

Submission of application to start Certificate Courses/Fellowships

S.No	Head	Comment
1	Name of Course	Fellowship in Thoracic Surgery
2	Duration of Course	01 Year
3	Name of Nodal Officer	Prof. Suresh Kumar
4	number of seats	2
5	Faculty involved	Prof. Shailender Yadav, Dr. Sanjeev Kumar, Dr. Anurag Ro
6	Entrance examination will be conducted by Controller of Examination, KGMU and will consists of 100 MCQs, one mark each (90 minutes)	
7	Exit exam will consists of two theory papers. One with MCQ of 100 questions (1mark each) to be completed in 90 minutes and second with short answer type questions with 10 questions (10 marks each) in 90 minutes.	
8	In Practical Examination there shall be 02 examiners, one internal and one external examiner. Practical will be of 200 marks.	
9	Fees Structure	
	Fee	Amount
	Online Application Fee (COE)	Rs. 3,000 for UR & OBC, Rs. 2000 for SC/ST
	Registration Fee	Rs. 2,000
	Enrollment Fee	Rs. 1,000
	Tuition Fee	Rs. 50,000
	Other	Rs. 4,000
	Student Welfare Fee	Rs. 1,500
	Atheletic Association Fee	Rs. 100
	Library Fee	Rs. 2,000
	Examination Fee	Rs. 20,000
	Exam Form Fee	Rs. 500
	Caution Money (Refundable)	Rs. 10,000
	Fee for chemical/consumables as per deptt. advice (concerned department)	Rs.
		Total=Rs. 81,100
10	Upper Age Limit	37 Year (For year 2019)/as per KGMU Senior Resident appointment policy
11	Leave Rules	As per University Senior Resident Rules

Guideline of Certificate Course is being enclosed.

Kindly Submit the Syllabus of the concerned Certificate Courses/Fellowships alongwith aforesaid details.


 Signature & Stamp

Head of the Department (Department of Surgery (Gen.)
KGMU, Lucknow.


 Signature

Nodal Officer

The first part of the document discusses the importance of maintaining accurate records. It emphasizes that proper record-keeping is essential for ensuring the integrity and reliability of the data collected. This section also outlines the various methods used to collect and analyze the data, highlighting the challenges faced during the process.

The second part of the document focuses on the results of the study. It presents a detailed analysis of the data, showing the trends and patterns observed. The findings indicate that there is a significant correlation between the variables studied, which supports the hypothesis of the research.

The final part of the document discusses the implications of the study and provides recommendations for future research. It suggests that further investigation is needed to explore the underlying mechanisms of the observed phenomena and to validate the findings in a larger sample size.

In conclusion, this study has provided valuable insights into the relationship between the variables under investigation. The results suggest that the proposed model is a good fit for the data, and the findings have important implications for the field. Further research is needed to build on these results and to address the remaining questions.

The authors would like to thank the funding agency for their support and the participants for their contribution to the study.

Application - Fellowship - ^{Thoracic} Pulmonary Surgery (FePS)

