Subspecialty Training in Pre-Hospital Emergency Medicine

Curriculum, Syllabus and Assessment System

Intercollegiate Board for Training in Pre-Hospital Emergency Medicine

Subspecialty Training in Pre-Hospital Emergency Medicine

Curriculum, Syllabus and Assessment System

Third Edition

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Photographs provided courtesy of IBTPHEM.

Please refer to www.ibtphem.org.uk for any updates to this publication.

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Contents

PART ONE
The Pre-Hospital Emergency Medicine Curriculum

Contents

PART TWO
The Pre-Hospital Emergency Medicine
Syllabus and Assessment Blueprint

Foreword to Third Edition

This third edition of the Pre-Hospital Emergency Medicine (PHEM) curriculum, syllabus and assessment system represents a major milestone for the medical subspecialty and for wider, multi-professional pre-hospital care. The development encapsulated by this latest edition helps bring us closer to achieving our shared vision of providing consistent, high-quality, ever-evolving care in the pre-hospital environment for every one of our patients, regardless of their time or place of need. We feel honoured that the subspecialty continues to act as an exemplar, inspiring developments in multi-professional pre-hospital practice both within and beyond the United Kingdom.

The implementation of this curriculum marks the tenth anniversary of the subspecialty. Since 2012, ten training programmes have been established across the UK and more than one hundred doctors have successfully completed subspecialty training. Similar to in-hospital training, some posts facilitate rotation between training providers and programmes, providing even broader training experiences and promoting shared learning and standardisation between care providers. The national introductory course is in its ninth year and its multi-professional faculty, drawn from all ten training programmes, ensures that generic safety training is delivered collaboratively and that psychosocial resilience is promoted through the formation of close peer support groups. That PHEM operations, clinical care, supervision and training continued throughout the CoViD-19 pandemic is further testament to the dedication and resilience of trainees, trainers and care providers.

Former subspecialty trainees not only continue to practice PHEM, but have also progressed into trainer, examiner and committee roles, ensuring that the evolution of the subspecialty is informed by those who have both experienced and delivered PHEM training. It is inspiring to witness today's subspecialty trainees become tomorrow's consultants, trainers and leaders.

This third edition capitalises on a decade of experience of subspecialty training, promoting a better balance of training, assessment and evidence, whilst continuing to recognise the relevance of the syllabus to PHEM practice and consultant employment opportunities across the UK. Improving supervision will more closely align us with consultant-led medical training in hospital for the benefit of our patients, trainees and colleagues alike.

We are indebted to all those who contributed time and effort to this prestigious, largely voluntary endeavour. We dedicate this third edition of the PHEM curriculum, syllabus and assessment system to Dr Roderick Mackenzie, the subspecialty development lead and champion, who planted a tree under whose shade others sit.

Dr Peter JP Holden, **Chair of the Board**
Dr Nathan J Howes, **Chair of the Curriculum Committee**
Intercollegiate Board for Training in Pre-Hospital Emergency Medicine

Foreword to Second Edition

At the turn of the current century, we were both struck by the contrast between our training as Emergency Physicians and that as Immediate Care doctors. Despite the fact that we had been fortunate enough to be able to gain experience in established pre-hospital services, we worried about the absence of a formally structured and recognised training programme. We argued passionately that patients with pre-hospital critical care needs had a right to access the same standards of care and professional medical expertise (and regulation) in the pre-hospital phase as they did in the hospital phase. In a spirited attempt to provoke debate about this area of specialist medical practice, we challenged the status quo and highlighted the plight of the critically injured:

> "*There is currently no system, training stream or workforce in place across the UK to ensure that the needs of these patients are met in a consistent or organised manner.*"[1]

We wanted everyone involved in emergency care to rise to our challenge.

They did. Our arguments did not fall on deaf ears. In fact, they were not solely our arguments and they were not new: many colleagues from different specialties and disciplines shared these views and we are grateful to them for both channelling and tempering our enthusiasm. We are particularly grateful to The Royal College of Surgeons of Edinburgh's Faculty of Pre-Hospital Care for challenging us, in return, to lead the subspecialty development programme, forge consensus on a curriculum framework and persuade governments and regulators to support the subspecialty.

This second edition of the Guide to Subspecialty Training represents the completion of the Faculty's subspecialty development programme and the maturation of Pre-Hospital Emergency Medicine as a properly regulated specialist clinical endeavour. There are training programmes emerging all over the UK and new-generation trainees can benefit from a much more structured and organised training experience. It remains for us to thank the many individuals who have selflessly, usually voluntarily and without payment, worked long hours to ensure the success of the subspecialty. They know

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[1]Mackenzie R, Bevan D. For debate: a license to practice pre-hospital and retrieval medicine. Emergency Medicine Journal 2005;22:286-29.

who they are. One name deserves special mention and, in recognition of his wisdom, council and unwavering support, this second edition of the Guide and Curriculum is dedicated to Professor Sir Keith Porter.

Dr John Black
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Dr Roderick Mackenzie
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Foreword to First Edition

Pre-Hospital Emergency Medicine involves providing immediate medical care in what is often a resource limited and physically challenging setting. Add to this the combination of time pressure, a medical emergency and an unfamiliar multi-disciplinary team and one wonders why any healthcare professional would seek to immerse themselves in this area of clinical practice. Yet over many years, a surprising number of doctors have, largely on a voluntary and altruistic basis, chosen to do so. Many of them regard the opportunity to support their local ambulance services and provide medical care in some of the most dangerous, distressing and challenging circumstances as both a privilege and, perhaps more importantly, a truly professional endeavour. In their desire to improve the quality and safety of their care, they have pioneered programmes of education and training, developed highly sophisticated operational services and championed the creation of postgraduate diplomas and professional bodies. Their drive and spirit is encapsulated in the introduction to the Pre-Hospital Trauma Life Support Course:

> "*Our patients did not choose us. We chose them. We could have chosen another profession, but we did not. We have accepted responsibility for patient care in some of the worst situations: when we are tired or cold; when it is rainy and dark; when we cannot predict what conditions we will encounter. We must either embrace this responsibility or surrender it. We must give to our patients the very best care that we can – not while we are daydreaming, not with unchecked equipment, not with incomplete supplies and not with yesterday's knowledge*"[1]

In 1994, one of those doctors, now a Professor of Emergency Medicine, challenged our thinking in this area of clinical practice. He wrote: "It needs to progress from a group of enthusiasts of varying qualifications and standards to a fully-fledged specialty."[2] It has perhaps taken longer than anticipated but we are pleased to report that the fully fledged specialty (or subspecialty) has now arrived. What we hope will follow is a new generation of doctors who will benefit from even better access to structured and organised training and a career framework for clinical practice. In turn, our patients will continue to be assured of the highest possible standards of care.

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[1] Pre-Hospital Trauma Life Support Committee of the National Association of Emergency Medical Technicians in co-operation with the Committee on Trauma of the American College of Surgeons. PHTLS: Pre-Hospital Trauma Life Support (Seventh Edition). Mosby JEMS Elsevier, St Louis, 2011.
[2] Cooke MW. Immediate care: specialty or pastime? Injury. 1994;25:347-8.

We thank all of those who have contributed to this achievement and dedicate this first edition of the Guide and Curriculum to Professor Myles Gibson, who laid the foundations of Pre-Hospital Emergency Medicine as a medical subspecialty through the creation of the Faculty of Pre-Hospital Care.

Professor Sir Keith Porter
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PART ONE

The Pre-Hospital Emergency Medicine Curriculum

IBTPHEM National Introductory Course
Trainees and Faculty
2016

Introduction to Pre-Hospital Emergency Medicine

1.1   Introduction

1.1.1   This document describes the curriculum, training and assessment processes for subspecialty training in Pre-Hospital Emergency Medicine (PHEM). It reflects the General Medical Council (GMC) standards and the UK-wide regulations for specialty training (the Gold Guide)[1]. Where there are differences between the four UK nations, the sections of the Gold Guide applicable to these nations should be regarded as the definitive guidance.

1.1.2   The processes described in this document apply to PHEM training programmes and trainees entering PHEM training from August 2022.

1.2   The Intercollegiate Board for Training in Pre-Hospital Emergency Medicine

1.2.1   The IBTPHEM is responsible for determining the duration, content and assessment of training and, in collaboration with the GMC, postgraduate training bodies, colleges and faculties, managing the quality of training. This document

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[1] www.copmed.org.uk/gold-guide/gold-guide-8th-edition

reflects the current recommendations of the IBTPHEM and is intended to assist trainees, trainers, local education providers (LEPs), employers, colleges, faculties and deaneries in managing PHEM training.

1.2.2   The IBTPHEM website provides access to the terms of reference of the IBTPHEM and its committees together with useful additional information for trainees, trainers and the public.[2] The most up-to-date versions of the curriculum, syllabus and assessment system, the associated workplace-based assessments (WPBAs) and a range of template documents are also available on the website.

1.2.3   The IBTPHEM encourages feedback regarding this curriculum, syllabus and assessment system and any aspect of PHEM training.

1.3   What is Pre-Hospital Emergency Medicine?

1.3.1   The term *pre-hospital care* covers a wide range of medical conditions, medical interventions, clinical providers and physical locations. Medical conditions range from minor illness and injury to serious and life-threatening emergencies. Pre-hospital interventions therefore also range from simple first aid to advanced emergency care and pre-hospital emergency anaesthesia. Care providers may be lay first responders, ambulance professionals, nurses or physicians of varying backgrounds.

1.3.2   All of this activity can take place in urban, rural or remote settings and is generally mixed with wider out-of-hospital and unscheduled care. The complexity of unscheduled and urgent care provision is illustrated in figure 1.1.[3] Another useful way to conceptualise this breadth of clinical providers is to use the levels of practice originally described in the Skills for Health Career Framework (figure 1.2).[4] The Career Framework describes the level of autonomy, responsibility and clinical decision-making expected of a healthcare provider operating at a particular level.

1.3.3   PHEM subspecialist practice relates to the *Emergency Response*, *Primary Scene Transfer* and *Secondary Emergency Transfer* functions highlighted in figure 1.1 at the level of the consultant (level 8) practitioner illustrated in figure 1.2. PHEM primarily relates to that area of medical care required for seriously ill or injured patients before they reach hospital (on-scene) or during emergency transfer to hospital (in-transit). **It represents a unique area of medical practice which requires the focused application of a defined range of knowledge and skills to a level not normally available outside hospital.**

1.3.4   There is a long-established tradition of provision of voluntary and charitable emergency pre-hospital care in the UK. Building on the success of these individuals

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[2]www.ibtphem.org.uk
[3]Direction of Travel for Urgent Care: a discussion document. Department of Health, October 2006
[4]skillsforhealth.org.uk/wp-content/uploads/2020/11/Career_framework_key_elements.pdf

and services, the aspiration of the IBTPHEM is that each NHS Ambulance Service should now have consistent, immediate access to deployable PHEM subspecialist services 24 hours a day.
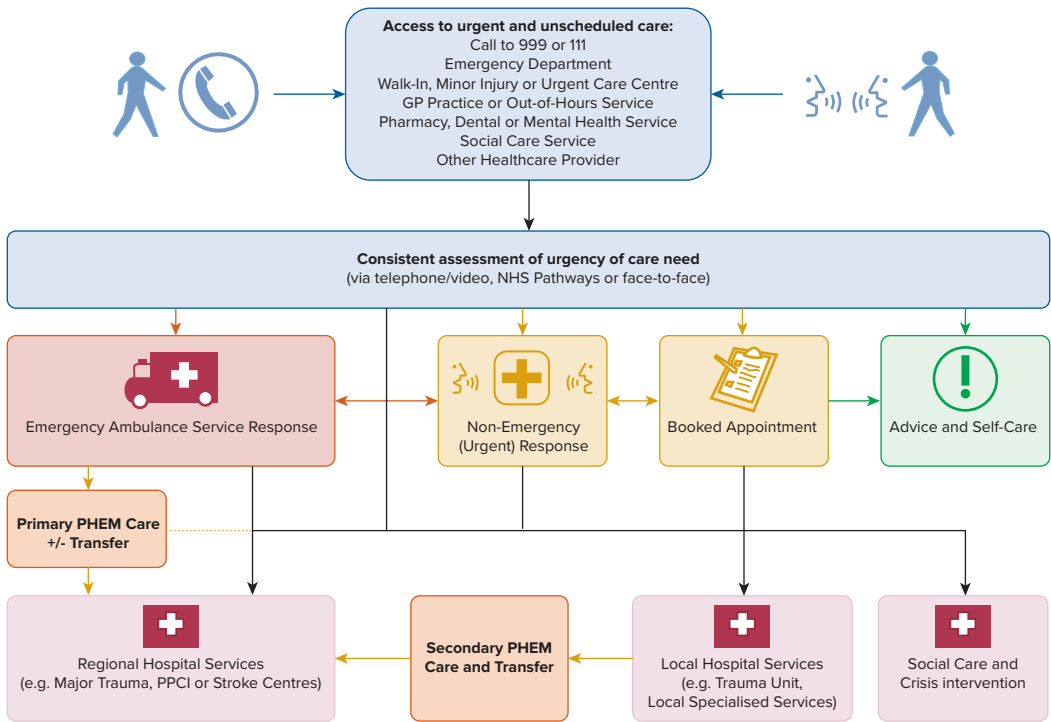
Figure 1.1 Conceptual model of effective urgent care. Adapted from: Direction of Travel for Urgent Care: a discussion document. Department of Health, October 2006.

Figure 1.2 Skills for Health Career Framework.

1.3.5   The IBTPHEM estimates that ten whole-time equivalent (WTE) PHEM subspecialist consultants would be required per region to fulfil the need and achieve the aspirations of the subspecialty. However, many regions encompass large populations and/or geographical areas and distinct PHEM services may be justified in several parts of the UK (perhaps more closely aligned to Major Trauma Centre outreach and retrieval services or Air Ambulance Services than to regional NHS Ambulance Services). Workforce estimates are based on 200 to 250 WTE consultants in PHEM across the UK. Given that all will have at least a 50% commitment to their base specialty, this equates to a head count of 600 to 750 subspecialty trained clinicians nationally. Since the inception of the subspecialty, numbers of training posts and LEPs have gradually increased. Over 100 clinicians have successfully completed training and 10 regional training programmes have been fully established. There continues to be oversubscription of recruitment and high demand for PHEM subspecialists – as evidenced by the ongoing expansion of service providers and post-training survey results showing continued engagement in consultant-level PHEM clinical practice.

1.3.6   The development of this cadre of subspecialty trained clinicians has not diminished or de-emphasised the importance of individuals (including non-specialist medical practitioners and allied health professionals such as paramedics and nurses) continuing to provide clinical service at different levels of the Skills for Health Framework. Instead, the subspecialty has proven to be a mechanism by which this area of medical activity can be aligned with other areas of specialist medical practice and existing practitioners can be better supported. The IBTPHEM also believes that addressing the key drivers for the development of the subspecialty (paragraph 2.1.1) will result in stronger medical leadership within all areas of pre-hospital clinical practice and help to develop services and standards across all levels of pre-hospital care.

1.3.7   The NHS Ambulance Services in the UK primarily deploy Health and Care Professions Council-registered paramedics. Specialist, Advanced and Consultant paramedics with a defined additional range of pre-hospital critical care knowledge and skills (often referred to as critical care paramedics) have also been trained in many regions.[5] Multi-professional teams are already essential for the provision of good hospital clinical and critical care and the combination of doctors, nurses and paramedics working closely together in pre-hospital care has been associated with effective operational services and good outcomes. The strengthening of education and training for doctors also supports the development of specialist paramedic practitioners and enhances the delivery of PHEM by doctor-paramedic teams.

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[5]collegeofparamedics.co.uk

IBTPHEM National Introductory Course
Trainees and Faculty
2017

Statement of Purpose

Section Outline

2.1   The Need for the Curriculum

2.1.1   The PHEM curriculum ensures that clinicians are trained to provide consultant-level specialist pre-hospital critical care and retrieval medicine support to patients, pre-hospital services and acute hospitals. Analysis of patient, population, professional and workforce needs has identified eleven drivers for the curriculum:

    a)   Optimising survivorship for patients seriously injured or critically ill[6,7,8]

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[6]Impact of a physician – critical care practitioner pre-hospital service in Wales on trauma survival: a retrospective analysis of linked registry data. Anaesthesia 2021.

[7]Prehospital critical care is associated with increased survival in adult trauma patients in Scotland. Emerg Med J 2020;37:141–5.

[8]Systematic review of the effectiveness of prehospital critical care following out-of-hospital cardiac arrest. Resuscitation 2017;114:40-46.

b) Meeting the continuing demand from NHS Ambulance Services for on-scene and in-transit medical support (sometimes referred to as pre-hospital *enhanced care*)[9,10,11,12,13]

c) Meeting the new recruitment demand from NHS-commissioned, 24/7 PHEM services, including Scotland's EMRS (Emergency Medical Retrieval Service)[14], EMRTS Wales (Emergency Medical Retrieval and Transfer Service)[15] and West Midlands Ambulance Service's MERIT (Medical Emergency Response Incident Team)[16]

d) Improving and maintaining the quality and standards of pre-hospital critical care and inter-hospital transfer[10,11,17,18,19,20,21,22,23,24]

e) Improving equity of access to on-scene and in-transit specialist pre-hospital medical support to NHS Ambulance Services[8,9,25]

f) Improving governance (the managed activities that assure quality and safety) within pre-hospital care and inter-hospital transfer services[26,27,28]

g) Achieving the Care Quality Commission fundamental standards for quality and safety in pre-hospital care[29]

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[9] A license to practice pre-hospital and retrieval medicine. Emerg Med J 2005;22:286-293.

[10] Availability and utilisation of physician-based pre-hospital critical care support to the NHS ambulance service in England, Wales and Northern Ireland. Emerg Med J 2012;29:177-181.

[11] Geo-temporal provision of pre-hospital emergency anaesthesia by UK Helicopter Emergency Medical Services: an observational cohort study. Br J Anaesth 2020; 124:571-578.

[12] NHS Clinical Advisory Groups Report: Regional Networks for Major Trauma. 2010:24.

[13] Brief history of Pre-Hospital Emergency Medicine. Emerg Med J 2018;35:146-148.

[14] www.emrsscotland.org

[15] emrts.nhs.wales

[16] wmas.nhs.uk/emergency-preparedness/

[17] Views regarding the provision of prehospital critical care in the UK. Emerg Med J 2009;26:365-370.

[18] AAGBI. Safer pre-hospital anaesthesia. Anaesthesia 2017;72:379-390.

[19] National Institute for Health and Care Excellence (NICE) Quality Standard: Trauma [QS166]. March 2018.

[20] Prehospital analysis of northern trauma outcome measures: the PHANTOM study. Emerg Med J 2019;36: 213-218.

[21] The Faculty of Intensive Care Medicine. Guidance on: The Transfer of the Critically Ill Adult. May 2019.

[22] AAGBI. Safety Guideline: Interhospital Transfer. February 2009.

[23] NICE Guideline 94: Emergency and acute medical care in over 16s: service delivery and organisation. March 2018. (Chapter 34 – Standardised systems of care for intra- and interhospital transfers.)

[24] Healthcare Safety Investigation Branch (HSIB). Transfer of Critically Ill Adults. Healthcare Safety Investigation I2017/002A. January 2019.

[25] Pre-hospital emergency medicine. Lancet 2015;386:2526-2534.

[26] Clinical governance in pre-hospital care. J R Soc Med 2001;94:38–42.

[27] Clinical governance and prehospital care in the UK. Emerg Med J 2011;28:91-216.

[28] Clinical Governance. ABC of Pre-Hospital Emergency Medicine. 2013:195-200.

[29] Care Quality Commission. A fresh start for the regulation of ambulance services. CQC-234.

h) Improving professional training and development of pre-hospital personnel[7,10,23,30]

i) Providing a consistent and effective medical incident response (MERIT) and Tactical/Strategic Medical Advisor capabilities[31,32,33]

j) Developing medical leadership for pre-hospital care services and providers[34]

k) Developing new understanding and techniques in pre-hospital care through scholarly activity in the pursuit of scientific discovery.[35,36,37]

2.1.2   The PHEM subspecialist role is uniquely challenging. The tempo of decision making, the hazards faced at incident scenes, the isolated working conditions, the environmental challenges, the resource limitations and the case mix all make this a very different activity compared to in-hospital practice.

2.1.3   No other curriculum in postgraduate medical education provides the framework for trainees to develop the necessary underpinning knowledge, technical skills and non-technical skills to provide safe PHEM across the spectrum of clinical and operational contexts.

2.2   **The Purpose of the Curriculum**

2.2.1   The curriculum is designed to train consultant-level subspecialists in PHEM, capable of providing high-quality emergency medical care on scene, as early as possible into a patient's critical illness or injury, and supporting the patient in transit to definitive hospital care. The curriculum ensures that these clinicians possess the expert knowledge, technical and non-technical skills required not only to manage the entire breadth of potential, time-sensitive, unexpected, acute emergencies of the populations they serve, but also to deliver this care safely and effectively across the range of diverse environments and circumstances, in which patients may find themselves.

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[30]Competence in prehospital care: evolving concepts. Emerg Med J 2005;22;516-519.

[31]Department of Health. NHS Emergency Planning Guidance: Planning for the development and deployment of Medical Emergency Response Incident Teams in the provision of advanced medical care at the scene of an incident. 2009.

[32]NHS England. Concept of Operations for the management of Mass Casualties. November 2017.

[33]NHS England. Clinical guidelines for major incidents and mass casualty events. February 2019.

[34]NHS Leadership Academy. The Healthcare Leadership Model (Version 1.0). 2013.

[35]NIHR Dissemination Centre. Care at the Scene: Research for ambulance services. April 2016.

[36]The top five research priorities in physician-provided pre-hospital critical care: a consensus report from a European research collaboration. Scand J Trauma Resusc Emerg Med 2011;19:57.

[37]Seven years since defining the top five research priorities in physician-provided pre-hospital critical care – what did it lead to and where are we now? Scand J Trauma Resusc Emerg Med 2018;26:101.

2.2.2   The combination of the generic and subspecialty specific themes of the curriculum ensures that these clinicians are also optimally prepared to maximise safety and quality, improve clinical governance, drive training and development, and provide medical leadership not only in the PHEM subspecialty domain, but also within the wider, multi-professional, emergency medical, hospital and healthcare systems, in which they work.

2.2.3   The curriculum defines the objectives, content and process of training, and the learning outcomes that need to be achieved for completion of PHEM subspecialty training. The trainee in PHEM will enter subspecialty training with a relatively high level of medical expertise in one of the three current base specialties (Emergency Medicine, Anaesthetics and Intensive Care Medicine) but with potentially little or no experience of how to apply that expertise in the pre-hospital environment. The curriculum is designed to build on this base specialty training and is delivered in three phases:

a) Phase 1(a)   Introductory training
b) Phase 1(b)   Developmental training
c) Phase 2   Consolidation training

2.2.4   The experience of the IBTPHEM and PHEM trainees is that in an indicative 12-month WTE PHEM subspecialty training programme, phase 1(a) would typically require 1 month, phase 1(b) would typically require 5 months, and phase 2 would typically require 6 months.

