventilation
   c. Newer modes of ventilation
   d. Weaning
   e. Weaning failure
   f. Home based NIV and long term oxygen therapy.

vi. Infection control in intensive care unit.
vii. VAP Prevention bundle.
viii. Comprehensive care of the comatose.
ix. Nutrition in critically ill patients.
x. Management of pain and sedation in intensive care unit.
xi. Management of emergencies pertaining to cardiology, neurology, nephrology, gastroenterology and other medical emergencies encountered in the intensive care unit.
xii. Ethics and palliative care in ICU settings.
xiii. Organization of intensive care setting.
xiv. Procedural skills:
   a. Maintenance of an open airway
   b. Tracheal intubation (oral, nasal)
   c. Cricothyrotomy, tracheostomy, transtracheal catheters
   d. Noninvasive ventilations
   e. Invasive mechanical Ventilatory support; Respiratory graphics
   f. Prone ventilation
   g. Topical use of respiratory medication (inhalers & nebulizer)
   h. Suctioning, chest physiotherapy and incentive spirometry.
   i. weaning techniques
   j. Flexible bronchoscopy (Diagnostic and therapeutic)
   k. Chest tube insertion, chest drainage systems
   l. USG and CT guided procedures
   m. Bedside pulmonary function tests.
   n. Thoracic Ultrasonography

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- **Cardiovascular**

Haemodynamic instability and shock, cardiac arrest acute myocardial infarction and unstable angina severe heart failure, common arrhythmins and conduction disturbance, specific cardiac disorders (cardiomyopathies, valvular heart disease, atrial or ventricular septal defects, myocarditis), cardiac tamponade, pulmonary embolism, aortic dissection, hypertensive crisis, peripheral vascular diseases, cardiovascular surgery, current Knowledge and skills to perform Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS).

- **Neurology**

Coma, head trauma, intracranial hypertension, cerebrovascular accidents, cerebral vasospasm, meningo-encephalitis, acute peuromuscular disease (including myasthenia & Guillain-Barre syndrome), post anoxic brain damage, acute confusional states, spinal cord injury, neurosurgery, brain death.

- **Renal**

Oliguria. Acute renal failure, renal replacement therapy.

- **Metabolic & Nutritional**

Fluid electrolyte and acid-base disorders, endocrine disorders (including diabetes) , nutritional requirements, monitoring of nutrition.

- **Rheumatological**

Disseminated intravascular coagulation and other coagulation disorders, haemolytic syndromes anaemia, leukemias, thrombocytopenias, blood component therapy, and immune disorders.

- **Infections**

Severe infection due to aerobic and anaerobic bacteria, viruses, fungal and parasites, nosocomial infection, infection in the immunocopromised, tropical disease, antimicrobial therapy, immunotherapy and infection control practices.

- **Gastro-intestinal**

Inflammatory bowel diseases, pancreatitis, acute and chronic liver failure, prevention and treatment of acute G.I. Bleeding (including variceal bleeding) peritonitis, mesenteric infarction, perforated viscus, bowel obstruction, abdominal trauma, abdominal surgery.

- **Obstetric**

Toxemia (including HELLP syndrome), amniotic fluid embolism, eclampsia, and haemorrhage.

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- **Environmental Hazards**

Burns, hypo-and hyperthermin, near-drowning electrocation, radiations, chemical injuries, animal bites.

- **Toxicology, poisoning**

Acute intoxications, drug overdose, serious adverse reactions, anaphylaxis.

- **General**

Pharmacology, pharmacokinetics and drug interactions. Analgesia, sedation and muscle relaxants, inflammation and anti-inflammatory agents, multiple trauma, transport of the critically ill, management of the organ donor.

- **Cardiovascular**

Placement of a central venous catheter (by different routes). pulmonary artery (w catheter, arterial catheter (by different routes) measurement and interpretation of the hemodynamic variables (including the derived variables), use of ultrasound implementation of cardiovascular support, antiarrhythmic therapy and thrombolysis.

- **Neurologic**

Basic interpretation of brain CT/MRI scan, lumbar puncture, and, intracranial pressure monitoring.

- **Nutrition**

Implementation of intravenous fluid therapy, enteral and parental nutrition.

- **Haematologic**

Correction of haemostatic and coagulation disorders, interpretation of a coagulation profile, correct administration of blood component therapy.

- **Renal**

Bladder catheterization, placement of dialysit catheters and institution of renal replacement therapy.

- **Gastro-intestinal**

Placement of gastric tube, an esophageal and gastric tamponade balloon catheter, ascitic tapping. Intraabdominal pressure monitoring and interpretation.

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➢ **General Aspects**

• Measurement of severity of illness and outcome assessment. Exposure to clinical research, ethical and legal aspects of critical care.
• Participation in regional and national CME's, seminars, conferences and workshops in critical care

5. LOG BOOK

a. PDCC candidate shall maintain a record log book of the work carried out by them during the period of training.
b. The log book has to be maintained as recommended by the department, checked, and assessed periodically and signed by the senior resident weekly and consultant fortnightly and, checked and signed by the HOD at the end of every month.
c. Scanned copy of the log book will be kept in the departmental record for future purposes.

