

European Spine Course Diploma

EuroSpine wants to position itself as the major driving force in Spine Education and to act as a reference and resource to all stakeholders.

The major goal is to deliver consistent educational programs to future spine specialists through the delivery of the European Spine Course Diploma.

The European Spine Course Diploma consists of 5 Modules. The Modules may be taken in any order. The completion of the 5 Modules will result in the European Spine Course Diploma.

Module Basic Comprehensive Course

COURSE LEARNING OUTCOMES MODULE 1

1. Explain the impact of spinal disorders on the individual and society
2. Evaluate a spinal patient
3. Recognise serious and urgent spinal disorders
4. Formulate a plan for the safe early management of emergency and serious spine disorders, based on sound principles of treatment.
5. Demonstrate sound clinical judgment in planning patient management around selected cases

PRE-LEARNING - 3 1/2 HOURS OF CONTENT Participation in the program requires an excellent working knowledge of spinal anatomy. Participants on module 1 will be asked to build foundation knowledge for the module with 3.5 hours of pre-module work. Learning outcomes have been defined, so participants and faculty are clear about the standards expected and a self-test will be administered to check learning outcomes have been achieved. Resources to help participants achieve learning outcomes include: powerpoint presentations, videos and reading material. Registered delegates will receive email instructions for how to proceed with the learning content. By the end of the pre-course learning, participants should be able to:

1. a. b. c.
2. a. b. c. d.

RADIOGRAPHIC MEASUREMENTS Define the role of radiographic measurements in spinal pathology Apply the cobb angle and measures of sagittal balance to deformity Assess spinal instability

RADIOLOGY IMAGING (x-ray,MRI & CT) Differentiate between x-ray, MRI and CT Explain how each works Anticipate risks associated Compare radiation exposure resulting from each

3. OUTCOME MEASURES - (pre-learning for module 1 and task force research course)

- a. Differentiate between generic and specific health measures
- b. Distinguish between patient and clinician related outcome measures
- c. Use common measures for spinal disorders
- d. Explain the challenges associated with measuring outcomes

4. IMPORTANCE OF SPINE REGISTRIES

- a. b. c. Explain their impact on the care of patients Plan how to make contributions themselves
- Differentiate between an RCT and a registry

2 FACE-TO-FACE MODULE LEARNING OUTCOMES: SESSION 1- SPINE - THE BIGGER PICTURE

Evidence Based Medicine

- Rank levels of evidence
- Define the needs of individual patients in the context of EBM
- Explain the risk of bias
- Justify the role of EBM, guidelines and registries

Epidemiology & Economics

- Quantify the problem of back pain in society
- Propose a strategy to reduce the problem
- Explain research definitions of back pain and study methodology

Ergonomics & Psychosocial

- Describe the impact of media and society on beliefs of patients
- Separate myth from knowledge in the relationship between disease and disability
- Anticipate obstacles to recovery
- Explain the role of manual handling and workplace factors in spinal disability

LEARNING OUTCOMES: SESSION 2 - THE FUNCTIONAL SPINE

Biomechanics

- Outline loads in different positions of the spine
- Explain how loading changes with age and pathology
- Describe the basic principles of biomaterials and biocompatibility

Radiology

- Explain risks of exposure to radiation and minimize risks for patients and staff
- Justify the role of the team in evaluating radiological requests and investigations
- Select the most appropriate investigations in spinal disorders

The Young Spine

- Describe growth of the spine and growth velocity
- Define specific trauma related factors in the child

The Old Spine

- Identify common disorders in elderly patients
- Explain the natural history and treatment of fragility fractures

of the spine □ Describe the impact of age and co-morbidity on risk assessment and patient safety
LEARNING OUTCOMES: SESSION 3 - CLINICAL EVALUATION Case Discussion 3 □ Use clinical information to formulate a diagnosis and treatment plan
Recognising Serious Spine Disorders: red flags □ Link clinical scenarios to serious spine disorders □ Teach non-spine specialists to recognize serious spine disorders
Communication Skills □ Identify actual and potential communication problems within their own practice □ Assess own strengths and weaknesses in communicating with patients, their families and other team members.
Top Tips Clinical Examination □ Select appropriate clinical tests for a clinical situation □ Perform a safe and effective clinical examination
Safety & Ethics □ Apply an ethical framework to critical thinking □ Formulate principles of informed consent □ Evaluate organizational and personal factors involved in patient safety □ Identify non-technical aspects of safe surgery
LEARNING OUTCOMES: SESSION 4- EMERGENCIES Trauma. Evaluation. Transport □ Recognise and document details of a spinal cord injury (SCI) □ Plan transport, investigation and treatment of a patient with a spinal cord injury □ Anticipate potential complications and how to avoid them □ Plan a simple rehabilitation programme for a patient with SCI
Acute Cord Compression □ Recognise and investigate a progressive neurological spinal problem □ Formulate a plan for the pre surgical management of metastatic cord compression □ Outline the common causes and treatments of acute cord compression
Cauda Equina Syndrome □ Explain the impact on the patient of cauda equina syndrome (CES) □ Justify the difficulties in timing diagnosis and treatment
Systemic Disease & the Spine □ Recognise the importance of teamwork and appropriate involvement of others □ Anticipate common pitfalls in diagnosis of spinal disorders □ Describe systemic conditions associated with spinal disease
Case Discussion □ Interpret clinical information to formulate a diagnosis and treatment plan

