### 6th NSpine Combined Cadaveric

# **NSpine**

& Live Tissue Course

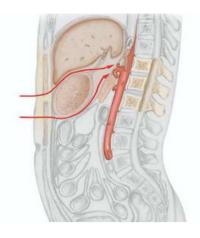
innovative spine education™

- all you need to operate and more -









### **NSpine Combined Cadaveric & Live Tissue Course**

Combining cadaveric and live tissue training is an advanced and highly effective means of teaching not only advanced approaches to the spine and implant handling, but also the management of complications which may occur. Especially with regard to anterior and lateral lumbar and thoracic techniques, the approaches are complex and the potential for complications significant.

NSpine is therefore proud to again be hosting the unique combined cadaveric and live tissue training event at the famous IRCAD centre, comprehensively covering most aspects of modern spine surgery. In a new collaboration, online learning packages will be provided on the module content through our partners at eccElearning in advance of the event.

#### Venue:

IRCAD is a global leader in surgical training. The surgical lab is at the heart of state-of-the-art facilities.

17 tables are fully equipped for surgical cadaveric dissection or live tissue surgery including endoscopic techniques. The lab is set up for fluoroscopy and advanced 3D imaging for image-guided or robotic surgery.

#### Travel and accommodation:

Strasbourg is a vibrant city with its historic town centre within walking distance of the IRCAD institute.

Strasbourg is accessible via road, train and air. There are international flight connections via Frankfurt or Paris. Excellent hotels are located within easy walking distance of IRCAD.



### **Course Structure Overview**



The focus of the event is on surgical training. Delegates will spend most of their time in the laboratory with the faculty. Lectures packages covering essential course content for modules booked are provided online in advance of the event for preparation.

At the venue, additional drop in case discussion and technical tips and trick sessions are offered each morning 7:30-8:30 and lunch break 12:30-13:30. Faculty will adjust the topics of these sessions to delegates learning requirements.

Each workshop day is split into two sessions - morning 8:30-11:30 and afternoon 13:30-16:30.

Delegates may attend single workshops or combine workshops across multiple days. Please note that come modules run over more than one day and not all modules can be combined. Each day several modules are run in parallel, some modules are run repeatedly.

The hands-on workshop modules are divided in three categories and cover lumbopelvic to craniocervical techniques:

- Degenerative Spine
- Deformity Spine
- Tumour Spine

Modules are further divided into advanced and expert level modules.

Advanced level modules are aimed at surgeons who possess good fundamental skills in spine surgery but wish to gain additional specialised skills. The delegate: faculty ratio is 2:1 or 4:1.

Expert level modules are aimed at considerably experienced surgeons wising to learn advanced techniques in 1:1 training workshops with expert faculty.

Delegates wishing to combine modules are encouraged to contact us - we will help combine modules in the best possible way to meet the desired learning experience.

Please only book accommodation and flights once we have confirmed the exact times of modules. The large number of parallel modules makes allocating delegates to all workshops of their choice is a complex task and requires a degree of flexibility to allow us to optimise placement on different days.

## 1. Degenerative and Traumatic Spine Modules

1a Spine Endoscopy lumbar and thoracic (Cadaver) - full day

3 hour live theory & online theory session and 6 hours hands-on training

| 1 k        | o Spine Endoscopy Cervical (Cadaver) - half day                             |
|------------|---|
|            | Online theory session and 3 hours hands-on training                         |
| 10         | Live Tissue Spine Endoscopy and Complications (Live Tissue) - half day      |
|            | Online theory session and 3 hours hands-on training                         |
| 10         | Expert Live Tissue Spine Endoscopy & Complications (Live Tissue) - half day |
|            | Online theory session and 3 hours hands-on training                         |
| 20         | a MIS Vertebral Augmentation for thoracolumbar fractures                    |
|            | (Cadaver or Model) - half day   |
|            | Online theory session and and 3 hours hands-on training                     |
| <b>2</b> k | o MIS TLIF (Cadaver) - half day   |
|            | Online theory session and 3 hours hands-on training                         |
| 20         | Single Position Prone / Lateral & Posterior Techniques (Cadaver) - half day |
|            | Online theory session and 3 hours hands-on training                         |
| 30         | a Anterior Lumbar Access (ALIF / TDR / OLIF) and Complications Management   |
|            | (Cadaver / Live Tissue) - two half days                                     |
|            | Online theory session and 6 hours hands-on training                         |
| 3 k        | Lateral (XLIF / X-ALIF) Reconstruction and Complications Management         |
|            | (Cadaver / Live Tissue) - two half days                                     |
|            | Online theory session and 6 hours hands-on training                         |
| 30         | Combined Anterior & Lumbar Access and Complications Management              |
|            | (Cadaver / Live Tissue) - three half days                                   |
|            | Online theory session and 9 hours hands-on training                         |
| 30         | Expert Anterior Spine Complications Management (Live Tissue) - half day     |
|            | Online theory session and 3 hours hands-on training                         |
| 4 (        | a Comprehensive Anterior Cervical Spine Techniques -(Cadaver) - half day    |
|            | Online theory session and 3 hours hands-on training                         |
| 4 k        | Comprehensive Posterior Cervical Spine Techniques (Cadaver) - half day      |
|            | Online theory session and 3 hours hands-on training                         |
| 40         | High Anterior Cervical to Cervicothoracic Access                            |
|            | including vertebral artery exposure and sternotomy (Cadaver) - half day     |

Online theory session and 3 hours hands-on training

### 2. Deformity Spine Modules

5 Posterior Thoracic Spine - Pelvis Instrumentation, Osteotomy and Deformity Reconstruction Techniques (Cadaver) - half day Online theory session and 3 hours hands-on training

6 Expert Thoracotomy Access and Complications Management (Live Tissue) - half day

Online theory session and 3 hours hands-on training

7 Intraspinal Dissection and Corrective Manipulation under Neuromonitoring /
Dural Repair (Live Tissue) - half day

Online theory session and 3 hours hands-on training

8 Advanced Anterior & Posterior Craniocervical Techniques

(Cadaver) - half day

Online theory session and 3 hours hands-on training

## 2 Tun

E

### 2. Tumour Spine Modules

9a Spine Tumour Reconstructive Techniques Thoracic - Pelvis (en-bloc surgery)
(Cadaver) - half day

Online theory session and 3 hours hands-on training

9b Spine Tumour Reconstructive Techniques Cervical ("en-bloc" surgery)(Cadaver) - half day

Online theory session and 3 hours hands-on training

10 Intraspinal Dissection and Spinal Cord Surgery under Neuromonitoring / Dural Repair (Live Tissue) - half day

Online theory session and 3 hours hands-on training

11 Major Reconstruction Visceral, Pulmonary and Vascular Mobilisation and Repair (Live Tissue) - half day

Online theory session and 3 hours hands-on training

Please note that due to the scarcitiy of cadavers, several workshops are conducted on each cadaver. While we strive to keep overlap minimal, on occasion there may be prior usage in part for some workshops (eg ALIF L5/S1 and X-ALIF L5/S1).

Equally, we strive to utilise the live tissue models as efficiently as possible with multiple workshops and minimal overlap to ethically justify utilising this exceptional training model.

www.nspine.com

Faculty to delegate ratio is 1:2

Spine Endoscopy Lumbar and Thoracic (Cadaver - 1a)

Spine Endoscopy Cervical (Cadaver - 1b)

Live Tissue Spine Endoscopy & Complications (Live Tissue - 1c)

#### Course format Spine Endoscopy Package Modules 1a-c:

This intense two day workshop was developed to provide the most comprehensive training possible. Workshop sessions consists of one whole day of lumbar and thoracic techniques, a half day of cervical techniques and a half day on live tissue simulating actual surgery and dealing with complications. This unique comprehensive hands-on program is enhanced with a face-to-face theory seminar on the evening before the course and detailed online learning modules supplied before the event by eccElearning. The details of training are tailored to the delegate requirements.

Duration: 3 hour face to face evening lecture session prior to workshops;  $3 \times 3$  hour half day cadaveric handson workshops (modules 1a & b);  $1 \times 3$  hour half day live tissue hands-on workshop (module 1c).

#### Learning objectives (these will be adjusted according to delegate experience)

- Indications and technical steps involved in the transforaminal approach: inside-out / outside-in technique, foraminoplasty, trans-SAP approach, trans-isthmic approach, L5-S1 approach, foraminal stenosis decompression, foraminal disc herniation
- Indications and technical steps involved in the interlaminar approach:
   lateral recess decompression, unilateral approach and bilateral decompression, shoulder / axillary approach for disc herniation
- Unilateral approach and bilateral decompression, contralateral decompression
- Indications and technical steps of thoracic discectomy (optional)
- Cervical: Indications and technical steps of posterior endoscopic foraminotomy
- Live tissue: steps of foraminotomy, neural mobilisation and disc exposure
- Live tissue: Managing foraminal bleeding and poor visualisation
- Live tissue: Managing dural and neuraln injury

#### Learning outcomes - after the event delegates will be able to:

- Correctly set-up and handle the instruments and surgical endoscopic devices
- Perform the above approaches (basic or advanced)
- Understand when to apply which technique and respective limits thereof
- Recognise complications and initiate appropriate corrective steps

#### Expert Live Tissue Spine Endoscopy & Complications (Live Tissue - 1d)

#### Course format Expert Live Tissue Spine Endoscopy & Complications Module 1d:

This module is designed for experienced surgeons with 1:1 expert tuition by our faculty. Live tissue surgery closely simulates actual surgery and is ideal for complications management in handling neural structures and bleeding. The learning goals are decided between delegate and faculty. This workshop can be booked separately or combined with other modules..

Faculty to delegate ratio is 1:1

Duration: 1 x 3 hour half day live tissue hands-on workshop.

#### MIS Vertebral Augmentation for Thoracolumbar Fractures (Cadaver or Model - 2a)

#### Course Format MIS Vertebral Augmentation Module 2a

This workshop is comprehensively designed for MIS percutaneous techniques. Delegates perform percutaneous vertebral augmentation (vertbroplasty, kyphoplasty or similar). aculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop

#### Learning objectives:

- To plan and set up surgery for above percutaneous techniques
- To correctly handle and insert devices and implants

#### Learning outcomes - after the event delegates will be able to:

- Correctly position and identify fluoroscopy landmarks for the respective techniques
- Correctly conduct the sequence of steps in handling instruments and applying implants

#### MIS TLIF (Cadaver - 2b)

#### Course Format MIS TLIF Module 2b

Workshop designed for surgeons wishing to learn MIS TLIF under expert tuition.

#### Faculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop

#### Learning objectives:

- To plan and set up surgery for MIS TLIF
- To correctly handle and insert devices and implants

#### Learning outcomes - after the event delegates will be able to:

- Correctly position and identify fluoroscopy landmarks for MIS TLIF
- Correctly conduct the sequence of steps in handling instruments, exposing neural structures, performing discectomy and correctly insert implants

#### Single Position Prone / Lateral & Posterior Techniques (Cadaver - 2c)

#### Course Format Single Position Surgery:

This specialised workshop focusses on the emerging techniques of single position surgery. With the cadaver in the prone or lateral position, simultaneous lateral lumbar access and posterior instrumentation is performed under the guidance of expert faculty.

#### Faculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop

#### Learning objectives:

- To plan and set up surgery for single position procedures
- To correctly handle and insert retractors, devices and implants
- To recognise limitations of single position surgery

- Define the indications and advantages for single position surgery
- Approach the spine from a lateral exposure in prone position
- Simultaneously intrument the posterior spine using minimally invasive methods



#### Anterior Lumbar Access & Complications Management (Cadaver / Live Tissue - 3a)

#### Course Format Anterior Lumbar Spine Access & Complications Management Module 3a:

This well established full day workshop combines cadaveric access training and live tissue complications management. The cadaveric procedures focus on supine, open ALIF and / or OLIF approaches for intervertebral fusion, arthroplasty or vertebrectomy. The specific techniques will adjusted to the delegates requirements. Approaches can be minimally invasive or include extensive multilevel exposures. The live tissue procedures include extensive anterior lumbar access with mobilisation and repair of vascular, visceral and urological structures. Online learning content is provided prior to the event.

Faculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop; 1 x 3 hour half day live tissue hands-on workshop.

#### Lateral Lumbar Access & Complications Management (Cadaver / Live Tissue - 3b)

#### Course Format Lateral Lumbar Access & Complications Management Module 3b:

This workshop focusses on state of the art minimally invasive lateral lumbar techniques with pioneering faculty. The cadaveric session provides access training for anterior to psoas or transpsoas interbody and corpectomy techniques along with lateral L5/S1 "X-ALIF" techniques. Specific techniques will discussed between faculty and delegates. The live tissue procedures include extensive anterior lumbar access with mobilisation and repair of vascular, visceral and urological structures. Online learning content is provided prior to the event.

Faculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop; 1 x 3 hour half day live tissue hands-on workshop.

#### Combined Ant. & Lat. Lumbar Access & Complications Management (Cadaver / Live Tissue - 3c)

#### Course Format Combined Ant. & Lat. Lumbar Access & Complications Management Module 3c:

This popular course combines two half days of cadaveric access including both the anterior and lateral lumbar access modules with the half day live tissue workshop. Content as above.

Faculty to delegate ratio is 1:2

Duration: 2 x 3 hour half day cadaveric hands-on workshop; 1 x 3 hour half day live tissue hands-on workshop.

#### Expert Anterior Spine Complications Management (Live Tissue - 3d)

#### Course Format Expert Live Tissue Complications Management Module 3d:

This format is similar to the live tissue sessions of the above workshops with the difference of the 1:1 faculty delegate ratio. The workshops is designed to be highly interactive with direct tutorage by expert vascular thoracic and urological faculty. The content can therefore be customised to suit even experienced delegate requirements (eg advanced aortic, vena cava or pulmonaryartery repair). This module is also suitable for vascular access surgeons.

Faculty to delegate ratio is 1:1

Duration: 1 x 3 hour half day live tissue hands-on workshop.

#### Description of Course Modules - Learning Objectives and Outcomes

3

Anterior Lumbar Access & Complications Management (Cadaver / Live Tissue - 3a)

Lateral Lumbar Access & Complications Management (Cadaver / Live Tissue - 3b)

Combined Ant. & Lat. Lumbar Access & Complications Management (Cadaver / Live Tissue - 3c)

Expert Anterior Spine Complications Management (Live Tissue - 3d)

#### Learning objectives:

- To perform a comprehensive range of minimally invasive and open anterior | lateral approaches to the lumbar spine
- To correctly handle and insert anterior | lateral retractors, devices and implants
- To effectively manage complications arising from anterior and lateral lumbar approaches in live tissue surgery including vascular and ureteric injuries

- Perform the technical steps of the minimally invasive and open anterior and lateral approaches to the lumbar spine
- Mobilise vascular and visceral structures to facilitate spinal instrument and device placement
- Identify the structures at risk during anterior spinal surgery and use salvage strategies in case of complications
- Repair peritoneal tears
- Perform emergency manoeuvres to control haemorrhage
- Differentiate venous and arterial bleeding
- Clamp vessels to control haemorrohage
- Apply vessel loops for control
- Clip and perform standard sutures of arteries and veins
- Apply hemostatic agents
- Stent and conduct steps to repair ureteric injuries
- Repair pulmonary injuries (optional)





#### Comprehensive Anterior Cervical Spine Techniques (Cadaver - 4a)

#### Course Format Anterior Cervical Spine Techniques Module 4a:

Anterior exposure with discectomy and fusion or disc replacement is conducted. Optionally corpectomy and reconstruction is performed. Optionally, access can be extended to include vertebral artery exposure. The content details and learning objectives are discussed with faculty to optimise the learning experience. Online learning content will be provided prior to the event.

Faculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop

#### Comprehensive Posterior Cervical Spine Techniques (Cadaver - 4b)

#### Course Format Posterior Cervical Spine Techniques Module 4b:

Posterior exposure, decompressive techniques from laminoplasty to laminectomy and instrumented reconstruction from occiput to thoracic spine. Learning goals are discussed with faculty and content structured accordingly. This session can include advanced techniques such as cervical pedicle screws and C1 / C2 instrumentation. Online learning content will be provided prior to the event.

Faculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop

#### High Ant. Cervical to Cervicothoracic Access / Vertebral Artery Exposure & Sternotomy (Cadaver - 4c)

Course Format Anterior Cervical Spine Techniques Module 4a:

High anterior and anterolateral cervical spine exposure with access to C2. Anterolateral exposure to mobilise and transpose vertebral artery, of the Online learning content will be provided prior to the event.

Faculty to delegate ratio is 1:2

Duration: 1 x 3 hour half day cadaveric hands-on workshop

#### Learning objectives (Modules 4a-c):

- To plan and set up surgery for anterior / posterior / lateral cervical spine surgery
- To correctly handle and insert retractors, devices and implants
- To correctly expose and mobilise cervical viscera (anterior)
- To identify and avoid injury to laryngeal / sympathetic nerve structures
- To expose verterbal artery
- To perform manubriotomy or sternotomy for cervicothoracic access (optional)
- To correctly handle and insert retractors, devices and implants (anterio / posterior)

#### Learning outcomes - after the event delegates will be able to (Modules 4a-c):

- Define the indications and advantages for above procedures
- Correctly perform the steps of anterior / posterior / posterolateral cervical exposure
- Perform the principle steps of sternotomy (module 4c)
- Expose the vertebral artery (module 4c)
- Insert anterior fusion or arthroplasty devices / perform corpectomy (optional)
- Instrument the posterior cervical spine with lateral mass and pedicle screw fixation

# 5

# Posterior Thoracic Spine - Pelvis Instrumentation, Osteotomy and Deformity Reconstruction Techniques (Cadaver - 5)

#### Course Format Posterior Thoracic Spine to Pelvis Module 5:

Posterior instrumentation from thoracic spine to pelvis is a mainstay of modern spine surgery. Advanced posterior corrective techniques such as osteotomy and vertebrectomy are technically demanding.

Delegates will receive tuition on the corrective strategies and hands-on guidance through the procedure. Through working closely with the expert faculty, delegates will be able to conduct strategic screw placement and perform advanced instrumentation and correction techniques including osteotomy. Delegates will determine the focus of the training with the faculty. Online material will be provided prior to the event.

Faculty: delegate ratio is 1:2

Duration: 1 x 3 hour hands-on cadaveric workshop.

#### Learning objectives:

- To insert pedicle screws from thoracic spine to pelvis
- To perform a combination of osteotomies including chevron and pedicle subraction
- To close ostoetomies through reduction manoeuvres

#### Learning outcomes - after the event delegates will be able to:

- Insert pedicle screws from thoracic spine to pelvis
- Perform chevron osteotomies
- Perform pedicle subtraction osteotomies
- Perform posterior vertebrectomies (VCR)
- Correctly apply corrective forces to the intrumented spine

#### Expert Anterior Thoracic Complications Management (Live Tissue - 6)

Course Format Expert Thoracic Complications Management Module 6:

The live tissue surgery will allow delegates to perform thoracotomy and optionally thoracophrenolumbotomy approaches, as required for anterior deformity surgery, with exposure of the pulmonary, vascular and visceral structures. The workshop will focus on the dissection and repair techniques of these structures with our expert spine and thoracic surgery faculty. Exact content to be discussed with table faculty.

Faculty: delegate ratio is 1:1

Duration: 1 x 3 hour hands-on live tissue workshop.

#### Learning objectives:

Perform thoracotomy access / thoracophrenolumbotomy access (optional)

- Mobilise pumonary structures and repair pulmonary structures
- Mobilise, dissect and repair thoracic vascular structures

#### Learning outcomes - after the event the delegates will be able to:

- Perform the steps of thoracotomy / thoracophrenolumbotomy (optional)
- Dissect and safely mobilise thoracic pulmonary and vascular structures
- Repairs superficial and deep pulmonary lesions
- Control and repair thoracic vascular lesions
- Control thoracic duct lesions

6



# Intraspinal Dissection and Corrective Manipulation under Neuromonitoring / Dural Repair (Live Tissue - 7)

Course Format Intraspinal Dissection and Manipulation under Neuromonitoring Module 7:

The advanced IONM simulation modules enable delegates to immediately implement this in a live model setting. IONM is set-up and through dissection steps following laminectomy, alerts are induced through root and spinal cord compromise, simulating the scenario during deformity surgery. This training is ideal for clinicians engaged in deformity surgery. Delegates experience the challenges of signal loss in difficult surgical scenarios including hardware malplacement and spinal cord compromise.

Faculty: delegate ratio is 1:2

Duration: 1 x 3 hour hands-on live tissue workshop.

#### Learning objectives:

- To understand the neurophysiological foundation of neuromonitoring
- To understand the application of SEP / MEP and D-Wave analysis in spinal IONM
- To be able to correctly interpret typical IONM signal loss situations in spine surgery
- To understand the technical troubleshooting and salvage procedures in IONM compromise

#### Learning outcomes - after the event delegates will be able to:

- Understand and apply SEP / MEP and D-Wave IONM
- Be able to interpret technical IONM difficulties and genuine IONM alerts
- Conduct the correct IONM salvage steps in IONM alerts
- Understand signal compromise in implant stimulation / neural manipulation / spinal cord manipulation / spinal cord compromise

#### Advanced Anterior & Posterior Craniocervical Techniques (Cadaveric - 8)

Course Format Advanced Anterior and Posterior Craniocervical Techniques Module 8:

This workshop facilitates anterior and posterior instrumentation of C1 and C2 and occiput (optional). Various instrumentation techniques can be included in agreement with the expert faculty. Emphasis is on correct exposure, landmarks and instrumentation techniques.

Faculty: delegate ratio is 1:2

Duration: 1 x 3 hour hands-on cadaveric workshop.

#### Learning objectives:

- To understand landmarks of the anterior and posterior craniocervical spine relvant to instrumentation
- To effectively expose the craniocervical junction anterior and posterior
- To instrument the craniocervical junction in various combinations including direct and transarticular instrumentation

- Understand and identify landmarks for instrumentation
- Safely expose the craniocervical junction
- Safely instrument the craniocervical junction (C1 / C2 / occiput posterior) from anterior and posterior approaches



Spine Tumour Reconstructive Techniques Thoracic - Pelvis ("en-bloc" surgery) (Cadaveric - 9a)
Spine Tumour Reconstructive Techniques Cervical ("en-bloc" surgery) (Cadaveric - 9b)

#### Course Format Reconstructive Techniques Tumour Modules 9a and b:

This new workshop with highly experienced faculty provides cadaveric training in advanced tumour reconstructive techniques across two half day sessions. Delegates will be instructed in performing enbloc resections and reconstructions of the thoracolumbar spine / pelvis and cervical spine / cervicothoracic junction. The specific learning experience will be tailored to the delegates requirements with faculty. Online learning material will be provided prior to the event.

Faculty: delegate ratio is 1:2

Duration: 2 x half day 3 hour cadaveric hands-on workshops.

#### Learning objectives:

- To plan complex tumour resections of the spine and pelvis
- To conduct the instrumentation for stabilising the spine and pelvis for toumor resection
- To conduct advanced resective surgical techniques for en-bloc removal of tumours

#### Learning outcomes - after the event delegates will be able to:

- Plan advanced tumour resection
- Conduct complex reconstructive instrumentation
- Surgically respect tumour margins
- Reconstruct pelvic, thoracic and cervical tumour deficits

# Intraspinal Dissection and Spinal Cord Surgery under Neuromonitoring / Dural Repair (Live Tissue - 10)

Course Format Intraspinal Dissection and Spinal Cord Surgery under Neuromonitoring Module 9c:

The advanced IONM simulation modules enable delegates to progressively dissect intraspinal structures and simulate intraspinal and spinal cord surgery. The immediate IONM feedback allows for excellent correlation and learning of surgical steps and IONM effects. This training is ideal for clinicians engaged in intraspinal tumour surgery or en-bloc spine tumour surgery.

Faculty: delegate ratio is 1:2

Duration: 1 x 3 hour hands-on live tissue workshop.

#### Learning objectives:

- To understand the dissection steps in intraspinal tumour surgery
- To understand the neurophysiological foundation of neuromonitoring
- To understand the application of SEP / MEP and D-Wave analysis in spinal IONM
- To be able to correctly interpret typical IONM signal loss situations in spine surgery
- To understand the technical troubleshooting and salvage procedures in IONM compromise

- Dissect intraspinal structures in accordance with intraspinal tumour surgery
- Understand and apply SEP / MEP and D-Wave IONM
- Be able to interpret technical IONM difficulties and genuine IONM alerts
- Conduct the correct IONM salvage steps in IONM alerts
- Understand signal compromise in implant stimulation / neural manipulation / spinal cord manipulation / spinal cord compromise

## Major Reconstruction Visceral, Pulmonary and Vascular Mobilisation and Repair (Live Tissue - 11)

# 11

#### Course Format Major Reconstruction Visceral, Vascular and Pulmonary Repair Module 9d:

Under expert faculty guidance extensive thoracophrenolumbotomy is performed. This allows thorough mobilisation of major vascular structures and visceral / pulmonary structures simulating major tumour resection in the thoracolumbar spine. Complications management is taught through repairing simple and complex lesions to above structures under expert guidance of spine / thoracic / vascular and urological faculty. The aim of this extensive workshop is to equip delegates with the multidisciplinary skills to safely conduct open anterior exposures as required for advanced tumour surgery. Exact content is to be discussed with table faculty.

#### Faculty: delegate ratio is 1:

Duration: 1 x 3 hour hands-on live tissue workshop.

#### Learning objectives:

Perform thoracophrenolumbotomy access (optional)

- Mobilise pumonary structures and repair pulmonary structures
- Mobilise, dissect and repair thoracic vascular structures
- Mobilise and dissect lumbar vascular structures
- Mobilise and dissect ureteric structures

#### Learning outcomes - after the event the delegates will be able to:

- Perform the steps of thoracotomy / thoracophrenolumbotomy (optional)
- Dissect and safely mobilise thoracic pulmonary and vascular structures
- Repairs superficial and deep pulmonary lesions
- Control and repair thoracic vascular lesions
- Control thoracic duct lesions
- Repair peritoneal tears
- Perform emergency manoeuvres to control haemorrhage
- Differentiate venous and arterial bleeding
- Clamp vessels to control haemorrohage Apply vessel loops for control
- Clip and perform standard sutures of arteries and veins
- Apply hemostatic agents
- Stent and conduct steps to repair ureteric injuries Repair pulmonary injuries (optional)

For a comprehensive tumour training experience we recommend combining all workshop Modules 9-11 for a full two day training course.



#### Spine Education since 2013:

NSpine is an entirely independent company exclusively focused on spine health care education. Since the inaugural conference in 2013, NSpine has grown exponentially and now features annual, highly respected meetings which traditionally attract over 500 attendees from across the globe.

#### Clinical Problem Solving and Emerging Tech:

The focus of NSpine meetings is on clinical problem solving, decision-making and forwarding surgical techniques and technology. With this in mind the meetings are crafted to meet the demands of working surgeons.

#### Advanced Cadaveric and Live Tissue Training:

NSpine has a tradition of offering highest quality hands-on cadaveric training courses. NSpine is proud to have expanded this training at the world renowned IRCAD institute in Strasbourg France through the renowned NSpine combined cadaveric and live tissue training series.

"I have been involved in live tissue spine courses at IRCAD for close to 20 years. This is the best immersive surgical simulation training currently available. NSpine is dedicated to delivering training for surgeons that really matters.

NSpine - designed by surgeons for surgeons."



Jagrama 1

Bronek Boszczyk Spine Surgeon, NSpine Founder