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1. To present at least one poster presentation in a National conference.
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The scheme including:-

Part I:- Conduction of theory examination
Part II:- Feedback session on the theory performance
Part III:- Work place based clinical assessment

Scheme of Formative assessment
PART –I CONDUCT OF THEORY EXAMINATION

Candidate has to appear for

Theory Exam and it will be held for One day.
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Candidate has to appear for his/her Theory Exam
Assessment workshop
PART – III WORK PLACE BASED
CLINICAL ASSESSMENT
After Theory Examination,
Candidate has to appear for Clinical Assessment.
The performance of the resident during the training period should be monitored throughout the course and duly recorded in the books as evidence of the ability and daily work of the student.

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Motivation and Initiative: Takes responsibility, innovation, enterprising, dose not shirk duties or leave any work pending.
Honesty and Intergrity : Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.
Interpersonal Skills and leadership Quality: has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to senior, has good communication skills.

2. **Clinical Work :**

Availability: Punctual, available continuously on duty, responds prompty on calls and takes proper permission for leave.
Diligence: Dedicated, hardworking, dos not shirk duties, leave no work pending, does not sit idle, competent in clinical case work up and management.
Academic ability: Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
Clinical Performance: Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and

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progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

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1. Maximum marks : 300
2. Comprises of Clinical Examination and viva

The candidate has to score a minimum of 50% marks in aggregate i.e. 200 out of total 400 marks (Theory & Practical) with at least 50 % marks in theory examination to qualify in the PDCC Exit Exam.

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1. PDCC Exit Examination is a qualifying examination.
2. Results of PDCC Exit Examination (theory & practical) are declared as PASS/FAIL.
3. PDCC degree is awarded to a trainee in the convocation of KGMU.

Eligibility Criteria to appear for the PDCC Examination:

l. Attendance :

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m. Poster, Paper, Research Presentation and Publication:

i. To present one poster presentation National/International Conference.
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iv. Data should have been collected during the training period.

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n. Semester Examinations:

i. The candidate must secure at least an average of 50% marks semester examination separately in theory as well as practical.

ii. In the pre-professional examination, the candidate must secure at least 50% marks separately in theory as well as practical.

o. Formative assessment:

i. The candidate must secure at least 50% marks in the formative assessment.

p. Recommendation from the Department

Department will provide in writing a certificate of good standing of the candidate for being eligible to appear in the professional examination.

**May be modified and finalized as per university rules.*

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King George's Medical University, UP, Lucknow

POST DOCTORAL CERTIFICATE COURSE (PDCC) IN ALLERGY, ASTHMA & APPLIED IMMUNOLOGY

Department of Pulmonary & Critical Care Medicine

Second Floor, Shatabdi Phase-2,
King George's Medical University, UP, Lucknow-226003
Email- drvedprakash.07@gmail.com/pccmkgmu@gmail.com

Dr. Ved Prakash
Head of Department
Department of Pulmonary & Critical Care Medicine
King George's Medical University, U.P. Lucknow

Contents

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Department of Pulmonary & Critical Care Medicine
Chhatrapati Shahu Ji Maharaj Medical University, U.P. Lucknow

1. GOALS & OBJECTIVES

Students completing the course will be able to:

1) Managing, developing, and delivering allergy services in all appropriate service settings
2) Providing advice to colleagues on selection, interpretation and limitations of laboratory and other investigations for common immunological and allergic conditions
3) Supporting the management of patients with allergy, immunodeficiency, autoimmune disease, and auto-inflammatory disease, in liaison with other specialties including primary care
4) Delivering and supporting both immune-mediated and other therapeutic interventions in allergic and immunological conditions
5) Understanding the needs of adolescents and young adults with allergic and immunological diseases transitioning to adulthood

2. REQUIREMENTS/TRAINING PLAN FOR PDCC COURSE.

1. **Eligibility:-** Candidates for admission shall be required to have any one of the following qualifications.

a) DM (Pulmonary Medicine/Pulmonary & Critical Care Medicine/Pulmonary, Critical Care & Sleep Medicine), MD/DNB in Respiratory Medicine/ Pulmonary Medicine/TB & Chest diseases/TB & Respiratory diseases/ General Medicine/ Internal Medicine/ Medicine/ Pediatrics degree recognized by the NMC/MCI.

b) He/she having qualified for the postgraduate degree of any university recognized by the Medical Council of India or any other University recognized as equivalent there to by the Medical Council of India and obtained permanent registration from any of the state Medical Council NMC/MCI.

2. **Duration of the course:** One Year

3. ORGANIZATION OF TEACHING AND TRAINING

Learning in postgraduate degree course shall essentially be autonomous and self-directed. However, to stimulate the learning process and guiding the student, various academic activities shall be periodically conducted in the department.

A. Methods for the transfer of knowledge:

a. Clinical Case Presentation: One per week.
b. Seminar: One per week.
c. Journal Club: One per week.

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d. Teaching Rounds- Two per week.
e. Institutional level CME As per institute's schedule.
f. Inter departmental clinical meets One per Quarter.
g. An effort shall be made to develop integrated teaching with other department as decided by the Head of the Department.
h. Faculty Lecture- Intra/Inter departmental-one per month.
i. Any other academic activities as decided by the Head of the Department.
j. Activities outside institute: PDCC candidates are encouraged to attend conferences and workshops outside institute.
k. Webinars/ Virtual knowledge network/ Podcasts/ Telemedicine broadcasted from and to other institutes of importance.
l. Candidate has to work as Senior Resident in the department and will participate in In patient/out patient/emergency duties and other responsibilities as assigned by the department.