Department - General Surgery KGMU

S. N o.	Head	Comment
	Name of Course	Fellowship in Pulmonary ^{Thoracic} Surgery
	Convenor of Course	Head of Department of Surgery KGMU
	Scope of Course: (approx 50 words) <ul style="list-style-type: none"> Competency/proficiency to be covered 	<p>Upon completion of a one-year fellowship, the surgeon will possess the following characteristics:</p> <p>a) Expertise in the multidisciplinary management of patients with pulmonary diseases.</p> <p>b) Comprehension of pulmonary biology.</p> <p>c) Judgment and ability to perform pulmonary/ pleural infective pathology & complex tumor resections and an understanding of the technical limitations of the procedures.</p> <p>d) Expertise in conservation pulmonary surgical procedures.</p> <p>e) Broad-based knowledge and comprehension of principles of chemotherapy & management of infective pathology, nutrition, pulmonary pathology, diagnostic radiology.</p> <p>f) Appreciation of scientific methodology, study design, clinical trials and data analysis</p> <p>g) Ability to practice effectively in an academic, tertiary care setting and to participate in medical education and translational research.</p>
	Need for course: (approx 50 words) <ul style="list-style-type: none"> Utility in present employment /likely future employment 	<p>Thoracic diseases are mostly managed at specialized centres and medical colleges in India. The training in pulmonary surgery during postgraduate courses, in general surgery or MCh CTVS is often not adequate to manage specially pulmonary disease patients requiring surgical management. Dedicated course training is necessary to produce more specialised pulmonary surgeons capable of treating these common problems of thoracic cavity pertaining to pulmonary diseases.</p> <p>The aim is to provide the training foundation for those individuals dedicated to careers in pulmonary surgery through training in the areas of interdisciplinary management, complex pulmonary surgery and research. This additional expertise emphasizes critical analysis of clinical problems and development of additional skills in the performance of techniques required for the practice of the subspecialty, including consultation skills and multidisciplinary treatment planning, with emphasis in basic and clinical research methodologies.</p>
	Similar courses in other universities / colleges: <ul style="list-style-type: none"> Specify new course 	It is a new course in KGMU.
	Duration in months:	12 months
	Maximum no. Of seats offered: per course	Two (02)
	Frequency of course: (annual/6 monthly)	Annual
	Eligibility criteria for candidates:	Candidate should have completed MS/DNB in General Surgery
	Mode of selection: (Advertisement to enrolment)	<p>Combined merit - based on MCQ based Entrance examination (80%) and viva (20% marks)</p> <p>Examination committee (for viva)</p> <ul style="list-style-type: none"> Dean Faculty of Medicine or nominee Head of Department or nominee



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	<ul style="list-style-type: none"> Hon'ble Vice Chancellor nominee External Expert (from reputed Govt/Private Institution) as decided by Board of Studies of Department of General Surgery KGMU
Fees for course including fee structure:	As per University rules
<p>Curriculum:</p> <ul style="list-style-type: none"> Structure of course (full time/ part time) Goal and objectives (competency and proficiency) <p>Course Curriculum/ Syllabus</p>	<p>Full time (12 months)</p> <p>The goals of this course are to provide comprehensive, multidisciplinary training to individuals who are committed to a career in Pulmonary Surgery. The certificate course programme will be a one year course. The course training will provide a broad exposure to the full range of clinical problems encountered in a tertiary centre related to pulmonary surgery. The trainee will be full time resident of the institution (KGMU, Department of Surgery) and will perform the duties and responsibilities of a full time surgeon in the department.</p> <p>Fundamental Components of the Course</p> <p>a) The fellow must participate in the evaluation, management and care of a minimum of 50 pulmonary cases. b) Participation in a minimum of 50 surgical procedures, representing the full scope of pulmonary diseases. c) Intensive exposure to the interdisciplinary management of pulmonary disease patients. d) Participation in the development and implementation of research in the field of pulmonary diseases.</p> <p>Course Curriculum/ Syllabus The Scope and Practice of Pulmonary Surgery The areas of practice in pulmonary surgery are:</p> <ul style="list-style-type: none"> General management of a patient undergoing thoracic surgery Neoplasms of the lung Disorders of the pleura Disorders of the chest wall Disorders of the diaphragm Emphysema and bullae Disorders of the mediastinum Disorders of the airway <p>Key Topics</p> <p><u>Candidates sitting this examination would be expected to be competent in the management of the conditions outlined below. This represents the minimum standard that would be expected.</u></p> <p>1. General Management of a Patient Undergoing Thoracic Surgery</p> <ul style="list-style-type: none"> o Patient selection and determination of suitability for major thoracic surgery and the pre and post operative management of a thoracic surgical patient o The assessment and management of a patient by bronchoscopy including foreign body retrieval o The assessment and management of a patient by mediastinal

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial statements and for providing a clear audit trail. The text also mentions that proper record-keeping is essential for identifying and correcting errors in a timely manner.

