

ICM High Level Learning Outcomes

1. The doctor will be able to function successfully within NHS organisational and management systems whilst adhering to the appropriate legal and ethical framework.

framework.		
KEY CAPABILITIES	 Understand, incorporate and implement national legislation (eg Health and Social Care Act 2012 and the Equality Act 2010 (Disability Discrimination Act 1995 in Northern Ireland)) into everyday practice. Successfully and ethically incorporate information technology and governance, according to national legislation, into patient care Can communicate & document effectively, according to ethical and legal frameworks to promote the highest standards of healthcare Know how to interpret, construct and apply ethical and legal frameworks into all areas of clinical governance Demonstrate the highest professional behaviours, individually and corporately Continually strive to enhance and integrate knowledge into clinical practice and the NHS organisation as a whole, whilst observing legal and ethical obligations. 	
GPC Domains	 Domain 1: Professional values and behaviours Domain 2: Professional skills practical skills communication and interpersonal skills dealing with complexity and uncertainty clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge professional requirements national legislative requirements the health service and healthcare systems in the four countries Domain 6: Capabilities in patient safety and quality improvement Domain 7: Capabilities in safeguarding vulnerable groups 	
Evidence to inform decision	 ACAT CBD MSF Involvement in developing clinical or organisational policies and procedures Attendance at management meetings Postgraduate qualifications or evidence of further study in management / leadership Portfolio evidence of self-study eg eLfH ES Report 	

2. The doctor will be focused on patient safety and will deliver effective quality improvement, whilst practising within established legal and ethical frameworks. **KEY** They will: **CAPABILITIES** Adhere to national legislation and guidelines relating to safeguarding children and other vulnerable groups of patients, such as those with protected characteristics Contribute towards quality improvement, communicate effectively and share good practice Optimise care of critically unwell patients by the critical appraisal of recent medical literature and the application of evidence-based guidelines Demonstrate a commitment to learn from critical incidents and adverse events as well as sharing the learning points from these experiences Communicate effectively with patients, their families and professional colleagues whilst recognising and effectively managing any barriers to effective communication Ensure patient safety is the key priority at all times in their clinical practice both within the intensive care unit and in the wider clinical environment of the hospital. **GPC Domains** Domain 1: Professional values and behaviours Domain 2: Professional skills practical skills • communication and interpersonal skills dealing with complexity and uncertainty • clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 4: Capabilities in health promotion and illness prevention Domain 6: Capabilities in patient safety and quality improvement Domain 7: Capabilities in safeguarding vulnerable groups Domain 9: Capabilities in research and scholarship **Evidence to** ACAT inform CBD

decision

- ➤ Mini-CEX
- DOPS
- ➤ MSF
- Involvement in quality improvement
- Portfolio evidence of self-study
- ES Report

3. An Intensive Care Medicine specialist will know how to undertake medical research including the ethical considerations, methodology and how to manage and interpret data appropriately.

KEY To ensure this is the case they will: **CAPABILITIES** Remain up to date in their reading of current research literature and best practice guidelines Have an understanding of the processes and governance of clinical research, and will be able to communicate this to patients and their relatives where appropriate Be able to critically appraise clinical literature, and to apply this, when appropriate, to their clinical practice Use their knowledge of the ethical principles of practising medicine, and the legal framework associated with this in modern healthcare to benefit their patients Have the ability to organise the collection and interpretation of data collected from their own intensive care unit and use this as a method of improving clinical services locally Apply information derived from population data to help inform individual treatment plans for their patients. **GPC Domains** Domain 1: Professional values and behaviours Domain 9: Capabilities in research and scholarship **Evidence to** ➤ ACAT inform ➤ CBD decision Qualifications or evidence of further study involving undertaking research eg **Good Clinical Practice** Involvement in research studies within the department or further study eg MSc/MD/PhD Involvement in journal clubs or similar Portfolio evidence of self-study ES Report

4. To ensure development of the future medical workforce, a doctor working as a specialist in Intensive Care Medicine will be an effective clinical teacher and will be able to provide educational and clinical supervision.

KEY CAPABILITIES	 They will: Deliver effective teaching and training to medical students, doctors in training, colleagues and members of the wider multidisciplinary team. This will include understanding the teaching, assessment and feedback needs of learners from all groups with protected characteristics and being able to adapt teaching and provide supportive techniques to ensure successful and equitable learning outcomes. Competently assess the performance of learners objectively and deliver timely and constructive feedback on learning activities in accordance with current educational standards and best practice Meet any regulatory requirements of a trainer and will keep these current as well as participating in quality assurance processes to ensure excellent undergraduate and postgraduate training Endeavour to ensure patient involvement and feedback is integral to the delivery of education to doctors in their individual roles as well as their role as a member of the multidisciplinary team.
GPC Domains	Domain 1: Professional values and behaviours Domain 8: Capabilities in education and training
Evidence to inform decision	 ACAT MSF Portfolio evidence of feedback and learning from teaching delivered Postgraduate qualifications or evidence of further study in medical education (eg PGCert) ES Report

5. Doctors specialising in Intensive Care Medicine can identify, resuscitate and stabilise a critically ill patient, as well as undertake their safe intra-hospital or inter-hospital transfer to an appropriately staffed and equipped facility.

KEY CAPABILITIES

They will:

- Identify an acutely ill patient or one at risk of significant deterioration by taking account of their medical history, clinical examination, vital signs and available investigations
- Integrate clinical findings with timely and appropriate investigations to form a differential diagnosis and an initial treatment plan
- Administer intravenous fluids and inotropic drugs as clinically indicated utilising central venous access where required and monitoring the effectiveness of these treatments with invasive monitoring techniques
- Stabilise and initiate an initial treatment plan for a critically ill acute surgical, acute medical or peripartum patient including those with sepsis or post-trauma and institute timely antimicrobial therapy
- Provide definitive airway management and initiate and maintain advanced respiratory support
- Undertake the transport of mechanically ventilated critically ill patients outside the Intensive Care Unit when required
- Communicate effectively and in a timely manner, with fellow members of the multidisciplinary team including those from other specialties and make an accurate, legible and contemporaneous entry in the patient's medical record
- Where escalation of care is required, be able to arrange this and provide a succinct structured handover to clinical colleagues
- Recognise when a patient has the potential to deteriorate or requires future treatment escalation and be able to provide explicit instructions regarding an ongoing treatment plan and contact details should a further review be required
- Have the ability to communicate with a patient's family, in terms they can understand, the patient's clinical condition, current and likely future treatment options and where possible, an indicative prognosis in an empathetic and understanding manner
- Be mindful at all times that whilst assessing and treating patients they must maintain optimum safety for their patients by recognising any limitations of their current clinical environment, the available equipment and personnel and employing best practice guidelines where these exist.

GPC Domains

Domain 2: Professional skills

- practical skills
- communication and interpersonal skills
- dealing with complexity and uncertainty
- clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)

Domain 5: Capabilities in leadership and teamworking

Domain 6: Capabilities in patient safety and quality improvement

- ACAT
- CBD
- Mini-CEX
- DOPS
- Portfolio evidence of logbook of procedures
- Attendance at transfer courses
- > FFICM examinations
- ➤ ES Report
- Simulation

6. Intensive Care Medicine specialists will have the knowledge and skills to initiate, request and interpret appropriate investigations and advanced monitoring techniques, to aid the diagnosis and management of patients with organ systems failure. They will be able to provide and manage the subsequent advanced organ system support therapies. This will include both pharmacological and mechanical interventions.

KEY CAPABILITIES

This means they can:

- Initiate, perform, interpret and integrate point-of-care testing, radiological and laboratory investigations with their patient's clinical findings
- Integrate knowledge, skills and investigations to treat a patient who is deteriorating and institute or escalate organ support therapies
- Perform invasive procedures to aid the diagnosis and management of a critically ill
 patient, and provide advanced organ-support therapies as well as monitor the
 effectiveness of these therapies in improving the patient's overall condition
- Use their knowledge, apply their skills, and interpret investigations and advanced therapeutic monitoring data to manage critically ill patients, including safe prescribing practices and advanced organ system support modalities, throughout the course of their critical illness.

GPC Domains

Domain 2: Professional skills

- practical skills
- communication and interpersonal skills
- dealing with complexity and uncertainty
- clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)

Domain 3: Professional knowledge

- professional requirements
- national legislative requirements
- the health service and healthcare systems in the four countries

- ➤ ACAT
- ➤ CBD
- ➤ Mini-CEX
- ➤ DOPS
- Formal intensive care ultrasound accreditation with demonstration of appropriate maintenance of skill
- Portfolio evidence of self-study eg eLfH
- FFICM examinations
- ES Report
- Simulation

7. Specialists in Intensive Care Medicine can provide pre-operative resuscitation and optimisation of patients, deliver post-operative clinical care including optimising their physiological status, provide advanced organ system support and manage their pain relief. KEY To achieve this, they will therefore: **CAPABILITIES** Have the knowledge and understanding of the care of patients undergoing a wide range of operative procedures Be expert in resuscitating and stabilising patients before and after a wide range of operative procedures including sold organ transplantation Have an awareness of and be able to treat the common complications of a broad range of operative procedures including solid organ transplantation Lead and contribute to the skill mix of a multidisciplinary team that will deliver the perioperative management of patients undergoing surgical procedures. **GPC Domains** Domain 1: Professional values and behaviours Domain 2: Professional skills practical skills communication and interpersonal skills dealing with complexity and uncertainty clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 5: Capabilities in leadership and teamworking **Evidence to** ➤ ACAT inform ➤ CBD decision ➤ Mini-CEX DOPS Portfolio evidence of self-study eg e-LfH > FFICM examinations ➤ ES Report Simulation

8. Doctors specialising in Intensive Care Medicine will understand and manage the physical and psychosocial consequences of critical illness for patients and their families, including providing pain relief, treating delirium and arranging ongoing care and rehabilitation. They will also manage the withholding or withdrawal of lifesustaining treatment, discussing end of life care with patients and their families and facilitating organ donation where appropriate.

KEY CAPABILITIES

In order to do this, they will be expert in:

- Identifying and limiting the physical and psychosocial consequences of critical illness for patients and families paying particular attention to the assessment, prevention and treatment of pain and delirium
- Communicating the continuing care requirements of patients at discharge from both ICU and hospital to healthcare professionals, patients and relatives.
 This will include the patient's plan for ongoing care, medical follow up and rehabilitation
- Facilitating discussions focused on how to manage end of life care with
 patients and their families. The process of withholding or withdrawing lifesustaining treatments and providing palliative care whilst maintaining respect
 for cultural and religious beliefs will form an important element of this
- Diagnosing death using neurological criteria and diagnosing death using circulatory criteria in time sensitive scenarios (eg donation after circulatory death).

Identifying likely organ donors, working collaboratively with specialist nurses for organ donation and facilitating the process of organ donation, including providing appropriate physiological support to the organ donor.

GPC Domains

Domain 2: Professional skills

- practical skills
- communication and interpersonal skills
- dealing with complexity and uncertainty
- clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)

Domain 3: Professional knowledge

- professional requirements
- national legislative requirements
- the health service and healthcare systems in the four countries

Domain 5: Capabilities in leadership and teamworking

- ➤ ACAT
- ➤ CBD
- DOPS
- ➤ Mini-CEX
- Portfolio evidence of self-study eg e-LfH
- > FFICM examinations
- ES Report
- Simulation

9. Intensive Care Medicine specialists will have the skillset and competence to lead and manage a critical care service, including the multidisciplinary clinical team and providing contemporaneous care to a number of critically ill patients. **KEY** They will do this by: **CAPABILITIES** Providing support to colleagues and contributing to the management of acutely unwell patients outside of the critical care unit when requested to do Having the leadership and communication skills to head a culturally diverse multidisciplinary team providing care to an equally diverse range of patients on the critical care unit Involving patients and their relatives in as many treatment decisions as circumstances will allow whilst ensuring patients and relatives are kept abreast of the current treatment plan and options Actively participating in the development and application of systems and processes designed to improve the delivery of safe care for critically ill patients. Understanding and being able to describe the special requirements of a mass casualty incident. **GPC Domains** Domain 2: Professional skills practical skills communication and interpersonal skills dealing with complexity and uncertainty clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge professional requirements national legislative requirements the health service and healthcare systems in the four countries Domain 5: Capabilities in leadership and teamworking Domain 7: Capabilities in safeguarding vulnerable groups **Evidence to** ➤ ACAT inform ➤ CBD decision ➤ MSF

Postgraduate qualifications or evidence of further study involving leadership /

FFICM examinations

management

ES Report

Simulation

10. Intensive Care Medicine specialists will have developed the necessary skills of induction of anaesthesia, airway control, care of the unconscious patient and understanding of surgery and its physiological impact on the patient.

KEY CAPABILITIES

They will be able to:

- Conduct comprehensive pre-anaesthetic and pre-operative checks
- Demonstrate knowledge of anatomy, physiology, biochemistry and pharmacology relevant to anaesthetic practice
- Describe the functioning principles of standard equipment used within anaesthetic practice and understand the physical principles governing the operation of such equipment and the clinical measurements derived from them
- Pre-operatively assess ASA 1-3 patients' suitability for anaesthesia, prescribe suitable pre-medication and recognise when further investigation or optimisation is required prior to commencing surgery and adequately communicate this to the patient and their family
- Safely induce anaesthesia in ASA 1-3 patients and recognise and deal with complications associated with the induction of anaesthesia
- As a member of the multi-disciplinary theatre team, maintain anaesthesia for the relevant procedure, utilise appropriate monitoring and effectively interpret the information it provides to ensure the safety of the anaesthetised patient
- Recognise anaesthetic critical incidents, understand their causes and how to manage them
- Safely care for a patient recovering from anaesthesia and recognise and treat
 the common associated complications whilst providing appropriate postoperative analgesia (including that via regional and neuraxial blockade), antiemesis and fluid therapies
- Provide urgent or emergency anaesthesia to ASA 1E and 2E patients requiring non-complex emergency surgery
- Identify patients with difficult airways, demonstrate management of the 'cannot intubate cannot oxygenate' scenario in simulation, and be familiar with difficult airway guidelines.

GPC Domains

Domain 2: Professional skills

- practical skills
- communication and interpersonal skills
- dealing with complexity and uncertainty
- clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)

Domain 5: Capabilities in leadership and teamworking

- ➤ CBD
- ➤ Mini-CEX
- ➤ DOPS
- > FFICM examinations
- ES Report
- Simulation
- MSF

11. In order to manage acutely ill patients outside the Intensive Care Unit, an Intensive Care Medicine specialist will have the diagnostic, investigational and patient management skills required to care for ward-based patients whose condition commonly requires admission to the intensive care unit.

KEY	They will:
CAPABILITIES	Be able to manage an acute unselected take
	Manage an acute specialty-related take
	Be capable of providing continuity of care to medical in-patients, including
	management of comorbidities and cognitive impairment
	Know how to manage patients in an outpatient clinic, ambulatory or
	community setting (including management of long-term conditions)
	 Have the ability to assess and treat medical problems in patients in other specialties and special cases
	Make an active contribution to the functioning of a multi-disciplinary clinical team including effective discharge planning
	Deliver effective resuscitation and manage an acutely deteriorating patient
	Care for patients who require end of life care as well as those who require
	palliative care.
GPC Domains	Domain 1: Professional values and behaviours Domain 2: Professional skills practical skills communication and interpersonal skills dealing with complexity and uncertainty clinical skills (history taking, diagnosis and medical management; consent;
	humane interventions; prescribing medicines safely; using medical devices
	safely; infection control and communicable disease)
	Domain 5: Capabilities in leadership and teamworking
Evidence to	> ACAT
inform decision	➤ CBD
accision	Mini-CEX
	DOPS Downfalia avidance of self study or a LfII
	 Portfolio evidence of self-study eg e-LfH FFICM examinations
	ES Report
	> MSF
	> Simulation

12. Doctors specialising in Intensive Care Medicine understand the special needs of, and are competent to manage patients with neurological diseases, both medical and those requiring surgery, which will include the management of raised intracranial pressure, central nervous system infections and neuromuscular disorders.

KEY CAPABILITIES

They will care for these patients by:

- Understanding and assessing the perioperative risks associated with patient comorbidities, emergency anaesthesia and surgery and the implications of concomitant drug therapies in these patients
- Being competent in the postoperative care of common acute and chronic medical conditions commonly found in these patients
- Being aware of the effects of major neurological surgery on these patients and the associated immediate postoperative management of these patients including the common complications and providing optimal analgesia
- Knowing the factors which influence the intensity, levels of care and the clinical environments where the necessary care can be safely delivered to patients with neurological disease
- Recognising and treating respiratory and cardiovascular dysfunction with their associated complications commonly encountered in these patients
- Effectively assessing and managing other perioperative conditions and complications encountered by pre- and post-operative neurosurgical and neurological patients
- Being able to competently assess a patient's neurological status and provide appropriate support where necessary
- Having a thorough understanding of the pathophysiology of raised intracranial pressure including the options for its operative and non-operative management
- Providing immediate treatment of perioperative emergencies in neurosurgical and neurological patients and knowing when to seek senior help and support.

GPC Domains

Domain 2: Professional skills

- practical skills
- communication and interpersonal skills
- dealing with complexity and uncertainty
- clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)

Domain 5: Capabilities in leadership and teamworking

- ➤ ACAT
- ➤ CBD
- Mini-CEX
- DOPS
- Portfolio evidence of self-study eg eLfH
- > FFICM examinations
- ES Report
- > Simulation

13. A specialist in adult Intensive Care Medicine is competent to recognise, provide initial stabilisation and manage common paediatric emergencies until expert advice or specialist assistance is available. They are familiar with legislation regarding safeguarding children in the context of Intensive Care Medicine practice.

KEY	They:
CAPABILITIES	Know and can effectively manage the major anatomical, physiological and
	psychological differences between adult and paediatric patients
	 Appreciate the pathophysiology of common paediatric emergencies, recognise their presentation and can provide initial management until expert help or specialist assistance is available
	Are able to provide emergency and continuing cardiovascular support to a child until expert help or specialist assistance is available
	Are capable of resuscitating a child, know when to seek specialist help and support via their local paediatric retrieval team whose processes they are familiar with
	Are competent to provide elective and emergency airway management and mechanical ventilation to a child including induction of anaesthesia for intubation
	Practise in accordance with national legislation and guidelines relating to safeguarding children in the context of critical care.
GPC Domains	Domain 2: Professional skills
	practical skills
	communication and interpersonal skills
	dealing with complexity and uncertainty
	clinical skills (history taking, diagnosis and medical management; consent;
	humane interventions; prescribing medicines safely; using medical devices
	safely; infection control and communicable disease)
	Domain 5: Capabilities in leadership and teamworking
	Domain 7: Capabilities in safeguarding vulnerable groups
Evidence to inform	➢ ACAT➢ CBD
decision	➤ Mini-CEX
	> DOPS
	Portfolio evidence of self-study eg eLfH
	Attendance at relevant courses eg APLS Attendance at relevant courses eg APLS
	Attendance at relevant courses eg Ar L3 Attendance at relevant child safeguarding courses
	FFICM examinations
	ES Report
	> Simulation
	/ Sillulation

14. Intensive Care Medicine specialists recognise the special needs of, and are competent to provide the perioperative care to patients who have undergone cardiothoracic surgery, including providing pain relief and advanced organ system support utilising specialised techniques available to support the cardiovascular system.

KEY CAPABILITIES

They are competent in:

- Assessing the perioperative risks associated with these patients' comorbidities, emergency anaesthesia and surgery and the implications of their concomitant drug therapies
- The postoperative care of common acute and chronic medical conditions commonly found in these patients
- Assessing the implications of the type and site of surgery for these patients' immediate postoperative management and the potential complications, which they can manage effectively whilst providing optimal analgesia
- Considering the factors which influence the intensity, levels of care and the clinical environments where the necessary care can be safely delivered to these patients
- Treating respiratory dysfunction and complications in these patients
- Treat cardiovascular dysfunction and complications in these patients including understanding advanced monitoring techniques and provision of mechanical circulatory support
- Assessing and managing other perioperative conditions and complications encountered by pre- and post-operative cardiothoracic surgery patients
- Recognising and providing immediate treatment of perioperative emergencies and know when to seek senior help and support.

GPC Domains

Domain 2: Professional skills

- practical skills
- communication and interpersonal skills
- dealing with complexity and uncertainty
- clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)

Domain 5: Capabilities in leadership and teamworking

- ➤ ACAT
- ➤ CBD
- ➤ Mini-CEX
- DOPS
- Portfolio evidence of self-study eg eLfH
- > FFICM examinations
- ➤ ES Report
- Simulation