B. Methods of imparting clinical skills, conversion of theory in practice and documentation:

Skills related to use of various diagnostic and therapeutic procedures will be imparted by:
OPD Teaching: PDCC candidates are posted in the OPD and they are expected to work up and present the case to the consultant to develop competencies.

IPD teaching: PDCC candidates are posted in the indoor ward on rotation basis. They work up the admitted cases in detail under the supervision.
Demonstration / Hands on Training: PDCC candidates will be given hands on training in various procedures related to a *specific area* of practice, as applicable.

4. SYLLABUS / COMPETENCIES:

Curriculum:
Allergy and Immunological emergencies

i. Anaphylaxis and mimics of anaphylaxis
ii. Severe sting reactions
iii. Adverse reaction during Immunotherapy / Desensitisation and provocation (Challenge) testing
iv. Adverse reactions during Immunoglobulin replacement and use of biologics
v. Severe Infections in immunocompromised host
vi. Acute severe angioedema
vii. Acute severe asthma

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Allergic diseases and their mimics

i. Asthma
ii. Localised and systemic Eosinophilic diseases
iii. Urticaria
iv. Angioedema
v. Rhinitis
vi. Conjunctivitis
vii. Itching
viii. Dermatitis
ix. Blisters
x. Purpura
xi. Cough
xii. Airways obstruction
xiii. Gastrointestinal Symptoms
xiv. Cardiorespiratory symptoms
xv. Anaphylaxis
xvi. Nasal polyposis

Immunodeficiency

i. Recurrent or atypical or opportunistic infections
ii. Unexplained Bronchiectasis
iii. Recurrent or unusual abscesses
iv. Severe atypical Eczema / dermatitis / erythroderma
v. Lymphoproliferation (malignant and nonmalignant)
vi. Granulomatous disease
vii. Poor wound healing

Allergy and Immunology Therapeutics

i. Conditions requiring allergen/drug desensitization
ii. Conditions requiring investigation by provocation Challenges
iii. Conditions requiring Immunoglobulin replacement
iv. Conditions requiring treatment with biological therapies
v. Conditions requiring treatment with Immunomodulatory and Immunosuppressive agents
vi. Conditions requiring prophylactic antimicrobial prophylaxis

Liaison Allergy

i. Suspected allergic reactions to foods, drugs, aeroallergen and insect stings in Primary and secondary care
ii. Conditions requiring shared care with primary care and other specialties

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iii. Nasal obstruction
iv. Oesophagitis
v. Severe Dermatitis
vi. Conditions mimicking allergic disease

Liaison Clinical and Laboratory Immunology: Primary care and other speciality colleagues seeking advice on appropriate initial testing and interpretation, and patient specialist referral of:

i. Suspected Immunodeficiency
ii. Suspected Autoimmune disease, both systemic and organ-specific
iii. Haematological malignancy in the context of immune deficiency
iv. Congenital Cardiac anomalies
v. Developmental delay, Failure to thrive (child) or wasting (adult)
vi. GVHD of blood transfusion
vii. Mother-to-child (infant) engraftment
viii. Haemolysis
ix. Atypical Inflammatory bowel disease
x. Delayed separation of umbilical cord
xi. Recurrent Fever
xii. Unexplained Bronchiectasis, Pneumatoceles, Interstitial lung disease
xiii. Familial occurrence of similar symptoms
xiv. Absence of Thymus on imaging
xv. Thymoma
xvi. Nephrotic and nephritic syndromes
xvii. Abnormal LFTs and jaundice
xviii. Recurrent fevers
xix. Cytopaenias
xx. Chronic diarrhoea

Practical procedures There are a number of procedural skills in which a trainee must become proficient. Trainees must be able to outline the indications for these procedures and recognize the importance of valid consent, aseptic technique, safe use of analgesia and local anaesthetics, minimization of patient discomfort, and requesting help when appropriate. For all practical procedures the trainee must be able to recognize complications and respond appropriately if they arise, including calling for help from colleagues in other specialties when necessary.

1) Skin Prick Testing
2) Intradermal Testing
3) Drug Provocation Test
4) Food Provocation Test
5) Drug Desensitization Perform
6) Aeroallergen Immunotherapy
7) Venom Immunotherapy
8) Perioperative anaphylaxis

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9) Spirometry
10) Fractional Exhaled nitric oxide (FeNO)

5. LOG BOOK

i. PDCC candidate shall maintain a record log book of the work carried out by them during the period of training.
ii. The log book has to be maintained as recommended by the department, checked, and assessed periodically and signed by the senior resident weekly and consultant fortnightly and, checked and signed by the HOD at the end of every month.
iii. Scanned copy of the log book will be kept in the departmental record for future purposes.