Module Degenerative Disease of the Spine

Module Spinal Deformities

Module Trauma

Module Tumours & Inflammatory Disease of the Spine

LEARNING OUTCOMES: SESSION 1/ VERTEBRAL OSTEOMYELITIS Etiology, Pathogenesis, Routes of Spread • Explain the aetiology of vertebral osteomyelitis including: bacterial, tuberculous, and fungal • Describe the pathogenesis including venous route, arterial inoculation and iatrogenic direct extension • Anticipate the routes of spread: vertebral body & intervertebral disc
Symptoms & Diagnosis • Recognise the signs and symptoms of vertebral osteomyelitis • Identify the risk factors (immunodeficiency etc) • Select appropriate investigations • Distinguish on MRI and x-ray the key features that define and contrast both pyogenic and tuberculous spinal lesions
Conservative Management & Indications for Surgical Treatment • Evaluate options for conservative treatment • Compare absolute and relative indications for conservative treatment
Surgical Management of Spinal Infections • Formulate a plan for infection specific treatment • Anticipate complications • Plan appropriate management • Appraise current evidence concerned with spondylitis outcome and prognosis
Case Discussion
LEARNING OUTCOMES: SESSION 2/ RHEUMATOID DISEASE Etiology, Pathogenesis, Symptoms, Diagnosis • Explain the aetiology of rheumatoid disease • Describe the pathogenesis relating rheumatoid disease and joint changes • Recognise the signs and symptoms • Select and interpret appropriate investigations and imaging • Recognise signs of o the rheumatoid spine o ankylosing spondylitis
Stabilizing & Corrective Surgery of the Spine • Describe indications for corrective surgery for ankylosing spondylitis • Diagnose occipito-atlantoaxial complex and subaxial cervical spine • Differentiate between horizontal and vertical atlantoaxial instability 2

Diagnosis & Treatment of the Occipito-Atlantoaxial Complex

- Identify the commonly used radiographic lines and measurements for the C0 to C2 complex.
- Plan appropriate treatment for C0 to C2 and sub-axial rheumatic neck problems.
- Appraise current evidence regarding outcome and prognosis

Case Discussion

LEARNING OUTCOMES: SESSION 3/ METABOLIC BONE DISEASES Bone Disorders • Paget's disease • Rickets

- DISH ([Forestier's disease](#))

- Metabolic bone disease Osteoporosis
- Outline the etiology of osteoporosis
- Diagnose osteoporosis using appropriate investigations
- Surgical Considerations In Disorders of the Bone
- Evaluate treatment options
- Compare minimally invasive techniques including; o vertebroplasty, o kyphoplasty o vertebral body stenting

Case Discussion

LEARNING OUTCOMES: SESSION 4/ TUMOURS OF THE AXIAL SKELETON Primary benign tumours and tumour like lesions; diagnosis and management

- Explain the aetiology of tumours and tumour like lesions
- Describe the pathogenesis relating to tumours and tumour like lesions
- Differentiate between primary benign tumours and tumour like lesions
- Select appropriate investigations, interpret results and stage tumour like lesions
- Evaluate treatment options
- Anticipate outcomes
- Formulate a plan for long term monitoring

Primary malignant tumours; diagnosis and management

- Explain the aetiology of malignant tumours and metastases
- Describe the pathogenesis relating malignant tumours and metastases
- Differentiate between malignant tumours: primary and metastases
- Select appropriate investigations, interpret results and stage tumour

Secondary malignant tumours; diagnosis and management

- Justify the relative importance of combined tumours therapy including surgery, radiotherapy and chemotherapy.
- Evaluate surgical options and results
- Formulate a multidisciplinary management plan
- Justify the risks, benefits and impact of radiotherapy and chemotherapy.
- Evaluate surgical options
- Anticipate complications

Case Discussion

TARGET AUDIENCE

The European Spine Course Diploma is intended for surgeons in their last year of residency wishing to acquire basic knowledge on the evaluation of spinal disorders, spinal disease process and surgical skills. The European Spine Course Diploma is also relevant to any health care professional involved in the spinal treatment spectrum wanting to get best practices in the specialty of spine.

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