2.2.5   Phase 1(a) training (introductory) involves dedicated operational and clinical training to allow trainees to operate safely under direct supervision with a local education provider in phase 1(b). It comprises two components: a period of introductory operational training covering threat and error management, dynamic risk assessment and team resource management and a period of clinical training focused on the provision of specialist medical care in the pre-hospital setting.

2.2.6   Operational introductory training is conducted in simulated multi-disciplinary operational environments within a Fire and Rescue Service facility specifically designed for training in hazard recognition and management, rescue and extrication. Due to the paucity of training facilities, the high costs associated with access, and the need to complete operational training as early as possible, the IBTPHEM has created a residential National Introductory Course (Appendix F). The course brings together trainees and trainers from all LEPs and includes operational scenarios covering the full spectrum of pre-hospital clinical settings, including a multi-casualty incident. In acknowledgement of the relative isolation in which many PHEM trainees find themselves, the IBTPHEM National Introductory Course also introduces trainees

to the PHEM Trainees' Association (PHEMTA) and enables the formation of a peer support network. The course enables trainees to join LEPs with a high level of hazard awareness.

2.2.7   Following a local induction with the LEP, the clinical introductory training is based around the clinical policies and procedures in place at that LEP and the emergency medical system within which it operates. The syllabus is drawn from the wider PHEM syllabus according to the clinical practice of the LEP. Part-task and full-immersion simulation is used to learn and rehearse common clinical encounters and interventions. Throughout phase 1 (a), trainees begin to develop their capabilities across the phase 1(a) clinical knowledge and skills.

2.2.8   Phase 1(a) is typically delivered in an apprenticeship model with 100% direct consultant supervision. Formative assessment at the end of phase 1(a) allows progression to phase 1(b) training.

2.2.9   Phase 1(b) training (developmental) involves closely supervised operational practice and demonstration of the phase 1(a) and 1(b) clinical knowledge and skills. It ensures that trainees are able to make safe and competent judgements across the full spectrum of PHEM activity, including the more challenging and complex cases. An indicative minimum of 50% direct consultant supervision is provided, tailored to the individual needs of each trainee, and blended with support from the LEP multi-professional team and local trainers. Trainees are supported to progressively become more autonomous in their practice during this phase. Successful completion of the phase 1 national summative assessment (Diploma in Immediate Medical Care, DIMC) towards the end of phase 1, provides contributory evidence that trainees have achieved the learning outcomes of developmental training. A phase 1 STR (Structured Training Report) supports the base specialty ARCP (Annual Review of Competency Progression) processes and the recommendation to progress to phase 2.

2.2.10   Trainees in phase 2 (consolidation) are expected to develop a greater depth of knowledge and improved clinical performance, under progressively more indirect and remote supervision (paragraphs 5.2.13 and 5.2.14). An indicative minimum of 20% direct consultant supervision is provided. Trainees are supported in making safe and competent judgements and consolidating their knowledge and skills across the breadth of PHEM subspecialist practice. This phase may be undertaken with a different LEP to phase 1 to allow for exposure to a different case mix or pre-hospital environment. Successful completion of the phase 2 national summative assessment (Fellowship in Immediate Medical Care, FIMC) towards the end of phase 2, provides contributory evidence that trainees have achieved the learning outcomes of consolidation training. The STR and an end-of-programme Training Assessment Panel (TAP) review support the base specialty ARCP processes and the recommendation of completion of subspecialty training.

2.3   Scope of Practice

2.3.1   The IBTPHEM has consulted a wide range of individuals and organisations regarding the scope of practice of PHEM subspecialist consultants. Consensus has been reached: the subspecialist in PHEM needs to be capable of providing at-scene and in-transit clinical care to a level commensurate with independent consultant practice. The curriculum therefore encompasses the learning outcomes related to the underpinning knowledge, technical skills and non-technical (behavioural) skills required to achieve this.

2.3.2   *Pre-hospital* refers to all environments outside an emergency department resuscitation room or a place specifically designed for resuscitation and/or critical care in a healthcare setting. It usually relates to an incident scene, but it includes the ambulance or air ambulance environment or a remote medical facility. Implicit in this term is the universal need of this specific group of patients, for transfer to hospital. PHEM practice predominantly relates to a level of illness or injury that is usually not amenable to management in the community setting and is focused on critical care in the out-of-hospital environment.

2.3.3   *Critical care* refers to the provision of organ and/or system support in the management of severely ill or injured patients. It is a clinical process rather than a physical place and it requires the application of significant underpinning knowledge and technical skills to a level that is not ordinarily available outside hospital. Hospital-based critical care is typically divided into three levels: level three (intensive care areas providing multiple organ support), level two (high dependency medical or surgical care areas providing basic support for two or more organ systems) and level one (enhanced care in acute care areas with higher levels of observation and single organ support such as coronary care). In the context of PHEM, all three levels of critical care may be required depending on the needs of the patient. In practical terms, the critical care interventions undertaken outside hospitals most closely resemble those provided by hospital emergency departments, intensive care outreach services and inter-hospital transfer teams.

2.3.4   *Emergency Transfer* refers to the process of transporting a patient whilst maintaining in-transit clinical care. A distinction between retrieval and transport (or transfer) is sometimes made on the basis of the location of the patient (e.g. incident scene or acute hospital) and the composition or origins of the retrieval or transfer team. However, the competences required to primarily transport critically ill or injured patients from the incident scene to hospital are the same as those required for emergency secondary transfers within or between hospitals.

2.3.5   The subspecialist in PHEM is required to have achieved the learning outcomes across the spectrum of activities that constitute the clinical practice of PHEM:

a) Generic Professional Capabilities

b) Working in Emergency Medical Systems

c) Providing Pre-Hospital Emergency Medical Care

d) Using Pre-Hospital Equipment

e) Supporting Rescue and Extrication

f)   Supporting Safe Patient Transfer

g) Supporting Emergency Preparedness and Response

h) Operational Practice

i)   Team Resource Management

j)   Clinical Governance

2.3.6   On completion of training in one of the current base specialties, a PHEM subspecialist consultant is capable of fulfilling a number of career or employment roles. These include provision of on-scene, in-transit and/or on-line (telephone or radio) medical care in support of PHEM service providers such as:

a) NHS-commissioned PHEM services;

b) NHS Ambulance Trusts (e.g., as part of regional Medical Emergency Response Incident Teams (MERIT) or their equivalent, or in Tactical/Strategic Medical Advisor roles);

c) NHS Acute Hospitals (particularly regional specialist hospitals with an outreach and transfer capability);

d) The Defence Medical Services;

e) Non-NHS independent sector organisations such as immediate care schemes, air ambulance charities, event medicine providers, remote medical support services and commercial ambulance and retrieval services.

2.4   Learning Outcomes

2.4.1   The curriculum separates the PHEM consultant role into six subspecialty specific and four generic, cross-cutting "themes". Figure 2.1 illustrates the central importance of Generic Professional Capabilities and the relationship between the cross-cutting themes of Operational Practice, Team Resource Management and Clinical Governance and the six subspecialty specific themes. Figure 2.2 illustrates the spiral nature of the entire PHEM curriculum.
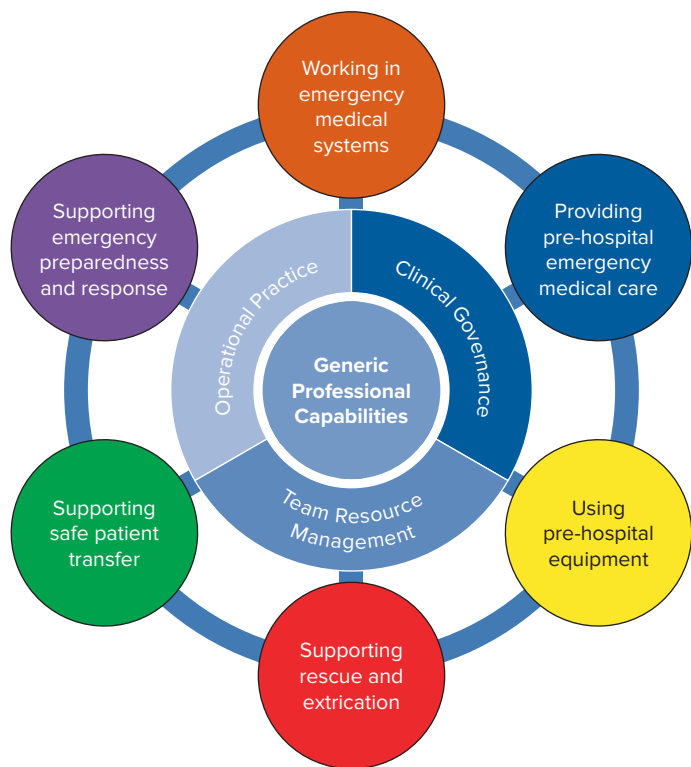
Figure 2.1 The relationship between the themes of the PHEM Curriculum.
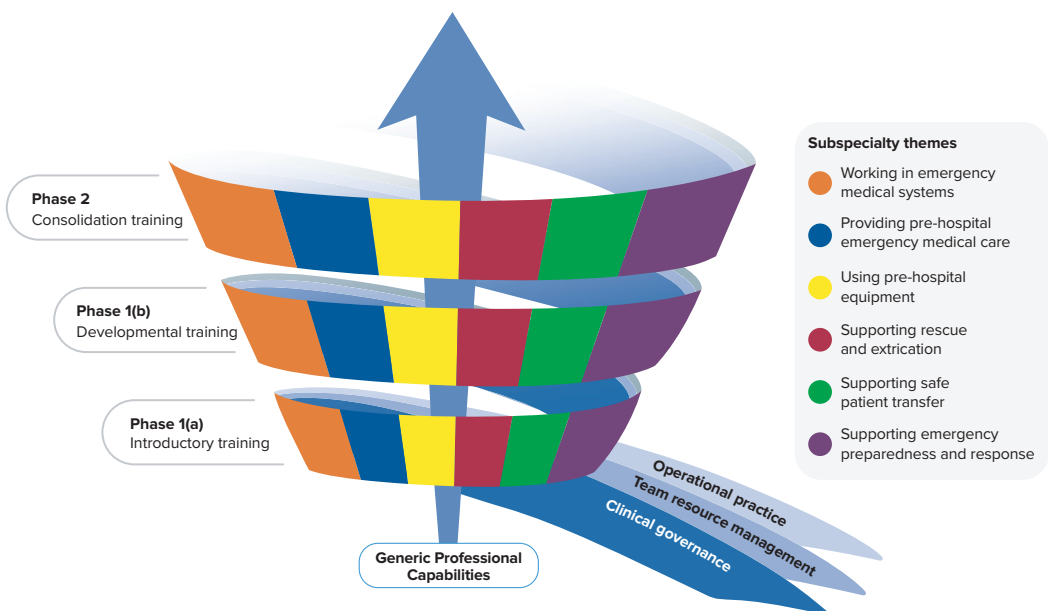
Figure 2.2 The spiral nature of the PHEM Curriculum.

2.4.2   A theme is a defined area of PHEM professional practice, for which high-level learning outcomes are described. A learning outcome is the expected level of performance a learner must acquire and demonstrate for each curriculum theme by the end of each phase of training. The ten themes, their related Generic Professional Capabilities (GPCs)[38] and their ultimate learning outcomes are presented in table 2.1.

Table 2.1   PHEM Subspecialty Training Learning Outcomes.

Theme			Learning Outcome	
Cross-Cutting Theme: **Generic Professional Capabilities**			**Relevant GPC domains are assigned to each capability in practice within the following themes.**	
Subspecialty Specific Theme		**GPCs**	**At the end of training, a clinician qualifying as a PHEM subspecialist practitioner will...**	
1	Working in Emergency Medical Systems	1 to 8	understand the interdependent components of wider Emergency Medical Service (EMS) systems, the way in which they interact and the wider regulatory framework surrounding them, in order to ensure effective professional practice in PHEM.	
2	Providing Pre-Hospital Emergency Medical Care	1 to 7	modify the established principles and techniques of emergency medical care in the hospital environment. They will possess a greater in-depth knowledge of resuscitation in all age groups, in order to provide effective emergency medical care in the relatively unsupported pre-hospital environment.	
3	Using Pre-Hospital Equipment	2, 3	be competent in the administration of medicines, and the application and operation of devices and portable equipment required in pre-hospital and in-transit emergency care, appreciating the principles underlying their function and design.	
4	Supporting Rescue and Extrication	1, 2, 5, 6	possess the underpinning knowledge, technical skills and non-technical skills required to manage a trapped patient and interact effectively with professional rescue service personnel in pre-hospital situations.	
5	Supporting Safe Patient Transfer	1, 2, 5, 6	make destination hospital triage decisions, select the most appropriate transport platform, provide safe, effective and focused in-transit critical care and ensure that the patient's condition and immediate needs are communicated to receiving hospital clinical staff.	
6	Supporting Emergency Preparedness and Response	1, 2, 5, 6, 7	be appropriately prepared and equipped for larger scale emergency incidents, by understanding the principles of emergency planning and major incident management.	
Cross-Cutting Theme		**GPCs**	**At the end of training, a clinician qualifying as a PHEM subspecialist practitioner will possess the knowledge, skills and non-technical skills required to...**	
A	Operational Practice	1 to 7	maintain safe and effective operational practice within a PHEM service, including when responding to incidents by road or air, utilising telecommunications, risk-assessing and managing incident scenes, and maintaining records.	

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[38]www.gmc-uk.org/education/standards-guidance-and-curricula/standards-and-outcomes/generic-professional-capabilities-framework

Table 2.1 (*Continued*).

Theme			Learning Outcome
B	Team Resource Management	1, 2, 5, 6	lead a multi-disciplinary team in the high-hazard, resource-limited, environmentally-challenging and time-pressured pre-hospital environment.
C	Clinical Governance	1, 3, 6, 8, 9	consistently apply clinical governance principles, techniques and mechanisms across the spectrum of pre-hospital service delivery.

2.4.3   Each theme comprises a number of discrete work roles or activities, referred to as "capabilities in practice". It is at this level that portfolio evidence is linked in order to help demonstrate both syllabus coverage and learning outcome achievement during each of phases 1 and 2. The syllabus relates each capability in practice to its corresponding GPC domains, so that linkage of evidence to a capability in practice from one of the nine PHEM subspecialty themes simultaneously evidences acquisition and demonstration of GPCs in the tenth, central theme.

2.4.4   Each capability in practice comprises a number of examples of underpinning knowledge, technical skills and non-technical (behavioural) skills, referred to as "descriptors". It is from this level that portfolio evidence and the national summative assessments can sample.

2.4.5   The pyramidal relationship of themes, learning outcomes, capabilities in practice and descriptors is illustrated in figure 2.3. The syllabus also relates each descriptor to recommended learning and assessment methods, and to the phases of training, making it clear which capabilities are expected of a newly-qualified consultant in PHEM across the four nations of the UK.
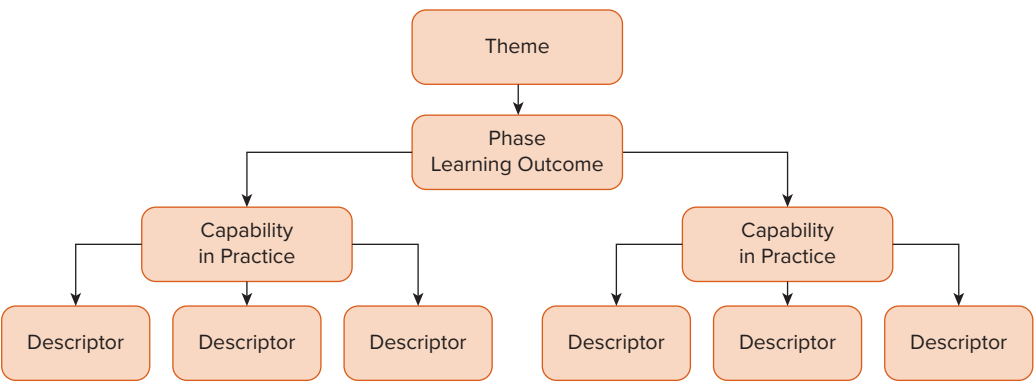
Figure 2.3   The pyramidal relationship of themes, learning outcomes, capabilities in practice and descriptors.

2.5 Key Interdependencies

2.5.1   This purpose statement was evaluated against the standards for postgraduate curricula by the GMC's Curriculum Oversight Group, made up of members of the four-nation UK Medical Education Reference Group. The Curriculum Oversight Group noted clear articulation of the purpose of the programme, and the alignment of the curriculum with service needs in pre-hospital care, critical care, patient transfer and stabilisation. This purpose statement has been endorsed by the GMC's Curriculum Oversight Group and confirmed as meeting the needs of the health services of the countries of the UK.

2.5.2   The curriculum content (syllabus) reflects historical consensus from NHS Ambulance Service, Acute Hospital, independent sector, Defence Medical Services and third sector pre-hospital education and provider organisations across the UK and condenses many years of educational and operational experience. It reflects the real-world challenges of training doctors to deliver high-quality and safe emergency medicine in the hazardous, environmentally challenging and safety-critical pre-hospital environment.

2.5.3   The curriculum was originally developed over a considerable time period using consensus development processes with trainees, other healthcare professionals and PHEM practitioners (Appendix A). This is the second major revision of the curriculum, since its inception and the IBTPHEM Curriculum Committee maintains multi-professional and base specialty representation, in order to continually identify and address key interdependencies (Appendix C).

2.5.4   The key interdependencies are with the current base specialty training programmes of Emergency Medicine, Anaesthetics and Intensive Care Medicine, the paramedic profession, NHS Ambulance Services, independent sector air ambulance and retrieval services, and the Defence Medical Services.

2.5.5   With regard to current base specialty training programmes, the PHEM subspecialty curriculum is regularly mapped to the curricula for Emergency Medicine, Anaesthetics and Intensive Care Medicine to ensure a common entry level and minimise unnecessary overlap as curricula evolve. Experience has shown that the curriculum complements and enhances base specialty training.

2.5.6   The curriculum requires LEPs to be directly engaged with NHS Ambulance Services and requires trainees to undertake team-based working with registered healthcare professionals, including paramedics and nurses. It also incorporates direct supervision by appropriately qualified pre-hospital practitioners.

2.6   Flexibility and Transferability of Learning Outcomes

2.6.1   PHEM subspecialty training takes time. Twelve months' WTE is recommended as the minimum required to assimilate the syllabus and, more importantly, develop the technical and non-technical skills required to operate safely in the complex pre-hospital environment. Deaneries and LEPs are able to design training programmes that integrate 12 months' PHEM training with base specialty training. Less than full-time trainees and academic trainees can also be accommodated in line with deanery processes.

2.6.2   PHEM training is currently undertaken after the successful achievement of the ST4 learning outcomes in the base specialties of Emergency Medicine, Anaesthetics and Intensive Care Medicine. As curricula evolve, the entry point is expected to reflect the successful achievement of learning outcomes, rather than a specific year of postgraduate training. Trainees will have demonstrated the ability to manage time-sensitive, undifferentiated, emergency presentations in hospital and can now learn how to do this safely and effectively out of hospital.

2.6.3   There are many possible ways of integrating PHEM training with base specialty training and there is considerable local flexibility. Experience has shown that three approaches may be followed to balance the acquisition of new subspecialty knowledge, skills and capabilities with the ongoing development of expertise in the base specialty:

    a)   a 24-month period of PHEM training **blended** with base specialty training (scheme A)

    b)   a 24-month period of **alternating** blocks of PHEM and base specialty training (scheme B)

    c)   a 12-month **continuous** period of PHEM training inserted into base specialty training (scheme C)

2.6.4   Scheme A typically comprises four six-month posts, each of which provide a blended mixture of PHEM and base specialty training that in total gives 12 months of PHEM training and 12 months of base specialty training over 24 months in a way that is complementary. Figure 2.4 illustrates the proportional split that has been found to be most successful. Experience has also shown that two 'paired' trainees are required for LEPs to effectively deliver scheme A.

2.6.5   Scheme B comprises alternating six-month posts of PHEM and base specialty training (figure 2.4). Scheme B may fit more conveniently with base specialty training placement rotations but the gap between phases 1 and 2 may present challenges. Scheme C comprises two full-time, six-month posts undertaken

outside of base specialty training (figure 2.5). Scheme C is considered to be an intensive programme. It is the preferred model for post-CCT (Certificate of Completion of Training) trainees.

12 months' WTE PHEM Subspecialty Training over 24 months

Scheme A: Blending of 12 months' PHEM Subspecialty Training with extended Base Specialty Training

| 6-month post 50% PHEM Phase 1 50% Base Specialty | 6-month post 50% PHEM Phase 1 50% Base Specialty | 6-month post 50% PHEM Phase 2 50% Base Specialty | 6-month post 50% PHEM Phase 2 50% Base Specialty |

Scheme B: Alternating 6-month blocks of PHEM Subspecialty and Base Specialty Training

| 6-month post Full-Time PHEM Phase 1 | 6-month post Full-Time Base Specialty | 6-month post Full-Time PHEM Phase 2 | 6-month post Full-Time Base Specialty |

Figure 2.4 Diagrammatic representation of scheme A and B training programmes.

12 months' WTE PHEM Subspecialty Training over 12 months

Scheme C: Addition of 12 months' PHEM Subspecialty Training at ST5/6/7 or Post-Base Specialty CCT

| 6-month post Full-Time PHEM Phase 1 | 6-month post Full-Time PHEM Phase 2 |
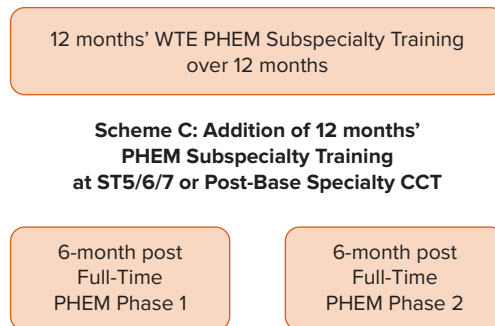
Figure 2.5 Diagrammatic representation of scheme C training programme.