6. POSTER/RESEARCH PRESENTATION AND PUBLICATION:

During the training period PDCC candidate has:

1. To present at least one poster presentation in a National conference.
2. To read at least one paper in a National conference.
3. To submit at least one research paper, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
4. Data should have been collected during the training period

7. SCHEME OF ASSESSMENT:

Examination:

Formative Assessment:

Formative assessment includes various formal and informal assessment procedures by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/faculty to improve student attainment. Formative assessment test (FAT) is called as "Formative "as it informs the in process teaching and learning modifications. FAT is an integral part of the effective teaching. The goal of the FAT is to collect information which can be used to improve the student learning process. Formative assessment is essentially positive in indent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount informative assessment and should take precedence over concerns for reliability. The assessment scheme consists of three parts which has to be essentially completed by the candidates.

The scheme including:-

Part I:- Conduction of theory examination
Part II:- Feedback session on the theory performance
Part III:- Work place based clinical assessment

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Scheme of Formative assessment

PART –I CONDUCT OF THEORY EXAMINATION

Candidate has to appear for

Theory Exam and it will be held for One day.

PART – II

FEEDBACK SESSION ON THE THEORY EXAMINATION

Candidate has to appear for his/her Theory Exam

Assessment workshop

PART – III WORK PLACE BASED

CLINICAL ASSESSMENT

After Theory Examination,

Candidate has to appear for Clinical Assessment.

The performance of the resident during the training period should be monitored throughout the course and duly recorded in the books as evidence of the ability and daily work of the student.

1. **Personal Attributes:**

Behavior and Emotional Stability: Dependable, disciplined, dedicated, stable in emergency situation, shows positive approach.

Motivation and Initiative: Takes responsibility, innovation, enterprising, dose not shirk duties or leave any work pending.

Honesty and Integrity: Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.

Interpersonal Skills and leadership Quality: has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to senior, has good communication skills.

2. **Clinical Work :**

Availability: Punctual. available continuously on duty, responds prompty on calls and takes proper permission for leave.

Diligence: Dedicated, hardworking, dose not shirk duties, leave no work pending, does not sit idle, competent in clinical case work up and management.

Academic ability: Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.

Clinical Performance: Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

Academic Activity: Performance during presentation at Journal club/Seminar/Case discussion /Stat meeting and other academic sessions. Proficiency in skills as mention job responsibilities.

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FINAL EXAMINATION:

The summative assessment of competence will be done in the form of PDCC exit Examination leading to the awards of the degree of PDCC course in Allergy, Asthma & Immunology. The PDCC Exit Examination is a two-stage examination comprising the theory and practical part.

Theory examination:

1. The Theory Examination comprises of one paper with maximum marks of 100.
2. There are 10 short notes of 10 marks each in the theory paper.
3. Maximum time permitted is 3 hours.

Practical Examination:

1. Maximum marks : 300
2. Comprises of Clinical Examination and viva

The candidate has to score a minimum of 50% marks in aggregate i.e. 200 out of total 400 marks (Theory & Practical) with at least 50 % marks in theory examination to qualify in the PDCC Exit Exam.

The theory and Practical of PDCC Exit Examination shall be conducted at the same examination center of the concerned specialty.

Declaration of PDCC Exit Result:

1. PDCC Exit Examination is a qualifying examination.
2. Results of PDCC Exit Examination (theory & practical) are declared as PASS/FAIL.
3. PDCC degree is awarded to a trainee in the convocation of KGMU.

Eligibility Criteria to appear for the PDCC Examination:

1. **Attendance :**
   The candidate must have attendance as per rules laid down by the academic council.

2. **Poster, Paper, Research Presentation and Publication:**
   i. To present one poster presentation National/International Conference.
   ii. To read one paper at a National/International conference.
   iii. To submit at least one research papers, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
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3. **Semester Examinations:**
   i. The candidate must secure at least an average of 50% marks semester examination separately in theory as well as practical.
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4. **Formative assessment:**
   - The candidate must secure at least 50% marks in the formative assessment.

5. **Recommendation from the Department**
   Department will provide in writing a certificate of good standing of the candidate for being eligible to appear in the professional examination.

**May be modified and finalized as per university rules.*

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King George's Medical University, UP, Lucknow

POST DOCTORAL CERTIFICATE COURSE (PDCC) IN PULMONARY REHABILITATION

Department of Pulmonary & Critical Care Medicine

Second Floor, Shatabdi Phase-2,
King George's Medical University, UP, Lucknow-226003
Email- drvedprakash.07@gmail.com/pccmkgmu@gmail.com

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Contents

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1. GOALS & OBJECTIVES

The purpose of the PDCC in pulmonary rehabilitation is to allow the trainee to acquire scientific knowledge in:-
(1) Pulmonary rehabilitation for chronic respiratory diseases
(2) Rehabilitation techniques including all physical and psychosocial aspects, and expected long and short term benefits.

Building upon the foundation of clinical training in respirology, the resident will focus on acquiring knowledge, clinical, and technical and special skills closely linked to groups of patients with chronic respiratory diseases.

2. REQUIREMENTS/ TRAINING PLAN FOR PDCC COURSE.

1. **Eligibility:-** Candidates for admission shall be required to have any one of the following qualifications.

a) DM(Pulmonary Medicine/Pulmonary & Critical Care Medicine/Pulmonary, Critical Care & Sleep Medicine), MD/DNB in Respiratory Medicine/ Pulmonary Medicine/TB & Chest diseases/TB & Respiratory diseases/ General Medicine/ Internal Medicine/ Medicine/Pediatrics degree recognized by the NMC/MCI.

b) He/she having qualified for the postgraduate degree of any university recognized by the Medical Council of India or any other University recognized as equivalent there to by the Medical Council of India and obtained permanent registration from any of the state Medical Council NMC/MCI.