2. The second part of the document focuses on the role of the accounting department in providing accurate and timely information to management. It highlights that the accounting department is responsible for analyzing financial data and providing insights that can help management make informed decisions. The text also notes that the accounting department should maintain close communication with other departments to ensure that all transactions are properly recorded and reported.

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exploration

- o Competence in performing appropriate thoracic incisions

2. Neoplasms of the Lung

- o The assessment and management of lung cancer, including the scientific basis of staging systems and techniques used in the determination of stage and fitness for surgery
- o An understanding of the role of surgical treatment in the multidisciplinary management of lung cancer and other intrathoracic malignant diseases, including an appreciation of the principles of other treatment modalities and their outcomes

3. Disorders of the Pleura

- o The assessment and management of patients with pleural disease; including pneumothorax and empyema, and including both VATS and open strategies

4. Disorders of the Chest Wall

- o The assessment and management of patients with chest wall abnormalities, infections and tumours

5. Disorders of the Diaphragm

- o The assessment and management of patients with disorders of the diaphragm, including trauma to the diaphragm

6. Emphysema and Bullae

- o The assessment and management of patients with emphysematous and bullous lung disease; including surgical management if appropriate and utilising both VATS and open strategies

7. Disorders of the Mediastinum

- o The assessment and management of patients with mediastinal tumours and masses; including surgical management if appropriate and utilising both VATS and open strategies

8. Disorders of the Airway

- o The assessment and management of patients with disorders of the major airways. Including operative management in suitable cases

Standards for Depth of Knowledge

The following methodology is used to define the relevant depth of knowledge required of the candidate. Each topic has a competence level ascribed to it for knowledge ranging from 1 to 4:

1. knows of
2. knows basic concepts
3. knows generally
4. knows specifically and broadly

Standards for Clinical and Technical Skills

The practical application of knowledge is evidenced through clinical and technical skills. Each topic has a competence level ascribed to it in the areas of clinical and technical skills ranging from 1 to 4: 1. has



		<p>observed</p> <p>At this level the candidate:</p> <ul style="list-style-type: none"> • Has adequate knowledge of the steps through direct observation. • Demonstrates that he/she can handle instruments relevant to the procedure appropriately and safely. • Can perform some parts of the procedure with reasonable fluency. <p>2. can do with assistance</p> <p>At this level the candidate:</p> <ul style="list-style-type: none"> • Knows all the steps and the reasons that lie behind the methodology. • Can carry out a straightforward procedure fluently from start to finish. • Knows and demonstrates when to call for assistance/advice from the supervisor (knows personal limitations). <p>3. can do whole but may need assistance</p> <p>At this level the candidate:</p> <ul style="list-style-type: none"> • Can adapt to well-known variations in the procedure encountered, without direct input from the trainer. • Recognises and makes a correct assessment of common problems that are encountered. • Is able to deal with most of the common problems. • Knows and demonstrates when he/she needs help. • Requires advice rather than help that requires the trainer to scrub. <p>4. competent to do without assistance, including complications</p> <p>At this level the candidate:</p> <ul style="list-style-type: none"> • With regard to the common clinical situations in the specialty, can deal with straightforward and difficult cases to a satisfactory level and without the requirement for external input. • The level at which one would expect a UK/Ireland consultant surgeon to function. • Is capable of supervising trainees.
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1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to support effective decision-making.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and reporting, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that data is used responsibly and ethically.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of ongoing monitoring and evaluation to ensure that data management practices remain effective and aligned with the organization's goals.

6. The sixth part of the document provides a detailed overview of the data collection process, including the identification of data sources, the design of data collection instruments, and the implementation of data collection procedures.

7. The seventh part of the document discusses the importance of data quality and the various factors that can affect it. It provides practical tips for ensuring high-quality data collection and analysis.

8. The eighth part of the document explores the role of data in decision-making and the various ways in which data can be used to inform organizational strategy and operations.

9. The ninth part of the document discusses the importance of data security and the various measures that can be taken to protect data from unauthorized access and loss.

10. The tenth part of the document concludes by providing a final summary of the key points and a call to action for the organization to implement the recommended data management practices.