2.6.6   All PHEM training programmes should be expected to extend base specialty training by an indicative 12 months although this may not be necessary depending on the base specialty structure and progression (figure 2.6). Experience has suggested that a blended model of training delivery (scheme A) is the preferred model for trainees with little or no previous PHEM experience as it allows more time for PHEM capabilities to develop and embed whilst retaining base specialty training experience. It also more closely reflects the future working pattern of a PHEM subspecialist consultant.
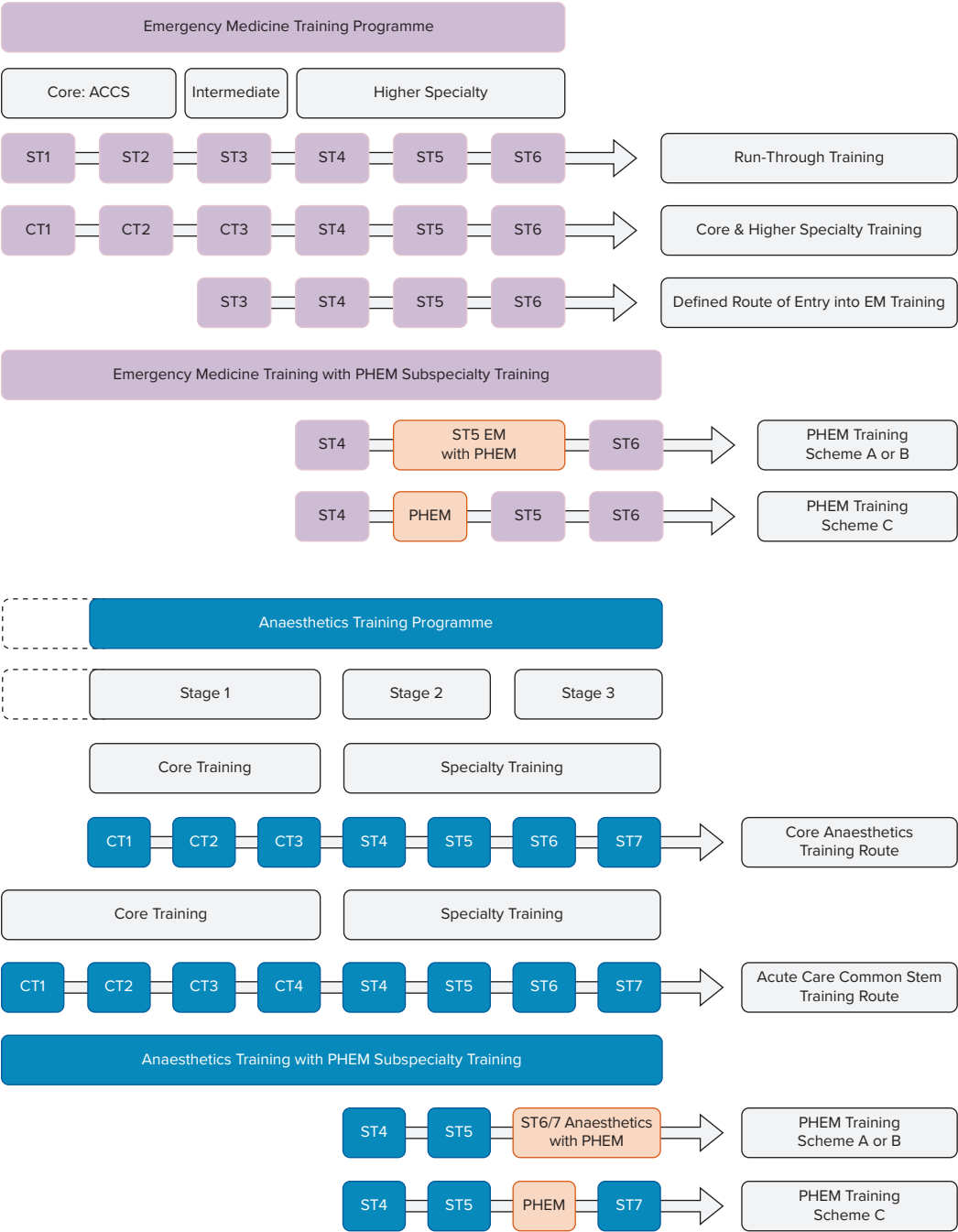
Figure 2.6   Comparison of PHEM training schemes and their current relationship to base specialty training pathways in (a) Emergency Medicine, (b) Anaesthetics and (c) Intensive Care Medicine.

Intensive Care Medicine Training Programme

| Stage 1 | Stage 2 | Stage 3 |

| Core Training | Specialty Training |

CT1 — CT2 — ST3 — ST4 — ST5 — ST6 — ST7 → Core Anaesthetic/Internal Medicine Training Route

| Core Training | Specialty Training |

CT1 — CT2 — CT3 — ST4 — ST5 — ST6 — ST7 → Acute Care Common Stem Training Route

Intensive Care Medicine Training with PHEM Subspecialty Training

ST4 — ST5/6 ICM with SSY: PHEM — ST7 → PHEM Training Scheme A or B

ST4 — SSY: PHEM — ST6 — ST7 → PHEM Training Scheme C

Figure 2.6 (*Continued*).

IBTPHEM National Introductory Course
Trainees and Faculty
2018

Section 3

Programme of Learning

Section Outline

3.1   Cross-Cutting Theme: Generic Professional Capabilities

3.1.1   The Generic Professional Capabilities (GPCs) Framework, provided by the GMC, comprises the interdependent, essential capabilities that underpin professional medical practice in the UK and are therefore a fundamental and integral part of all postgraduate training programmes for doctors.[39] Other healthcare professional regulators such as the Nursing and Midwifery Council and the Health and Care Professions Council provide similar guidance.

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[39]www.gmc-uk.org/education/standards-guidance-and-curricula/standards-and-outcomes/generic-professional-capabilities-framework

3.1.2   At the heart of the GPC Framework are the principles and professional responsibilities of doctors as set out in Good Medical Practice and associated GMC guidance. Along with other statutory and legal requirements placed upon doctors, these principles together describe medical professionalism in action.

3.1.3   The nine GPC domains, subsections and further detail are provided in the syllabus (Part Two). Within all PHEM subspecialty themes, relevant GPC domains and subsections are assigned to every PHEM capability in practice. This assignment ensures that the assessment tools used to assess and evidence a particular PHEM capability in practice also assess and evidence the related GPCs. Portfolio evidence is therefore linked to each capability in practice from each of the nine PHEM subspecialty themes, which simultaneously evidences acquisition and demonstration of GPCs in the tenth, central theme.

3.2   PHEM Subspecialty Specific and Cross-Cutting Themes

3.2.1   The nine PHEM subspecialty specific and cross-cutting themes, their high-level learning outcomes, capabilities in practice, and descriptors of underpinning knowledge, technical skills and non-technical (behavioural) skills are described in the syllabus (Part Two).

3.3   Learning Methods

3.3.1   The curriculum framework tables presented in Part Two:

a)   relate each PHEM capability in practice to the relevant GPC domain and subsection, ensuring that the assessment tools selected used for any particular PHEM capability in practice simultaneously assess and evidence the related Generic Professional Capabilities

b)   provide descriptors of underpinning knowledge, technical skill and non-technical (behavioural) skill and relate these to:
   i)   The phase of subspecialty training
   ii)   The recommended assessment methods (Section 4)
   iii)   The recommended learning methods

3.3.2   The recommended learning methods have been adapted from established learning methods within the specialties of Emergency Medicine, Anaesthetics and Intensive Care Medicine. They are described in table 3.1. These were applied during prototype Faculty of Pre-Hospital Care PHEM Training Fellowships and

further adapted according to the feedback provided by trainees, trainers and LEPs.[40]

3.3.3   Trainees in PHEM will be experienced adult learners with differing learning styles. The list of recommended learning methods should therefore be tailored to the individual. The list is not exhaustive but serves as a guide for trainees and trainers.

3.3.4   The IBTPHEM provides, through its Training Committee, training and guidance for trainers in relation to supporting these learning methods (Section 5).

Table 3.1   Recommended learning methods.

Method	Description
Directed Reading (DR)	Reading recommended texts, journal articles and monographs (both on- and offline)
Lectures and Tutorials (LT)	Use of lectures, small group teaching and tutorials (including practical skills sessions) where the learning is moderated by the teacher
Deliberate Practice (DP)	The repeated execution of a skill or task (with or without mentor present)
Simulation Learning (SL)	The simulation (at any level of fidelity and reality) of a situation in order to attain pre-determined learning objectives (e.g. simulated patients and/or incident scenes, training models, tabletop exercises)
Reflective Practice (RP)	Reflection upon past events to critique performance and so guide further development
Role modelling (RM)	Role modelling is a process that allows trainees to learn new behaviours without the trial and error of doing things for themselves
Collaborative Learning (CL)	Learning from multi-professional peers through discussion of situations, cases or concepts
Experiential Learning (EL)	Observation of or participation in events experienced by the learner

3.4   Management of Training

3.4.1   Subspecialty training in PHEM takes place in the context of UK-wide specialty training in Emergency Medicine, Anaesthetics and Intensive Care Medicine. The relationship between LEPs, organisations with statutory responsibility for postgraduate training, the IBTPHEM and the base specialties is illustrated in figure 3.1. For ease of reference, organisations with statutory responsibility for postgraduate training throughout the UK, such as Local Education and Training Boards in England, the NHS Education Scotland Deaneries, the Welsh Deanery and the Northern Ireland Medical and Dental Training Agency, are all referred to in this curriculum as "deaneries".

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[40]Subspecialty Training in Pre-Hospital Emergency Medicine. Supplementary guidance following consultation. 7 February 2011.
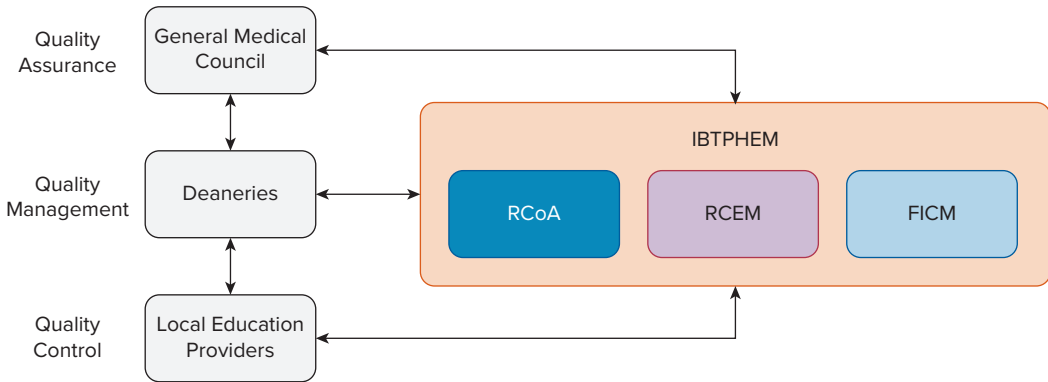
Figure 3.1 Quality framework for PHEM training and relationships between LEPs, the IBTPHEM, colleges, faculties, deaneries and the GMC.

3.4.2 The IBTPHEM is responsible for determining the duration, content and assessment of training in PHEM. Deaneries providing PHEM training programmes must comply with the GMC generic standards for training and should fulfil the IBTPHEM requirements for LEPs (Section 5).

3.4.3 Trainee and training programme management structures should reflect those in place for the base specialties. The deanery must have a PHEM regional training committee and a training programme director (TPD) who will be the trainee's point of contact.

3.4.4 All elements of work in training posts must be supervised with a level of supervision appropriate for the experience of the trainee and the clinical exposure and patient case mix. As training progresses, the trainee should have the opportunity for greater autonomy, consistent with safe and effective care for the patient. The indicative minimum rates of direct consultant supervision of trainees are:

    a)   Phase 1(a)   100%
    b)   Phase 1(b)   50%
    c)   Phase 2   20%

3.4.5 Trainees will at all times have a named educational supervisor (ES) and clinical supervisor (CS), responsible for overseeing their education. Depending on local arrangements, these roles may be combined into a single role of ES. The responsibilities of supervisors are as defined by the GMC and are reproduced in Section 5.

3.5   Progression through Training

3.5.1   The PHEM trainee is required to undertake an indicative 12 months' WTE PHEM subspecialty training period (in an approved PHEM training post) and successfully complete the required formative and summative assessments, in order to be recommended for a certificate of completion of PHEM subspecialty training.

3.5.2   Progression through training is dependent upon successful completion of formative and summative assessments and evidence of satisfactory progression through the syllabus. On appointment to a training post in PHEM, all trainees are required to register with the IBTPHEM in order that training numbers and progression can be monitored, and trainees can be given access to an electronic portfolio to facilitate maintenance of records of all aspects of training (duty hours, clinical cases, WPBAs, etc.). These records form an essential component of PHEM structured training reports (STRs).

3.5.3   Each trainee is responsible for ensuring that their portfolio is kept up-to-date, triggering and capturing WPBAs, recording their reflections on learning, preparing drafts of appraisal forms, maintaining their personal development plan, and recording their progress through the syllabus.

3.5.4   ESs and trainees should meet regularly and work together to gather this evidence of progression. When meeting with the trainee, the ES should discuss issues of clinical governance, risk management and any incidents involving the trainee. The ES should be part of the PHEM subspecialty clinical team. Thus, if the LEP clinical director/directorate has any concerns about the performance of the trainee, or there are issues of doctor or patient safety, these can be discussed directly with the ES.

3.5.5   Opportunities for timely and meaningful feedback to trainees about their performance will arise through the use of the WPBAs, regular appraisal meetings with supervisors, other meetings and discussions with supervisors and colleagues, and feedback from Faculty Educational Governance Statements (FEGSs, see paragraph 4.1.3), STRs and the TAP/ARCP.

3.5.6   A formal process of appraisal assists with training and development, ensures adequate supervision during training, and provides feedback to trainees. All appraisals should be recorded in the portfolio. The trainee and ES should have an appraisal meeting at the beginning of each post to review the trainee's progress, agree learning objectives for the post ahead and identify the learning opportunities available to cover the syllabus. A mid-point review meeting should be conducted during each post to ensure satisfactory progress is being made.

3.5.7   On completion of each placement, post or programme, trainees should review their progress with their ES, using portfolio evidence related to their current phase of training. If the appraisal identifies any shortcomings in performance or the

portfolio, the specific areas requiring further work or additional evidence (such as planned WPBAs) should be recorded. Significant concerns should be discussed with the TPD.

3.6   Duration of Training

3.6.1   Trainees are expected to undertake an indicative 12 months' WTE training in approved training posts. Training time must be agreed by the TPD and may require adjustment depending on a trainee's progress.

3.6.2   It is recognised that each training provider is likely to provide a slightly different clinical case mix or environment exposure. Services in large UK cities will, for example, offer different cases and challenges to services operating in remote and rural areas. Therefore, with the agreement of the TPDs and in the context of an approved programme, trainees may split their training between different LEPs.

3.7   Less Than Full-Time Training

3.7.1   Less than full-time (LTFT) training is available for all trainees in PHEM. These training posts require the approval of the base specialty training deanery TPD and the PHEM subspecialty training deanery Postgraduate Dean. LTFT training shall meet the same requirements as full-time training and the deanery shall ensure that the learning outcomes achieved and the quality of part-time training are not less than those of full-time trainees.

3.7.2   In order to comply with GMC guidance, retain competence and acquire new knowledge and skills, LTFT trainees would still be expected to work overall a minimum of 50% of full-time.

3.7.3   LTFT trainees should assume that their clinical training will be of pro-rata duration compared with the full-time indicated, but this should be reviewed during annual appraisal by their TPD, PHEM regional training committee and deanery.

3.8   Academic Training

3.8.1   There is currently no specific provision for academic training within the subspecialty program. Where appropriate, deaneries may integrate PHEM training with the academic training program. After completion of Academic Clinical Fellow and PhD posts an "academic" PHEM trainee would extend the Academic Clinical Lecturer post from 3 years to 4 years, integrating PHEM subspecialty training in exactly the same way that the subspecialty program integrates with base specialty training for trainees who are not in an academic training program.

3.9   Completion of Training

3.9.1   The PHEM trainee is required to undertake an indicative 12 months' WTE PHEM subspecialty training period (in an approved PHEM training post) and successfully complete the required formative and summative assessments (section 4), in order to be recommended for a certificate of completion of PHEM subspecialty training.

3.9.2   The IBTPHEM, via its national Training Assessment Panel (TAP), is responsible for making recommendations to the trainee's base specialty ARCP panel regarding eligibility for inclusion of subspecialty registration in PHEM on the specialist register.

3.9.3   Pre-CCT PHEM trainees will have recognition of PHEM subspecialty training included in their base specialty CCT application. The GMC will initiate the process once the base specialty training programme has been completed.

3.9.4   Post-CCT PHEM trainees will need to apply separately to the GMC for the addition of the PHEM subspecialty to their existing entry on the specialist register. The process for making this application is available from the GMC (www.gmc-uk.org).

3.10   Specialist Registration

3.10.1   Medical Practitioners are currently only eligible for PHEM to be added to their entry on the Specialist Register if (a) they hold a CCT or CESR (Certificate of Eligibility for Specialist Registration) in one of the approved base specialties and (b) they have completed a prospectively GMC-approved PHEM training programme.

3.10.2   To reflect the broad nature of pre-hospital emergency medical practice, the IBTPHEM continues to aim to expand the range of specialties for which PHEM subspecialty training can be accessed.

3.10.3   There is currently no mechanism for doctors who hold General Practice registration to have a subspecialty added to their entry on the Register. Given the historical contribution of General Practice to pre-hospital care, and recognising the challenges facing individuals working in remote, rural or isolated areas of the British Isles and/or in the Defence Medical Services, the IBTPHEM is exploring routes of access to PHEM subspecialty training for General Practice, as and when evolution of existing legislation and regulatory frameworks allow.

3.10.4   There are currently no fixed timescales for further expansion of specialties with access to PHEM subspecialty training. Any future access will align with the common entry standard shared by the current base specialties.

IBTPHEM National Introductory Course
Trainees and Faculty
2019

Section 4

Programme of Assessment

Section Outline

4.1   Introduction to Assessment

4.1.1   The purpose of assessment is to:

- facilitate learning and development
- evaluate progress and support transition through training
- ensure achievement of the generic professional and subspecialty specific capabilities relevant to the scope of practice
- ensure trainees acquire the essential underlying knowledge, technical skills and behaviours
- assure the profession and public regarding the standards of performance

- inform trainees' STRs and the ARCP, identifying any individual requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme

4.1.2   The integrated assessment system for PHEM mirrors, in many respects, the established assessment systems for the base specialties. It measures progress of trainees against the syllabus for subspecialist PHEM training and is composed of a mixture of formative WPBAs and summative assessments at the end of each phase.

4.1.3   The overall assessment system comprises:

a) a defined number of educational and appraisal meetings

b) a flexible number of workplace-based training and learning opportunities over the indicative twelve months WTE of subspecialty training

c) a locally managed structured formative assessment within the introductory phase of training

d) a nationally coordinated and managed structured summative assessment towards the end of each of the developmental and consolidation phases of training

e) a FEGS at the end of each of the developmental and consolidation phases of training. The FEGS is a formative assessment, which represents consensus from the LEP training faculty regarding the trainee's achievement of the learning outcomes expected by the end of phase 1 and phase 2 and are used to inform the STRs.

f) self-assessment and ES sign-off of the trainee's level of performance against each capability in practice at the end of each of the developmental and consolidation phases of training

g) a STR from the ES at the end of each of the developmental and consolidation phases of training

h) an overall summative review of training by the IBTPHEM TAP

4.2   Assessment Framework

4.2.1   The assessment framework utilises a combination of formative and summative assessment. Figure 4.1 illustrates the indicative duration of each phase of PHEM training and the relationship between continuous WPBAs and end-of-phase summative assessments for both phase 1 and phase 2.
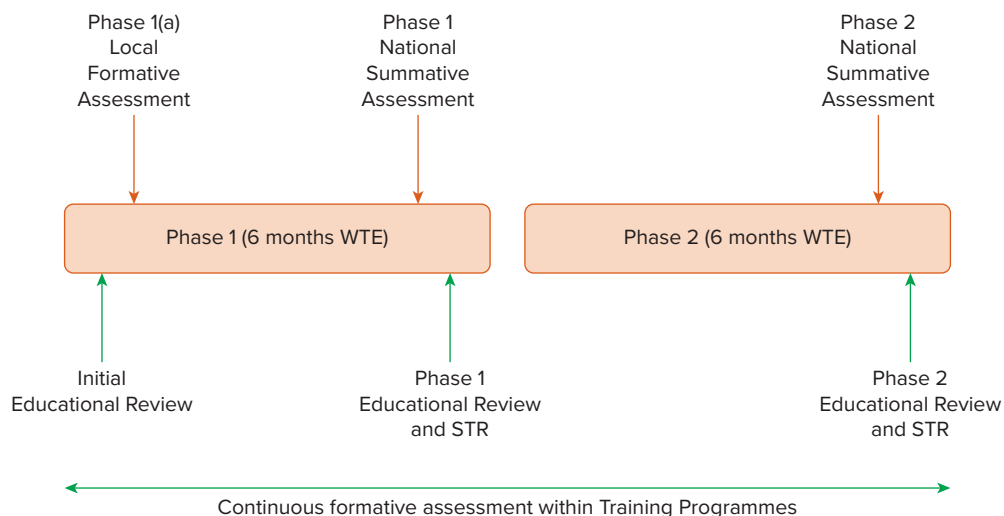
Figure 4.1 The 2 phases of PHEM subspecialist training with assessment types and timings.

4.2.2 Within PHEM subspecialty training, the majority of assessment is formative and conducted within training programmes. There are however key stages in training where there is formal assessment of the knowledge, technical skills and non-technical skills assimilated by that point. Evidence of completion of formative and summative assessments is summarised in the trainee's STR and will be required at ARCP. An overview of PHEM training and assessment is provided in table 4.1. The relationship of assessment methods during each phase is illustrated in figure 4.2.
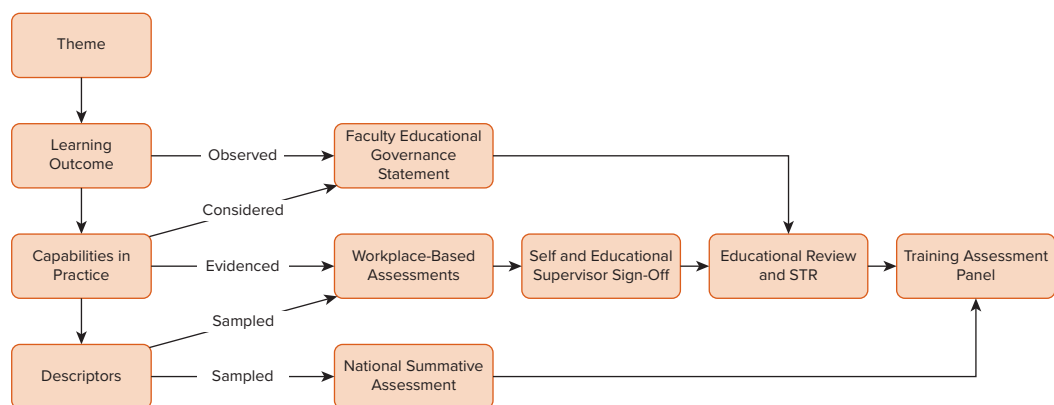
Figure 4.2 The triangulation of assessment methods during each of phase 1(b) and 2.

Table 4.1 Overview of PHEM training and assessment.

