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THE COLLEGE OF SURGEONS OF HONG KONG
Specialty Board in Neurosurgery

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH

Joint Specialty Fellowship Examination in Neurosurgery

SYLLABUS

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Note: this syllabus is to be updated regularly but the Specialty Examination Board reserves the right to ask questions related to topics that are not quoted but are relevant to the practice of Neurosurgery.

(A)   Principle of Neurosurgery (including investigations of Neurosurgical conditions)

Principles of anaesthesia with effects on CNS
CSF and ICP
Peripheral nerves properties and studies
Neuroendocrine function
ANS, NM junction and muscle relaxants

Inherited neurological disorders
Congenital malformations of the nervous system
Cerebral and spinal vascular disorders
Cerebral hypoxia and ischaemia
Cerebral and spinal trauma
Cerebral and spinal tumors
Cerebral and spinal infection

Imaging techniques: principles of computed tomography, magnetic resonance imaging, angiography, ultrasound, radioisotopes scans
Principles of radiotherapy

Spinal cord compression
Principles of spinal stabilization / fusion
Degenerative and inflammatory spinal disease
Syringomyelia / arachnoiditis
Management of spasticity

Pathophysiology of pain
Principles in pain management
Craniofacial pain syndromes

Common peripheral nerve entrapment such as carpal tunnel syndrome

Clinical application of stereotatic and computer-assisted image-guided surgery
Principles of stereotatic radiosurgery
Surgical treatment of movement disorders such as Parkinson disease
Investigation, medical and surgical management of epilepsy

Significance of abnormalities of the pupils, fundi, external ocular movements and the visual field
Significance of abnormalities of hearing and of the vestibular system

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(B) Operative Neurosurgery and Surgical Anatomy

Indications, positioning, approach and operative surgery of common and index neurosurgical procedures:
   (1)   burr holes for ventricular catheter insertion
   (2)   VP, VA , LP shunts
   (3)   Craniotomy for tumour excision and aneurysm clipping
   (4)   Laminectomy
   (5)   Anterior approach of the cervical spine
   (6)   Posterior fossa surgery

Clinical application of electrophysiology monitoring in surgery
Theory and practice of nerve repair and cranial nerve reconstruction
Postoperative fever in neurosurgical patients
Confusion, restlessness and agitation in neurosurgical patients
Monitoring in neurointensive care and theatre
Principles of prohylactic drug treatment
Other post-operative complication
Informed consent and medicolegal aspects

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(C)   Medical Management of Neurosurgical Conditions

Maintenance and disorders of fluid and electrolyte balance, nutrition and feeding
Coagulopathies

Cerebral blood flow regulation and pathophysiology of cerebral vasospasm
Brain ischaemia / hypoxia and physiology of neuroprotection
Blood brain barrier and cerebral oedema
Principles for the assessment of the cerebral circulation and oxygenation

Neuropeptides, neurotransmitters, muscle relaxants, local and general anaesthetics, analgesics, antibiotics, anticonvulsants, antidepressants, neuroprotective agents, steroids
Agents acting on the cerebral circulation and metabolism

Respiratory problems in neurosurgical patients
Postoperative seizures
Diagnosis of brainstem death
Neurogenic bladder