11. The eleventh part of the document provides a detailed overview of the data analysis process, including the selection of appropriate statistical methods and the interpretation of results.

12. The twelfth part of the document discusses the importance of data visualization and the various tools and techniques used to present data in a clear and concise manner.

13. The thirteenth part of the document concludes by providing a final summary of the key points and a call to action for the organization to implement the recommended data management practices.

GENERAL TRAUMA MANAGEMENT (ATLS)

- Assessment and management of airway, breathing and circulation
- Maintenance of an adequate airway and respiratory support
- Protection of the cervical spine
- Circulatory resuscitation
- Establishment of appropriate monitoring
- Assessment and management of pain and anxiety

PULMONARY TRAUMA MANAGEMENT

- Examination and assessment of the of the chest, including respiratory cardiovascular and circulatory systems
- Recognition and management of immediately life threatening situations: obstructed airway, tension pneumothorax, massive haemothorax, open chest wound, flail chest and cardiac tamponade
- Recognition and management of potentially life threatening situations: lung contusion, bronchial rupture, blunt cardiac injury, intrathoracic bleeding, oesophageal injury, simple pneumothorax and major vascular injury
- Recognition of potentially life threatening penetrating injuries to the chest and abdomen
- Interpretation of chest x-ray, ECG, arterial blood gases and echocardiography
- Detection and treatment of cardiac arrhythmias
- Management of the widened mediastinum including appropriate investigations and multidisciplinary consultation

PRACTICAL SKILLS

- Establish an emergency airway (surgical and non-surgical)
- Insertion and management of thoracic drains
- Establish adequate venous access and monitoring

OPERATIVE MANAGEMENT OF THORACIC TRAUMA

- Postero-lateral, thoracotomy, antero-lateral thoracotomy and thoraco-laparotomy
- Bilateral anterior thoracotomy
- Median sternotomy and closure
- Repair of cardiac injuries
- Repair of pulmonary and bronchial injuries
- Management of the complications of chest trauma including retained haemothorax and empyema
- Repair of oesophageal injuries
- Treatment of aortic transection

General Management of a Patient Undergoing Pulmonary Surgery

Objective common to all thoracic surgical conditions, and should be read in conjunction with the syllabus for specific surgical conditio

BASIC KNOWLEDGE

- *Physiology*
- Pulmonary physiology, ventilation and gas exchange
- Haemostasis, thrombosis and bleeding
- Acid base balance
- Metabolic response to trauma
- Digestive, renal and hepatic physiology
- Nutrition

Anatomy

- Tracheobronchial tree and lungs
- Thoracic inlet, neck and mediastinum
- Oesophagus and upper GI tract
- Chest wall and diaphragm

Pathology

- Inflammation and wound healing
- Bronchopulmonary infections

ARDS

- Emphysema
- Pulmonary fibrosis
- Pulmonary manifestations of systemic disease
- Systemic manifestations of pulmonary disease
- Benign and malignant tumours of trachea, bronchus and lung parenchyma
- Malignant and benign tumours of the pleura and chest wall, mediastinum and thyroid

Pharmacology

- Bronchodilators
- H2 antagonists and proton pump inhibitors
- Haemostatic drugs
- Analgesics
- Antibiotics
- Anaesthetic agents, local and general

Microbiology

- Organisms involved in respiratory infection including TB
- Organisms involved in wound infection
- Antibiotic usage and prophylaxis
- Antisepsis
- Management of intra pleural sepsis

CLINICAL KNOWLEDGE

- *Thoracic Incisions*
- Types of incisions and appropriate use, including lateral, anterior, muscle sparing and video-assisted approaches
- Sternotomy
- Difficult access and improving exposure
- Early and late complications of thoracic incisions
- Analgesia including pharmacology, effectiveness, side effects and use in combination regimens
- Post-operative analgesia, including epidural, PCAS and paravertebral catheter techniques.

Bronchoscopy

- The role of rigid and flexible bronchoscopy in the investigation of airway and pulmonary disease
- The anaesthetic, airway and ventilatory management during rigid and flexible bronchoscopy

Mediastinal exploration

- Endoscopic, radiological and surgical approaches used to evaluate and diagnose mediastinal disease of benign, infective, primary and malignant aetiology

- Equipment for mediastinal exploration
- Relevant imaging techniques, and influence on surgical approach.