2. **Duration of the course:** One Year

3. ORGANIZATION OF TEACHING AND TRAINING

The course will be conducted in collaboration with the department of Physical Medicine & Rehabilitation and department of Cardiology, KGMU, UP, Lucknow.

Learning in postgraduate degree course shall essentially be autonomous and self-directed. However, to stimulate the learning process and guiding the student, various academic activities shall be periodically conducted in the department.

A. Methods for the transfer of knowledge:

a. Clinical Case Presentation: One per week.
b. Seminar: One per week.
c. Journal Club: One per week.
d. Teaching Rounds- Two per week.
e. Institutional level CME As per institute's schedule.
f. Inter departmental clinical meets One per Quarter.
g. An effort shall be made to develop integrated teaching with other department as decided by the Head of the Department.
h. Faculty Lecture- Intra/Inter departmental-one per month.

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i. Any other academic activities as decided by the Head of the Department.
j. Activities outside institute: PDCC candidates are encouraged to attend conferences and workshops outside institute.
k. Webinars/ Virtual knowledge network/ Podcasts/ Telemedicine broadcasted from and to other institutes of importance.
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Demonstration / Hands on Training: PDCC candidates will be given hands on training in various procedures related to a *specific area* of practice, as applicable.

4. SYLLABUS:

The candidate will have to demonstrate competence in the following fields:

MEDICAL EXPERT

Understand and implement strategies to optimize care and services, i.e., an approach taking into consideration not only acute episodes, but also the evolution of the chronic illness.

Understand the importance of the non-pharmacological approach to chronic respiratory diseases; recognize the biopsychosocial aspects of illness; and recognize the efficiency of various methods and strategies.

Understand the optimal pharmacological treatment of chronic respiratory diseases such as asthma, CF, BPD, ILD and COPD leading to improvement of symptoms and of ability to exercise as a form of self-directed rehabilitation.

Understand and implement alternatives to hospitalizations for patients with asthma, CF, BPD and COPD exacerbations.

Understand the mechanisms, measurement and management of dyspnea; generate interventions that are better adapted and personalized.

Develop and implement rehabilitative exercise training programs; recognize the principles, benefits, indications and contraindications; select and evaluate patients.

Understand and implement oxygen therapy and other adjunct therapies (e.g., noninvasive ventilation) to optimize the potential benefits of rehabilitative exercise training.

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Understand and implement energy conservation concepts, and interventions regarding fatigue.

Understand psychosocial aspects; interventions allowing necessary psychosocial adjustments and better coping with the chronic illness.

Understand and implement end of life and palliative care.

Understand and implement education and teaching of elderly patients; learning principles and barriers, the different steps to ensure adequate patient education; recognizing the knowledge and competence needs of professionals educating patients.

Understand and describe indications, contraindications, benefits and risks for the various pulmonary rehabilitation modalities (concentric training, eccentric training, neuroelectrical stimulation, etc).

Acquire and demonstrate proficiency in evaluating a rehabilitation program and starting a program according to various possible structures: in-hospital, ambulatory, at-home; become familiar with the different evaluation tools so as to select appropriate ones.

Understand the team approach to pulmonary rehabilitation and the role of different professionals (e.g. physical therapists, respiratory therapists, occupational therapists, dieticians, pharmacists, social workers, nurses, psychologists).

Appreciate the role and importance of research in the advancement of knowledge and treatment.

COMMUNICATOR

Demonstrate clear and compassionate oral communication with patients and family members, while respecting patients' values, cultural and educational backgrounds.

Promote and support informed decision making by patients and family members with respect to investigation and treatment decisions, including suitable discussion of end-of- life and palliative care.

Provide effective oral case presentations and discussions with physicians and other professionals sharing patients' care.

Provide effective written and/or dictated consultation notes to referring physicians and other providers, which clearly outline an accurate, problem-oriented assessment of the patient's condition, and a corresponding, evidence-based management plan.

Provide effective oral presentations at didactic teaching conferences.

Provide effective oral and written communication of research findings.

COLLABORATOR

Participate effectively in shared management of respiratory chronic disease patients with other physicians, health professionals and clinical researchers.

Demonstrate respect for all physician and non-physician team members, professionals in clinical settings (CLSC, respiratory care at home, hospital) and academics (physical education, physiotherapy, nutrition, etc) at all times.

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MANAGER

Demonstrate knowledge of the cost of disease management, self-management, pulmonary rehabilitation and palliative care.

Implement a cost-effective approach to the use of novel procedures when and where appropriate.

Set appropriate priorities in evaluating and referring patients.

HEALTH ADVOCATE:

Advocate for his/her patients in planning investigation and treatment in a resource- limited setting.

Advocate for his/her patients by identifying relevant studies or clinical trials in which they may choose to participate.

Advocate for his/her patients by participating in activities that raise public awareness of, and support for, chronic respiratory disease patients.