Phase of Subspecialty Training	Phase 1(a): Introductory Training	Phase 1(b): Developmental Training	Phase 2: Consolidation Training
Indicative Duration	1 month WTE	5 months WTE	6 months WTE
Training Experience	The introductory phase of training involves dedicated operational and clinical training to allow trainees to operate safely under direct supervision with a LEP. Throughout this phase, trainees will be oriented to the curriculum learning outcomes and be taught LEP-specific operational knowledge and skills. The introductory phase is delivered in an apprenticeship model with 100% direct consultant supervision. Formative assessment at the end of the introductory phase ensures safe transition to the developmental phase of training.	The developmental phase of training ensures that trainees are able to make safe and competent judgements across the wider spectrum of PHEM activity, including more challenging and complex cases. An indicative minimum of 50% direct consultant supervision tailored to the individual needs of each trainee, and blended with support from the multi-professional team and local trainers, allows trainees to progressively become more autonomous in their practice during this phase. A phase 1 STR combined with successful completion of the Diploma in Immediate Medical Care, provides assurance that trainees have achieved the learning outcomes of developmental training and supports the recommendation to transition to phase 2.	Trainees in the consolidation phase of training are expected to develop a greater depth of knowledge and improved clinical performance, under progressively more remote supervision. Trainees are supported in making safe and competent judgements and consolidating their knowledge and skills across the breadth of PHEM subspecialist practice. This phase may be undertaken with a different LEP to phase 1 to allow for exposure to a different case-mix or pre-hospital environment. A phase 2 STR combined with successful completion of the Fellowship in Immediate Medical Care and portfolio review by the end-of-programme TAP provides assurance that trainees have achieved all learning outcomes and supports the base specialty ARCP processes and the recommendation of completion of subspecialty training in PHEM.
Training Content	Operational introductory training (ideally the IBTPHEM National Introductory Course) followed by LEP induction, clinical introductory training and acquisition of LEP-specific knowledge and skills, with a specific focus on operational practice and individual, patient and team safety.	Continued supervised operational experience, where trainees are expected to progressively become more autonomous in their practice.	The trainee in the consolidation phase is expected to develop and apply a greater depth of knowledge and improved clinical performance with greater autonomy and more remote supervision.
Direct Consultant Supervision (Indicative Minimum Percentage)	100%	50%	20%

Table 4.1 (*Continued*).

Phase of Subspecialty Training	Phase 1(a): Introductory Training	Phase 1(b): Developmental Training	Phase 2: Consolidation Training
Purpose of Assessment	Ensure safe practice and support transition to developmental phase 1(b) of training.	Ensure proficiency across all phase 1 descriptors, at a level equivalent to medical practice expected in the later years of base specialty training. Enable transition to phase 2 (potentially with a different LEP) at a nationally recognised and defined level of knowledge and skill.	Ensure that all PHEM subspecialty curriculum learning outcomes have been achieved and demonstrated at the level of the newly qualified independent consultant practitioner.
Formal Assessment	Introductory phase 1(a) local formative assessment as per IBTPHEM guidance.	Summative assessment (DIMC), Multi-Source Feedback, FEGS, educational review (appraisal) and STR.	Summative assessment (FIMC), Multi-Source Feedback, FEGS, educational review (appraisal), STR and base specialty ARCP.

4.3   Formative Assessments

4.3.1   Formative assessments take place throughout PHEM training. Formative assessment is a supported, reflective process that aims to promote trainee learning and development. It is used to develop and support trainees as their understanding and experience increases. Trainers, peers, and other healthcare professionals can conduct formative assessments. They are, in a sense, a learning method and they relate closely to the Experiential Learning and Reflective Practice methods described in table 3.1.

4.3.2   Formative assessment tools can be used throughout PHEM training and are described in detail in paragraphs 4.6.5 to 4.6.15.

4.3.3   Multiple assessment tools can be used to assess each capability in practice and multiple capabilities in practice can be assessed with each tool. The number and variety of assessments that each trainee incorporates into their unique portfolio should reflect their clinical exposure. Some assessment tools are most effectively applied during, or soon after, provision of clinical care (including CEX, DOPS and OSAT), whilst others can be utilised at a later stage, for example: a case during a remotely supervised duty period being discussed retrospectively. The minimum numbers of formative assessments recommended by the IBTPHEM, as a guide for trainees, trainers and deaneries, recognise:

- the natural variation in clinical exposure and learning opportunities within and between training posts

- the variation in learning styles preferred by individual trainees
- the importance of empowering senior trainees to tailor their portfolios to their individual learning needs
- and the requirement for the portfolio to demonstrate to the IBTPHEM that each trainee has achieved all subspecialty learning outcomes and capabilities in practice.

4.3.4   While each trainee and ES are responsible for ensuring collection of sufficient evidence of adequate performance against every capability in practice across each of phases 1 and 2, the only assessment tools with recommended minimum numbers are the OSAT and MSF (10 and 1, respectively, for each of phases 1(b) and 2). Experience has shown that these minimum numbers of assessments are easily achievable, and the IBTPHEM believes that they will allow adequate sampling from the syllabus and reflect the importance of direct consultant supervision and training in the PHEM subspecialty.

4.3.5   In addition to formative WPBAs throughout training, trainees will undergo a locally organised structured formative assessment at the end of phase 1(a). This assessment, typically 4 to 6 weeks after commencing training, is analogous to the Anaesthetic Initial Assessment of Competence at 3 months. It is intended to support the trainee in progressing to phase 1(b) and satisfy the needs of the LEP in relation to evidence of assimilation of:

a)   capabilities in practice and phase 1(a) descriptors of the syllabus

b)   LEP safety policies and procedures

c)   LEP clinical policies and procedures

4.3.6   The local formative assessment is delivered by the LEP. The LEP should set out clearly what is required and transparently assess objectively against these requirements. It is recommended that the assessment is conducted by CSs or ESs with input from the wider multidisciplinary team. The local formative assessment should comprise:

a)   a structured assessment using simulation, task-focused practical assessments and an assessment of knowledge by oral or written assessment

b)   an observed duty period

4.3.7   Success at the local formative assessment ensures safe transition from phase 1(a) introductory training to phase 1(b) developmental training with associated tapering of direct consultant supervision.

4.4   Summative Assessments

4.4.1   Summative assessment refers to the assessment of learning at a particular time. It is used to assess progression through training, support transition through training phases and confirm achievement of capabilities in practice. Summative assessments are only conducted by formally trained assessors.

4.4.2   There are two components to summative assessment within the overall assessment system:

- two national summative assessments: the Diploma in Immediate Medical Care (DIMC) towards the end of phase 1 and the Fellowship in Immediate Medical Care (FIMC) towards the end of phase 2
- two STRs which draw on the results of both formative and summative assessments and are used to inform the TAP and ARCP processes and determine progression through and completion of training

4.4.3   The national summative assessments are conducted on behalf of the IBTPHEM by the Royal College of Surgeons of Edinburgh (RCSEd). The DIMC and FIMC examinations fulfil the function of the national summative assessments. The DIMC and FIMC exams are typically conducted twice a year in January and July. Detailed regulations and guidance pertaining to the DIMC and FIMC, including the dates, application processes and fees are available on the RCSEd website (www.rcsed.ac.uk).

4.4.4   The DIMC is a test of underpinning knowledge and skill. It assures that subspecialty trainees have assimilated (and can demonstrate) the relevant underpinning knowledge and skills expected at that level of specialist training. For the DIMC, the candidate is expected to be able to apply the underpinning knowledge and skills across all phase 1(a) and phase 1(b) descriptors in the syllabus. This is equivalent to medical practice expected in later specialty training years (ST5/6). A person is eligible for the DIMC after completion of an indicative 5 months' WTE training in PHEM.

4.4.5   The FIMC assures that subspecialty trainees have assimilated and can demonstrate the capabilities in practice of the PHEM subspecialty syllabus to the standard expected of a newly qualified independent (level 8) consultant practitioner in PHEM. This is equivalent to independent clinical practice with high levels of underpinning knowledge, technical expertise and clinical experience across all descriptors of the syllabus. A person is eligible for the FIMC after completion of an indicative 11 months' WTE training in PHEM and successful completion of the DIMC.

4.4.6   The DIMC is blueprinted against the phase 1 descriptors of the syllabus, whereas the FIMC is blueprinted against the whole syllabus (with added emphasis on phase 2 descriptors). The assessments have an identical format with two parts (A and B).

4.4.7 Part A is a single best answer (SBA) question paper of 180 minutes duration containing 180 questions.

4.4.8 Within the Part A exam, the exam aims to sample questions from the PHEM syllabus in the proportions described in table 4.2. Note that 25% of the questions will typically relate to neonates, infants or children.

Table 4.2 Sampling of single best answer questions from the PHEM syllabus for DIMC and FIMC part A written exams.

PHEM Subspecialty Curriculum Themes		SBA Questions in each Exam	Proportion of each Exam
Cross-Cutting Theme: Generic Professional Capabilities		9	5%
Subspecialty Specific Themes			
1	Working in Emergency Medical Systems	18	10%
2	Providing Pre-Hospital Emergency Medical Care	54	30%
3	Using Pre-Hospital Equipment	18	10%
4	Supporting Rescue and Extrication	18	10%
5	Supporting Safe Patient Transfer	18	10%
6	Supporting Emergency Preparedness and Response	18	10%
Cross-Cutting Themes			
A	Operational Practice	9	5%
B	Team Resource Management	9	5%
C	Clinical Governance	9	5%

4.4.9 Part B is an Objective Structured Practical Examination (OSPE). The OSPE will normally consist of 14 OSPE testing stations. Twelve of the stations will each be of 8 minutes duration and two will either be of 16 minutes duration for the DIMC or 24 minutes duration for the FIMC. Each 24-minute OSPE will involve high-fidelity simulation of a pre-hospital clinical scenario. The OSPE is intended to cover the technical skills in the syllabus pertinent to the phase of training. Note that 25% of the stations will typically relate to neonates, infants or children (three or four stations in each examination diet).

4.4.10 Candidates pass or fail Part A based on how their total score compares to the pass mark for the exam. The pass mark in each exam is determined in advance following a standard-setting exercise conducted by the panel of examiners. Examiners are formally appointed and trained by the RCSEd according to defined criteria agreed with the IBTPHEM Assessment Committee. The panel utilises the Angoff method of standard-setting.

4.4.11   For Part B, each station is marked using a predetermined item checklist reflecting the complexity and length of the station. The contribution to the pass mark from each station is determined using an appropriate standard-setting method (borderline regression or modified Angoff method, based on the number of candidates in each examination diet). The contributions to the pass mark from each of the 14 stations are summed to obtain the pass mark for the whole assessment.

4.4.12   The two full-immersion high-fidelity human simulations in Part B of the FIMC involve a critically ill or injured adult or child in a simulated pre-hospital or emergency inter-facility transfer scenario. The clinical equipment available for these simulations is identical to that used across the DIMC and FIMC OSPEs and is standardised across examination diets and made available in advance. The expected clinical course will be determined prior to the assessment and be related to specified capabilities in practice and descriptors of the syllabus. Each simulation will be marked collaboratively by at least two assessors using a marking sheet with specific components for underpinning knowledge, technical skills and non-technical skills relevant to the simulation and the expected clinical course. The marking sheet will indicate whether the relevant descriptors were demonstrated in a manner which reflected predetermined criteria for acceptable practice.

4.4.13   Wherever non-technical skills are assessed within the DIMC and FIMC OSPEs, the Aberdeen University established framework for observing and rating non-technical skills is used. This framework comprises four categories (Task Management, Team Working, Situational Awareness and Decision-Making). Examiners are asked to make a binary decision regarding whether the candidate demonstrated the relevant non-technical skills at an acceptable level or not. This judgement is based on behavioural markers for good and for poor practice (table 4.3).

Table 4.3   Non-technical skills assessment framework for DIMC and FIMC OSPE exams.

Components	Behavioural Markers of Good Practice	Behavioural Markers for Poor Practice
Task Management		
Planning and Preparing	Identifies resources that are available	Fails to utilise available resources
	Allocates tasks to appropriate member(s) of the team	Overloads team members with tasks
Prioritising		Does not recognise when task load is unworkable
	Ensures time is free for busy/critical periods	
Providing and Maintaining Standards	Requests additional resources if needed	Does not request necessary resources
Identifying and Utilising Resources		

Table 4.3 (*Continued*).

Components	Behavioural Markers of Good Practice	Behavioural Markers for Poor Practice
Teamworking		
Coordinating Activities with Team	Confirms roles and responsibilities of team members Discusses care with colleagues Considers requirements of others before acting Cooperates with others to achieve goals	Does not coordinate with other team members, teams or groups Relies too much on familiarity of team for getting things done – makes assumptions, takes things for granted Intervenes without informing/ involving others Does not involve team in tasks
Exchanging Information	Gives situation updates/reports key events Confirms shared understanding Communicates case plans and other relevant information to appropriate people Maintains clear case documentation	Does not inform team of plan or subsequent alterations Gives inadequate handover briefing Does not include relevant people in communications Fails to express concerns in a clear and precise manner
Using Authority and Assertiveness	Makes requirements known with necessary level of assertiveness Takes over task leadership as required Gives clear orders to team members States case and provides justification	Does not challenge senior colleagues Does not allow others to put forward their case Fails to attempt to resolve conflicts Does not advocate position when required
Assessing Capabilities	Calls for assistance when it is needed Asks new team member about their experience Notices that a team member does not perform a task to the expected standard Adapts level of monitoring to expertise of other team members	Does not ask if trainee/assistant can cope with task Allows team to accept care beyond level of expertise Does not pay attention to the performance of other members of the team Joins established team without ascertaining their capabilities Fails to respond to obvious cues of fatigue – person yawning, not remembering simple instructions, etc.
Supporting Others	Acknowledges concerns of others Provides reassurance/encouragement Debriefs and thanks team after a difficult case Anticipates when colleagues will need equipment/information	Asks for information at difficult/high workload time for someone else Does not offer assistance to team members Fails to recognise needs of others requiring task reallocation Uses a dismissive tone in response to requests from others

Table 4.3 (*Continued*).

Components	Behavioural Markers of Good Practice	Behavioural Markers for Poor Practice
Situational Awareness		
Gathering Information	Obtains and documents patient information Conducts frequent scan of the environment Collects information from team to identify problem Watches procedures, verifying status required Cross-checks information to increase reliability	Reduces level of monitoring because of distractions Responds to individual cues without confirmation Does not alter physical layout of workspace to improve data visibility Does not ask questions to orient self to situation during handover
Recognising and Understanding	Increases frequency of monitoring in response to patient condition Informs others of seriousness of situation Describes pattern of cues and their meaning to other team members	Does not respond to changes in patient state Carries out inappropriate course of action Silences alarms without investigation
Anticipating	Keeps ahead of the situation by providing care Reviews the effects of an intervention Sets and communicates intervention thresholds Takes action to avoid or mitigate potential problems	Does not consider potential problems associated with condition/care Fails to increase level of monitoring in keeping with patient condition Is caught unawares by clinical actions Does not foresee undesirable drug problems
Decision-Making		
Identifying Options	Generates options for decisions Discusses various critical care techniques with team and patient Asks other team members for suggestions on a difficult case	Even though time is available jumps straight to one option without considering alternatives Fails to ask other team members for options, when appropriate Ignores suggestions from other team members
Balancing Risks & Selecting Options	Considers risks of different treatment options Weighs up factors with respect to patient's condition Assesses time criticality associated with possible options Implements chosen option	Does not find out about the risks associated with an unfamiliar condition, treatment or drug Does not preview courses of action with relevant people to assess their suitability Fails to review possible options with the team
Re-evaluating	Re-assesses patient after treatment or intervention Reviews situation, if decision was to wait and see Continues to list options as patient's condition evolves	Fails to allow adequate time for intervention to take effect Fails to include other team members in re-evaluation Is unwilling to revise course of action in light of new information

4.5   Assessment Blueprint

4.5.1   The Syllabus and Assessment Blueprint is detailed in Part Two and presented in the form of ten theme tables:

- Cross-Cutting Theme: Generic Professional Capabilities

- Subspecialty Theme 1:   Working in Emergency Medical Systems
- Subspecialty Theme 2:   Providing Pre-Hospital Emergency Medical care
- Subspecialty Theme 3:   Using Pre-Hospital Equipment
- Subspecialty Theme 4:   Supporting Rescue and Extrication
- Subspecialty Theme 5:   Supporting Safe Patient Transfer
- Subspecialty Theme 6:   Supporting Emergency Preparedness and Response

- Cross-cutting Theme A: Operational Practice
- Cross-cutting Theme B: Team Resource Management
- Cross-cutting Theme C: Clinical Governance

4.5.2   The first syllabus theme table relates to the central role of Generic Professional Capabilities (GPCs). In contrast to the other tables, no specific learning or assessment methods are listed. This is because GPCs have been incorporated into all themes and capabilities in practice of the PHEM syllabus.

4.5.3   The subsequent syllabus learning objective tables describe the theme, capability in practice and descriptor type in terms of underpinning knowledge (UK), technical skill (TS) and non-technical skill (NTS). The "A" column indicates the earliest formal assessment in which an individual descriptor can be assessed. Note that phase 1 is subdivided into phase 1(a) and phase 1(b) to reflect the introductory and developmental phases of training. The tables then provide recommended learning and assessment methods as defined in table 3.1 and section 4.6. All may be used to inform the STR and, in turn, the TAP and ARCP. Only one method demonstrating the expected level of performance needs to be used for an individual capability in practice.

4.5.4   The final GPC column in the syllabus learning objective tables indicates the relationship between the individual capability in practice and the GPC domains. The domains indicated are the dominant domains for that capability in practice.

4.5.5   Throughout the syllabus, consistent language has been used to ensure common understanding of each descriptor of underpinning knowledge, technical skill or non-technical skill. The definition used for each descriptor verb is shown in table 4.4.

Table 4.4 Syllabus descriptor verbs (from the Concise Oxford English Dictionary).

Descriptor Verb	Definition
Describe	Give a detailed account of (someone or something) in words
List	Make a list of
Explain	Make something clear by providing more detail
Define	State or describe exactly the nature, or meaning of
Demonstrate	Give a practical exhibition and explanation of
Critique	Evaluate in a detailed and analytical way
Contrast	Compare so as to emphasise differences
Select	Carefully choose as being the best or most suitable
Categorise	Place in a particular category; classify
Differentiate	Recognise or identify as different; distinguish
Analyse	Examine methodically and in detail for the purposes of explanation or interpretation

4.6   Assessment Tools

4.6.1   The Assessment Blueprint in Part Two details the range of assessment tools recommended for each descriptor within each capability in practice. Appropriate assessment tools have been selected from the range already in use by the base specialties.

4.6.2   Assessment tools are available within the electronic portfolio system.

4.6.3   Medical trainers (CSs and ESs) are required to provide formal supervision and the mandatory component of direct supervision. It is expected that the majority of WPBAs can be provided by consultants involved in the direct supervision component of PHEM training.

4.6.4   Local trainers (experienced members of the pre-hospital team who provide training and educational support for trainees on a day-to-day basis) may, provided that they have undertaken the appropriate training, conduct WPBAs. These local trainers do not need to be medically qualified and are not required to meet the GMC or deanery eligibility requirements for a medical trainer. Local trainers can be paramedics or nurses, with whom the trainee is working closely. Local trainers can be the assessor for any WPBA, except the OSAT.

4.6.5   The Observed Shift Assessment Tool (OSAT) assesses and facilitates feedback on a trainee's performance across technical and non-technical skills throughout an entire, directly supervised clinical shift. It enables feedback on multiple domains of senior practice in the PHEM environment and utilises a grading structure of 1 to 4, indicating the level of performance. Only a consultant doctor, who has been responsible for the direct supervision of the duty period can be the assessor for an OSAT. This tool should only be used formatively. Trainees should

aim to complete 20 OSAT formative assessments during their PHEM training: 10 across phase 1(b) and 10 across phase 2. As with all WPBAs, syllabus linkage of the evidence provided occurs at the level of capabilities in practice.

4.6.6   The Clinical Evaluation Exercise (CEX) evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history-taking, examination and clinical reasoning. The trainee receives immediate feedback to facilitate learning. The CEX can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is present.

4.6.7   A Direct Observation of Procedural Skills (DOPS) evaluates the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify areas of good practice and areas for development.

4.6.8   The Case-based Discussion (CbD) assesses the performance of a trainee in their management of a patient or clinical situation to provide an indication of competence in areas such as clinical reasoning, decision-making and application of knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CbD can take the form of a structured conversation and/or review of written or audiovisual records. The assessor does not need to have been physically present at the incident scene. The CbD can also be used for assessing the more generic, and less clinical, knowledge and skills needed for effective practice, e.g. evidence-based practice, maintaining safety, teamwork, clinical research methods, etc.

4.6.9   The PHEM syllabus requires that trainees develop skills and behaviours that allow them to manage rare and critically important events. Simulated situations allow trainees' skills to be tested before practising in live situations and also for trainees to be exposed to a range of situations that would not normally be encountered in a single year of training, but are within the scope of practice of a PHEM consultant. They can be repeated as guided by the learner's needs and performance.

4.6.10   As well as technical skills, full case simulation (SIM) assesses non-technical skills such as task management, team-working, situational awareness and decision-making. Simulation does not require complex technology; high-fidelity situations can be achieved with low- or intermediate-fidelity technology. Models or mannequins can be used for invasive procedures; actors can be used to assess communication and teamwork. PHEM simulations should be carefully structured with key learning points derived from audit and review of real-life cases. PHEM simulations should be delivered, wherever possible, within appropriate contexts, e.g. in an ambulance, motor vehicle wreckage or other hostile environments frequently encountered in pre-hospital practice. By using simulators for formative assessments regularly during

PHEM training, trainees will be familiar with the modality, facilitating its successful use in summative assessments.

4.6.11   The Teaching Observation (TO) tool provides structured, formative feedback to trainees on their competence at teaching. The Teaching Observation can be based on any instance of formal teaching by the trainee, which has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors). Teaching Observation is a formative assessment of complex knowledge and skills, requiring the teacher to demonstrate competence (and often mastery).

4.6.12   The Multi-Source Feedback (MSF) assesses generic skills such as communication, leadership, team-working and reliability across the domains of Generic Professional Capabilities. This provides objective systematic collection and feedback on a trainee's performance, derived from a range of colleagues. 'Raters' are individuals with whom the trainee works, including doctors, critical care paramedic and/or nurse practitioners, aviators, administrators, and other allied healthcare professionals. The trainee does not see the individual responses by raters and formative feedback is given to the trainee by the educational supervisor. An MSF is required in each phase of PHEM training. Trainees should aim for a minimum of 10 respondents for each MSF.

4.6.13   A Knowledge Test (KT) is a written assessment of underpinning knowledge.

4.6.14   A Reflective Entry (REF) allows a trainee to capture their personal reflection upon a past event and critique their own performance. Clear learning outcomes should be articulated, in order to guide further development. Reflective Entries are a recommended assessment method for all PHEM capabilities in practice.

4.6.15   The portfolio and logbook (LOG) provide information to support the TAP and ARCP in relation to clinical case mix, operational experience and achievement of capabilities in practice across the full spectrum of the syllabus. The portfolio informs the STR process and should record all educational activity, including formative assessments.