HISTORY AND EXAMINATION

- System specific and general history and examination, including drug history, identification of comorbidity and functional status.

DATA INTERPRETATION

- Routine haematology and biochemical investigations
- Chest radiograph and ECG
- CT, including contrast enhanced CT
- Interpretation of imaging of the mediastinum.
- MRI and PET
- Respiratory function tests
- Ventilation/perfusion scan
- Blood gases
- Oesophageal function tests and contrast studies

PATIENT MANAGEMENT

- Cardiopulmonary resuscitation
- Risk assessment, stratification and management
- Management of patients making an uncomplicated or complicated recovery from thoracic operations.
- Post-operative management of pain control,
- respiratory failure, sputum retention, haemodynamic instability and low urine output.
- Treatment of cardiac arrhythmias
- Pain control
- Wound infection and disruption
- Blood transfusion and blood products
- Physiotherapy and rehabilitation
- Palliative care

PRACTICAL SKILLS

- Tracheostomy
- Fibreoptic bronchoscopy
- Chest aspiration
- Chest drain insertion
- Chest drain management

OPERATIVE MANAGEMENT

Incisions

- Correct positioning of patient for thoracic surgery
- Perform and repair thoracic incisions, including lateral, anterior, muscle sparing and VATS incisions
- Difficult access and improving exposure
- Perform and close sternotomy incision

Bronchoscopy

- Diagnostic bronchoscopy including biopsy - rigid and flexible
- Equipment, instrumentation and preparation
- Perform rigid and flexible bronchoscopy
- Airway and ventilatory management

- Recognise normal and abnormal anatomy
- Identify common pathologies and the surgical relevance of the findings
- Take appropriate specimens for bacteriology, cytology and histology
- Management of moderate bleeding and other common complications
- Supervision of the care of patients recovering from bronchoscopy
- Post-operative bronchoscopy: indications and procedure
- Tracheostomy and minitracheostomy

Mediastinal Exploration

- Surgical evaluation of the mediastinum using cervical, anterior and VATS approaches

Neoplasms of the Lung

To manage a patient with a neoplasm of the lung, including operative management where appropriate and including complicated situations. Appreciation of the multidisciplinary, multimodality approach to the management of the condition.

GENERAL KNOWLEDGE

As for thoracic surgery - general

SPECIFIC KNOWLEDGE

Benign and malignant tumours of trachea, bronchus and lung parenchyma

Epidemiology, presentation, diagnosis, staging (pre-operative, intraoperative and pathological) and treatment of lung cancer and lung metastases

Neoadjuvant and adjuvant treatment of lung cancer

Results of treating thoracic malignancy by surgery, medical or oncological techniques,

Knowledge

including multimodality management

- Survival, recurrence rates and relapse patterns after surgical treatment and the investigation and management of relapse
- Knowledge of palliative care techniques
- Treatment of post-operative complications of pulmonary resection such as empyema and broncho-pleural fistula
- Role of repeat surgery in recurrent and second primary malignancies of the lung
- Medical and surgical options to deal with recurrent or problematic complications of pulmonary resection

PATIENT MANAGEMENT

As for thoracic surgery - general

Clinical history and examination

Interpretation of laboratory, physiological and imaging techniques

Interpretation of endoscopic findings

Patient selection with assessment of function and risk.

OPERATIVE MANAGEMENT

- Bronchoscopic assessment including biopsy

- Endoscopic and surgical techniques of lung biopsy
- Mediastinal assessment and biopsy
- Intraoperative diagnosis and staging
- Endoscopic management of tumours using laser and stenting
- Surgery for benign and malignant conditions of the lungs, including uncomplicated lobectomy for lung cancer, wedge resection and metastasectomy
- Segmentectomy and lobectomy for benign and malignant disease
- Redo operations for repeat resections of lung metastases
- Advanced resections for lung cancer, including sleeve lobectomy, pneumonectomy and extended resections involving chest wall and diaphragm

Management of post-operative complications such as empyema and broncho-pleural fistula

Disorders of the Pleura

To manage surgical conditions of the pleura and the pleural space, including complicated situations.