SCHOLAR

Demonstrate awareness of the importance of self-evaluation and continuing education; willingness to teach others, including students, residents and other health professionals.

Incorporate up-to-date scientific evidence in his/her patient management, including investigation and treatment.

Demonstrate that he/she can access the medical literature effectively, in order to address a clinical management question.

Demonstrate critical review skills for clinical and epidemiologic research articles.

Demonstrate self-directed learning, and an ongoing commitment to scholarship and intellectual growth.

Attend relevant scientific and educational conferences, both locally and elsewhere.

Demonstrate the ability to present an effective, informative educational conference.

PROFESSIONAL

Demonstrate appropriate and ethical professional attitudes and behaviors at all times.

Demonstrate and communicate respect and understanding of patients, family members, colleagues, other team members, and all health care personnel at all times.

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5. LOG BOOK

i. PDCC candidate shall maintain a record log book of the work carried out by them during the period of training.

ii. The log book has to be maintained as recommended by the department, checked, and assessed periodically and signed by the senior resident weekly and consultant fortnightly and, checked and signed by the HOD at the end of every month.

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7. SCHEME OF ASSESSMENT:

Examination:

Formative Assessment:

Formative assessment includes various formal and informal assessment procedure by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/faculty to improve student attainment. Formative assessment test (FAT) is called as "Formative "as it informs the in process teaching and learning modifications. FAT is an integral part of the effective teaching. The goal of the FAT is to collect information which can be used to improve the student learning process. Formative assessment is essentially positive in indent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount informative assessment and should take precedence over concerns for reliability. The assessment scheme consists of three parts which has to be essentially completed by the candidates.

The scheme including:-

Part I:- Conduction of theory examination

Part II:- Feedback session on the theory performance

Part III:- Work place based clinical assessment

Scheme of Formative assessment

PART –I CONDUCT OF THEORY EXAMINATION

Candidate has to appear for

Theory Exam and it will be held for One day

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PART – II

FEEDBACK SESSION ON THE THEORY EXAMINA TION

Candidate has to appear for his/her Theory Exam

Assessment workshop

PART – III WORK PLACE BASED

CLINICAL ASSESSMENT

After Theory Examination,

Candidate has to appear for Clinical Assessment.

The performance of the resident during the training period should be monitored throughout the course and duly recorded in the books as evidence of the ability and daily work of the student.

1. **Personal Attributes:**

Behavior and Emotional Stability: Dependable, disciplined, dedicated, stable in emergency situation, shows positive approach.

Motivation and Initiative: Takes responsibility, innovation, enterprising, dose not shirk duties or leave any work pending.

Honesty and Intergrity : Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.

Interpersonal Skills and leadership Quality: has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to senior, has good communication skills.

2. **Clinical Work :**

Availability: Punctual, available continuously on duty, responds prompty on calls and takes proper permission for leave.

Diligence: Dedicated, hardworking, dos not shirk duties, leave no work pending, does not sit idle, competent in clinical case work up and management.

Academic ability: Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.

Clinical Performance: Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

Academic Activity: Performance during presentation at Journal club/Seminar/Case discussion /Stat meeting and other academic sessions. Proficiency in skills as mention job responsibilities.

FINAL EXAMINATION:

The summative assessment of competence will be done in the form of PDCC exit Examination leading to the awards of the degree of PDCC course in Pulmonary Rehabilitation. The PDCC Exit Examination is a two-stage examination comprising the theory and practical part.

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Theory examination:

1. The Theory Examination comprises of one paper with maximum marks of 100.
2. There are 10 short notes of 10 marks each in the theory paper.
3. Maximum time permitted is 3 hours.

Practical Examination:

1. Maximum marks : 300
2. Comprises of Clinical Examination and viva

The candidate has to score a minimum of 50% marks in aggregate i.e. 200 out of total 400 marks (Theory & Practical) with at least 50% marks in theory examination to qualify in the PDCC Exit Exam.

The theory and Practical of PDCC Exit Examination shall be conducted at the same examination center of the concerned specialty.

Declaration of PDCC Exit Result:

1. PDCC Exit Examination is a qualifying examination.
2. Results of PDCC Exit Examination (theory & practical) are declared as PASS/FAIL.
3. PDCC degree is awarded to a trainee in the convocation of KGMU.

<u>Eligibility Criteria to appear for the PDCC Examination:</u>

1. **Attendance :**
   The candidate must have attendance as per rules laid down by the academic council.
2. **Poster, Paper, Research Presentation and Publication:**
   i. To present one poster presentation National/International Conference.
   ii. To read one paper at a National/International conference.
   iii. To submit at least one research papers, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
   iv. Data should have been collected during the training period.
3. **Semester Examinations:**
   i. The candidate must secure at least an average of 50% marks semester examination separately in theory as well as practical.
   ii. In the pre-professional examination, the candidate must secure at least 50% marks separately in theory as well as practical.
4. **Formative assessment:**
   i. The candidate must secure at least 50% marks in the formative assessment.
5. **Recommendation from the Department**

Department will provide in writing a certificate of good standing of the candidate for being eligible to appear in the professional examination.