4.7   Use of Assessment Tools

4.7.1   The assessment tools mirror those in place for base specialties. The assessment tools and guidance notes are available within the assessment section of the electronic portfolio system. In addition, printable templates for each tool are available on the IBTPHEM website (www.ibtphem.org.uk), along with guidance notes for rating satisfactory or unsatisfactory performance.

4.7.2   The following example illustrates how the Observed Shift Assessment Tool (OSAT) can be used to support formative assessment of a trainee, linking content to the syllabus capabilities in practice.

Trainee	Johnny Utah	Training Phase	1(b)
Consultant Assessor	Bodhi Sattva		
Shift Type	Day Shift	**Date**	02/09/2020
Duty Period and Level of Responsibility	07:00 to 19:00 Taking the lead for patient care with direct consultant supervision		
Shift Timeline	07:00 - Equipment and radio checks and donning PPE 07:05 - Briefing for aviation operations and medical provision 07:15 - Set up of aircraft 07:30 - Checks of aircraft and car against checklists 08:00 - Checks of drugs and equipment, including batteries 09:00 - Simulation and debrief 10:32 - First incident attended by aircraft: patient conveyed to hospital by air 12:35 - Second incident attended by aircraft: patient pronounced life extinct at the scene 14:28 - Third incident attended by car due to change in weather: patient conveyed by ground ambulance to hospital 18:15 - Debrief of all three incidents 19:00 - Handover to oncoming team 19:30 - End of shift		
Training Undertaken	Simulation and discussion of a case of an 8-year-old patient with severe diabetic ketoacidosis and coma Discussion regarding children's regional critical care services regionally and nationally Discussion of the utility of pre-hospital blood gas measurement and practical troubleshooting Discussion of regional web-based cognitive aides On-the-job training with an adult patient with cardiogenic shock and acute myocardial infarction, needing long-distance, time-critical transfer to a primary coronary intervention centre On-the-job training and debrief with an adult patient with traumatic cardiac arrest, who died at scene On-the-job training and exposure with an adult patient suffering an inferior dislocation of their shoulder, requiring procedural sedation and relocation		
Other Activity Undertaken	Following a question from a student paramedic during the debrief of the trauma cardiac arrest case, Johnny provided a teaching session on the principles and management of traumatic cardiac arrest.		
PHEM Capabilities in Practice Covered	1.3 Understand the training and regulation of pre-hospital healthcare personnel 1.4 Understand the process of ambulance emergency call handling, prioritisation, dispatch categorisation and resource management 2.1 Assess patients in the pre-hospital phase 2.2 Provide immediate pre-hospital clinical care 2.5 Manage injuries in the pre-hospital environment 2.6 Provide analgesia, procedural sedation and anaesthesia in the pre-hospital environment 3.1 Apply equipment governance principles and practice 3.2 Understand and use personal protective equipment 3.3 Operate all types of commonly used pre-hospital emergency medical devices 3.5 Manage and administer medicines 4.1 Work within the rescue environment 4.3 Support extrication 4.4 Clinically manage the trapped patient 5.4 Prepare patients for transport 5.6 Clinically manage patients during transport B.1 Understand human factors and their role in patient and team safety B.2 Maintain situational awareness B.4 Communicate effectively B.5 Employ effective team working		

Component	Comments
Equipment Preparation and Brief	Johnny knows the equipment used by this service very well and arrives early to ensure he is ready for the start of the shift.
	He participates actively in the shift briefing process. He is able to lead the medical component of the briefing and is attentive during the aviation component.
Non-Clinical Time Management	Johnny uses his non-clinical time to good effect. He actively organised a simulation of a recent case he had attended on another shift (diabetic ketoacidosis in a child). His organisation of this made the simulation flow easily and the resulting discussion was highly productive.
Training Undertaken	Johnny engaged fully with the discussions during the shift. He demonstrated knowledge from reading around subjects and made note of key principles that he needed to explore further.
Mission Planning	On route to the 2 cardiac patients, Johnny ensured that clear prioritization discussions and worst-case scenario planning discussion occurred. These discussions were sensitive to the necessary operational aviation communications and did not disrupt the progress of the mission.
	He was flexible with the change in weather which meant travelling by road to the third incident. He used cognitive pausing to good effect, to make sure the team had all the appropriate equipment prior to leaving on the road vehicle.
Scene Safety and Management	The first incident was in a patient's home and Johnny assessed the scene safety verbally and appropriately. Extrication of the patient required manipulation of the furniture in the room and he orchestrated this very well.
	At the second incident, he remained safe. A consideration for his development would be a slower walk into the scene, obtaining an overview of the scene risks and current scene activity – this may benefit his ability to maintain situational awareness.
	The third incident again had extrication challenges due to the high walls around the garden and the physical size of the patient. He managed the planning for extrication compassionately and then orchestrated the plans safely.
Patient Assessment	Johnny made accurate assessments of each of the patient's clinical findings. He could benefit from expanding his use of point of care ultrasound to include cardiac assessment. When demonstrated during the first case, this procedure added information to the patient assessment. He could utilise the regional online training resources to increase his awareness of cardiac assessment and attend our regional training course run by Dr Lupton Pittman.
Clinical Management	Johnny has a good understanding of the management of trauma. He managed the traumatic cardiac arrest expertly.
	He understood and had previously encountered inferior dislocations of the shoulder and managed this procedural sedation very capably.
	He agrees that he could read more about the physiology of cardiac failure and the use of inotropic infusions for the support of cardiac failure.
Triage and Transport Decisions	Johnny accurately assessed the destination hospitals for each of the 3 patients and appropriately chose from the available transport vehicles and transport pathways.
Handover	Johnny very clearly handed over the third patient on arrival to hospital. The second patient was not handed over to any clinicians. He was disordered in his handover of the first cardiac patient. In discussion, we have considered whether this was due to his unfamiliarity with cardiogenic shock. We discussed the use of cognitive aides to maintain flow and logical sequence during handovers.
Documentation	Johnny's documentation in the electronic patient record is excellent. His use of problem lists at the beginning of each case description really helps focus the reader on the important aspects of the case.
Recovery and Debrief	Johnny is diligent and active in his clearing up of equipment. During the second case debrief with the on-scene paramedics, he demonstrated expertise in his integrated and very open teaching session on the management of traumatic cardiac arrest. The clinicians on scene benefitted markedly from his approach and content.
Overall Clinical Judgement	Johnny is developing extremely well as a clinician. Occasionally slowing down may provide him the thinking space to consider all options. He does demonstrate the use of cognitive pauses and would benefit from experimenting further with this tool, in order to enhance his performance.

Non-Technical Skills on Scene

Skill	Grading	Comments
Gathering Information	3	Johnny demonstrates sound peripheral vision, history taking and clinical assessment. As mentioned earlier, slowing down at points will enable him to assimilate more information and then for the tempo of care to actually be faster.
Team Building and Leadership	4	Johnny has a lovely inclusive style of leadership and this encourages teams to follow him. He achieves directed care very elegantly. I have certainly learned from him today.
Selection and Maintenance of the Aim	3	On subjects that Johnny is familiar with, his maintenance of the trajectory for a patient is excellent, e.g. trauma patients. For medically ill patients, his priorities can be less clear. He is aware of this and has an active plan to develop himself in this regard.
Situational Awareness	3	Johnny uses delegation appropriately to offload work to maintain situational awareness.
Maintenance of Momentum	3	Johnny has very good momentum on scene. The team knows where the patient should be and on what time scale. "Don't go so fast, we're in a rush" is occasionally an appropriate term for him to remember.
Flexibility	4	Johnny demonstrates the ability to be highly flexible to circumstances. He listens extremely well to his team members and uses this feedback to alter plans as needed. He demonstrated this admirably in the extrication of patients.
Maintenance of Standards	4	Johnny aspires to excellence in all he does. He is punctual, diligent and hard working. He provides an exemplar to his peers.
Safety and Security	3	Johnny is aware of his own safety and that of his colleagues. Concentrating right from the beginning on obtaining a scene overview can really add to safety.
Authority and Assertiveness	4	Johnny is able to quietly and effectively advocate for the patient. When required he asks the team to reduce their noise level in order for communication to remain clear.
Effective Communication	4	Johnny is an active listener and maintains good eye contact when talking with patients, relatives and colleagues. He uses closed loop communications for vital information.
Overall Performance	3	It is extremely enjoyable working with Johnny. His positive approach to learning will enable him to continue developing as an excellent clinician.

Performance Grades

1	2	3	4
Performance below standard expected of phase 1 trainee	**Performance expected at completion of phase 1(a)**	**Performance expected at completion of phase 1(b)**	**Performance of clinician ready to be a PHEM consultant**
Demonstrates rudimentary skills in this domain. This is concerning and indicates the need for further development.	Demonstrates basic skills in this domain.	Demonstrates sound skills in this domain.	Demonstrates skills of a consistently high standard. A model for other team members.

4.8   Decisions on Progress (ARCP)

4.8.1   ESs and TPDs will determine progression through phases of training according to the assessment framework described in this curriculum and syllabus. Trainees are responsible for collating evidence of progression in their portfolio.

4.8.2   Parent specialty ARCP panels may continue to monitor the progress of trainees within their specialty but should be informed by PHEM STRs for each phase of training - it is not necessary for deaneries and schools to conduct separate PHEM ARCP panels. The ARCP panel will also need to take into account the trainee's phase of PHEM training and the type of PHEM training scheme when making any judgments related to progression within the parent base specialty. ARCP panels are encouraged to liaise closely with TPDs and ESs during PHEM subspecialty training to ensure that a trainee is not being subjected to unfair assessment of base specialty progress.

4.8.3   All PHEM trainees will be invited to a national TAP towards the end of phase 2. The panel will review all PHEM training evidence and will be responsible for providing trainees with an outcome certificate on behalf of the IBTPHEM. This outcome certificate will then be presented by trainees at their next appropriate parent specialty ARCP and will enable the ARCP panel to make a recommendation for subspecialty registration.

4.9   Trainees in Difficulty

4.9.1   When a trainee's performance gives cause for concern, it may be the case that more assessments will be required. It is the responsibility of the trainee to provide at their Educational Review meetings what they consider to be evidence of satisfactory performance and satisfactory progress. They will need evidence of performance for every capability in practice in the syllabus. Each trainee is empowered to select the number and type of assessment tools required, based on the descriptors available within each capability in practice, their unique clinical case mix, and their individual learning needs. It is the ES's responsibility to help the trainee to understand what evidence will be appropriate in their specific circumstances. The ES will then write a summary of the learner's performance for the STR. The Trainee will work with their ES to develop evidence of satisfactory progression through their agreed learning. The ES will then present a summary of this evidence to the TAP/ARCP via the STR.

4.9.2   It is recognised that trainees learn at different rates and will improve as they progress through the training programme. The formative assessments undertaken are expected to improve whilst the summative assessments give trainees the opportunity to demonstrate their learning at that point in time. Where either progression or summative assessment falls below the expected standard, the trainee and supervisors must rapidly evaluate and form plans for future learning supported by the LEP faculty educational team.

4.9.3   Persistent failure to progress indicates a trainee in difficulty and this should be managed through local deanery systems to support the trainee. The TPD should be involved at the earliest opportunity.

4.9.4   Where the trainee is unsuccessful in a summative assessment, discussions with the TPD, ES and LEP will need to take place to identify the trainee's learning needs. This may require reviewing possible opportunities for the extension of PHEM training or abandonment of PHEM training to focus on base specialty training.

4.10 Complaints and Appeals

4.10.1 All WPBA methods incorporate direct feedback from the assessor to the trainee and the opportunity to discuss the outcome. If a trainee has a complaint about the outcome from a specific assessment this is their first opportunity to raise it. Further disagreement should follow local grievance procedures.

4.10.2 Appeals concerning any aspect of PHEM subspecialty training should follow deanery and training programme procedures. TPD must maintain oversight of any complaints or appeals within their programme.

4.10.3 Appeals related to the national summative assessments should, in the first instance, follow the relevant examination regulations of the RCSEd.

4.10.4 Unresolved disputes regarding summative assessments will be handled at IBTPHEM level and the IBTPHEM is responsible for implementing and reviewing suitable processes.

IBTPHEM National Introductory Course
Trainees and Faculty
2020

Guidance for Trainers, Local Education Providers and Deaneries

Section Outline

5.1 Introduction

5.1.1 This section provides guidance for trainers, education providers and employers in their role in managing and delivering PHEM subspecialty training.

5.2 Trainers

5.2.1 In the context of PHEM subspecialty training, the IBTPHEM distinguishes between "local trainers" and "medical trainers".

5.2.2 Local trainers, a term introduced by the IBTPHEM, are experienced members of the pre-hospital team, who provide training and educational support for trainees on a day-to-day basis. Local trainers are allocated by LEPs and may undertake a wide range of planned and *ad hoc* educational activities to support trainees. They do not however have a formal supervisory role for named trainees and cannot fulfil the mandatory elements of direct supervision. Provided that they have undertaken the appropriate training, however, they may conduct formative assessments and deliver educational material. They do not need to be medically

qualified and are not required to meet the GMC or deanery eligibility requirements for a medical trainer.

5.2.3   The GMC set criteria for medical trainers.[41] A medical trainer is an appropriately trained and experienced doctor, who is responsible for the education and training of PHEM trainees. The roles undertaken by medical trainers are clinical supervisor (CS) and educational supervisor (ES).

5.2.4   Deaneries and LEPs provide assurance that a medical trainer meets GMC standards for recognition. These are mapped to evidence related to seven areas set out by the Academy of Medical Educators.[42] It is the responsibility of LEPs and deaneries to ensure that PHEM trainers are compliant with these requirements.

5.2.5   A PHEM CS is a medical trainer who is responsible for overseeing a specified trainee's clinical work throughout a PHEM placement in a clinical environment. The CS will provide constructive feedback during that placement and will lead on providing a review of the PHEM trainee's clinical practice throughout the placement to inform the ES' STR on whether the trainee should progress to the next stage of PHEM training.

5.2.6   CSs will be expected to undertake direct clinical supervision of their allocated trainees while they undertake operational duties. While no specific number of clinical shifts is specified, trainees will be expected to have WPBAs from CSs.

5.2.7   A PHEM ES is a medical trainer who is responsible for the overall supervision and management of a PHEM trainee's trajectory of learning and educational progress throughout their PHEM training programme. Every trainee must have a named ES. The ES helps the trainee to plan their training and achieve agreed learning outcomes. The ES is responsible for the educational agreement and for bringing together all relevant evidence to form a summative judgement at the end of PHEM subspecialty training.

5.2.8   The ES would ordinarily remain a trainee's ES throughout their programme. This may involve the ES supervising a trainee across multiple organisations within the programme. ESs should be identified and allocated to trainees as they start their PHEM training programmes. The responsibility for ensuring trainees have the required educational supervision lies with the TPD. The allocation of ESs should be made in consultation between employers, PHEM TPDs and LEPs.

5.2.9   The roles of CS and ES may be merged for some placements or programmes. It is expected that organisations hosting PHEM trainees will have individuals able to undertake both CS and ES roles working within them to support training.

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[41]www.gmc-uk.org/education/how-we-quality-assure-medical-education-and-training/approving-medical-education-and-training/approval-of-trainers
[42]www.medicaleducators.org

5.2.10   Within LEPs, all medical trainers must:

a) have a detailed understanding of the PHEM curriculum and assessment blueprint

b) understand and demonstrate ability in the use of the recommended PHEM assessment tools and be clear as to what is deemed acceptable progress

c) ensure that all those involved in training and assessment of their designated trainee understand the requirements of the programme

d) regularly review trainee progress and understand the process for dealing with a trainee whose progress gives cause for concern

e) liaise as necessary with other trainers and the TPD to ensure a consistent approach to education and training, and the sharing of good practice across specialties and professions

f) have adequate time for training identified in their job plans

g) have knowledge of, and comply with, the GMC's regulatory framework for medical training

5.2.11   In addition to compliance with generic GMC and deanery requirements regarding training, the IBTPHEM requires medical trainers in PHEM to:

a) be clinically active in PHEM at the level of consultant practice, ideally with PHEM subspecialty registration or on the FPHC Register of Consultant (Level 8) Practitioners

b) have at least two years clinical and operational experience in PHEM at the level of consultant practice

c) be employed as a consultant, by either substantive or honorary contract, by an NHS employing institution or a CQC-registered (or equivalent), independent sector, PHEM provider

d) satisfactorily complete an IBTPHEM-endorsed trainer workshop (and undertake refresher training as stipulated by the IBTPHEM). Details of workshops are available from the IBTPHEM.

e) be able to demonstrate generic competencies and specific skills for simulation-based training described by the Association for Simulated Practice in Healthcare (ASPiH)[43]

5.2.12   While PHEM trainees are on operational/clinical duties, especially at the beginning of their training, they will require close direct clinical supervision. The requirement is for 100% direct supervision for phase 1(a), an indicative minimum of 50% direct supervision throughout phase 1(b) and an indicative minimum of 20% direct supervision throughout phase 2 of their PHEM training programme. Direct

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[43] aspih.org.uk/standards-framework-for-sbe/

supervision must be carried out by consultants recognised and approved as medical trainers.

5.2.13   Direct supervision means the trainee is working the duty period with a consultant supervisor. For direct supervision at an incident, the supervisor may be physically with the trainee (available within seconds) or present on scene (available within minutes). This proximity maintains patient safety but, when appropriate, allows the trainee to gradually work with a greater degree of autonomy and independence.

5.2.14   Indirect supervision means the trainee is working a duty period during which the help of the consultant supervisor will not be physically available on scene. The supervisor must be immediately available to provide remote advice and decision support to the trainee and/or team via, for example, telephone, radio or other telecommunication devices.

5.3   Local Education Providers

5.3.1   LEPs are approved by a deanery to support and provide PHEM subspecialty training following confirmation that they meet the standards for LEPs and are able to maintain the provision of high-quality training in PHEM.

5.3.2   Due to the nature of current pre-hospital emergency medical service provision, the LEP may be an NHS Trust (Acute Hospital or Ambulance), an independent healthcare provider, the Defence Medical Services or a third sector (charitable) organisation operating in partnership with the NHS.

5.3.3   Organisations seeking to become LEPs within a deanery PHEM subspecialty training programme must:

a)   have a Learning Development Agreement (or equivalent) with the relevant deanery or with the organisation that holds that agreement

b)   be compliant with the essential standards for quality and safety relevant to the healthcare regulator (i.e. Care Quality Commission in England, Regulation and Quality Improvement Authority in Northern Ireland, Care Inspectorate Wales and Care Inspectorate in Scotland)[44,45,46,47]

c)   be compliant with the GMC standards for training[48]

d)   have PHEM training locations approved by the GMC for base specialty training (GMC Form B)

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[44] www.cqc.org.uk
[45] www.rqia.org.uk
[46] www.careinspectorate.com
[47] careinspectorate.wales
[48] www.gmc-uk.org/education/standards-guidance-and-curricula/standards-and-outcomes/promoting-excellence

5.3.4   The LEP is subject to inspection, both initially and subsequently, within the local deanery quality management framework. Results of inspections will be reported to regional and national bodies, as per GMC guidance.

5.3.5   Sufficient practical experience must be available within the clinical services and LEPs associated with a deanery programme to support acquisition of the knowledge and skills set out in the curriculum. The deanery programme, and associated LEPs (either individually or in collaboration) must therefore:

   a)   have an adequate case volume. It seems reasonable to suggest that the pre-hospital emergency anaesthetic rate is a useful surrogate marker of overall exposure. A programme should therefore demonstrate that it could achieve at least 8 pre-hospital emergency anaesthetics per trainee per 6 months.
   b)   offer exposure to the full range of undifferentiated adult and paediatric PHEM case presentations as described in the curriculum
   c)   include exposure to both primary and secondary transfer cases

5.3.6   Compliance with 5.3.3 and 5.3.5 above will be a significant challenge for many current PHEM services. It is likely that regionalised services, perhaps mirroring the regionalisation of trauma care and development of Major Trauma Networks, will be required to support subspecialty training.

5.3.7   A key challenge for LEPs relates to the essential role of simulation. Simulation is used widely throughout postgraduate medical training for both learning and assessment. Within existing base specialty curricula, it is recognised that some skills may only be acquired by simulation and simulator-based training courses are strongly recommended. Effective use of simulation will support:

   ●   Acquisition and application of knowledge
   ●   Training and ingraining new skills: learning routines and steps that together comprise a complex skill
   ●   Reinforcement of drills: teaching and testing learners' responses to specific critical incidents
   ●   Developing professional behaviour and the set of non-technical skills, which support delivery of expert anaesthetic practice, especially in the context of working within multi-professional teams and a variety of clinical environments

5.3.8   Within the PHEM curriculum, "Simulation Learning" is a specified learning method. It is defined as the simulation (at any level of fidelity and reality) of a situation in order to attain predetermined learning objectives and it includes simulated patients, simulated incident scenes, use of models and tabletop exercises. Simulation is also recommended as an assessment tool for both formative and summative assessment.

5.3.9   Simulation is an essential and central part of training and assessment in PHEM clinical practice. There has historically been debate regarding high- vs. medium- vs. low-fidelity simulators and the merits of each. There is a tendency to feel it necessary to use the highest-fidelity simulators available, with these often being extremely expensive to purchase. Experience of simulation in PHEM so far has demonstrated that the overall fidelity of the scenario is more important than the fidelity of the simulator mannequin itself. Many PHEM simulations can be effectively achieved with low-to-medium-fidelity human simulators and the correct environmental set.

5.3.10   The general principles of simulation teaching and training can be summarised using the Best Evidence Medical Education (BEME) Collaboration guidelines (table 5.1) and should be based on the ASPiH Standards for Simulation-Based Education.[49,50]

Table 5.1   Attributes of simulation that lead to effective learning.

Attribute	Rationale
Provide feedback during the learning experience with the simulator	Slows decay in skills over time; formative feedback and self-assessment allows individual to monitor progress; feedback can be "built-in" to simulator training session or provided by trainer immediately or later via video debriefing
Learners engage in repetitive practice (and deliberate practice)	Found to be a primary factor in studies showing skills transferring to real patients; shortens learning curves and leads to faster automaticity; the simulator must be made available to achieve this – convenient location, accommodates learner schedule
Simulation is fully integrated into the overall curriculum	For example, in resuscitation, team resource management, the use of equipment, patient transfer, etc.
Learners practice with increasing levels of difficulty	Increasing the degree of difficulty increases mastery of the situation and technical skills
Adapt the simulator to complement multiple learning strategies	Large and small group tutorial settings; independent small-group and individual trainee practice settings
Ensure the simulator provides for clinical variation	Increases the number and variety of patients a learner encounters; provides equity to smaller training programs; provides exposure to rare encounters
Learning on the simulator should occur in a controlled environment	Learners make and detect mistakes without consequences; instructors can focus on learners through "teachable moments"; reflects educational "culture" focused on ethical training
Provide individualised (in addition to team) learning on the simulator	Provides reproducible, standardised experience for all learners; the learner is an active participant, responsible for his/her own learning
Clearly define outcomes and benchmarks for the learners to achieve using the simulator	Learners are more likely to master the situation and skill if outcomes are clearly defined and appropriate for the learner's level of training
Ensure the simulator is a valid learning tool	Face validity – realism provides context for understanding complex principles/tasks, increases visuo-spatial perceptual skills, and is preferred by learners; concurrent validity - ability in simulation transfers to ability with real patients

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[49]BEME Guide no 4: Features and uses of high-fidelity medical simulations that lead to effective learning. 2004, Dundee, UK: Association for Medical Education in Europe.
[50]aspih.org.uk/standards-framework-for-sbe/

5.3.11 Additional support for learning and training is being developed by the IBTPHEM in the form of access to online resources for trainees and for training the trainers.