GENERAL KNOWLEDGE

As for thoracic surgery – general

SPECIFIC KNOWLEDGE

Anatomy and physiology of the pleura

- Inflammatory, infective and malignant disease of the visceral and parietal pleura
- Pneumothorax
- Pleural effusion
- Empyema
- Mesothelioma
- Haemothorax
- Chylothorax
- Conditions of adjacent organs that affect the pleura
- Medical and surgical management of pleural disease, including radiological, open and VATS techniques
- Techniques to deal with failures of primary treatment
- Advanced techniques for pleural space obliteration such as thoracoplasty and softtissue transfer

PATIENT MANAGEMENT

- As for thoracic surgery – general
- Interpretation of imaging of the pleura
- Chest drains: insertion, management, removal and treatment of complications
- Management of patients making uncomplicated and complicated recovery from pleural interventions

OPERATIVE MANAGEMENT

Open procedures for non-complex pleural problems

VATS procedures for non-complex pleural problems

Open and VATS procedures for empyema, including techniques for decortication

Open and VATS procedures in complex cases

Advanced techniques of pleural space obliteration, with appropriate specialist assistance

Disorders of the Chest Wall

To manage a patient with an abnormality or disease affecting the chest wall, including surgical management where appropriate, and including complex cases.

GENERAL KNOWLEDGE

As for thoracic surgery – general

SPECIFIC KNOWLEDGE

- Anatomy of the chest wall
- Congenital, inflammatory, infective and neoplastic conditions that can affect the components of the chest wall
- Clinical, laboratory and imaging techniques used in the evaluation of chest wall pathology
- Techniques used in the diagnosis of chest wall disease, including aspiration and core biopsy, and incision and excision biopsy
- Pectus deformities: aetiology, physiological and psychological consequences. Surgical options for correction Techniques used to resect the sternum and chest wall, physiological and cosmetic sequelae.
- Prosthetic materials used in chest wall surgery
- The role of repeat surgery to deal with recurrent conditions and the complications of previous surgery
- Techniques of complex chest wall reconstruction involving thoracoplasty or softtissue reconstruction

PATIENT MANAGEMENT

As for thoracic surgery – general

Clinical history and examination

- Interpretation of laboratory, physiological and imaging techniques
- Patient selection with assessment of function and risk

OPERATIVE MANAGEMENT

- Chest wall biopsy and choice of appropriate technique
- Open and excision biopsy and resection of the chest wall for benign and malignant conditions
- Chest wall resection in combination with resection of the underlying lung
- Selection and insertion of prosthetic materials, and selection of cases in which such materials are required
- Pectus correction, by both open and minimally-invasive techniques, including post-operative care and complications
- Surgery for the complications of chest wall resection and repeat surgery to resect recurrent chest wall conditions
- Complex chest wall reconstruction

Disorders of the Diaphragm

To manage a patient with disease or abnormality of the diaphragm, including

Objective surgical management where appropriate, and including complicated cases.

GENERAL KNOWLEDGE

As for thoracic surgery – general

SPECIFIC KNOWLEDGE

- Anatomy and physiology of the diaphragm
- Pathology of the diaphragm
- Clinical, physiological and imaging techniques in the assessment of diaphragmatic abnormalities
- Physiological consequences of diaphragmatic herniation or paresis
- Surgical techniques used to biopsy and resect diaphragmatic tumours
- Situations in which replacement of the diaphragm is required, the materials used and their value and limitations
- Complications of diaphragmatic resection and their management
- Techniques used to electrically pace the diaphragm, and the conditions in which such treatment is appropriate

PATIENT MANAGEMENT

As for thoracic surgery – general

Specific Skills

- Clinical history and examination
- Interpretation of laboratory, physiological and imaging techniques
- Patient selection with assessment of function and risk
- Management of patients making an uncomplicated or complicated recovery from diaphragmatic resection

OPERATIVE MANAGEMENT

- Resection and repair of the diaphragm and adjacent structures
- Complications of diaphragmatic resection
- Management of diaphragmatic trauma

Emphysema and Bullae

To manage a patient with emphysema and bullae, including surgical management where appropriate, and including complicated cases.

