

Post – Doctoral Fellowship Programme in Spine Surgery (Ortho)

SYLLABUS

INTRODUCTION - the need for two years training :

Spine Surgery is one of the rapidly developing Surgical Sub - Specialties of Orthopedic Surgery. With increase in the knowledge and diagnostic capabilities, the incidence of spinal disorders has increased tremendously in the recent past. The rise in the life expectancy of people has resulted in an increased diagnosis of elderly patients with degenerative disorders. Similarly the rise in road traffic accidents has contributed to an increase in spinal and spinal cord injuries. Many of these diseases and injuries, if diagnosed and treated appropriately in the early staged itself, can result in improved outcomes, thus preventing neurological insufficiency for the patients. However to treat spinal disorders efficiently with the best outcomes, it requires adequate training of surgeons in the field of spine surgery. Currently most fellowship in spine surgery throughout the world for post MS graduates are for two years. In india also, two of the current accredited fellowships - the fellowship by National Board (FNB) by the National Board of Examinations, New Delhi and the Fellowship of the Association of Spine Surgeons of India (ASSI) are being conducted as two years programs. For a complex specialty of the nature of spine surgery, it is mandatory that any fellowship program is of two years to provide the best training for the students. The two year program will have adequate training on the theroetical aspects, case based discussions, procedure based assessment of surgeries and research training. The idea is to have safe and sensible spinal surgeons at the end of the fellowship who can use his knowledge, training, education, and surgical techniques acquired over two years for the best patient outcomes.

SYLLABUS

The list of theory topics that will be discussed during the spine fellowship training

1st YEAR :

1. Approaches to Spine - Cervical, Thoracic, Lumbar
2. Basic osteology of spine - C1 - C2, Typical Subaxial C-spine, Thoracic Spine, Lumbar, Sacrum.
3. Basic Radiology of Spine.
4. Basic Sciences - Disc anatomy, bio mechanics
5. Spinal instrumentation - Basics (Screw designs, hook designs etc.,)
6. Metallurgy basics, Biomechanics and Applications.
7. Functional / Scoring Systems in spine - Overview of importance of various scoring systems in different pathologies, validity and reliability such as ODI, SF-36
8. The Pharmacologic Management of Spine Pain - axial and radicular
9. Therapeutic Exercises for Low Back Pain and Neck Pain
10. Bone Graft Substitutes - Concept of Bone healing, Bone graft substitutes
11. Thoracolumbar Trauma - Basic review of classification Systems, Management.
12. Cervical Trauma Basic review of classification systems, management.
13. Initial evaluation of polytrauma including head injury.

2nd YEAR :

1. Spinal fusion - PLF, PLIF, TLIF, XLIF, 360 fusion - indications, techniques, pitfalls.
2. Spondylolisthesis - classification systems, importance in management, pitfalls.
3. Scoliosis - AIS classification and management, congenital / Early onset, Neuromuscular, Adult deformity - Assessment, indications and management.
4. TB Spine - conservative and operative.
5. Osteoporotic Fractures - Overview with indications for cementing
6. Spinal Dysraphism
7. CV junction anomalies and AC Malformations
8. Syringomyelia

9. Spinal cord tumours
10. Vertebral tumors - primary and secondary - evaluation and management
11. Spinal Cord injury and Rehabilitation strategies/goals
12. Cervical myelopathy - Options, pros, cons, recent trends
13. Minimally invasive spinal surgery - indications and techniques.

SURGICAL TRAINING

(Year one will focus on observing and assisting the below described set of surgeries, and year two will focus on independent performance under supervision)

1. Posterior Lumbar discectomy
2. Anterior Cervical discectomy
3. Lumbar decompression +/- TLIF
4. Thoracic and Lumbar pedicle screw insertion
5. Lateral mass fixation
6. Cervical cage and plate
7. Cervical laminectomy
8. Thoracic laminectomy
9. Vertebral Cementing
10. Deformity correction (as first Assistant)
11. Osteotomy spine VCR/PSO/Ponte (as first assistant)
12. Minimally invasive screw placement lumbar/thoracic (as first assistant)
13. Anterior approaches thoracic/lumbar (as first assistant)
14. Management of spinal fractures through appropriate instrumentations.