5.3.12 The online resources include a collection of tools to support self-directed learning, physical learning (face-to-face teaching) and curriculum management. They will provide, through a single, consistent and intuitive interface, all the components required for a course of education or training, such as:

- The curriculum and syllabus – a road map for education and training
- Administrative information such as the timing and location of teaching sessions
- An electronic notice board for up-to-date information
- Participant tracking facilities
- Basic teaching materials (which may include the content of courses and e-learning resources)
- Self-assessment quizzes and formal assessment procedures
- A mechanism for remote support with electronic communication including e-mail and threaded discussions
- Differential access rights for trainers, trainees and other participants
- Production of documentation and statistics in the format required for administration and quality control
- A digital library/repository for additional resources, including reading materials, and links to other resources
- A mechanism for remote assessment
- A mechanism for sustaining Continuous Professional Development and promoting self-directed learning

5.3.13 An electronic portfolio has been developed to support the PHEM training programme. The portfolio provides trainees, trainers and LEPs with an easy-to-use, accessible and effective tool to record WPBAs, clinical activity and educational experiences against the syllabus.

5.4 Employers

5.4.1 All PHEM subspecialty trainees, regardless of their LEP or funding arrangements, should normally be employed by a UK NHS body that holds a deanery Learning and Development Agreement that defines the duties and responsibilities of employers and trainees. If the employer is not the LEP, the employers must also have clear and binding agreements with the LEP. Employers must also ensure compliance with employment and occupational health requirements.

5.4.2   All employers of trainees and trainers must ensure that their third-party liability, indemnity and personal injury insurance arrangements specifically include clinical practice outside of a hospital setting, the full range of pre-hospital operational environments and the use of helicopters as transport platforms.

5.4.3   Employers must inform trainees and trainers of the value of insurance arrangements so that they can make personal informed decisions regarding whether to obtain additional personal injury insurance.

5.4.4   Employers must inform trainees and trainers of any limitations in third party liability, indemnity or personal injury insurance arrangements that may restrict their PHEM practice.

5.4.5   Regardless of the employer, the NHS Employment Check Standards should be applied to all trainees and trainers.[51] These cover all the pre-employment checks required by law, those that are mandated by the UK Departments of Health, and those that are required for access to NHS records. LEPs who are also employers will be required to show evidence of their compliance with these standards.

5.4.6   PHEM practice involves working in a range of environments which are physically challenging and demanding and may place the trainee and trainer at some risk. Whilst there are no standards for physical fitness and functional capability required to undertake base specialty duties within hospital, NHS Ambulance Services undertake an assessment of functional capability and physical fitness as part of the selection process for pre-hospital work. The IBTPHEM recommends that the standard applied to Ambulance Service recruitment is applied to PHEM trainee selection. The nationally coordinated recruitment process requires applicants to have passed the physical assessments used for recruitment to the paramedic higher education institutions.

5.5   Deaneries

5.5.1   Deaneries who seek to provide PHEM training programmes should discuss their proposals with the IBTPHEM. The role of the IBTPHEM is to assist the deanery in developing a robust training programme.

5.5.2   In addition to compliance with the GMC standards for deaneries, a regional PHEM training committee should be formed which may operate under the auspices of an appropriate deanery school.[52] The training committee will appoint a TPD of

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[51]www.nhsemployers.org

[52]www.gmc-uk.org/education/standards-guidance-and-curricula/standards-and-outcomes/promoting-excellence

suitable qualifications to oversee the training programme. It is suggested that the committee takes its membership from:

- PHEM consultants
- Emergency Medicine consultants
- Anaesthetic consultants
- Adult and/or Paediatric Intensive Care consultants
- Ambulance Service personnel
- Local Education Providers
- PHEM trainees
- Lay people
- Deanery management personnel

5.5.3 Given the number of trainees in PHEM, and the requirements for LEPs, deaneries may decide to create arrangements for supra-regional management of training programmes. Any such arrangements must be made with full support of the participating deaneries and LEPs.

5.5.4 The IBTPHEM has a role in supporting GMC review processes and training quality management (figure 3.1). In order for the IBTPHEM to assist the deanery in setting up a programme that fulfils the requirements for training in PHEM as defined by the Board, deaneries are asked to consult with the IBTPHEM and provide:

- A detailed description of the infrastructure underpinning and supporting the training programme
- A detailed description of how the curriculum will be delivered within the programme (including details of the anticipated trainee case volume and exposure)

5.5.5 A template statement of training programme assurance and compliance to assist this process is available from the IBTPHEM.

5.5.6 The IBTPHEM will review training programme applications and liaise with the GMC and deaneries. In some circumstances, and in the context of the quality framework illustrated in figure 3.1, a team from the IBTPHEM will conduct a review visit, the structure and function of which will mirror existing processes for Emergency Medicine, Anaesthetic or Intensive Care Medicine programme approval by the Royal College of Emergency Medicine, Royal College of Anaesthetists or the Faculty of Intensive Care Medicine, respectively.

5.5.7 PHEM TPDs are supported by a number of ESs usually based with LEPs. ESs guide a number of trainees through the training programme and need to be suitably qualified to do so. A sample person specification for an ES is given in table 5.2 as a guide:

Table 5.2 A sample person specification for an Educational Supervisor.

Factor	Essential Criteria	Desirable Criteria	Assessment
Attainments	Full GMC registration Specialist registration in one of the three base specialties	Postgraduate qualification in education	Application form
Knowledge and Interests	Knowledge of management and governance structures in medical education and training, and awareness of recent changes in the delivery of medical education and training nationally and locally Interest in and enthusiasm for improving delivery of medical education and training, and continuing professional development Knowledge of assessment methods Extensive experience in PHEM service provision	Evidence of relevant research and/or publications Evidence of experience at strategic level of national or international education organisations	Interview
Special Aptitudes	Effective leadership and communications skills, motivating and developing others, approachability, good interpersonal skills Evidence of delivering well-evaluated teaching sessions/tutorials Evidence of personal development in medical education	Evidence of supporting trainees Evidence of audit/research in medical education	Interview

IBTPHEM National Introductory Course
Trainees and Faculty
2021

Glossary

AAGBI	Association of Anaesthetists of Great Britain and Ireland
ARCP	Annual Review of Competency Progression
ASPiH	Association for Simulated Practice in Healthcare
BASICS	British Association for Immediate Care
BEME	Best Evidence Medical Education (Collaboration)
Capability in practice	A discrete work role or activity within a PHEM theme and the level at which portfolio evidence is linked in order to help demonstrate both curriculum coverage and learning outcome achievement. Each capability in practice comprises a number of descriptors.
CCP	Critical Care Paramedic and/or nurse Practitioner
CCT	Certificate of Completion of Training
CESR	Certificate of Eligibility for Specialist Registration
CS	Clinical Supervisor
CQC	Care Quality Commission
Deanery	An organisation with statutory responsibility for postgraduate training throughout the UK, such as a Local Education and Training Board in England, an NHS Education Scotland Deanery, the Welsh Deanery and the Northern Ireland Medical and Dental Training Agency
Descriptors	Examples of the underpinning knowledge, technical skills and non-technical (behavioural) skills within a PHEM capability in practice and the level at which portfolio evidence and national summative assessments can sample.
DIMC	Diploma in Immediate Medical Care
EMRS	Emergency Medical Retrieval Service, Scotland
EMRTS	Emergency Medical and Transfer Service, Wales
EMS	Emergency Medical Service
ES	Educational Supervisor
FEGS	Faculty Educational Governance Statement
FICM	Faculty of Intensive Care Medicine

FIMC	Fellowship in Immediate Medical Care
Formative assessment	A supported, reflective process that aims to promote trainee learning and development, and to support trainees as their understanding and experience increases.
GMC	General Medical Council
GPC	Generic Professional Capability
HSIB	Healthcare Safety Investigation Branch
IBTPHEM	Intercollegiate Board for Training in Pre-Hospital Emergency Medicine
Inotropic	Modifying the force or speed of contraction of (heart) muscles.
Learning outcome	The expected level of performance a learner must acquire and demonstrate for each PHEM theme by the end of each phase of training.
LEP	Local Education Provider
LTFT training	Less Than Full-Time training
MERIT	Medical Emergency Response Incident Team
NHS	National Health Service
NTN	National Training Number
NTS	Non-Technical Skill
OSPE	Objective Structured Practical Examination
PHEM	Pre-Hospital Emergency Medicine
RCEM	Royal College of Emergency Medicine
RCoA	Royal College of Anaesthetists
RCSEd	Royal College of Surgeons of Edinburgh
PHEM	Pre-Hospital Emergency Medicine
PHEMTA	Pre-Hospital Emergency Medicine Trainees' Association
SBA	Single Best Answer
STR	Structured Training Report
Summative assessment	Assessment of learning at a particular time, used to assess progression through training, support transition through training phases and confirm achievement of capabilities in practice. These are only conducted by formally trained assessors.
TAP	Training Assessment Panel
Theme	A defined area of PHEM professional practice, for which the learning outcomes for each phase of training are described. Each theme comprises a number of capabilities in practice.
TPD	Training Programme Director
Transfer	The process of physically transporting a patient whilst maintaining in-transit clinical care.
TS	Technical Skill
UK	Underpinning Knowledge
WPBA	Workplace-Based Assessment
WTE	Whole-Time Equivalent

PART TWO

The Pre-Hospital Emergency Medicine Syllabus and Assessment Blueprint
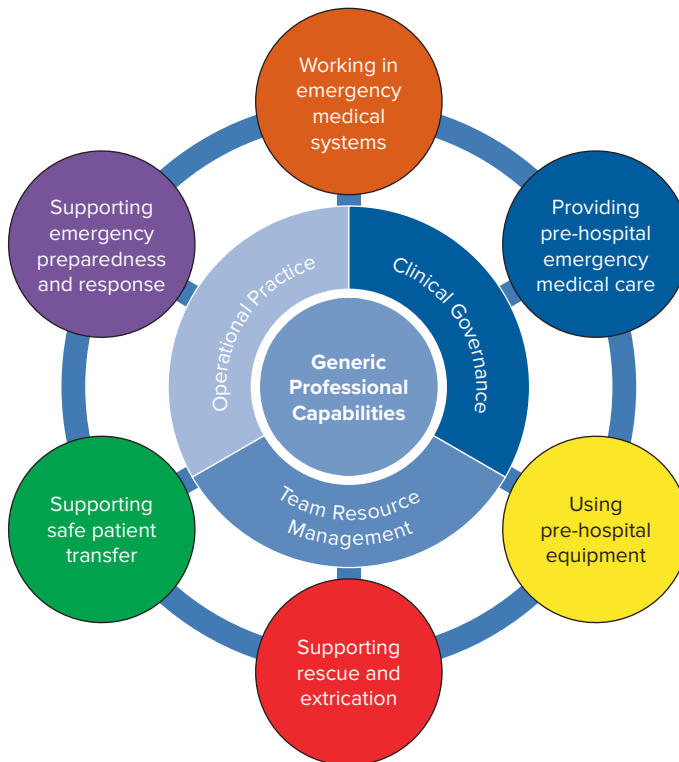
Cross-Cutting Theme

Generic Professional Capabilities

The GPC Framework, provided by the GMC, comprises the interdependent, essential capabilities that underpin professional medical practice in the UK. The nine GPC domains and their subsections are all relevant to the clinical practice of PHEM and have been reproduced in the table below, which describes the first cross-cutting theme.

Domains and Subsections

1. Professional values and behaviours
2. Professional skills
   a. Practical skills
   b. Communication and interpersonal skills
   c. Dealing with complexity and uncertainty
   d. Clinical skills
      i. History taking, diagnosis and medical management
      ii. Consent
      iii. Humane interventions
      iv. Prescribing medicines safely
      v. Using medical devices safely
      vi. Infection and communicable diseases
3. Professional knowledge
   a. Professional requirements
   b. National legislative requirements
   c. The health service and healthcare system in the four countries
4. Capabilities in health promotion and illness prevention
5. Capabilities in leadership and team working
6. Capabilities in patient safety and quality improvement
   a. Patient safety
   b. Quality improvement
7. Capabilities in safeguarding vulnerable groups
8. Capabilities in education and training
9. Capabilities in research and scholarship

Within all PHEM subspecialty themes, the relevant GPC domains and subsections are assigned to each PHEM capability in practice. This assignment ensures that the assessment tools used to assess and evidence a particular PHEM capability in practice also assess and evidence the related GPCs. Portfolio evidence is therefore linked to each capability in practice from each of the nine PHEM subspecialty themes, which simultaneously evidences acquisition and demonstration of GPCs in the tenth, central theme.

Generic Professional Capability Domain	Subsection	Descriptor
1. Professional values and behaviours		acting with honesty and integrity
		maintaining trust by showing respect, courtesy, honesty, compassion and empathy for others, including patients, carers, guardians and colleagues
		treating patients as individuals, respecting their dignity and ensuring patient confidentiality
		taking prompt action where there is an issue with the safety or quality of patient care, raising and escalating concerns where necessary
		demonstrating openness and honesty in their interactions with patients and employers – known as the professional duty of candour
		being accountable as an employee to their employer and working within an appropriate clinical governance framework
		managing time and resources effectively
		being able to self-monitor and seek appropriate advice and support to maintain their own physical and mental health
		demonstrating emotional resilience
		demonstrating situational awareness
		reflecting on their personal behaviour and its impact on others
		demonstrating awareness of their own behaviour, particularly where this might put patients or others at risk
		demonstrating awareness of their own limitations and understanding when and who to refer on to or seek professional advice from
		demonstrating awareness of the behaviour, conduct or health of others, particularly where this might put patients or others at risk
		interacting with colleagues in a way that demonstrates appropriate professional values and behaviours, in terms of supporting colleagues, respecting differences of opinion, and working as a collaborative member of a team
		being able to identify and create safe and supportive working and learning environments
		listening to patients, carers and guardians, and accepting that they have insight into, preferences for and expertise about the patient's own condition and context
		working within appropriate equality and diversity legislation
		working within appropriate health and safety legislation
		demonstrating a commitment to learn from patient safety investigations and complaints
		maintaining their continuing professional development and completing relevant statutory and mandatory training
		demonstrating an ability to learn from and reflect on their professional practice and clinical outcomes
		being able to accept constructive and appropriately framed criticism
		being a professional role model

(Continued)

Generic Professional Capability Domain	Subsection	Descriptor
	a. Practical skills	literate
		numerate
		articulate and be able to give clear, accurate and legible written instructions in English
		able to give clear, accurate and comprehensible verbal instructions in English
		able to make clear, accurate and contemporaneous records of their observations or findings in English
		able to demonstrate a clear and appropriate knowledge of the legal aspects of digital and written records
		able to accurately complete legal medical forms or certifications, e.g., cremation, sickness, insurance
		able to demonstrate an appropriate knowledge of information governance, data protection and storage
		able to demonstrate appropriate IT skills, including word processing and data collection
2. Professional skills	b. Communication and interpersonal skills	**with patients, relatives, carers, guardians and others:**
		establishing an effective and respectful doctor-patient partnership with the ability to demonstrate empathy and compassion
		demonstrating effective consultation skills including effective verbal and nonverbal interpersonal skills
		sharing decision-making by informing the patient, prioritising the patient's wishes, and respecting the patient's concerns and expectations
		sharing decision-making with children and young people
		supporting patients in caring for themselves
		demonstrating active listening skills
		demonstrating cultural and social awareness
		communicating effectively and sensitively when breaking bad news, and being well prepared to give clear information
		effectively managing challenging conversations or consultations
		using an interpreter or translation services where appropriate
		making arrangements to communicate effectively with someone who has impaired hearing, speech or sight
		making arrangements to communicate effectively with someone who lacks mental capacity or has a learning disability
		making appropriate arrangements when patients request to see a doctor of the same gender as themselves
		delivering an honest apology and offering an effective explanation when appropriate
		communicating, consulting and sharing information appropriately with carers

Generic Professional Capability Domain	Subsection	Descriptor
	b. Communication and interpersonal skills (continued)	understanding the risks, professional responsibilities and appropriate safeguards during remote consultations such as telephone or online consultations
		with colleagues in the multidisciplinary team:
		exploring and resolving diagnostic and management challenges or differences
		applying management and team working skills appropriately, including influencing, negotiating, continuously re-assessing priorities and effectively managing complex, dynamic situations
		ensuring continuity and coordination of patient care through the appropriate transfer of information
		demonstrating safe and effective handover, both verbally and in writing
		individually:
		maintaining appropriate situational awareness and sensitivity to the impact of their comments and behaviours on others
2. Professional skills (continued)	c. Dealing with complexity and uncertainty	show appropriate professional behaviour and judgement in a wide range of clinical and non-clinical contexts and circumstances
		manage the uncertainty of achieving specific outcomes in clinical practice
		manage the uncertainty of treatment success or failure
		adapt management proposals and strategies of medical problems to take account of patients' informed preferences, co-morbidities and long-term conditions
		make reasonable adjustments for patients, students and colleagues as appropriate
		support and empower patient self-care
		respect patient autonomy
		explain that wellbeing is a complex physical, mental and social interaction
		describe the factors impacting on health and wellbeing
		explain the complex relationship between mind and body in illness presentation and management
		adapt management proposals and strategies to patients at extremes of age, which includes neonates, children and older people with frailty
		formulate management plans beyond guidelines and produce patient-centred management plans
		manage the personal challenges of coping with uncertainty
		be resilient, diligent and thorough
		explain critical objectives and requirements for successful recovery and rehabilitation
		recognise patients with common mental health conditions (e.g., depression, dementia or delirium), manage them and, if appropriate, refer them to colleagues with relevant expertise
		recognise limits of own competence and refer patients to colleagues with appropriate expertise

(Continued)

75

Generic Professional Capability Domain	Subsection	Descriptor
2. Professional skills (continued)	d. Clinical skills	**i. History taking, diagnosis and medical management:**
		take a relevant patient history accommodating patient ideas, concerns and expectations
		perform accurate clinical examinations
		show appropriate clinical reasoning by analysing physical and psychological findings
		formulate an appropriate and prioritised differential diagnosis
		formulate an appropriate diagnostic and management plan, taking into account patient preferences, and the urgency required
		explain clinical reasoning behind diagnostic and clinical management decisions to patients, carers, guardians and other colleagues
		appropriately select, manage and interpret investigations (e.g., reviewing results)
		understand the role of the chaperone when carrying out clinical examinations, particularly those of a sensitive or intimate nature
		ii. Consent: Demonstrate and understand the professional requirements and legal processes associated with consent, including:
		- making sure patients are accurately identified
		- considering and addressing mental capacity issues
		- getting informed consent from the patient, or other valid authority, before carrying out any examination, investigation or treatment
		- safeguarding children and vulnerable adults
		- protecting and ensuring patient confidentiality
		- considering humane interventions (see section below), and making sure that treatment needs, wherever possible, are in line with patient preferences
		- the principles of requesting and coordinating organ donation and the factors which determine suitability of patients and successful organ donation
		iii. Humane interventions: Demonstrate compassionate professional behaviour, clinical judgement and intervene appropriately to make sure patients have adequate:
		- nutrition
		- hydration and rehydration

Generic Professional Capability Domain	Subsection	Descriptor
		iii. Humane interventions (continued):
		- symptom control
		- pain management
		- end of life care
		- cardiopulmonary resuscitation when and if appropriate
		iv. Prescribing medicines safely:
		prescribe safely and use appropriate therapeutic approaches and strategies to make sure medicines are managed effectively and used safely
		review and monitor therapeutic interventions appropriate to their scope of clinical practice
		prescribe antimicrobial drugs appropriately
		prescribe medications and use other therapies in line with the latest evidence
		comply with safety checks, contributing to medication reporting systems, and following other monitoring processes as necessary
2. Professional skills (continued)	d. Clinical skills (continued)	understand the challenges of safe prescribing in people at the extremes of age, which includes neonates, children and older people with frailty
		assess a clinical situation to recognise a drug reaction
		manage adverse incidents, therapeutic interactions and report adverse drug reactions appropriately
		access the current product literature to make sure medicines are prescribed and monitored according to the most up to date criteria
		make an appropriate risk benefit assessment with regard to the patient's preferences and circumstances
		fully recognise if they are prescribing an unlicensed medicine
		correctly counsel a patient on what a medicine is for and share any important safety information
		v. Using medical devices safely:
		understand the importance of being trained in the use of specialist medical equipment and devices
		demonstrate they can safely operate medical devices after appropriate training
		make sure medical devices are used safely by complying with safety checks, contributing to reporting systems, and following other appropriate maintenance, monitoring and reporting processes
		understand the design features and demonstrate the safety aspects associated with the safe use of medical devices

(Continued)

Generic Professional Capability Domain	Subsection	Descriptor
2. Professional skills (continued)	d. Clinical skills (continued)	**vi. Infection control and communicable disease:**
		appropriately prevent, manage and treat infection, including controlling the risk of cross-infection
		work appropriately within the wider community to manage the risk posed by communicable disease
	a. Professional requirements	**be aware of and adhere to the GMC's professional requirements, including:**
		meeting the standards expected of all doctors, set out in *Good Medical Practice*
		keeping up to date with GMC guidance
		participating in annual reviews of performance or progression
		working within appropriate quality management and clinical governance frameworks
		understanding risk, risk identification, management or mitigation
		participating in reflective annual appraisal, job planning and performance management including audit of and responsibility for their own clinical outcomes
		recognising the need for all doctors to take part in revalidation, which involves demonstrating their scope of practice, and the role and responsibility of the responsible officer
		participating in continuing professional development to keep their knowledge, skills and capabilities up to date
3. Professional knowledge	b. National legislative requirements	**be aware of their legal responsibilities and be able to apply in practice any legislative requirements relevant to their jurisdiction of practice, for example:**
		employment law, particularly as it relates to them as an employee, including working time regulations
		mental capacity and deprivation of liberty safeguards
		mental health
		the legal requirements about patient and carer involvement in shared decision-making
		safeguarding of vulnerable children and adults
		female genital mutilation
		equality and diversity, including legally protected characteristics
		data protection and confidentiality
		health and safety legislation, including the management of radiation and hazardous substances
		transportation legislation including fitness to drive and DVLA or DVA notification processes
		confirming and completing medical certificates of cause of death
		cremation authorisation
		referral to the coroner or procurator fiscal
		any other legislation relevant to medical practice

