Royal College of Anaesthetists

Final FRCA Syllabus

Codes

Version 2.2
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Document control

Version History

Version	Date	Summary of changes	Domains affected	Approved / changed by
V2.2	19 Jan 2026	Inserted missing cross-cutting sections (Glossary; Essential Units) to align Word/PDF with website; clarified glossary definitions (e.g. ASA); standardised terminology, punctuation and formatting across domains; corrected spelling/typography (e.g. arrhythmias; inter-hospital; ultrasound-guided; life-sustaining); standardised item coding in PA	Cross-cutting, SQI, RMD, POM, GA, RA, RT, PS, PA, ICM	JT
V2.1	2021	Initial publication of Final FRCA Syllabus 2021	All	RCoA

Introduction

The purpose of this syllabus is to:

- Allow candidates to prepare for the exam by reference to what may be included in the examination questions
- Provide information for trainers, exam revision course designers etc to plan educational material/teaching resources for the examination
- Enable blueprinting of examination questions to the curriculum ensuring the validity of the examination
- Aid examinations statistical processes such as data on sampling of the curriculum.

The coding takes the following form, for example: 2_GA_Q_1

Code	Key
2	Stage of training: 1 or 2
GA	Domain: Standard abbreviation POM, GA etc
Q	Key capability (KC): Letter of KC from curriculum
1	Item: Number

Glossary of terms

ALI – Acute Lung Injury
ALS – Advanced Life Support
APACHE – Acute Physiology and Chronic Health Evaluation (Score)
APLS – Advanced Paediatric Life Support
ARDS – Acute Respiratory Distress Syndrome
ASA – American Society of Anesthesiologists (organisation)
ASD – Atrial septal defect
AV – Aortic valve
BE – Base excess
BIS – Bispectral index
BP – Blood pressure
BMI – Body mass index
BNF – British National Formulary
CFAM – Cerebral function analysis monitor
CFM – Cerebral function monitor
CO_2 – Carbon dioxide
COPD – Chronic Obstructive Pulmonary Disease
CPEX – Cardiopulmonary exercise testing
CSE – Combined spinal epidural
CSF – Cerebrospinal fluid
CSM – Committee on Safety of Medicines
CT – Computerised tomography
CVP – Central venous pressure
ECG – Electrocardiogram
ECHO – Echocardiogram
EEG – Electroencephalogram
EMG – Electromyogram
ENT – Ear, nose and throat
EPLS – European Paediatric Life Support
ERPC – Evacuation of retained products of conception
GCS – Glasgow Coma Score
GMC – General Medical Council
Hb – Haemoglobin
IAC – Initial assessment of competence
IDD – Intrathecal drug delivery
IPPV – Intermittent positive pressure ventilation
IRMER – Ionising Radiation (Medical Exposure) Regulations
IT – Information technology
IVRA – Intravenous regional anaesthesia
LiDCO™ – Lithium dilution cardiac output
MAC – Minimum alveolar concentration
MH – Malignant hyperthermia
MRI – Magnetic resonance imaging
NAI – Non-accidental injury
NCEPOD – National Confidential Enquiry into Perioperative Deaths
NICE – National Institute for Health and Care Excellence
NO – Nitric oxide
NSAID – Non-steroidal anti-inflammatory drug
ODM – Oesophageal Doppler Monitor
PCA – Patient-controlled analgesia
PEA – Pulseless electrical activity
PFO – Patent foramen ovale
PiCCO – Pulse contour continuous cardiac output

PONV – Postoperative nausea and vomiting
POSSUM – Physiological and Operative Severity Score for the Enumeration of Mortality and Morbidity
PSI – Pounds per square inch
Ref – Reference
RS – Respiratory system
RSI – Rapid sequence induction
SIADH – Syndrome of inappropriate antidiuretic hormone
SpO_2 – Saturation of haemoglobin with oxygen
SVP – Saturated vapour pressure
TCI – Target-controlled infusion
TOE – Transoesophageal echocardiogram
VSD – Ventricular septal defect
WCC – White cell count

Essential Units

There are seven essential units of training at Intermediate Level, which all trainees are normally expected to complete satisfactorily before progressing to higher/advanced training. They are as follows:

- Anaesthesia for neurosurgery, neuroradiology and neuro critical care
- Cardiothoracic anaesthesia and cardiothoracic critical care
- Intensive care medicine
- General duties, which consists of:
    - Airway management
    - Day surgery
    - Critical incidents
    - General, urology and gynaecology
    - Head and neck, maxillo-facial and dental surgery
    - Management of respiratory and cardiac arrest
    - Non-theatre
    - Orthopaedic surgery
    - Regional
    - Sedation
    - Transfer medicine
    - Trauma and stabilisation
- Obstetrics
- Paediatrics
- Pain medicine

With the exception of the 'general duties' unit of training, it is recommended that trainees spend between four and twelve weeks in each unit of training; this should equate to a **minimum** of twenty half day theatre sessions to ensure trainees are able to complete all the essential learning outcomes. Many years of experience suggest that this amount of time may be insufficient for a number of trainees; further, the greater the clinical exposure the greater the learning experience.

Professional Behaviours and Communication (PBC)

2_PBC_A	Guides and advises colleagues who are less experienced than themselves on professional matters

2_PBC_B: Formulates management plans for patients with complex needs, recognising the limits of their own experience and competence and seeks assistance where appropriate

2_PBC_B_1	Risks and benefits of available anaesthetic techniques to patients in a manner they can understand.
2_PBC_B_2	Formulates an individualised perioperative plan with the patient, using an evidence-based approach.

2_PBC_C	Recognises and reflects on how the behaviour of themselves and others can affect the effective delivery of healthcare and patient safety

2_PBC_D	Acts as a good role model for more junior colleagues and other members of the multidisciplinary team

2_PBC_E	Acts and responds appropriately in difficult situations such as medical emergencies, whilst demonstrating professional behaviour and good judgement and maintains situational awareness

2_PBC_F: Communicates effectively and sensitively when breaking bad news to patients and their relatives, demonstrating awareness of cultural and social differences

2_PBC_F_1	The use of 'do not resuscitate' procedures and appropriate limitations of care.