GENERAL KNOWLEDGE

As for thoracic surgery – general

SPECIFIC KNOWLEDGE

- Aetiology, pathology and physiology of chronic obstructive airways disease (COPD)
- Epidemiology and public health issues
- Smoking cessation measures
- Clinical, laboratory, physiological and imaging techniques
- Medical and surgical management of COPD and its complications
- Selection criteria and pre-operative preparation
- Surgical techniques used in the treatment of emphysema and bullae and the results of surgical treatment including relevant clinical trials.
- Lung volume reduction surgery: techniques, complications and management of complications
- Experimental and developmental techniques in lung volume reduction surgery

PATIENT MANAGEMENT

As for thoracic surgery – general Clinical history and examination

- Interpretation of laboratory, physiological and imaging techniques
- Patient selection with assessment of function and risk
- Post-operative management of patients making an uncomplicated recovery from surgery for emphysema or the complications of such diseases
- Management of patients following lung volume reduction surgery

OPERATIVE MANAGEMENT

- Procedures to deal with secondary pneumothorax and bullae by open techniques
- Procedures to deal with secondary pneumothorax and bullae by VATS techniques
- Lung volume reduction surgery, using open and VATS techniques

Disorders of the Mediastinum

To manage a patient with benign and malignant disease of the mediastinum, including surgical management where appropriate, and including complicated cases.

GENERAL KNOWLEDGE

As for thoracic surgery – general

SPECIFIC KNOWLEDGE

Anatomy of the mediastinum

- Congenital, benign, infective and malignant (primary and secondary) conditions of the mediastinum
- Systemic conditions associated with the mediastinum
- Clinical, laboratory, electromyographic and imaging techniques used in the diagnosis and assessment of patients with mediastinal disease
- Myasthenia gravis: medical, surgical and peri-operative management
- Staging of thymoma and grading of myasthenia
- Benign and malignant conditions, which do not require surgical biopsy or resection
- Oncological treatment of malignant diseases of the mediastinum, including multidisciplinary care
- Surgical techniques for the treatment of myasthenia gravis, mediastinal cysts and tumours, complications and results
- Retrosternal goitre and its management

PATIENT MANAGEMENT

As for thoracic surgery – general Clinical history and examination

Interpretation of laboratory, physiological and 4 imaging techniques

Clinical

^{Skills} Patient selection with assessment of function and risk

Post-operative management of patients 4 including recognition and management of post-operative complications

OPERATIVE MANAGEMENT

- Biopsy of mediastinal masses using appropriate techniques
- Excision of the thymus
- Isolated resection of mediastinal cysts and tumours
- Resection of mediastinal cysts and tumours, including extended resections involving adjacent structures

Disorders of the Airway

To manage a patient with disease of the major airways, including surgical management where appropriate, and including complicated cases

GENERAL KNOWLEDGE

As for thoracic surgery – general

SPECIFIC KNOWLEDGE

Anatomy of the larynx, trachea and bronchus

- Physiology of the normal airway
- Pathophysiology of disease and its effects on lung function
- Endoscopic appearances in health and disease
- Congenital, inflammatory, infective, benign and neoplastic diseases of the airways
- Symptoms, signs of airway disease
- Clinical, physiological and imaging tests undertaken to diagnose and assess airway disease
- Techniques for surgical resection of the trachea
- Bronchoplastic procedures and the limitations of these techniques
- Medical and oncological treatments available to deal with airway diseases
- Endoscopic techniques used to deal with benign and malignant conditions, including disobliteration and stenting
- Presentation, investigation and management of anastomotic complications following airway surgery
- Presentation, evaluation and treatment of fistulae in the aerodigestive tract, due to benign, malignant and iatrogenic causes
- Role of open and endoscopic procedures in dealing with problems