Generic Professional Capability Domain	Subsection	Descriptor
3. Professional knowledge (continued)	c. The health service and healthcare systems in the four countries	**be aware of and understand:**
		the structure and organisation of the health service and system, including the independent sector and the wider health and social care landscape
		the local healthcare system and its relationship to and interaction with social care
		how services are commissioned, funded and audited
		how services are deemed to be clinically effective, cost effective or restricted such as on a named patient basis
		how resources are managed, being aware of competing demands and the importance of avoiding waste
		how services are held publicly accountable through political and governance systems, public scrutiny and judicial review
4. Capabilities in health promotion and illness prevention		**be aware of and demonstrate:**
		the factors affecting health inequalities and the social determinants of health
		the relationship of the physical, economic and cultural environment to health
		basic principles of public health, including population health, promoting health and wellbeing, work, nutrition, exercise, vaccination and illness prevention
		applying the principles of promoting public health interventions such as targeting smoking cessation, reducing obesity and the harm caused by alcohol abuse
		applying the principles of promoting mental health and wellbeing
		basic principles of person-centred care, including effective self-management, selfcare and expert patient support
		the influence of ageing, dependency, multiple co-morbidities and frailty upon individual and population-level healthcare needs
		the potential harms and population risks of health care interventions
		how to assess mental health and wellbeing
		how to identify and assess suicide risk and refer and coordinate care
		basic principles of global health including governance, health systems and global health risks
		the responsibilities and needs of carers as they play an increasing role in healthcare provision
		how to manage, support and develop the health and social care of local populations through community engagement
		how to manage, support and develop the health and social care of local populations through family and community-based interventions
		how to manage, support and develop the health and social care of local populations through global and multicultural aspects of delivering evidence-based, sustainable healthcare

(Continued)

Generic Professional Capability Domain	Subsection	Descriptor
5. Capabilities in leadership and teamworking		**lead and work effectively in teams by:**
		demonstrating an understanding of why leadership and team working is important in their role as a clinician
		showing awareness of their leadership responsibilities as a clinician and why effective clinical leadership is central to safe and effective care
		demonstrating an understanding of a range of leadership principles, approaches and techniques and applying them in practice
		demonstrating appropriate leadership behaviour and an ability to adapt their leadership behaviour to improve engagement and outcomes
		appreciating their leadership style and its impact on others
		actively participating and contributing to the work and success of a team (appropriate followership)
		thinking critically about decision-making, reflecting on decision-making processes and explaining those decisions to others in an honest and transparent way
		supervising, challenging, influencing, appraising and mentoring colleagues and peers to enhance performance and to support development
		critically appraising performance of colleagues, peers and systems and escalating concerns
		promoting and effectively participating in multidisciplinary and interprofessional team working
		appreciating the roles of all members of the multidisciplinary team
		promoting a just, open and transparent culture
		promoting a culture of learning and academic and professional critical enquiry
6. Capabilities in patient safety and quality improvement	a. Patient safety	raise safety concerns appropriately through clinical governance systems
		understand the importance of raising and acting on concerns
		understand the importance of sharing good practice
		demonstrate and apply basic Human Factors principles and practice at individual, team, organisational and system levels
		demonstrate and apply non-technical skills and crisis resource management techniques in practice
		demonstrate effective multidisciplinary and interprofessional team working
		demonstrate respect for and recognition of the roles of other health professionals in the effective delivery of patient care

Generic Professional Capability Domain	Subsection	Descriptor
6. Capabilities in patient safety and quality improvement (continued)	a. Patient safety (continued)	promote and participate in interprofessional learning
		promote patient involvement in safety and quality improvement reviews
		understand risk, including risk identification (clinical, suicide and system), management or mitigation
		understand fixation error, unconscious and cognitive biases
		reflect on their personal behaviour and practice
		effectively pre-brief, debrief and learn from their own performance and that of others
		make changes to their practice in response to learning opportunities
		be able to keep accurate, structured and where appropriate standardised records
	b. Quality improvement	**design and implement quality improvement projects or interventions that improve clinical effectiveness, patient safety and patient experience by:**
		using data to identify areas for improvement
		critically appraising information from audit, inquiries, critical incidents or complaints, and implementing appropriate changes
		deploying quality improvement methods (e.g., plan, do, study, act or action research) and repeat quality improvement cycles to refine practice
		involving patients and public in decision-making at group or community level
		engaging with stakeholders, including patients, doctors and managers, to plan and implement service change
		effectively evaluating the impact of quality improvement interventions
7. Capabilities in safeguarding vulnerable groups		recognise and take responsibility for safeguarding children, young people and adults, using appropriate systems for identifying, sharing information, recording and raising concerns, obtaining advice and taking action
		understand the professional responsibilities in relation to procedures performed on minors for non-medical reasons
		apply the mental capacity legislation in clinical practice, to protect the safety of individuals and society
		identify, assess and manage suicide risk
		understand the needs and support required for people with learning disabilities
		understand positive behavioural support and determine when and how to safely restrain and safeguard vulnerable adults in distress

(Continued)

Generic Professional Capability Domain	Subsection	Descriptor
	7. Capabilities in safeguarding vulnerable groups (continued)	recognise where addiction (to drugs, alcohol or smoking), obesity, environmental exposure or social deprivation issues are contributing to ill health and act on this information
		apply appropriate equality and diversity legislation, including disability discrimination requirements, in the context of patient care
		identify and escalate concerns about modern slavery and human trafficking to appropriate authorities
		understand that the safety of patients must come first and that the needs of education must be considered in this context
		provide safe clinical supervision of learners and other doctors in training in the workplace at all times
		plan and provide effective education and training activities
		use simulation or technology-enhanced learning appropriately in protecting patients from harm
		take part in their own induction and orientation, and that of new staff
		take part in patient education
		respect patients' wishes about whether they wish to participate in the education of learners and doctors in training
		provide supportive developmental feedback, both verbally and in writing, to learners and doctors in training
	8. Capabilities in education and training	create effective learning opportunities for learners and doctors in training
		evaluate and reflect on the effectiveness of their educational activities
		promote and participate in interprofessional learning
		assess objectively and fairly the performance of learners and other doctors in training
		give timely and constructive feedback on learning activities and opportunities
		understand how to raise concerns about the performance or behaviour of a learner or other doctor in training who is under their clinical supervision
		participate in national surveys and other quality control, quality management and quality assurance processes as required by the regulator
		carry out the roles and responsibilities of a clinical trainer
		meet any regulatory or statutory requirements as a clinical trainer or educator

Generic Professional Capability Domain	Subsection	Descriptor
		keep up to date with current research and best practice in the individual's specific area of practice, through appropriate continuing professional development activities and their own independent study and reflection
		practise in line with the latest evidence
		conduct literature searches and reviews to inform their professional practise
		critically appraise academic literature
		understand the role of evidence in clinical practice and demonstrate shared decision-making with patients
		locate and use clinical guidelines appropriately
		demonstrate appropriate knowledge of research methods, including qualitative and quantitative approaches in scientific enquiry
9. Capabilities in research and scholarship		demonstrate appropriate knowledge of research principles and concepts and the translation of research into practice, including recruitment into trials and research programmes
		demonstrate appropriate knowledge of research principles and concepts and the translation of research into practice, including ethical implications of research governance
		understand and promote innovation in healthcare
		understand and apply informatics
		understand and apply genomics
		understand and apply stratified risk and personalised medicine
		draw from public health epidemiology and other data sources and large-scale reviews
		communicate and interpret research evidence in a meaningful way for patients to support them making informed decisions about treatment and management

Working in Emergency Medical Systems

Pre-hospital emergency medical practice requires appreciation and understanding of a diverse range of novel operational environments, personnel, resources and logistics.

Learning Outcomes

- **On completion of introductory training, the trainee will** be able to work safely within the multi-disciplinary, pre-hospital environment, be aware of the structure and function of the local Emergency Medical Service (EMS) systems, and be familiar with the basic medico-legal aspects of delivering pre-hospital emergency medical care.

- **On completion of developmental training, the trainee will** be able to work effectively as part of the EMS system in straightforward circumstances, demonstrating good knowledge of appropriate policies and protocols, and developing wider understanding and experience of provision of pre-hospital emergency medical care in complex environments.

- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will** understand the interdependent components of wider EMS systems, the way in which they interact, and the wider regulatory framework surrounding them, in order to ensure effective professional practice in PHEM.

Capabilities in Practice

1.1 Understand Emergency Medical Services (EMS) systems, models and components

1.2 Understand pre-hospital operational environments

1.3 Understand the training and regulation of pre-hospital healthcare personnel

1.4 Understand the process of ambulance emergency call handling, prioritisation, dispatch categorisation and resource management

1.5 Understand the role of pre-hospital emergency medical services within EMS

1.6 Understand the law relevant to pre-hospital emergency medical practice

1.7 Work effectively with emergency services

1.8 Work effectively with acute hospital services

1.9 Provide EMS clinical advice, support and coordination

1.10 Understand the pre-hospital and acute sector management structures within the wider healthcare system

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
Theme 1. Working in Emergency Medical Systems														
1.1 Understand Emergency Medical Services (EMS) systems, models and components	1.1.1	Define an Emergency Medical Service (EMS) system	UK	1(a)	•		•						•	3c, 6a
	1.1.2	Categorise the components of an EMS system	UK	1(a)	•		•						•	
	1.1.3	Contrast differing regional, national and international models of EMS systems	UK	1(b)	•		•						•	
	1.1.4	Contrast EMS systems in developed and developing nations	UK	2	•		•						•	
1.2 Understand pre-hospital operational environments	1.2.1	Categorise the different environments in which PHEM is practiced	UK	1(b)	•		•						•	3b, 4
	1.2.2	Contrast EMS systems in urban, rural and remote settings	UK	1(b)	•		•						•	
	1.2.3	**Critique the impact of different operational environments on:**												
		(a) Risk to personnel	UK	1(b)	•		•						•	
		(b) Patient safety	UK	1(b)	•		•						•	
		(c) Clinical care	UK	1(b)	•		•						•	
		(d) Patient transport	UK	1(b)	•		•						•	
	1.2.4	Demonstrate resilience in adverse pre-hospital conditions	NTS	1(b)				•	•	•				
	1.2.5	Demonstrate judicious use of resources	NTS	2				•	•	•				

Learning Methods (1.1.2): DR, LT, CL, EL
Learning Methods (1.2.1): DR, LT, CL, EL
Learning Methods (1.2.3b): DR, LT, CL, EL
Learning Methods (1.2.4): RM, RP EL, SL

DR	Directed Reading	LT	Lectures and Tutorials	DP	Deliberate Practice	SL	Simulation Learning
RP	Reflective Practice	RM	Role Modeling	CL	Collaborative Learning	EL	Experiential Learning

(Continued)

Theme 1. Working in Emergency Medical Systems

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
1.3 Understand the training and regulation of pre-hospital healthcare professionals	1.3.1	List the range of pre-hospital healthcare personnel	UK		1(a)	•		•						•	3c, 6a, 8
	1.3.2	Contrast the differences in training of pre-hospital healthcare personnel	UK	DR, LT, CL, EL	1(a)	•		•						•	
	1.3.3	Describe the medical capabilities of pre-hospital healthcare personnel within the EMS system	UK		1(b)	•		•						•	
	1.3.4	Describe the role of the relevant regulatory bodies for healthcare professionals	UK		2	•		•						•	
	1.3.5	Demonstrate respect for individuals within the multi-professional workforce	NTS	RM, EL, SL, RP	1(b)		•		•		•	•	•		
1.4 Understand the process of ambulance emergency call handling, prioritisation, dispatch categorisation and resource management	1.4.1	**Describe the process of ambulance service emergency:**													3c, 6a
		(a) Call handling	UK		1(a)	•		•						•	
		(b) Call prioritisation	UK	DR, LT, SL, CL, EL	1(a)	•		•						•	
		(c) Dispatch	UK		1(a)	•		•						•	
		(d) Resource activation	UK		1(a)	•		•						•	
		(e) Resource management	UK		1(a)	•		•						•	
	1.4.2	**Explain the concepts underpinning ambulance service emergency:**													
		(a) Call prioritisation	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(b) Resource management	UK		1(b)	•		•						•	
	1.4.3	Demonstrate response decisions on the basis of ambulance service emergency call information	TS	EL	1(b)	•	•		•			•			

Theme 1. Working in Emergency Medical Systems

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
1.5 Understand the role of pre-hospital emergency medical services within EMS	Define the role of pre-hospital emergency medical services	1.5.1	UK	1(a)	•		•						•	3a
	Categorise the activities of pre-hospital emergency medical services	1.5.2	DR, LT, SL, CL, EL	UK	1(a)	•		•						•	
	Critique the role of physicians operating within pre-hospital emergency medical services	1.5.3	UK	1(b)	•		•						•	
1.6 Understand the law relevant to pre-hospital emergency medical practice	Differentiate lawful consent to treatment between adults and children	1.6.1	UK	1(a)	•		•						•	3b
	Differentiate lawful refusal of treatment between adults and children	1.6.2	DR, LT, SL, CL, EL	UK	1(a)	•		•						•	
	Explain the legal basis for the emergency treatment of the incapacitated patient	1.6.3	UK	1(a)	•		•				•		•	
	Describe the emergency provisions in legislation for:													
	(a) protecting and safeguarding patients with mental illness	1.6.4	DR, LT, SL, CL, EL	UK	1(a)	•		•						•	
	(b) protecting and safeguarding children			UK	1(a)	•		•						•	
	(c) protecting and safeguarding vulnerable adults			UK	1(a)	•		•						•	
	Describe the emergency provisions in legislation for:													
	(a) Emergency driving procedure	1.6.5		UK	1(a)	•		•						•	
	(b) Helicopter emergency medical services			UK	1(a)	•		•						•	
	(c) Air ambulance services		DR, LT, SL, CL, EL	UK	1(a)	•		•						•	
	Analyse situations where confidentiality may lawfully be breached in pre-hospital emergency medical practice	1.6.6		UK	1(a)	•		•						•	
	Describe the legal requirements related to deaths outside of hospital	1.6.7		UK	1(a)	•		•						•	

(Continued)

Theme 1. Working in Emergency Medical Systems

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
1.7 Work effectively with emergency services		**Describe the roles and responsibilities of:**												1, 2b, 2c, 4, 5, 6a, 7
	1.7.1	(a) Ambulance authorities and services	UK	1(b)	•		•						•	
		(b) Police authorities and services	UK	1(b)	•		•						•	
		(c) Fire authorities and services	UK DR, LT,	1(b)	•		•						•	
		(d) Rescue authorities and services	UK SL, CL,	1(b)	•		•						•	
		(e) Specialist rescue services	UK EL	1(b)	•		•						•	
		(e) Voluntary emergency services	UK	1(b)	•		•						•	
	1.7.2	**Contrast the incident command structures of:**												
		(a) Medical services	UK	1(a)	•		•						•	
		(b) Ambulance services	UK DR, LT,	1(a)	•		•						•	
		(c) Police services	UK SL, CL,	1(a)	•		•						•	
		(d) Fire services	UK EL	1(a)	•		•						•	
		(e) Rescue services	UK	1(a)	•		•						•	
	1.7.3	**Explain the medical capabilities of:**												
		(a) Police personnel	UK DR, LT,	1(b)	•		•						•	
		(b) Fire personnel	UK SL, CL,	1(b)	•		•						•	
		(c) Rescue personnel	UK EL	1(b)	•		•						•	

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 1. Working in Emergency Medical Systems													
	1.7.3 cont.	(d) Specialist rescue personnel	UK	DR, LT, SL, CL, EL	1(a)	•		•						•	1, 2b, 2c, 4, 5, 6a, 7
		(e) Voluntary emergency services personnel	UK		1(b)	•		•						•	
	1.7.4	Demonstrate engagement with local, regional and national emergency services improvement processes	NTS	RP, RM, EL	1(b)						•	•	•	•	
	1.8.1	Categorise acute hospital services	UK	DR, LT, CL, EL	1(a)	•		•						•	1, 2b, 2c, 4, 5, 6a, 7
		Differentiate, within an EMS System, the process for accessing:													
1.8 Work effectively with acute hospital services	1.8.2	(a) Emergency departments	UK		1(a)	•		•						•	
		(b) Major trauma services	UK		1(a)	•		•						•	
		(c) Burns services	UK		1(a)	•		•						•	
		(d) Spinal injury services	UK	DR, LT, CL, EL	1(a)	•		•						•	
		(e) Perinatal services	UK		1(a)	•		•						•	
		(f) Children's services	UK		1(a)	•		•						•	
		(g) Mental health services	UK		1(a)	•		•						•	
		(h) Specialist Medical services	UK		1(a)	•		•						•	
	1.8.3	Demonstrate engagement with acute hospital emergency access improvement processes	NTS	RM, EL, CL	1(b)			•			•	•	•		
1.9 Provide EMS clinical advice, support and co-ordination	1.9.1	Describe the procedures, protocols and guidelines for providing EMS clinical advice, support and co-ordination	UK	LT, SL	1(b)	•		•						•	1, 2b, 2c, 4, 5, 6a, 7
	1.9.2	Describe the equipment available to provide EMS clinical advice, support and co-ordination	UK		1(b)	•		•						•	

Theme 1. Working in Emergency Medical Systems

Capability in Practice	Descriptor			Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
1.9 Provide EMS clinical advice, support and co-ordination (cont.)	1.9.3	Contrast 'on-line' (remote telephone/radio support) and 'off-line' (documents that guide practice) medical direction	UK	LT, SL	1(b)	•	•	•						•	
		Display effective on-line clinical support by:													1, 2b, 2c, 4, 5, 6a, 7
	1.9.4	(a) Communicating in an appropriate and professional manner	TS		1(b)		•		•		•	•	•		
		(b) Obtaining relevant information in a timely manner	TS		1(b)		•		•		•	•	•		
		(c) Drawing appropriate conclusions	TS	SL, EL, RM	1(b)		•		•		•	•	•		
		(d) Relaying the decision to the clinician at scene, ensuring their understanding.	TS		1(b)		•		•		•	•	•		
	1.9.5	Demonstrate a willingness to review and learn from any EMS clinical advice, support and co-ordination activity	NTS		1(b)		•	•			•	•	•		
1.10 Understand the pre-hospital and acute sector management structures within the wider healthcare system	1.10.1	**Describe the clinical and operational management structures relevant to emergency care within:**													3c
		(a) The ambulance services	UK		1(b)	•		•						•	
		(b) The pre-hospital emergency medical service	UK		1(b)	•		•						•	
		(c) The acute hospital emergency services	UK		1(b)	•		•						•	
		(d) The health service, authority or board	UK	DR, LT, EL	1(b)	•		•						•	
	1.10.2	Describe the inter-agency and inter-service liaison and management structures for emergency care within the wider healthcare system	UK		2	•		•						•	
	1.10.3	Contrast the commissioning and funding of EMS systems nationally and internationally	UK		2	•		•						•	

Subspecialty Specific Theme 2

Providing Pre-Hospital Emergency Medical Care

PHEM subspecialty training reinforces resuscitation concepts learned during higher specialist training in hospital and relates them to the pre-hospital operational environment.

> ## Learning Outcomes
>
> - **On completion of introductory training, the trainee will** demonstrate understanding of relevant clinical policies and protocols and the application of sound basic medical knowledge to straightforward pre-hospital cases.
> - **On completion of developmental training, the trainee will** demonstrate application of comprehensive, specialised, factual and theoretical knowledge within day-to-day pre-hospital clinical practice and an awareness of their personal limitations.
> - **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will** modify the established principles and techniques of emergency medical care in the hospital environment. They will possess a greater in-depth knowledge of resuscitation in all age groups, in order to provide effective emergency medical care in the relatively unsupported pre-hospital environment.