2_PBC_G	Describes the effects of working patterns or lifestyle choices on physical and mental health and takes steps to minimise the impact

Management and Professional and Regulatory Requirements (MPR)

2_MPR_A: Appreciates and participates in the organisation of anaesthetic services within the structure of local hospital management and links to regional tertiary level services

2_MPR_A_1	Current local and national guidelines for provision of day surgical services

2_MPR_B: Applies legal and ethical guidelines to their medical practice, including the legal requirements of consent and shared decision making

2_MPR_B_1	Ethical considerations of cadaveric and live-related organ donation for donors, recipients, those close to them and society as a whole

2_MPR_C: Engages with the departmental management structure and processes required for the delivery of perioperative and anaesthetic services

2_MPR_C_1	The key organisational issues surrounding day surgery including suitability of facilities and staffing

2_MPR_D	Works effectively in the digital environment relating to patient care

Safety and Quality Improvement (SQI)

2_SQI_A: Knows when and how to apply quality improvement science with the aim of improving services while maintaining patient safety

2_SQI_A_1	Demonstrates knowledge of audit and other quality assurance activities relevant to day surgery

2_SQI_B	Recognises the factors influencing reliable care

2_SQI_C	Demonstrates knowledge of variation with respect to interpreting measurement, understanding types of variation, and differentiating between expected and unwarranted variation

2_SQI_D	Utilises appropriate measurement techniques for improvement, and demonstrates whether a change has occurred and its impact

2_SQI_E	Contrasts 'data for assurance' and 'data for improvement' and uses both data appropriately

2_SQI_F: Uses simple proactive safety techniques to prevent harm to patients, including the assessment of likelihood and severity of risks

2_SQI_F_1	Awareness of safety procedures to prevent wrong sided nerve blocks

2_SQI_G	Matches expertise and resources to the level of clinical risk posed to patients

2_SQI_H: Describes the impact of anaesthetists' actions on patient safety more broadly in the hospital and wider healthcare system

2_SQI_H_1	The potential impact of anaesthetic technique on patient outcome
2_SQI_H_2	The effects of deviation from normal physiological parameters on short and long-term outcomes
2_SQI_H_3	Sustainability in healthcare and environmental effects of anaesthetic agents

2_SQI_I: Describes the principles of medication safety

2_SQI_I_1	Management of existing medications and pre-operative appropriate changes

2_SQI_I_2	Use of antibiotics and other measures to reduce the risk of infection

2_SQI_J: Explains the process of critical incident follow-up

2_SQI_J_1	Outline appropriate follow up of an unexpected difficult intubation
2_SQI_J_2	Communication with patients regarding adverse events and organises appropriate follow up (Duty of candour)

Safeguarding (SG)

2_SG_A: Identifies, documents, and acts on child protection and vulnerable patient concerns

2_SG_A_1	The importance of a comprehensive knowledge of Child Protection and how to be responsible for taking appropriate action when non-accidental injury is suspected

2_SG_B	Communicates effectively with appropriate teams, appreciating the issues of confidentiality, consent, information sharing and data protection

2_SG_C	Applies the principles of adult safeguarding: empowerment, prevention, proportionality, protection, accountability, partnership

2_SG_D: Applies the mental capacity legislation in clinical practice to protect the safety of individuals and society, and to address appropriate consent to treatment

2_SG_D_1	The place of the Mental Capacity Act in relation to the provision of ECT
2_SG_D_2	Problems associated with anaesthesia (including dental) distant to the theatre setting, including consent, the specific needs of patients with learning disabilities, Child Protection, and the Mental Capacity Act

2_SG_E: Describes the needs and support required for people with learning disabilities, autism, acute confusion, dementia, and mental illness

2_SG_E_1	The physical and psychological needs of patients who present for ECT

Research and Managing Data (RD)

2_RMD_A	Assesses the quality of research and its place in the literature when considering changes to practice

2_RMD_B: Can communicate to patients, the public and colleagues the strengths and limitations of evidence underlying anaesthetic and perioperative practice

2_RMD_B_1	Common causes of maternal morbidity and mortality, including national reports

2_RMD_C	Develops the ability to critically appraise published literature

2_RMD_D: Describes key approaches to improving patient outcomes through research including: clinical trials, stratified medicine, genomics, informatics, qualitative techniques, systematic review and meta-analysis, health services research

2_RMD_D_1	The simple aspects of study design defining the outcome measures and the uncertainty of measuring them

2_RMD_E	Explains the details of data protection in research

2_RMD_F	Describes the key components of research and its governance with emphasis on ethical considerations and ethics committees, translation into practice and the roles of Trust and University research and development departments

2_RMD_G: Applies a variety of statistical techniques used in research and understands their strengths and limitations

2_RMD_G_1	The difference between statistical and clinical significance
2_RMD_G_2	The limits of clinical trials
2_RMD_G_3	The basics of systematic review and its pitfalls
2_RMD_G_4	How to define a clinical research question
2_RMD_G_5	The effects of bias
2_RMD_G_6	The use of controls, placebos, randomisation, and blinding exclusion criteria
2_RMD_G_7	Statistical issues including sample size and ethical issues

Perioperative Medicine and Health Promotion (POM)

2_POM_A: Delivers high quality, individualised perioperative care to ASA 1-4 patients for elective surgery and ASA 1-3 emergency patients, focusing on optimising patient experience and outcome

2_POM_A_1	The identification and assessment of pathology in or around the airway, including but not limited to: • History and examination • Anaesthetic chart review • Interpretation of investigations such as lateral C-spine X-ray, cross-sectional imaging of the upper airway (MRI/CT), flow volume loops, nasendoscopy • Discussion with surgeons
2_POM_A_2	The preoperative assessment of patients with particular reference to associated co-morbidities and complex planned surgery. Including those for cardiothoracic, neuro, general, airway and plastic procedures.
2_POM_A_3	The effects of ethnicity and patient diversity on preoperative assessment

2_POM_B: Liaises appropriately with other healthcare professionals to optimise patient care

2_POM_B_1	Balances the need for early surgery against the need for further investigation, prehabilitation and pre-optimisation
2_POM_B_2	Contributes to discharge planning

2_POM_C: Explains the principles of shared decision making

2_POM_C_1	Shared decision making in the context of planning perioperative care
2_POM_C_2	How a multidisciplinary team approach improves patient recovery and outcomes

2_POM_D: Makes appropriate plans to mitigate co-morbidities and their treatment in the perioperative period, with particular reference to less common cardiovascular, neurological, respiratory, endocrine, haematological and rheumatological diseases

2_POM_D_1	Understanding of the principles of anaesthesia for patients with neurological disease including but not limited to: • Guillain-Barré • Myasthenia gravis • Myasthenic syndrome • Dystrophia myotonica • Muscular dystrophy • Paraplegia and long-term spinal cord damage
2_POM_D_2	The abnormalities found in the adult patient with congenital heart disease [including corrected or partially corrected], and the implications for anaesthesia in these patients
2_POM_D_3	The effects of chemotherapy/radiotherapy and the implications for anaesthesia
2_POM_D_4	The perioperative management of patients undergoing transplant surgery
2_POM_D_5	The perioperative management of patients with transplanted organs for non-transplant surgery

2_POM_D_6	Appropriate preoperative strategies for minimising the use of blood products
2_POM_D_7	Assessment of the patient with complex comorbidities taking account of their individual needs and requirements including those with cardiac, respiratory, and renal disease
2_POM_D_8	Endocrine abnormalities of significance to anaesthesia – e.g., Cushing's, Addison's, diabetes mellitus, thyroid/pituitary disease, phaeochromocytoma and the stress response

2_POM_E: Appreciates how integrated care pathways influence patient outcomes

2_POM_E_1	The principles of enhanced recovery programmes
2_POM_E_2	The strategies for prehabilitation and patient optimisation and the limits of such strategies