**May be modified and finalized as per university rules.*

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Head of Department
Department of Pulmonary & Critical Care Medicine
George's Medical University, U.P. Lucknow

King George's Medical University, UP, Lucknow

POST DOCTORAL CERTIFICATE COURSE (PDCC) IN TOBACCO/SMOKING CESSATION

Department of Pulmonary & Critical Care Medicine

Second Floor, Shatabdi Phase-2,
King George's Medical University, UP, Lucknow-226003
Email- drvedprakash.07@gmail.com/pccmkgmu@gmail.com

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King George's Medical University, U.P. Lucknow

1. GOALS & OBJECTIVES

Students completing the course will be able to:

1. Demonstrate the knowledge and skills necessary to design and implement projects and programs that address prevention and treatment of tobacco use
2. Identify factors that contribute to tobacco addiction among individuals and across different populations
3. Explain medical consequences for individual tobacco users and the public health impact of tobacco use and exposure to secondhand smoke
4. Evaluate effectiveness of treatment interventions to reduce tobacco use among individuals and across different populations
5. Describe tobacco related health disparities and methods to address these disparities across vulnerable populations
6. Participate in public discussion and inform policies that impact tobacco use, addiction, treatment, prevention, secondhand smoke exposure and related diseases

2. REQUIREMENTS/TRAINING PLAN FOR PDCC COURSE.

1. **Eligibility:-** Candidates for admission shall be required to have any one of the following qualifications.

a) MD/DNB in Respiratory Medicine/ Pulmonary Medicine/TB & Chest diseases/TB & Respiratory diseases/ General Medicine/ Internal Medicine/ Medicine/ Pediatrics degree recognized by the NMC/MCI.

b) He/she having qualified for the postgraduate degree of any university recognized by the Medical Council of India or any other University recognized as equivalent there to by the Medical Council of India and obtained permanent registration from any of the state Medical Council NMC/MCI.

2. **Duration of the course:** One Year

3. ORGANIZATION OF TEACHING AND TRAINING

The course will be conducted in collaboration with the department of Psychiatry, KGMU, UP, Lucknow

Learning in postgraduate degree course shall essentially be autonomous and self-directed. However, to stimulate the learning process and guiding the student, various academic activities shall be periodically conducted in the department.

A. **Methods for the transfer of knowledge:**

a. Clinical Case Presentation: One per week.
b. Seminar: One per week.
c. Journal Club: One per week.
d. Teaching Rounds- Two per week.
e. Institutional level CME As per institute's schedule.

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f. Inter departmental clinical meets One per Quarter.
g. An effort shall be made to develop integrated teaching with other department as decided by the Head of the Department.
h. Faculty Lecture- Intra/Inter departmental-one per month.
i. Any other academic activities as decided by the Head of the Department.
j. Activities outside institute: PDCC candidates are encouraged to attend conferences and workshops outside institute.
k. Webinars/ Virtual knowledge network/ Podcasts/ Telemedicine broadcasted from and to other institutes of importance.
l. Candidate has to work as Senior Resident in the department and will participate in In patient/out patient/emergency duties and other responsibilities as assigned by the department.

B. Methods of imparting clinical skills, conversion of theory in practice and documentation:

Skills related to use of various diagnostic and therapeutic procedures will be imparted by:
OPD Teaching: PDCC candidates are posted in the OPD and they are expected to work up and present the case to the consultant to develop competencies.

IPD teaching: PDCC candidates are posted in the indoor ward on rotation basis. They work up the admitted cases in detail under the supervision.

Demonstration / Hands on Training: PDCC candidates will be given hands on training in various procedures related to a *specific area* of practice, as applicable.

4. SYLLABUS / COMPETENCIES:

i. **Nicotine Addition:** In this lesson we will learn about Nicotine Addiction and why people smoke. Understanding why you smoke is crucial in successfully quitting.
ii. **Health Risks:** This lesson will cover all the health risks associated with smoking.
iii. **Why Quit?** In this lesson we will apply what we have learned from Health risk topic and discover all the reasons why we want to quit and use that to motivate us.
iv. Role of counseling in tobacco cessation.
v. **Get Support** - This lesson will provide quit smoking support resources.
vi. **Quitting** This lesson will cover many different aspects of quitting and teach ways to successfully quit.
vii. **Avoiding Relapse:** This lesson will cover how to get through the cravings and how to avoid relapse.
viii. Health disparity issues in tobacco use and control (e.g., socio-economic status, specific racial, ethnic or cultural populations, disability, etc.)

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ix. Tobacco use and control efforts in a specific country (e.g., tobacco use rates & trends and how strategies/programs are tailored to the needs or cultural considerations of that country)
x. Smoking in the movies: trends, impact of viewing on youth smoking behavior, etc
xi. Effect of smoke-free laws on business and/or employee health in restaurants, bars, bingo halls, casinos and bowling alleys
xii. Medical risks and public health impact of smokeless tobacco (e.g., chewing tobacco, snuff, etc.) or other alternative tobacco products (e.g., bidis, hooka pipes) compared with cigarettes
xiii. Describe marketing strategies, content and evaluation of an anti-tobacco media campaign.
xiv. Study of GATS-1 GATS-2Regarding tobacco prevalence in India & World.
xv. Study of Malignancies related to tobacco use.
xvi. From an ethical perspective, when should public health protection take priority over individual (or corporate) rights (with regard to a tobacco-related issue or policy)?
xvii. Changing trend in tobacco use
xviii. Lessons from the tobacco control field for the obesity epidemic
xix. Tobacco use, risks, and approaches to cessation during pregnancy
xx. Smoking and mental illnesses.
xxi. Rural & Urban epidemiology of tobacco
xxii. Tobacco cessation and concurrent behavior change (e.g. sedentary behavior, oral health, nutrition, other drug and alcohol use, etc.)
xxiii. Epidemiology of tobacco in India & World.

5. LOG BOOK

i. PDCC candidate shall maintain a record log book of the work carried out by them during the period of training.
ii. The log book has to be maintained as recommended by the department, checked, and assessed periodically and signed by the senior resident weekly and consultant fortnightly and, checked and signed by the HOD at the end of every month.
iii. Scanned copy of the log book will be kept in the departmental record for future purposes.

6. POSTER/RESEARCH PRESENTATION AND PUBLICATION:

During the training period PDCC candidate has:

1. To present at least one poster presentation in a National conference.
2. To read at least one paper in a National conference.
3. To submit at least one research paper, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
4. Data should have been collected during the training period.

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7. SCHEME OF ASSESSMENT:

Examination:

Formative Assessment:

Formative assessment includes various formal and informal assessment procedure by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/faculty to improve student attainment. Formative assessment test (FAT) is called as "Formative "as it informs the in process teaching and learning modifications. FAT is an integral part of the effective teaching. The goal of the FAT is to collect information which can be used to improve the student learning process. Formative assessment is essentially positive in indent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount informative assessment and should take precedence over concerns for reliability. The assessment scheme consists of three parts which has to be essentially completed by the candidates.

The scheme including:-

Part I:- Conduction of theory examination

Part II:- Feedback session on the theory performance

Part III:- Work place based clinical assessment

Scheme of Formative assessment

PART –I CONDUCT OF THEORY EXAMINATION

Candidate has to appear for

Theory Exam and it will be held for One day.

PART – II

FEEDBACK SESSION ON THE THEORY EXAMINATION

Candidate has to appear for his/her Theory Exam

Assessment workshop

PART – III WORK PLACE BASED

CLINICAL ASSESSMENT

After Theory Examination,

Candidate has to appear for Clinical Assessment.

The performance of the resident during the training period should be monitored throughout the course and duly recorded in the books as evidence of the ability and daily work of the student.

1. **Personal Attributes:**

Behavior and Emotional Stability: Dependable, disciplined, dedicated, stable in emergency situation, shows positive approach.

Motivation and Initiative: Takes responsibility, innovation, enterprising, dose not shirk duties or leave any work pending.

Honesty and Intergrity : Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.

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Interpersonal Skills and leadership Quality: has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to senior, has good communication skills.

2. Clinical Work :

Availability: Punctual, available continuously on duty, responds prompty on calls and takes proper permission for leave.

Diligence: Dedicated, hardworking, dos not shirk duties, leave no work pending, does not sit idle, competent in clinical case work up and management.

Academic ability: Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.

Clinical Performance: Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

Academic Activity: Performance during presentation at Journal club/Seminar/Case discussion /Stat meeting and other academic sessions. Proficiency in skills as mention job responsibilities.

FINAL EXAMINATION:

The summative assessment of competence will be done in the form of PDCC exit Examination leading to the awards of the degree of PDCC course in Tobacco/Smoking Cessation. The PDCC Exit Examination is a two-stage examination comprising the theory and practical part.

Theory examination:

1. The Theory Examination comprises of one paper with maximum marks of 100.
2. There are 10 short notes of 10 marks each in the theory paper.
3. Maximum time permitted is 3 hours.

Practical Examination:

1. Maximum marks : 300
2. Comprises of Clinical Examination and viva

The candidate has to score a minimum of 50% marks in aggregate i.e. 200 out of total 400 marks (Theory & Practical) with at least 50 % marks in theory examination to qualify in the PDCC Exit Exam.

The theory and Practical of PDCC Exit Examination shall be conducted at the same examination center of the concerned specialty.

Declaration of PDCC Exit Result:

1. PDCC Exit Examination is a qualifying examination.
2. Results of PDCC Exit Examination (theory & practical) are declared as PASS/FAIL.
3. PDCC degree is awarded to a trainee in the convocation of KGMU.

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Eligibility Criteria to appear for the PDCC Examination:

1. **Attendance :**

The candidate must have attendance as per rules laid down by the academic council.

2. **Poster, Paper, Research Presentation and Publication:**

i. To present one poster presentation National/International Conference.
ii. To read one paper at a National/International conference.
iii. To submit at least one research papers, which should be published/accepted for publication/sent for publication during the period of his postgraduate studies in National/ international indexed journal.
iv. Data should have been collected during the training period.

3. **Semester Examinations:**

i. The candidate must secure at least an average of 50% marks semester examination separately in theory as well as practical.
ii. In the pre-professional examination, the candidate must secure at least 50% marks separately in theory as well as practical.

4. **Formative assessment:**

- The candidate must secure at least 50% marks in the formative assessment.

5. **Recommendation from the Department**

Department will provide in writing a certificate of good standing of the candidate for being eligible to appear in the professional examination.

**May be modified and finalized as per university rules.*

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