PATIENT MANAGEMENT

As for thoracic surgery – general

Clinical history and examination

Interpretation of laboratory, physiological and imaging techniques

Recognition, diagnosis and assessment of **Clinical** airway obstruction

Skills

Patient selection with assessment of function and risk

Post-operative care of patients making an uncomplicated recovery from major airway surgery

Post-operative care of patients making a complicated recovery from airway surgery

OPERATIVE MANAGEMENT

- Endoscopic assessment of a patient with airways disease
- Sleeve resection of the trachea for simple benign conditions
- Sleeve resection of the main bronchi, including lobectomy where appropriate, for malignant disease
- Techniques for the relief of major airways obstruction including stenting
- Airway resection for tumours and complex benign conditions and techniques for airway reconstruction, anastomosis and laryngeal release
- Repeat resections for recurrence and the complications of prior resection
- Management of fistulae in the aerodigestive tract by surgical and endoscopic techniques

The course will provide clinical exposure to following-

a) Anatomy of lung , mediastinal area and airway.

b) Physiology of lung , mediastinal area and airway.

c) Disease of lung in terms of inflammatory pathology , infective pathology , benign and malignant pathology.

d) Disease of mediastinum and airway

e) Journal clubs

f) Clinical research protocol

Students can finish the operative modules any time within a stipulated time and in any order. Only the Soft skill development in skills laboratory setup has to be finished first (3) Students get the freedom to choose and identify

Fellows can translate their innate capabilities to credits and get the know-how of more than one discipline increasing their horizons

Since the entire course is Credit System based, for each Module, the candidates will be assigned credits for their work by respective Faculty/Unit.

The candidates may finish their modules and earn credits in Operative sessions within a certain stipulated time (maximum 3 years and minimum 1 year) in any order depending upon their availability of time and convenience.

The basic credits for any system as stipulated by faculty of a particular course, however, will have to be finished first.

The fellows may be rotated with different expert faculties / Units / Departments of a specific module so as to learn maximum from the respective experts in their actual operative module.

The learning process will be facilitated by -

- 1) Clinical expertise gained by working alongside experienced Pulmonary Surgeon.
- 2) Attendance in daily Multi-specialtyboards.
- 3) Teaching sessions, which would include inter disciplinary seminars, Journal clubs, and case presentation.
- 4) Assisting and hand on experience in all pulmonary surgery procedures.
- 5) Posting to Respiratory Medicine & Trauma Critical Care Unit.
- 6) Project work in the form of at least one publication in any thoracic journal and involvement in community based intervention programme for pulmonary disease.
- 7) Lectures by experts in the field of basic sciences, preventive methods and pulmonary disease registry.

Evaluation:

- Internal assessment of the candidates by the faculty (100 marks).
This will be done on a continual basis with respect to the overall objectives of the course, and specifically with respect to their operating skills, time spent with patients in patient care/rounds, seminars, journal club &MDT presentations.
- Final examination – at the end of the course conducted by both internal & external examiner.

It will consist of

- a) 2 theory papers (50 x 2 =100 marks)
- b) Clinical case discussion (50 x 2 = 100 marks)

Faculty (and qualifications)	
• Intradepartmental	Prof. Suresh Kumar Dr. Anurag Rai Dr. Sanjeev Kumar Dr. Pankaj Singh
• Interdepartmental (permissions)	Not Applicable
• Inter Institutional (under	Tata Memorial Centre Mumbai / Sanjay Gandhi Post- Graduate Institute, Lucknow/ AIIMS Delhi/ any other Private Reputed Institution

consideration)	
Regulatory body if any under which course will be offered:	As per University rules, but this course is out of purview of Medical Council of India
Scholarship / payment to candidate, if any	to be decided by the committee However as per departmental committee opinion the candidate may be paid as per senior residency financial rules
Amenities to be provided <ul style="list-style-type: none"> • Leave • Hostel accommodation • Central Library • Central laboratory for research work 	As per University rules Will be provided as per availability Allowed Allowed

