KIMSDU/KIMS/CURRICULUM /SPINE FELLOWSHIP/ORTHO

Programme Name :- Fellowship Spine **Code Number :- 1708**
Course Name :- Fellowship Arthroscopy **Course Code :-1708-11**

- **Title of the course : Fellowship Curriculum in Spinal Surgery**

- **Preamble :** In order to provide an efficient and safe service covering the broad spectrum and Spinal Pathology, formal spinal fellowship ideally with a formal curriculum have been considered. Spinal surgery is a dynamically developing field of medicine. The increased volume of rapidly accumulating knowledge delineates a trend for spinal surgery becoming an established and discrete discipline distinct from General Orthopedics & Neurosurgery. The importance of this discipline has dramatically evolved over the past decades. It has transformed from being the domain of neurosurgeons, as a method of neural element decompression, to becoming a major aspect of neurosurgical and orthopaedics practice (Spinal procedure now comprise 14% of orthopedic practice and 60% of neurological practice). Sub specialization is a phenomenon that not only results in better services and patient outcome time to increased physician expertise but due is also cost effective. A fellowship works allows for an increased exposure to specialized disorders, which is associated with improved surgical outcome , It is also the time to acquire decision making skills and familiarize oneself with the most recent surgical techniques and their associated complications .Regardless the nature of spine fellowship it is excepted that upon completion of programme fellow is competent in the diagnosis and management of wide spectrum of spinal disorders and trauma, the aim of our attending staff is to faster an fester environment of graduated independence to allow the maturation of our fellows into excellent spine surgeons clinically, technically and academically.

- **Objectives :**
    - should be able assess patient with spine pathology and come to conclusion weather patient needs conservative or operative management
    - Should get adequate exposure to most spinal pathologies
    - To provide Hands on surgical training under supervision and guidance
    - should be able to perform basic spine procedures e.g.- Nerve root block, Microdiscectomy, Microdecompression , vertrebroplasty, Pedicle screw instrumentation etc

- **Duration : One Year (12 Months)**

- **Annual intake : One Fellow**

- **Eligibility : MS (ORTO), DNB (Ortho)**

- **Fee : As per University policy**

- **Selection method : Entrance Examination conducted by the University**

- **Faculty :**
    - Spine surgeon who have undergone their training room the most premier institute of India

- **Infrastructure:** As a fellow in our programmee you will have the opportunity to become competent in complex degenerative of trauma cases, spinal deformity and minimally invasive spinal surgery. Spine Faculty performs more than 500 cases per year. Appropriate percentage of wxposure to the spine by region.
  1) Cervical – 30% 2) Thoracic 10% 3) Lumbar 60%,
  Appropriate % of the exposure to the spine by diagnostic category.
  1) Degenerative 60% 2) Trauma 20%, 3) Deformity 15% 4) Tumor 5%
  We have got two delectated operation theatres of spine surgery with three 3C-Arm image intensifiers, operating microscope spine surgery tables. Spinal instrumentation, scopes for minimally invasive surgeries well trained staff for that special spine clinics, seminar rooms, bone models, workshops also available in the institute.

- **Contributing departments : Department of Orthopaedics**

- **Medium of instruction : English**

- **Attendance :** 80 % attendance is a must for eligibility.

- **Syllabus / course content (semester wise) :**

Fellows are trained for all common spinal diseases and conditions of the cervical, thoracic and lumbar spine : Congenital spine disorders ,de-generative spine disorders ,deformity, trauma and tumor; out-patient and In- hospital care of the spine patient

Following is the list of topics which can be covered

- Approaches to Spine
    - Cervical
    - Thoracic
    - Lumbar
- Basic osteology of spine
    - C1-C2
    - Typical subaxial C-spine
    - Thoracic spine
    - Lumbar
    - Sacrum and sacroiliac joint
- Basic sciences – Disc anatomy, biomechanics etc

- Spinal Instrumentation - Basics (Screw designs, hook designs etc.), Metallurgy basics (properties of SS, Titanium, CC, PEEK) Biomechanics and Applications.
- Functional /scoring systems in spine - over view of importance of various scoring systems in different pathologies , validity and reliability , ODI, VAS, SF-36,SRS QUESTTIONAIRE, JOA, MJOA, Nuricks , ASEA grading, tomita, tokuhashi, wang bohlmans, odoms ,satisfactions indices etc , whats new in literature
- The Pharmacologic Management of Spine Pain
- Therapeutic Exercise for Low Back Pain
- Psychosocial Considerations in Spine Disorders
- The Interdisciplinary Treatment of Patients With Chronic Pain
- Bone Graft Substitutes - Concept of bone healing, pseudoarthrosis, Bone graft substitutes, BMP, Bone matrices, complications, advantages, recent literature
- Spinal fusion – PLF, PLIF, TLIF, XLIF , 360 fusion- Indications, techniques,pitfalls and recent literature
- Thoracolumbar Trauma - Basic review of classification systems, importance in management, pitfalls, reliability.
- Cervical Trauma - Basic review of classification systems, importance in management, pitfalls, reliability.
- ETHICS
- Lower Lumbar Fractures – Current evidence.
- Spondylolisthesis - classification systems, importance in management, pitfalls , overview of low grade versus high grade listhesis management , what's new in literature.
- Scoliosis –AIS classification and management
- Scoliosis – Congenital / Early onset
- Adult deformity – Assessment, Indications and management.
- TB spine past present and future. Medical and conservative.
- Osteoporotic Fractures overview with indications for cementing
- Syringomyelia.
- Spinal cord tumours
- Overview of literature on various tumors, primary, secondary, management tips from literature, management guidelines on metastasis, GCT SPINE, CHORDOMA SPINE etc, what's new in spine surgery.

- Spinal Cord Injury and Rehabilitation strategies/goals
- Cervical myelopathy
- Minimally invasive spinal surgery – indications and techniques.
- What's new in spine surgery?

  Common Complications and management strategy.(Dural tear, deficits etc)

- **Fellowship Examination :**

Theory - 100 Marks

Practical - 100 Marks

Viva - 100 Marks

Total - 300 Marks

- **Externship, if applicable :** Yes

➢ **Teaching – learning method :**

- Fellows are trained for common Arthroplasty and conditions Through a structured teaching program based on the following teaching schedule:
- Arthroplasty OPD Postings (Tuesday) (focused on the evaluation, diagnosis, operative and Non-operative decision making)
- Ward Postings (Manage operative and non-operative patients , Preoperative and Postoperative management)
- Operation Theater postings as per schedule
- In addition the fellows are involved in the following teaching programmes:

  - Attend lectures given by faculty members of the unit
  - Journal Clubs
  - Case Presentation – Consists of presentations by Arthroplasty fellows with faculty Input relating to various Joint pathology and surgical treatment options.
  - X-Ray discussion
  - Seminar
  - Grand Rounds
  - Research : Fellows will have the opportunity to engage in clinical research with the Intent to publish peer-reviewed articles under the directions of the faculty

➢ **Log book:** The Fellow should maintain a logbook.

➢ **Text books :**

- Paul Tornetta, & Charles Court-Brown - **Rockwood and Green Fractures in Adults and Children- 7th edition**

- **Reference books :**

  - Keith H. Bridwell & Ronald L. DeWald **- The Textbook of Spinal Surgery Third Edition**

  - Harry N. Herkowitz & Steven R. Garfin - **Rothman-Simeone The Spine, 6th Edition**

- **Additional reading :**

  - By S. Terry Canale & James H. Beaty, **-Campbell's Operative Orthopaedics, 12th Edition**