Capabilities in Practice

2.1 Assess patients in the pre-hospital phase

2.2 Provide immediate pre-hospital clinical care

2.3 Provide cardiopulmonary resuscitation in the pre-hospital environment

2.4 Manage acute medical emergencies in the pre-hospital environment

2.5 Manage injuries in the pre-hospital environment

2.6 Provide analgesia, procedural sedation and anaesthesia in the pre-hospital environment

2.7 Manage obstetric emergencies in the pre-hospital environment

2.8 Manage the newborn in the pre-hospital environment

2.9 Manage the ill or injured child in the pre-hospital environment

2.10 Manage the bariatric patient in the pre-hospital environment

2.11 Manage the elderly patient in the pre-hospital environment

2.12 Manage acutely disturbed behaviour in the pre-hospital environment

2.13 Provide end-of-life care and immediate management of bereavement

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
2.1 Assess patients in the pre-hospital phase	2.1.1	Describe how interpretation of an incident scene may influence a patient assessment	UK	DR, LT, SL CL, EL	1(a)	•	•	•	•					•	2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.1.2	**Categorise the factors which impact on clinical assessment of patients in the following situations:**													
		(a) private domestic	UK		1(b)	•		•						•	
		(b) crowded public	UK		1(b)	•		•						•	
		(c) geographically isolated	UK		1(b)	•		•						•	
		(d) environmentally exposed	UK	DR, LT, SL CL, EL	1(b)	•		•						•	
		(e) multiple patients	UK		1(b)	•		•						•	
		(f) patient is newborn, infant or child	UK		1(b)	•		•						•	
		(g) hazardous, unsafe or unstable	UK		1(b)	•		•						•	
		(h) high expressed emotion	UK		1(b)	•		•						•	
		(i) personally emotive	UK		1(b)	•		•						•	
	2.1.3	**Describe strategies to optimise clinical assessment of patients in the following situations:**													
		(a) private domestic	UK		2	•		•						•	
		(b) crowded public	UK		2	•		•						•	
		(c) geographically isolated	UK	DR, LT, SL CL, EL	2	•		•						•	
		(d) environmentally exposed	UK		2	•		•						•	
		(e) multiple patients	UK		2	•		•						•	
		(f) patient is newborn, infant or child	UK		2	•		•						•	
		(g) hazardous, unsafe or unstable	UK		2	•		•						•	

DR	Directed Reading	LT	Lectures and Tutorials
RP	Reflective Practice	RM	Role Modeling

DP	Deliberate Practice	SL	Simulation Learning
CL	Collaborative Learning	EL	Experiential Learning

(Continued)

Capability in Practice	Descriptor		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
			Theme 2. Providing pre-hospital emergency medical care												
	2.1.3 (cont.)		(h) high expressed emotion	UK	2	•		•						•	2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
			(i) personally emotive	UK	2	•		•						•	
	2.1.4		Describe the factors which impact on the tempo of clinical assessment in a dynamic situation	UK	1(b)	•		•	•					•	
	2.1.5		Describe the risks of lone working for healthcare professionals	UK	2	•		•						•	
	2.1.6		Describe ways in which the acute illness itself, and the anxiety caused by it, can influence patient assessment	UK	2	•		•						•	
	2.1.7		Critique the role of pre-hospital monitoring in assessing patients of all ages	UK	2			•						•	
	2.1.8		Critique the role of pre-hospital investigations in assessing patients of all ages	UK	2	•		•						•	
2.1 Assess patients in the pre-hospital phase (cont.)	2.1.9		Demonstrate ability to perform an organised, structured, relevant and focused assessment across the range of pre-hospital situations in infants, children and adults	TS	1(b)	•	•	•	•			•			
	2.1.10		Demonstrate ability to accurately interpret clinical history and physical signs in the pre-hospital environment in infants, children and adults	TS	1(b)	•	•	•	•			•			
	2.1.11		Demonstrate appropriate use and interpretation of pre-hospital monitoring in infants, children and adults	TS	1(b)	•	•	•	•			•			
	2.1.12		Demonstrate appropriate use and interpretation of pre-hospital investigations in infants, children and adults	TS	1(b)		•	•	•			•			
	2.1.13		Demonstrate ability to balance risk and benefits of actions prior to full patient assessment	TS	1(b)		•	•	•			•			
	2.1.14		Demonstrate respect for patients' privacy and dignity during patient assessment	NTS	1(b)		•	•	•		•	•			
	2.1.15		Demonstrate appropriate perseverance in undertaking patient assessment	NTS	1(b)		•	•	•			•			
	2.1.16		Demonstrate effective communication with patients and their family during clinical assessment	NTS	1(b)		•	•	•		•	•			

Learning Methods (2.1.5): DR, LT, SL CL, EL
Learning Methods (2.1.10): LT, DP, SL, CL, EL
Learning Methods (2.1.15): RM, RP, SL, CL, EL

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 2. Providing pre-hospital emergency medical care													
	2.2.1	Critique the sequence and aims of immediate clinical actions in managing critically unwell patients	UK	DR, LT, SL CL, EL	2	•		•							1, 2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi, 5
	2.2.2	**Critique the immediate pre-hospital clinical actions in all age groups for managing and supporting:**													
		(a) the airway	UK		2	•	•	•						•	
		(b) ventilation	UK		2	•	•	•						•	
		(c) circulation	UK		2	•	•	•						•	
	2.2.3	Critique the current best practice in managing acute pain and distress in the pre-hospital environment	UK		2	•		•						•	
	2.2.4	Contrast the delivery of clinical care between the acute hospital and pre-hospital environments	UK	DR, LT, SL CL, EL	2	•		•						•	
2.2 Provide immediate pre-hospital clinical care	2.2.5	Describe strategies to optimise the delivery of immediate clinical care in the resource limited pre-hospital environment	UK		1(b)			•	•	•				•	
	2.2.6	Describe the applied pharmacology of commonly used medicines given in the pre-hospital environment to all age groups	UK		2	•	•	•	•					•	
	2.2.7	Demonstrate a structured primary assessment	TS	LT, DP, SL CL, EL	1(a)	•	•		•			•		•	
	2.2.8	**Demonstrate the immediate clinical interventions in all age groups for managing and supporting:**													
		(a) the airway	TS		1(b)	•	•		•	•		•			
		(b) ventilation	TS		1(b)	•	•		•	•		•			
		(c) circulation	TS		1(b)	•	•		•	•		•			
	2.2.9	Demonstrate the management of acute pain and distress in all age groups in the pre-hospital environment	TS	LT, DP, SL, CL, EL	1(b)	•	•		•	•		•			
	2.2.10	Demonstrate ability to provide safe and effective immediate clinical care in all age groups in the pre-hospital environment	TS		1(b)	•	•		•			•			
	2.2.11	Display a calm and methodical approach to providing immediate clinical care	NTS	RM, RP, SL, EL	1(b)	•	•		•		•	•			

(Continued)

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
2.3 Provide cardiopulmonary resuscitation in the pre-hospital environment	2.3.1	Describe the clinical features of impending cardiac arrest	UK	1(b)	•		•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi, 5, 6a
	2.3.2	Critique the role of CPR in pre-hospital care	UK	2	•		•						•	
	2.3.3	Describe the epidemiology of pre-hospital cardiac arrest within the EMS system	UK	2	•								•	
	2.3.4	Contrast the delivery of CPR between the hospital and pre-hospital environments	UK / DR, LT, SL, CL, EL	2	•								•	
	2.3.5	Describe the current United Kingdom Resuscitation Council guidance on CPR and emergency cardiovascular care for all age groups	UK	1(b)	•								•	
	2.3.6	Critique the evidence supporting decision-making related to outcomes of CPR	UK	2	•		•						•	
	2.3.7	Describe the current best practice in post-resuscitation care	UK	2	•		•						•	
	2.3.8	**Describe indications for pre-hospital:**												
		(a) Open chest cardiac compressions	UK	2	•		•		•				•	
		(b) Resuscitative thoracotomy	UK / DR, LT, SL, CL, EL	2	•		•		•				•	
		(c) Resuscitative hysterotomy	UK	2	•		•		•				•	
	2.3.9	Describe the policies and procedures for organ and tissue donation within the EMS system	TS	2	•		•						•	
	2.3.10	Demonstrate the ability to recognise risk of impending cardiac arrest	TS	1(b)	•	•		•						
	2.3.11	Demonstrate the application of strategies to prevent cardiac arrest	TS	1(b)	•	•		•			•			
	2.3.12	Demonstrate effective management of pre-hospital cardiac arrest	TS / LT, DP, SL, CL, EL	1(b)	•	•		•						
	2.3.13	Demonstrate the current best practice in post-resuscitation care	TS	2	•	•		•	•					
	2.3.14	Demonstrate appropriate application of the current United Kingdom Resuscitation Council guidelines in the pre-hospital environment	TS	1(b)	•			•						

Capability in Practice	Descriptor			Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 2. Providing pre-hospital emergency medical care													
	2.3.15	Demonstrate the ability to lead a cardiac arrest team in the pre-hospital environment	NTS		1(b)	•			•						2di, 2dii, 2diii, 2div, 2dvii, 2dv, 2dvi, 5, 6a
	2.3.16	Demonstrate the ability to inspire confidence in a multi-disciplinary pre-hospital cardiac arrest team	NTS	RM, RP SL, CL, EL	1(b)	•			•		•	•			
	2.3.17	Demonstrates the ability to make rational end of life decisions	NTS		1(b)	•			•		•	•			
	2.4.1	Describe the epidemiology of acute medical emergencies within the EMS system	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi, 2dvii
		Describe the immediate pre-hospital emergency management of the following acute medical presentations:													
2.4 Manage acute medical emergencies in the pre-hospital environment	2.4.2	(a) Airway obstruction/choking/stridor	UK		1(b)	•	•	•						•	
		(b) Acute breathlessness	UK		1(b)	•	•	•						•	
		(c) Acute chest pain	UK		1(b)	•	•	•						•	
		(d) Hypotension and shock	UK		1(b)	•	•	•						•	
		(e) Palpitations and cardiac arrhythmia	UK	DR, LT, SL, CL, EL	1(b)	•	•	•						•	
		(f) Acute headache	UK		1(b)	•	•	•						•	
		(g) Acute vomiting	UK		1(b)	•	•	•						•	
		(h) Acute abdominal/loin/scrotal pain	UK		1(b)	•	•	•						•	
		(i) Acute confusional state	UK		1(b)	•	•	•						•	
		(j) Collapse/Transient loss of consciousness	UK		1(b)	•	•	•						•	
		(k) The unconscious patient	UK		1(b)	•	•	•						•	

(Continued)

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
2.4 Manage acute medical emergencies in the pre-hospital environment (cont.)	2.4.2 cont.	(l) Intoxication and poisoning	UK	DR, LT, SL, CL, EL	1(b)	•	•	•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi
		(m) The fitting patient	UK		1(b)	•	•	•						•	
		(n) Acute allergic reaction	UK		1(b)	•	•	•						•	
		(o) Acute non-traumatic neck/back pain	UK		1(b)	•	•	•						•	
		(p) Sudden weakness/paralysis/abnormal sensation	UK		1(b)	•	•	•						•	
		(q) Acute visual disturbance/red eye	UK		1(b)	•	•	•						•	
		(r) Acute febrile illness	UK		1(b)	•	•	•						•	
		(s) Acute gastrointestinal haemorrhage	UK		1(b)	•	•	•						•	
		(t) Acute limb pain and/or swelling	UK		1(b)	•	•	•						•	
		(u) Acute rash	UK		1(b)	•	•	•						•	
		(v) Acute haemoptysis	UK		1(b)	•	•	•						•	
		(w) Acute epistaxis	UK		1(b)	•	•	•						•	
		(x) Acute pain	UK		1(b)	•	•	•						•	
		(y) Acute thermal illness	UK		1(b)	•	•	•						•	
		(z) Bites, stings and envenomation	UK		1(b)	•	•	•						•	
	2.4.3	**Describe the applied pharmacology of medicines commonly used in the immediate management of:**													
		(a) Airway obstruction/choking/stridor	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice		Descriptor	Learning Methods	A	Assessment Methods									GPCs
					KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
2.4 Manage acute medical emergencies in the pre-hospital environment (cont.)	2.4.3 cont.	(b) Acute breathlessness	UK	1(b)	•		•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi
		(c) Acute chest pain	UK	1(b)	•		•						•	
		(d) Hypotension and shock	UK	1(b)	•		•						•	
		(e) Palpitations and cardiac arrhythmia	UK	1(b)	•		•						•	
		(f) Acute headache	UK	1(b)	•		•						•	
		(g) Acute vomiting	UK	1(b)	•		•						•	
		(h) Acute abdominal/loin/scrotal pain	UK	1(b)	•		•						•	
		(i) Acute confusional state	UK	1(b)	•		•						•	
		(j) Collapse/Transient loss of consciousness	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(k) The unconscious patient	UK	1(b)	•		•						•	
		(l) Intoxication and poisoning	UK	1(b)	•		•						•	
		(m) The fitting patient	UK	1(b)	•		•						•	
		(n) Acute allergic reaction	UK	1(b)	•		•						•	
		(o) Acute non-traumatic neck/back pain	UK	1(b)	•		•						•	
		(p) Sudden weakness/paralysis/abnormal sensation	UK	1(b)	•		•						•	
		(q) Acute visual disturbance/red eye	UK	1(b)	•		•						•	
		(r) Acute febrile illness	UK	1(b)	•		•						•	

(Continued)

Capability in Practice	Descriptor		Learning Methods		Assessment Methods									GPCs
			Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
	Theme 2. Providing pre-hospital emergency medical care													2di, 2dii, 2diii, 2div, 2dv, 2dvi
	(s) Acute gastrointestinal haemorrhage	UK		1(b)	•		•						•	
	(t) Acute limb pain and/or swelling	UK		1(b)	•		•						•	
	(u) Acute rash	UK		1(b)	•		•						•	
	(v) Acute haemoptysis	UK		1(b)	•		•						•	
	(w) Acute epistaxis	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	(x) Acute pain	UK		1(b)	•		•						•	
	(y) Acute thermal illness	UK		1(b)	•		•						•	
	(z) Bites, stings and envenomation	UK		1(b)	•		•						•	
2.4 Manage acute medical emergencies in the pre-hospital environment (cont.)	2.4.4 Critique the diagnostic technologies that can be used to assist in differentiating the causes of acute medical presentations in the pre-hospital phase	UK		2			•						•	
	2.4.5 **Critique the current best practice in the pre-hospital management of:**													
	(a) Anaphylaxis	UK		2	•		•						•	
	(b) Asthma	UK		2	•		•						•	
	(c) Coronary heart disease	UK	DR, LT, SL, CL, EL	2	•		•						•	
	(d) Sepsis	UK		2	•		•						•	
	(e) Meningoencephalitis	UK		2	•		•						•	
	(f) Stroke	UK		2	•		•						•	
	(g) Diabetic emergencies	UK		2	•		•						•	

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice		Descriptor		Learning Methods	A	Assessment Methods									GPCs
						KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
2.4 Manage acute medical emergencies in the pre-hospital environment (cont.)	2.4.6	Describe alternative pathways to accessing urgent and unscheduled care within the EMS system	UK	DR, LT, SL, CL, EL	2	•								•	2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.4.7	Describe guidelines for safely leaving patients at home or scene within the EMS system	UK	EL	2			•						•	
	2.4.8	Demonstrate the ability to formulate differential diagnoses for an acute emergency presentation	TS	LT, DP, SL, CL, EL	1(b)	•	•	•	•			•			
	2.4.9	**Demonstrate the immediate pre-hospital emergency management of the following acute medical presentations:**													
		(a) Airway obstruction/choking/stridor	TS		1(b)	•	•		•						
		(b) Acute breathlessness	TS		1(b)	•	•		•						
		(c) Acute chest pain	TS		1(b)	•	•		•						
		(d) Hypotension and shock	TS		1(b)	•	•		•						
		(e) Palpitations and cardiac arrhythmia	TS		1(b)	•	•		•						
		(f) Acute headache	TS	LT, DP, SL, CL, EL	1(b)	•	•		•						
		(g) Acute vomiting	TS		1(b)	•	•		•						
		(h) Acute abdominal/loin/scrotal pain	TS		1(b)	•	•		•						
		(i) Acute confusional state	TS		1(b)	•	•		•						
		(j) Collapse/Transient loss of consciousness	TS		1(b)	•	•		•						
		(k) The unconscious patient	TS		1(b)	•	•		•						
		(l) Intoxication and poisoning	TS		1(b)	•	•		•						

(Continued)

103

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice	Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	(m) The fitting patient	TS	1(b)		•		•						2di, 2dii, 2diii, 2div, 2dv, 2dvi
	(n) Acute allergic reaction	TS	1(b)		•		•						
	(o) Acute non-traumatic neck/back pain	TS	1(b)		•		•						
	(p) Sudden weakness/paralysis/abnormal sensation	TS	1(b)		•		•						
2.4.9 cont.	(q) Acute visual disturbance/red eye	TS	1(b)		•		•						
	(r) Acute febrile illness	TS	1(b)		•		•						
	(s) Acute gastrointestinal haemorrhage	TS	1(b)		•		•						
	(t) Acute limb pain and/or swelling	TS	1(b)		•		•						
	(u) Acute rash	TS	LT, DP, SL, CL, EL	1(b)		•		•					
	(v) Acute haemoptysis	TS		1(b)		•		•					
	(w) Acute epistaxis	TS		1(b)		•		•					
	(x) Acute pain	TS		1(b)		•		•					
2.4 Manage acute medical emergencies in the pre-hospital environment (cont.)	(y) Acute thermal illness	TS	1(b)		•		•						
	(z) Bites, stings and envenomation	TS	1(b)		•		•						
2.4.10	Demonstrate the appropriate use of alternative pathways to accessing urgent and unscheduled care for acute medical conditions	TS	2		•		•			•			
2.4.11	Demonstrate the use of guidelines for safely leaving patients at home or scene within the EMS system	TS	2		•		•			•			
2.4.12	Demonstrate an appropriately confident approach to management and decision-making for acute medical emergencies	NTS	RM, RP, SL, CL, EL	2		•		•		•	•		

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
Theme 2. Providing pre-hospital emergency medical care															
	2.4.13	Display a calm and methodical approach to acute medical emergencies	NTS	RM, RP, SL, CL, EL	2	•	•		•		•	•			2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.4.14	Display respect for the contribution and expertise of other pre-hospital clinicians	NTS		2	•	•		•		•	•			
	2.5.1	Define injury	UK		1(b)	•	•	•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.5.2	Contrast the terms 'injury' and 'trauma'	UK		1(b)	•	•	•						•	
	2.5.3	Describe the epidemiology of severe injury and major trauma within the EMS system	UK	DR, LT, SL, CL, EL	1(b)	•	•	•						•	
	2.5.4	Describe the function and procedures of the local trauma system	UK		1(a)	•	•	•						•	
	2.5.5	Contrast the pathophysiology of different types of injury in all age groups	UK		1(b)	•	•	•	•					•	
	2.5.6	Describe the influence of injury mechanisms on anatomical injury patterns	UK		1(b)	•	•	•						•	
2.5 Manage injuries in the pre-hospital environment	2.5.7	Describe the principles of the pre-hospital management of patients across the spectrum of injury severity	UK		1(b)	•	•	•	•					•	
	2.5.8	Contrast the management of the trauma patient in pre-hospital and acute hospital environments	UK		1(b)	•	•	•						•	
	2.5.9	**Describe the immediate pre-hospital management in all age groups of the following:**													
		(a) Injuries to the head	UK		1(a)	•	•	•	•					•	
		(b) Injuries to the face	UK		1(a)	•	•	•	•					•	
		(c) Injuries to the neck	UK	DR, LT, SL, CL, EL	1(a)	•	•	•	•					•	
		(d) Injuries to the thorax	UK		1(a)	•	•	•	•					•	
		(e) Injuries to the abdomen	UK		1(a)	•	•	•	•					•	
		(f) Injuries to the spine	UK		1(a)	•	•	•	•					•	

(Continued)

105

Capability in Practice	Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 2. Providing pre-hospital emergency medical care												
2.5 Manage injury in the pre-hospital environment (cont.)													2di, 2dii, 2diii, 2div, 2dv, 2dvi
2.5.9 (cont.)	(g) Injuries to the pelvis		1(a)	•	•	•	•					•	
	(h) Injuries to the limbs		1(a)	•	•	•	•					•	
	(i) Injuries involving multiple body regions		1(a)	•	•	•	•					•	
	(j) Thermal injury		1(a)	•	•	•	•					•	
	(k) Electrocution	DR, LT, SL, CL, EL	1(a)	•	•	•	•					•	
	(l) Ballistic and blast injury		1(a)	•	•	•	•					•	
	(m) Traumatic asphyxia		1(a)	•	•	•	•					•	
	(n) Dysbarism		1(a)	•	•	•	•					•	
	(o) Crush injury		1(b)	•	•	•	•					•	
	(p) Drowning		1(b)	•	•	•	•					•	
2.5.10	**Critique the current best practice for all ages in pre-hospital:**												
	(a) Airway management		2	•		•						•	
	(b) Ventilatory support		2	•		•						•	
	(c) Haemorrhage control		2	•		•						•	
	(d) Fluid resuscitation	DR, LT, SL, CL, EL	2	•		•						•	
	(e) Spinal immobilization		2	•		•						•	
	(f) Neuroprotection		2	•		•						•	
2.5.11	Describe approaches to injury prevention and control in all age groups	UK	1(b)	•	•	•						•	
2.5.12	Demonstrate the ability to formulate differential diagnoses for the injured patient	LT, DP SL, CL, EL	1(b)				•			•			

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Demonstrate the immediate pre-hospital management of the following (in patients of all age groups):													
	(a) Injuries to the head	TS		1(b)	•			•						
	(b) Injuries to the face	TS		1(b)	•			•						
	(c) Injuries to the neck	TS		1(b)	•			•						
	(d) Injuries to the thorax	TS		1(b)	•			•						
	(e) Injuries to the abdomen	TS		1(b)	•			•						2di, 2dii, 2diii, 2div, 2dv, 2dvi
	(f) Injuries to the spine	TS		1(b)	•			•						
2.5.13	(g) Injuries to the pelvis	TS		1(b)	•			•						
	(h) Injuries to the limbs	TS		1(b)	•			•						
2.5 Manage injury in the pre-hospital environment (cont.)	(i) Injuries involving multiple body regions	TS		1(b)	•			•						
	(j) Thermal injury	TS	LT, DP	1(b)	•			•						
	(k) Electrocution	TS	SL, CL, EL	1(b)	•			•						
	(l) Ballistic and blast injury	TS		1(b)	•			•						
	(m) Traumatic asphyxia	TS		1(b)	•			•						
	(n) Dysbarism	TS		1(b)	•			•						
	(o) Crush injury	TS		1(b)	•			•						
	(p) Drowning	TS		1(b)	•			•						
	2.5.14 Demonstrate appropriate use of alternative pathways to accessing urgent and unscheduled care for injury	TS		2		•		•			•			
	2.5.15 Demonstrate the use of guidelines for safely leaving patients with injuries at home or at scene within the EMS system	TS		2		•		•			•			

(Continued)

Capability in Practice	Descriptor		Learning Methods		A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 2. Providing pre-hospital emergency medical care														
2.5 Manage injury in the pre-hospital environment (cont.)	2.5.16	Demonstrate participation in injury prevention programmes	TS	LT, DP SL, CL, EL	2		•		•			•		•	2di, 2dii, 2diii, 2div, 2dvi, 2dv, 2dvi
	2.5.17	Demonstrate an appropriately confident and methodical approach to management and decision-making for injuries	NTS		2		•		•		•	•			
	2.5.18	Demonstrate the ability to lead a trauma team in the pre-hospital environment	NTS	RM, RP, SL, CL, EL	2		•	•	•		•	•			
	2.5.19	Demonstrate the ability to inspire confidence within a multi-disciplinary pre-hospital trauma team	NTS		2		•	•	•		•	•			
2.6 Provide analgesia, procedural sedation and anaesthesia in the pre-hospital environment	2.6.1	Describe the policies and procedures related to analgesia, procedural sedation and pre-hospital emergency anaesthesia within the EMS system	UK	DR, LT, SL, CL, EL	1(b)	•		•							2diii, 2div, 2dv
		Describe the applied pharmacology of medicines commonly used in all age groups for:													
	2.6.2	(a) Analgesia	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(b) Procedural sedation	UK		1(b)	•		•						•	
		(c) Emergency anaesthesia	UK	CL, EL	1(b)	•		•						•	
	2.6.3	**Critique the current best practice in all age groups for the provision of pre-hospital:**													
		(a) Analgesia	UK		2	•		•						•	
		(b) Procedural sedation	UK		2	•		•						•	
		(c) Emergency anaesthesia	UK	DR, LT, SL, CL, EL	2	•		•						•	
	2.6.4	Critique the role of regional anaesthetic techniques relevant to pre-hospital practice	UK		2			•						•	
	2.6.5	Critique the technique of rapid sequence induction of anaesthesia in the pre-hospital environment	UK		2			•							
	2.6.6	**Describe the applied physiology of analgesia, procedural sedation and pre-hospital emergency anaesthesia in all age groups relating to:**													
		(a) Airway instrumentation	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice	Descriptor			Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		(b) Ventilation	UK	DR, LT,	1(b)	•		•						•	
		(c) Cardiovascular status	UK	SL, CL,	1(b)	•		•						•	
		(d) Neuroprotection	UK	EL	1(b)	•		•						•	
2.6 Provide analgesia, procedural sedation and anaesthesia in the pre-hospital environment (cont.)	2.6.7	**Describe the additional considerations for pre-hospital emergency anaesthesia in:**													
		(a) Infants and children	UK		2	•		•	•					•	2diii, 2div, 2dv
		(b) Bariatric patients	UK		2	•		•	•					•	
		(c) Pregnant patients	UK	DR, LT, SL, CL, EL	2	•		•	•					•	
		(d) Elderly patients	UK	EL	2	•		•	•					•	
	2.6.8	Describe the management of the difficult airway in the pre-hospital environment	UK		1(a)	•		•	•					•	
	2.6.9	**Analyse the impact of the pre-hospital environment on decision-making in all age groups related to:**													
		(a) Analgesia	UK		1(b)	•		•							
		(b) Procedural sedation	UK		1(b)	•		•							
		(c) