Operative Skills in Neurosurgery

Programme

Director:

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Programme timings are for illustration purposes only and are subject to change. Full terms and conditions: www.rcseng.ac.uk/courses/course-faqs

Day One

High Speed Drill Training Day

Time	Session
0930	**Registration and refreshments**
1000	Welcome and introduction
1010	Medtronic Workshop Part I
1100	**Refreshments**
1130	Medtronic Workshop Part II
1230	**Lunch**
1330	Medtronic Workshop Part III
1430	Medtronic Workshop Part IV
1530	**Refreshments**

Basic Surgical Anatomy Tutorials

1600	Spinal anatomy
1700	**Refreshments**
1715	Cranial anatomy
1815	**Close**

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Day Two

Time	Session
0815	Introduction and meet the tutors
0830	**ANTERIOR CERVICAL SPINE** **Lecture** • Anatomy of the neck relevant to anterior approaches to the cervical spine. • The anatomy of the of the discs and uncovertebral joints and their relationship to the dura, nerve roots and vertebral arteries • Operative technique of anterior cervical discectomy and foraminotomy **Cadaveric exercise** • Anterior cervical dissection with discectomy, foraminotomy and corpectomy. • Dissection of vertebral artery. Relationship to cervical roots.
1030	**Refreshments**
1100	**POSTERIOR CERVICAL SPINE** **Lecture** • Anatomy of the neck relevant to posterior approaches to the cervical spine. • The anatomy of the facet joint and its relationship to the thecal sac and nerve roots • Operative technique of posterior cervical foraminotomy and laminectomy **Cadaveric exercise** • Cervical laminectomy and posterior foraminotomy • Dissection along cervical roots to establish relationship posteriorly with facet joints and anteriorly with uncoverterbral joints and cervical discs.
1300	**Lunch**
1345	**POSTERIOR CRANIOCERVICAL JUNCTION** **Lecture** • Anatomy of the craniocervical junction relevant to posterior approaches including Atlas, Axis, C2 nerve root and vertebral artery **Cadaveric exercise** • Midline posterior exposure of craniocervical junction with demonstration of Atlas, Axis, C2 nerve root and vertebral artery
1500	**Refreshments**

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1520	**POSTERIOR LUMBAR SPINE** **Lecture** • Lumbar musculature as relevant to surgical exposure of the lumbar spine • Anatomy of the lumbar vertebrae with particular attention to the differing shapes of the 5 lumbar vertebrae as relevant to surgical exposure of disc prolapses (including “far lateral”) • Anatomy of the dural sac and cauda equina as relevant to lumbar decompressive procedures • Relationship of the five lumbar and first sacral nerve roots to the discs, pedicles and facet joints. • Anatomy of the facet joint with attention to the superior and inferior articular processes as relevant to lumbar decompression for lateral recess stenosis • Anatomy of the lumbar and lumbosacral foraminae as relevant to lumbar decompression. • Relationship of the pedicle to the base of the transverse process and facet joint as relevant to pedicle screw placement and far lateral discectomy • CONCEPT OF TRANSITING AND EXITING NERVE ROOTS • Operative techniqe of lumbar microdiscectomy and lateral recess decompression **Cadaveric exercise** • Midline posterior exposure of lumbar spine • Lumbar microdiscetomy • Lateral recess decompression by laminectomy with demonstration at one level of transiting and exiting nerve roots, exposure of pedicles and identification of superior and inferior articular processes. • Upper lumbar dissection beyond pedicle to identify entry point for pedicle screws as well as exiting root crossing disc at point of “far lateral” disc prolapse.
1800	**Close**

Day Three

Time	Session
0815	**FRONTOTEMPORAL CRANIOTOMY** **Lecture** • Surface anatomy and anatomical landmarks relevant to frontotemporal craniotomy • Anatomy of surgical approach • Identification of structures related to anterior clinoid and proximal sylvian fissure. • Operative technique of frontotemporal craniotomy **Cadaveric exercise** • Frontotemporal crantiomy • Relevant anatomy of skull and dura including middle meningeal vessels. • Cortical anatomy of frontal and temporal lobe • Anatomy of proximal sylvian fissure • Anatomy of proximal internal carotid, optic nerve, anterior clinoid, occulomotor nerve and tentorium cerbelli
1030	**Refreshments**
1100	**BIFRONTAL CRANIOTOMY** **Lecture** • Surface anatomy and anatomical landmarks relevant to bifrontal craniotomy • Anatomy of surgical approach including vessels and nerves of scalp and anatomy of frontal bones including air sinuses. • Anatomy of sagittal sinus • Operative technique of bifrontal craniotomy including frontal air sinus exenteration and exteriorisation of air sinuses with vascularised pericranial flap. **Cadaveric exercise** • Bifrontal craniotomy • Extradural and intradural approach to anterior fossa with identification of olfactory tracts, optic nerves and anterior cererbral artery complex. • Formal division of anterior sagittal sinus • Exenteration of frontal air sinuses • Exteriorisation of sinuses with vascularised pericranial flap • Bone flap replacement with various fixation techniques
1300	**Lunch**

1345	**POSTERIOR FOSSA** **Lecture** • Surface anatomy and anatomical landmarks relevant to posterior fossa craniotomy (Midline and paramedian approaches). • Anatomy of posterior fossa as relevant to surgical approaches (occipital and petrous bone, venous sinuses, arterial anatomy and neural structures including cranial nerves) • Posterior fossa craniotomy to expose cerebellar hemispheres, cerebellopontine angle and foramen magnum • Operative technique of posterior fossa craniotomy **Cadaveric exercise** • Midline prone exposure of posterior fossa • Identification of venous sinuses and major arteries • Identification of lower cranial nerves • Identification of neural triangles in the floor of fourth ventricle • Identification of Meckels cave, and cranial nerves V to VIII with resection of cerebellar hemisphere as necessary.
1545	**Refreshments**
1600	**PARASAGITTAL CRANIOTOMY,** **Lecture** • Anatomy of the sagittal sinus, cortical veins, the falx and the pericallosal arteries • Surgical approach to parasagittal lesions • Surgical approach to parietal and occipital lesions **Cadaveric exercise** • Cranitomy for parasagittal lesion crossing the midline.
1800	**Close**