2_POM_F: Describes the use and limitations of common risk-scoring systems

2_POM_F_1	Peri-operative risk assessment in patients with cardiac/respiratory disease or other co-morbidities, using common scoring systems including but not exclusively Lee's RCRI, SORT, PPOSSUM, ACS NSQIP etc
2_POM_F_2	The uses and limitations of common risk scoring systems

2_POM_G: Recognises when advanced physiological testing is indicated, interpreting the data to help stratify risk

2_POM_G_1	Assessment of cardiac function including; Coronary angiography, ECHO, CT, MRI, nuclear imaging, and cardiopulmonary exercise testing both formal (CPET) and informal (six-minute shuttle tests)
2_POM_G_2	Assessment of respiratory function: blood gases, pulmonary function tests and diffusion capacity
2_POM_G_3	The use of specialised imaging techniques (e.g., CT, MRI) in planning anaesthesia and surgery for head and neck surgery
2_POM_G_4	The principles of preoperative evaluation of patients at risk of post-operative morbidity, including risk stratification tools e.g., · Scoring systems · Measures of functional capacity (including cardiopulmonary exercise testing) · Echocardiography
2_POM_G_5	Responds appropriately to investigation results when planning perioperative care
2_POM_G_6	Sleep studies - principles
2_POM_G_7	Interpretation of biochemical data
2_POM_G_8	Interpretation of haematological data
2_POM_G_9	Measurement of coagulation of the blood and interpretation of data including use of point of care tests e.g. TEG/ROTEM

2_POM_H: Applies basic sciences to perioperative care

2_POM_H_1	The pathophysiological changes and organ dysfunction associated with cardiac disease, and implications in the perioperative period
2_POM_H_2	The causes, pathophysiology and management of obstructive sleep apnoea and the surgical procedures used to treat
2_POM_H_3	The anaesthetic complications related to disturbance of fluid balance, oedema, and dehydration
2_POM_H_4	The rationale for and principles of perioperative haemodynamic management and optimisation, including management of phaeochromocytoma.
2_POM_H_5	Recognises that a relatively large proportion of patients requiring ophthalmic surgery are elderly and understands their particular needs including, but not exclusively, the effects of physiological changes associated with ageing and altered pharmacological responses

2_POM_I: Applies the principles of public health interventions such as smoking cessation, reducing obesity and alcohol intake

2_POM_I_1	The effects of smoking, excessive alcohol/drugs, and obesity on health

2_POM_J: Recognises the potential harms of health care interventions

2_POM_J_1	Adverse effects of medications in the peri-operative period e.g. antihypertensives, anticoagulants, hypoglycaemic agents, and anti-platelet medications

2_POM_K: Explains how religious, cultural, and lifestyle factors may influence healthcare choices, such as blood transfusions, implants, and use of animal-derived products

2_POM_K_1	The particular sensitivity of patient choice even when this is not in line with accepted evidence based best practice e.g., choice of birth plan, and refusal of blood products
2_POM_K_2	How ethnicity and patient diversity may influence conduct of anaesthesia

2_POM_L	Describes the needs and roles of carers and those providing support in the perioperative period and applies this to practice

2_POM_M	Describes the requirement for postoperative organ support and its limitations

2_POM_N	Applies end of life care as part of a multidisciplinary team

2_POM_O: Explains and acts on the importance of perioperative management of haematological conditions including anaemia and coagulopathy

2_POM_O_1	Management of concurrent use of anticoagulant/antiplatelet therapy

2_POM_O_2	Management of perioperative anaemia

2_POM_P: Recognises the factors associated with abnormal perioperative nutritional states and applies strategies to mitigate risks where appropriate

2_POM_P_1	Nutritional assessment techniques including laboratory tests
2_POM_P_2	Clinical consequences of poor nutritional status: including wound healing, infection, cardiovascular stability, thermoregulation, respiratory control

2_POM_Q: Applies adjustments required that co-existing disease and surgical complexity have on the conduct of anaesthesia and perioperative care, including frailty, cognitive impairment and the impact of substance abuse or obesity

2_POM_Q_1	Perioperative implications of bariatric surgery
2_POM_Q_2	Recognition and management of patient with frailty including use of clinical frailty scoring system

2_POM_R	Demonstrates adjustments in perioperative care for children with co-morbidity

2_POM_S	Plans appropriate obstetric anaesthetic care for all parturients collaboratively with the wider multi-disciplinary team

2_POM_T: Recognises and manages critical illness in patients, including immediate resuscitation, and leads the care of acute obstetric emergencies

2_POM_T_1	Recognition and management of amniotic fluid embolus

General Anaesthesia (GA)

2_GA_A: Explains the specific factors in providing safe anaesthetic care for patients at extremes of age, including neonates, children, and older people with frailty, and implements these in practice

2_GA_A_1	Knowledge of applied basic sciences to all age groups including neonates and the elderly
2_GA_A_2	Influence of age on drug pharmacokinetics and pharmacodynamics
2_GA_A_3	Use strategies to minimise post-operative cognitive dysfunction
2_GA_A_4	Chooses appropriate choice of anaesthetic technique for patients with complex comorbidities

2_GA_B: Provides appropriate anaesthesia care for patients undergoing day case surgery in all settings

2_GA_B_1	Demonstrates knowledge of advances and controversies in anaesthesia for day surgery

2_GA_C: Describes the principles of intra-operative haemostasis and manages major haemorrhage

2_GA_C_1	Principles of management of intra-operative haemostasis
2_GA_C_2	Management of massive blood loss including the use of rapid infusion devices
2_GA_C_3	Use of blood conservation strategies in orthopaedic surgery including the use of cell salvage when major haemorrhage is predicted
2_GA_C_4	Management of haemorrhage within trauma including use of permissive hypotension, tranexamic acid, and knowledge of relevant studies
2_GA_C_5	Resuscitation and management of patients who have suffered major vascular accidents including ruptured aortic aneurysms

2_GA_D: Provides safe care for ASA 1-3 adult patients with multiple injuries from arrival in hospital to post-operative care and seeks help appropriately

2_GA_D_1	Perioperative anaesthetic management of patients with multiple injuries including head, facial, neck/spinal, thoracic, abdominal, pelvic, and peripheral trauma
2_GA_D_2	Implications, prevention and management of coagulopathy, hypothermia, and acidosis in multiply injured patients

2_GA_E: Describes the anaesthetic-related problems associated with trauma including burns, poisoning, electrical injuries, and drowning

2_GA_E_1	Management of acute poisoning: including but not limited to, aspirin, paracetamol, opioids, aminophylline, digoxin, ecstasy and other social drugs, antidepressants, alcohol
2_GA_E_2	Initial assessment, management, and resuscitation of patients with: • Severe burns • Electrical injuries • Drowning and near drowning • Crush injuries • Hypothermia
2_GA_E_3	Explains the principles of anaesthetic management of burns patients for surgery including dressing changes, grafting and related procedures
2_GA_E_4	Pathophysiology of burn injury including thermal airway injury, smoke inhalation and fluid loss

2_GA_F: Applies physiological & pharmacological principles to reduce the risk of secondary brain injury in patients presenting with a severe head injury

2_GA_F_1	Strategies for minimising secondary brain injury in patients with multiple injuries

2_GA_G: Recognises, mitigates against risks and manages complications relating to patient positioning during surgery, including reference to the obese patient

2_GA_G_1	Anatomy relevant to the avoidance of injury to patients due to posture and positioning during anaesthesia- including • prone • lateral • park bench • sitting positions

2_GA_H: Applies a sound understanding of anatomy, physiology, biochemistry, pharmacology, physics and clinical measurement to anaesthetic practice (may be incorporated into other sections)

2_GA_H_1	Relevant anatomy for anaesthetic procedures and understanding of surgical operations
2_GA_H_2	-Drug toxicity - causes and avoidance. -Management of malignant hyperthermia. -Potential risks of drug additives
2_GA_H_3	Therapeutics in pathologic states: • problems associated with organ transplantation, • anaesthetic relevance of drugs used in malignancy, • therapy in acute and chronic respiratory diseases
2_GA_H_4	Problems of drug dependency and addiction
2_GA_H_5	Assessment of cognitive dysfunction issues such as delirium, POCD and dementia, and implications

2_GA_I: Safely manages patients with complex airways including the ability to perform video laryngoscopy with local supervision

2_GA_I_1	Anatomy of the airway including anatomical knowledge relevant to the performance of fibre-optic intubation
2_GA_I_2	Risks associated with fibreoptic endotracheal intubation and the process of obtaining consent for this procedure
2_GA_I_3	The anaesthetic management of potential threats to the airway, including: • External compression • Foreign body, blood clots, masses • Inhalational injury, inflammation • Blunt and penetrating trauma • Use of video laryngoscopes, fibreoptic scopes, tracheostomy
2_GA_I_4	Indications for tracheostomy
2_GA_I_5	The principles of anaesthesia for tracheostomy
2_GA_I_6	Principles of tracheostomy care and management of complications including obstructed/misplaced tracheostomy (including in children)
2_GA_I_7	The specialised airway techniques used for laser surgery in, or near the airway and hazards associated with the use of laser
2_GA_I_8	The principles of anaesthesia for major head and neck surgery and the pathophysiological changes and co-morbidities associated with head and neck cancer
2_GA_I_9	Commonly used methods of local and general anaesthesia for patients having surgery on or below the vocal cords including techniques of ventilation
2_GA_I_10	The principles of the recognition and appropriate management of acute ENT emergencies, including bleeding tonsils, epiglottis, croup, and inhaled foreign body

2_GA_I_11	The emergency management of fractures of the face and other maxillo-facial emergencies such as intra-oral abscesses, and other causes of upper airway obstruction
2_GA_I_12	Recognition of supra-glottic airway obstruction and the indications/contra-indications of different airway devices to bypass such obstruction
2_GA_I_13	Management of failed intubation protocols including front of neck access techniques
2_GA_I_14	The principles of shared decision making when managing complex airways and the benefits and limitations of flexible nasendoscopy
2_GA_I_15	The benefits of advanced imaging techniques when assessing complex airways such as CT and 3D reconstruction of the airway and virtual endoscopy

2_GA_J: Manages non-complex shared airway surgery with distant supervision

2_GA_J_1	Discuss the risks and benefits of using various supraglottic airways for IPPV or SV
2_GA_J_2	The use of high flow nasal oxygen
2_GA_J_3	Management of patients undergoing nasal and middle ear surgery

2_GA_K: Explains the problems associated with laparoscopic, endoscopic and open procedures, including those with major blood loss, and provides safe general anaesthesia for these procedures with distant supervision for ASA 1 to 3 adult patients

2_GA_K_1	The principles of peri-operative management including positioning, physiological consequences and analgesia for the commoner complex cases including, but not exclusively: • Pancreatic and liver resection • Oesophagectomy (including one lung ventilation) • Resection of neuroendocrine tumours e.g. Carcinoid and phaeochromocytoma • Splenectomy • Resection of retroperitoneal masses • Robotic procedures (e.g. cystoprostatectomy and nephrectomy)
2_GA_K_2	The principles of perioperative anaesthetic care for primary and revision pelvic bone and joint surgery and postoperative pain management
2_GA_K_3	Management of anaesthetic techniques appropriate for plastic surgical procedures including major reconstructive cases and free flap surgery
2_GA_K_4	Management of blood flow and surgical field during surgery, including free-flap surgery
2_GA_K_5	The concept of Goal-Directed Therapy
2_GA_K_6	The principles and interpretation of depth of anaesthesia monitoring
2_GA_K_7	Perioperative management of the patient for open major vascular surgery eg abdominal aneurysm repair
2_GA_K_8	Perioperative management of the patient for endovascular surgery eg EVAR
2_GA_K_9	Management of elective carotid artery surgery with general or regional anaesthesia.

2_GA_K_10	Pathophysiology of aortic cross-clamping and renal protection strategies
2_GA_K_11	Morbidity and mortality associated with vascular surgery

2_GA_L: Provides safe general anaesthesia for diagnostic and therapeutic procedures in the non-theatre environment but within the hospital setting for ASA 1-3 adult patients independently, recognising when this is inappropriate

2_GA_L_1	The different techniques of anaesthesia either diagnostic or therapeutic for both elective and emergency procedures in the non-theatre environment e.g. radiology (X-Ray, CT and MRI), angiography, radiotherapy, ECT, endoscopy and the emergency department.
2_GA_L_2	Explains the problems of providing of safe post-anaesthetic care for patients in the non-theatre environment
2_GA_L_3	The unique safety precautions required in each of the environments, particularly MRI
2_GA_L_4	Explains the rationale for the choice of anaesthetic technique for ECT and the physiological effects of this treatment

2_GA_M: Applies relevant anatomical, physiological and pharmacological principles to neurosurgical patients

2_GA_M_1	Relevance of anatomy of the skull, skull base, vertebral column, CSF circulation and cerebral blood flow and central nervous system related to neuroanaesthetic practice
2_GA_M_2	Relevance of applied physiology and pathophysiology of the central nervous system related to neuroanaesthetic practice including interventional procedures
2_GA_M_3	Consciousness and sleep
2_GA_M_4	Depth of anaesthesia – effects of anaesthetics on neurotransmission
2_GA_M_5	Techniques for measuring and decreasing the intra-cranial pressure
2_GA_M_6	How drugs can impact on neurophysiological monitoring
2_GA_M_7	The specific risks of venous thromboembolic disease in neurosurgical patients and how these are managed
2_GA_M_8	The principles of CSF drainage, including its use in complex endovascular aneurysm cases and the management of spinal cord ischaemia post thoracic aneurysm/ complex EVAR

2_GA_N: Provides safe anaesthetic care to ASA 1-3 adults for simple elective and emergency intracranial, spinal and neuroradiology procedures under local supervision

2_GA_N_1	Perioperative anaesthetic management of patients for neurosurgery and neuroradiology This includes: •Preoperative assessment and optimisation of patients with neurological disease •Induction, maintenance, and reversal of anaesthesia

	• Early postoperative care including the specific areas of fluid management, control of pain and neurological monitoring
2_GA_N_2	Understanding of anaesthesia for neurosurgical and neuroradiological procedures including but not exclusively: • Shunt surgery • Evacuation of intracranial haematoma • Interventional radiology procedures for cerebral aneurysms and stroke thrombectomy • Trans-sphenoidal surgery • Supratentorial and posterior fossa surgery • Emergency surgery for traumatic brain injury including decompressive craniectomy • Spinal column surgery • Awake craniotomy including neurophysiological monitoring • Stereotactic surgery
2_GA_N_3	The principles of perioperative anaesthetic care for elective and emergency spinal surgery including but not exclusively: • Scoliosis surgery including neurophysiological monitoring • Spinal trauma and the associated complications of spinal cord trauma • Postoperative pain management
2_GA_N_4	The anaesthesia for trigeminal neuralgia including thermocoagulation
2_GA_N_5	Operative spinal cord monitoring and nerve conduction
2_GA_N_6	Peripheral nerve stimulators: assessment of neuromuscular function. Identification of nerves with needle electrode.
2_GA_N_7	Indications for using neurophysiological monitoring including but not limited to EEG, evoked potentials and ICP measurement, to benefit patients requiring neurosurgery/neuro-critical care
2_GA_N_8	The techniques used for recognition and management of air embolism
2_GA_N_9	The special risk associated with prion diseases during neurosurgery

2_GA_O: Applies basic science and clinical anaesthetic principles to patients undergoing cardiac and thoracic surgery

2_GA_O_1	Invasive and non-invasive cardiovascular monitoring, and basic interpretation including use of: • PiCCO • LiDCO™ • Contour analysis • ECHO • TOE • Oesophageal doppler
2_GA_O_2	Interprets information from commonly used modalities for advanced haemodynamic monitoring

2_GA_O_3	Principles of action, and the use of, intra-aortic balloon counter-pulsation and other assist devices eg LVAD, BiVAD
2_GA_O_4	Indications for temporary and permanent cardiac pacing including different modes and advanced functions
2_GA_O_5	Principles of antibiotic prophylaxis in patients with cardiac disease
2_GA_O_6	Cardiovascular physiology and pharmacology relevant to perioperative management of patients presenting for cardiac surgery
2_GA_O_7	Cardiovascular physiology and pharmacology relevant to perioperative management of patients presenting for less invasive procedures eg TAVI
2_GA_O_8	Cardiovascular physiology and pharmacology relevant to perioperative management of patients presenting for electrophysiology procedures eg AF/VT ablations, ICD insertion

2_GA_P: Describes the principles of anaesthesia for on and off bypass cardiac and thoracic surgery

2_GA_P_1	Principles of perioperative anaesthetic management of patients for cardiac surgery including post-operative pain management and respiratory support
2_GA_P_2	Problems associated with post-cardiac surgery including bleeding and the clinical signs and symptoms of cardiac tamponade, and its management
2_GA_P_3	Methods used to cool and re-warm patients during cardiac surgery, and potential complications
2_GA_P_4	Principles of cardiopulmonary bypass • Cardioplegia • Use of vasodilators/vasoconstrictors and inotropes • Management of arrhythmias • Anticoagulation during bypass • Effects on drug pharmacology • Clinical effects on organs eg lung, brain
2_GA_P_5	Anaesthetic and surgical problems associated with "off pump" cardiac surgery

2_GA_Q: Provides safe anaesthetic care to ASA 1–3 adults undergoing elective cardiac revascularisation, valvular surgery and cardiology procedures under direct supervision

2_GA_Q_1	Perioperative anaesthetic management of patients undergoing less invasive procedures eg TAVI
2_GA_Q_2	Management of complications of less invasive procedures eg TAVI
2_GA_Q_3	Perioperative management of patients presenting for electrophysiology procedures eg AF/VT ablations, ICD insertion

2_GA_Q_4	Management of complications of electrophysiological cardiac procedures

2_GA_R: Demonstrates safe anaesthetic care for adults requiring non-complex thoracic procedures under direct supervision, including one lung ventilation

2_GA_R_1	Specific risks associated with anaesthesia in patients requiring thoracic surgery and precautions to be taken to minimise them including pre-operative optimisation
2_GA_R_2	Commonly performed thoracic surgical procedures and the relevant anaesthetic problems associated with these
2_GA_R_3	Airway management of a patient undergoing one-lung ventilation and anaesthesia including placement of double lumen endobronchial tubes and bronchial blockers
2_GA_R_4	The changes that occur during one lung ventilation and the strategies to manage these
2_GA_R_5	The common problems associated with the postoperative care of a patient who has had thoracic surgery and the methods that can be used to minimise these

2_GA_S: Explains the anaesthetic implications of ophthalmic surgery, in particular the penetrating eye injury and the presence of intraocular gas

2_GA_S_1	The precautions required for revision surgery in patients who have had a previous injection of intraocular gas
2_GA_S_2	The choice of techniques of anaesthesia for patients with penetrating eye injury
2_GA_S_3	The operating conditions required for successful outcomes in ophthalmic surgery and how these can be achieved
2_GA_S_4	The specific factors in the postoperative care of patients who have had ophthalmic surgery

2_GA_T: Provides safe anaesthetic care for elective and emergency obstetric patients including those with co-morbidities and obstetric complications with distant supervision

2_GA_T_1	The influence of concurrent medical diseases on pregnancy and the management of these patients
2_GA_T_2	Analgesia for the labouring parturient
2_GA_T_3	Risk factors, recognition and management of massive obstetric haemorrhage including but not limited to: · use of a massive haemorrhage alert system · the use of blood products and cell salvage · the use of uterotonics and point of care coagulation tests · how the physiological changes of pregnancy affect coagulation and their relevance in this setting · particular causes such as genital tract trauma, uterine atony etc.
2_GA_T_4	Management of venous thromboembolism in pregnancy
2_GA_T_5	Risk factors and management of a patient with abnormal placentation

2_GA_T_6	Risk factors, recognition and management of a patient with pre-eclampsia and eclampsia
2_GA_T_7	Risk factors, recognition and management of amniotic fluid embolus
2_GA_T_8	Risk factors, recognition and management of uterine inversion and uterine rupture
2_GA_T_9	Risk factors, recognition and management of sepsis in pregnancy
2_GA_T_10	Management of pregnant patient presenting for non-obstetric surgery
2_GA_T_11	Obstetric and anaesthetic management of multiple pregnancy
2_GA_T_12	Management of intrauterine death
2_GA_T_13	Management of the complications of central neuraxial blockade in obstetrics
2_GA_T_14	Recognition and management of Post Dural Puncture Headache, including differential diagnoses, complications and treatment options.
2_GA_T_15	Recognition and understanding of the importance of ongoing national audit of maternal and foetal morbidity and mortality

2_GA_U: Provides safe general anaesthesia for ASA 1-3 children undergoing non-complex elective and emergency surgery aged 1- 5 years with direct supervision, and 5 years and above with distant supervision

2_GA_U_1	Anatomical and physiological changes that occur during development from neonate to older child in relation to the conduct of anaesthesia
2_GA_U_2	Management of analgesic requirements in children undergoing common surgical procedures
2_GA_U_3	Management of children undergoing day case surgery
2_GA_U_4	Paediatric management of fluid balance in the peri-operative period including pre-operative dehydration, 3rd space loss, requirement for a laparotomy and post- operative maintenance
2_GA_U_5	Peri-operative management of blood products in children
2_GA_U_6	Explains the law as it relates to children in respect of Consent, Restraint and Research and the concept of 'Gillick competence'

2_GA_V: Explains the principles of anaesthetic care for children of all ages with complex medical problems and/or requiring complex surgical procedures

2_GA_V_1	The implications for anaesthesia of paediatric medical and surgical problems including major congenital abnormalities (e.g. tracheoesophageal fistula, diaphragmatic hernia, congenital heart disease and syndromes such as Trisomy 21)

2_GA_V_2	Perioperative management of children with learning disability and neurodiversity

2_GA_W: Explains the principles of the general anaesthetic care of neonates

2_GA_W_1	The specific factors in preoperative assessment and preparation of neonates for surgery
2_GA_W_2	Anaesthetic techniques for neonates
2_GA_W_3	Issues with thermoregulation in the newborn and the measures required to prevent hypothermia
2_GA_W_4	The anaesthetic management of neonates and infants for minor operations, major elective and emergency surgery
2_GA_W_5	The specific anaesthetic and monitoring equipment required for neonates
2_GA_W_6	Common problems in the neonatal period requiring anaesthesia and their perioperative management (e.g. inguinal hernia, intestinal obstruction, pyloric stenosis)
2_GA_W_7	The problems of the premature and ex-premature neonate
2_GA_W_8	The adverse effects of starvation, dehydration and hypoglycaemia in neonates and children

2_GA_X: Uses total intravenous anaesthesia safely in all areas of clinical anaesthetic practice

2_GA_X_1	Pharmacokinetic principles and models for Total Intravenous Anaesthesia (TIVA)
2_GA_X_2	Implications of concurrent disease and obesity on use of TIVA
2_GA_X_3	Practical aspects of the safe use of TIVA including monitoring and the avoidance of accidental awareness
2_GA_X_4	The principles of anaesthesia for middle ear surgery, including but not limited to, use of TIVA and hypotensive techniques
2_GA_X_5	Use of TIVA in children

Regional Anaesthesia (RA)

2_RA_A: Performs ultrasound-guided brachial plexus blocks

2_RA_A_1	Anatomy and sonoanatomy of the brachial plexus
2_RA_A_2	Use and complications of upper limb blocks
2_RA_A_3	Pharmacology of local anaesthetic drugs and adjuvants and their clinical applications

2_RA_B: Performs ultrasound-guided fascial plane blocks for the chest or abdominal wall

2_RA_B_1	Chest wall fascial plane block techniques including relevant sonoanatomy, indications and complications

2_RA_B_2	Analgesia for rib fractures including anatomy and sonoanatomy of erector spinae, paravertebral and serratus anterior blocks and use of thoracic epidural
2_RA_B_3	Abdominal wall fascial plane block techniques including relevant sonoanatomy, indications and complications e.g. rectus sheath, TAP and quadratus lumborum
2_RA_B_4	Blocks for lower abdominal/urological surgery including inguinal, penile, caudal and pudendal nerve blocks

2_RA_C: Demonstrates how to achieve an optimal ultrasound image and recognises common ultrasound artefacts

2_RA_C_1	Basic principles of ultrasound and its application
2_RA_C_2	Advantages of ultrasound-guided blocks

2_RA_D: Describes ophthalmic blocks for patients undergoing awake ophthalmic surgery

2_RA_D_1	Applied anatomy required for insertion of local anaesthetic blocks for ophthalmic surgery
2_RA_D_2	Techniques of local anaesthesia available for ophthalmic surgery including their advantages, disadvantages and indications with particular reference to: • Topical anaesthesia: local anaesthesia drops • Sub-tenon's block • Principles of needle blocks: extraconal [peribulbar] and intraconal [retrobulbar] injections
2_RA_D_3	The oculo-cardiac reflex, its treatment and prevention
2_RA_D_4	The physiological mechanisms which control intraocular pressure
2_RA_D_5	The pharmacology of drugs used to reduce intraocular pressure

2_RA_E: Involves the patient in planning and understanding potential complications of regional anaesthesia

2_RA_E_1	The indications and contraindications for regional anaesthesia and peripheral nerve blocks in multiply injured patients for analgesia, both initially and perioperatively
2_RA_E_2	Anatomy and sonoanatomy of lower limb blocks. Use and complications of these blocks including but not exclusively fascia-iliaca, and peri-capsular nerve groups (PENG)
2_RA_E_3	Advantages and disadvantages, techniques and complications (including their management) of a wide variety of blocks including, but not exclusively: · peripheral blocks of the limbs · some cranial nerve blocks · blocks used to treat chronic pain conditions

	· central neuraxial blockade
2_RA_E_4	Anatomy and sonoanatomy for awake carotid endarterectomy, including superficial, intermediate and deep cervical plexus blocks. Contraindications and complications of these procedures.
2_RA_E_5	The choice of local anaesthetic agents, opioids, and other additives and techniques of administration including but not limited to: · hydrodissection · spread of local anaesthetic along fascial planes · regular aspiration to avoid intravascular placement
2_RA_E_6	Management of regional blocks in children including but not exclusively caudal, epidural, spinal, penile, ilioinguinal and TAP blocks
2_RA_E_7	Best practices for safety and quality in regional anaesthesia

Resuscitation and Transfer (RT)

2_RT_A: Leads a multidisciplinary resuscitation team from the initial assessment and management of a critically ill patient, through to handover to Critical Care or another specialist team

2_RT_A_1	Recognition and management of a patient with an unstable cervical spine
2_RT_A_2	Recognises the deteriorating perioperative patient

2_RT_B: Maintains contemporary knowledge and skills required for the delivery of successful resuscitation

2_RT_B_1	Interpretation of arrhythmias seen in the peri-arrest period, including but not limited to: • Narrow complex tachycardias • Broad complex tachycardias • Atrial fibrillation • SVT • Bradycardia • 1st 2nd and 3rd degree heart block
2_RT_B_2	The pharmacology of drugs used to treat common arrhythmias, including but not limited to: •Adenosine • Digoxin • Magnesium • Beta-blockers • Amiodarone • Atropine
2_RT_B_3	Indications/management of cardioversion and defibrillation

2_RT_B_4	The indication for, and principles of, pacing including percussion, external and transvenous
2_RT_B_5	Indications/management of thrombolysis
2_RT_B_6	Recognition/management of anaphylaxis and allergy
2_RT_B_7	Indications/management of therapeutic hypothermia after cardiac arrest
2_RT_B_8	Indications/management of: • Open chest cardiac compressions • Resuscitative thoracotomy
2_RT_B_9	The principles of managing cardiac arrest in the prone position
2_RT_B_10	Institutes appropriate measures to stabilise the deteriorating patient

2_RT_C: Demonstrates resuscitation skills in neonates and children

2_RT_C_1	Management of children with multiple injuries, comparing and contrasting with that of adults
2_RT_C_2	The differences in aetiology of cardiac arrest between adults and children
2_RT_C_3	Indications for, and use of, cuffed and uncuffed tubes in the critically ill child requiring tracheal intubation
2_RT_C_4	Obstetric and anaesthetic management of a premature delivery

2_RT_D: Undertakes discussions with patients, families and colleagues to aid decision making on resuscitation, including DNACPR 'do not attempt cardiopulmonary resuscitation' orders

2_RT_D_1	The specific ethical and ethnic issues associated with managing the multiply injured patient, including issues that relate to brain stem death and organ donation
2_RT_D_2	The ethical issues related to patient transfer, including the need to brief patients and their relatives

2_RT_E: Demonstrates knowledge and skills in resuscitation of the patient with major trauma

2_RT_E_1	Role of the anaesthetist within the multi-disciplinary trauma team and structured approach to care
2_RT_E_2	Assessment and management of chest trauma
2_RT_E_3	Assessment and management of abdominal trauma
2_RT_E_4	Assessment and management of head and neck trauma
2_RT_E_5	Assessment and management of spinal cord injury
2_RT_E_6	Assessment and management of major limb and pelvic trauma
2_RT_E_7	The reasons for, and benefits of, the hospital triage of trauma patients, and scoring systems used
2_RT_E_8	Hormonal and metabolic response to trauma

2_RT_E_9	The complex pathophysiological changes that occur in all patients (including children) with multiple injuries

2_RT_F: Manages inter–hospital transfers of adults and children by land, including time-critical transfers, in line with local and regional policy

2_RT_F_1	Organisation/management of safe transfer of patients with a brain injury
2_RT_F_2	Organisation/management of safe transfer of patients to minimise risk, including but not limited to: •Stabilisation •Pre-emptive intervention •Sedation •Monitoring •Packaging •Choice of mode of transfer
2_RT_F_3	Outlines the hazards associated with Interhospital transfer, including the causes/management of patient instability • Effects of acceleration/deceleration on patient physiology • Effects of high ambient noise on the patient/alarms • Increased risk of interventions during transfer
2_RT_F_4	Explains how critical illness affects the risk of transfer
2_RT_F_5	Explains how time-critical elements may influence risks to the patient and transfer personnel and how these should be managed to reduce them
2_RT_F_6	Explains the critical care equipment used during transfer including but not exclusively: •Ventilators • Infusion pumps •Monitoring
2_RT_F_7	Understands the safety implications of electrical and hydraulic equipment that may be used during patient transfer
2_RT_F_8	The management of patients who develop sudden airway difficulties whilst in transit (both in the intubated and un-intubated patient)
2_RT_F_9	Awareness of the laws relating to deaths in transit
2_RT_F_10	Outlines the regional protocols for organising transfers between units
2_RT_F_11	Outlines the roles and responsibilities of all staff accompanying the patient during transfer including ambulance technicians and paramedics
2_RT_F_12	Discusses the importance of audit, critical incident reporting and appropriate research
2_RT_F_13	Outlines the specific considerations for transfer of patients with specific clinical conditions, including but not limited to: o Head, spinal, thoracic, and pelvic injuries o Critically ill medical patients o Burns patients

	o Children o Pregnant women

2_RT_G: Manages the resuscitation, stabilisation, and transfer of patients with acute neurological deterioration

2_RT_G_1	Principles of management of acute spinal cord injury
2_RT_G_2	The anaesthetic implications of previous spinal cord trauma
2_RT_G_3	Demonstrates understanding of the neurocritical care management of traumatic brain injury including: • Indications for ventilation • Recognition and management of raised ICP • Cerebral protection strategies • Fluid and electrolyte balance in the head injured patient • Systemic effects of traumatic brain injury • CNS monitoring including ICP, jugular bulb saturation
2_RT_G_4	Describes the control of status epilepticus

Procedural sedation (PS)

2_PS_A: Utilises appropriate sedation techniques by a variety of routes of administration and multiple drug combinations, including target-controlled infusions

2_PS_A_1	Identification of different levels of sedation (minimal/conscious/deep)
2_PS_A_2	Indications/management of deep sedation and the associated risks
2_PS_A_3	Pharmacology of drugs used for sedation, including those given as infusions and multiple drug boluses
2_PS_A_4	Describes the advantages and disadvantages of sedation techniques for specific subspecialty procedures e.g. ophthalmic, neuro and dental procedures
2_PS_A_5	Options for alternative routes of delivery of drugs used for conscious sedation including intra-nasal and rectal

2_PS_B: Utilises sedation protocols and scoring systems

2_PS_B_1	Sedation scoring systems used in adult, paediatric and special needs settings
2_PS_B_2	Current standards and guidelines relating to equipment, staffing and monitoring (including limitations) required for delivery of safe procedural sedation
2_PS_B_3	Awareness of appropriate discharge criteria following procedural sedation

2_PS_C: Explains the risks of delivering sedation outside the operating theatre and acts to mitigate these risks

2_PS_C_1	Awareness of the unpredictable nature of sedation techniques in the extremes of life and strategies for safe delivery

2_PS_C_2	Indications/contraindications and risks of sedation for patients in the non-theatre environment

2_PS_D: Recognises when the use of sedation is inappropriate and formulates an alternative safe plan

2_PS_D_1	Knowledge of clinical and procedural specific factors which may prevent delivery of safe sedation
2_PS_D_2	Knowledge of alternative options when sedation cannot be delivered appropriately

Pain (PA)

2_PA_A: Utilises a multi-disciplinary approach to the management of complex pain within a biopsychosocial model of care

2_PA_A_1	Assessment and management of acute non-surgical pain
2_PA_A_2	Organisation of multi-disciplinary management approach of chronic pain
2_PA_A_3	Effect of genetics and cultural differences as well as mental health and adverse childhood experiences on clinical pain perception and management

2_PA_B: Can confidently manage acute pain in the whole perioperative pathway in a timely manner

2_PA_B_1	Assessment of pain including use of pain assessment tools
2_PA_B_2	Management of postoperative pain including management of those patients with complex analgesic needs
2_PA_B_3	Use of adjuvant analgesics, regional anaesthesia, and wound infiltration techniques
2_PA_B_4	Assessment and management of acute pain in special groups including, but not limited to, • children and infants • the older person • the cognitively impaired • those with communication difficulties • the unconscious and critically ill patients • concurrent disease e.g. hepatic/renal • long term opiate users and substance misuse

2_PA_C: Is able to assess patients, interpret investigations and initiate management of chronic malignant and non-malignant pain in a timely manner under distant supervision

2_PA_C_1	Mechanisms of pain; nociceptive (somatic and visceral), neuropathic, and nociplastic pain
2_PA_C_2	Assessment/ management of chronic pain in adults including both chronic primary pain and chronic secondary pain

2_PA_C_3	Assessment/management of cancer pain in adults
2_PA_C_4	Anatomy of ascending and descending pain pathways and their relevance to the pharmacological management of pain
2_PA_C_5	Anatomy relevant to acute and chronic pain management, including neural blockade techniques
2_PA_C_6	Mechanisms of peripheral and central sensitisation
2_PA_C_7	The role of interventional procedures for pain relief, TENS, and other alternative treatments

2_PA_D: Can assess and manage acute on chronic and chronic inpatient pain in adults and recognise when referral to specialist pain services is appropriate

2_PA_D_1	Advanced pharmacology of drugs used to manage pain including neuropathic pain. Use of: • opioids • antidepressants • anticonvulsants • antiarrhythmics
2_PA_D_2	Assessment and management of patients with known chronic pain undergoing acute surgical procedures

2_PA_E	Identifies barriers to effective pain management including those related to patient beliefs, society, culture, and healthcare provision

2_PA_F	Explains the risk factors for persistent post-surgical pain including measures to minimise its occurrence

Intensive Care Medicine (ICM)

2_IC_A: Recognises the limitations of intensive care; employs appropriate admission criteria

2_IC_A_1	Discusses requirements for organ support and its limitations

2_IC_B	Performs safely and effectively the clinical invasive procedures required to maintain respiratory, cardiovascular, and renal, support

2_IC_C: Recognises, assesses, and initiates management for acutely ill adults across the spectrum of single or multiple organ failure

2_IC_C_1	Anatomy relevant to the range of practical procedures required in intensive care medicine
2_IC_C_2	Indications for postoperative ventilation
2_IC_C_3	Management of the patient with respiratory failure including: • Severe asthma

	• Disorders of respiratory mechanics, gas exchange and gas transport • Disorders of the pulmonary circulation- arterial and venous • Respiratory failure and ventilatory support, consequences of positive pressure ventilation • Choices of modes ventilation eg asthma/COPD/restrictive defects • Effect of prone ventilation • Effect of changes in ambient pressure • Use of gases: helium and nitric oxide • Use of ECMO
2_IC_C_4	Management of the patient with cardiac dysfunction including: • Cardiomyopathy and abnormal ventricular function – congenital and acquired • High and low cardiac output states • Valvular disease • Hypertension- pulmonary and systemic • Ischaemic heart disease • Uses of vasopressors and inotropes • Assessment of cardiac function
2_IC_C_5	Management of the patient with neurological deterioration including: • Seizures • Delirium • Reduced conscious level, including infection and drug toxicity • Spinal cord injury • Raised intracranial pressure • Control of cerebral circulation • Myasthenia • Guillain-Barré • Disorders of the autonomic nervous system • Hypoxic brain injury and brain stem death • Traumatic brain injury
2_IC_C_6	Management of the patient with renal dysfunction including: • Disturbances of fluid balance, oedema, and dehydration • Acid-base abnormalities • Plasma electrolyte disturbances • Renal tubular acidosis • Assessment of renal function • Diuretics and their action • Principles of haemofiltration and other renal support • Influence of renal replacement therapies on commonly used drugs
2_IC_C_7	Management of the patient with liver dysfunction: • Jaundice • Acute liver failure • Chronic liver failure • Porphyria
2_IC_C_8	Management of the patient with gastro-intestinal dysfunction including: • Nausea and vomiting • Oesophageal reflux • Bowel obstruction and gastric stasis • Pancreatitis • Swallowing disorders

	• The mucosal barrier • Starvation and obesity • Malnutrition
2_IC_C_9	Management of the patient with an endocrine emergency: • Diabetes mellitus/insipidus • Thyroid • Adrenal
2_IC_C_10	Management of the patient with a haematological issue including: • Haematological malignancies • Congenital and acquired blood disorders • Anaemia • Thrombocytopenia • Abnormalities of coagulation • Blood-borne viruses including hepatitides and HIV
2_IC_C_11	Knowledge of enteral and parenteral nutritional formulas in intensive care • principles • risks • pre- and post-pyloric feeding • consequences of overfeeding (CO2, uraemia, hypermetabolism, hypertrigliceridaemia, hepatic steatosis • changes in intestinal blood flow with injury/sepsis/critical illness

2_IC_D: Recognises the acutely ill child and initiates management of paediatric emergencies

2_IC_D_1	Recognition/initial management of the sick/deteriorating child
2_IC_D_2	Recognition of the specific conditions likely to deteriorate to respiratory or cardiac arrest in children [e.g. meningococcal sepsis] and describe their initial management
2_IC_D_3	Recognition/management of the critically ill child with e.g. sepsis, trauma, convulsions, dehydration, respiratory and diabetic emergencies and describes their timely management

2_IC_E: Recognises and manages the patient with sepsis and employs local infection control policies

2_IC_E_1	Recognition and management of the patient with sepsis
2_IC_E_2	Antimicrobials, antivirals, and antifungals: principles of action; choice of drug.
2_IC_E_3	Antibiotic resistance and stewardship
2_IC_E_4	Antibiotic prophylaxis against surgical infection including prevention of surgical site infection

2_IC_F: Undertakes and evaluates laboratory and clinical imaging investigations to manage patients while critically ill during their intensive care stay

2_IC_F_1	Interpretation of investigations and monitoring techniques to aid the diagnosis and management of the critically ill patient

2_IC_G: Manages the medical / surgical needs and organ support of patients during their critical illness, including the holistic care of patients and relatives

2_IC_G_1	Management of the continuing needs of patients in critical care including organ support and holistic care of patients and relatives.

2_IC_H: Plans and communicates the appropriate discharge of patients from intensive care to healthcare professionals, patients, and relatives

2_IC_H_1	Ability to plan and communicate decisions for care of critically unwell patients with relatives and other healthcare workers, including discharge, escalation, and ceilings of care.

2_IC_I: Manages end of life care within the intensive care environment with patients, relatives, and the multi-professional team

2_IC_I_1	To facilitate sensitive discussions, considering the views of patients and relatives, about the process of withholding or withdrawing life-sustaining treatment and the provision for palliative care.
2_IC_I_2	Manages the palliative care of those with end-stage disease

2_IC_J: Liaises with transplant services when appropriate, can perform brain stem death testing and provides the physiological support of the donor

2_IC_J_1	Management of organ donation in critical care

2_IC_K: Supports clinical staff outside the ICU to enable the early detection of the deteriorating patient

2_IC_K_1	Understands risk scoring systems in the context of the deteriorating patient

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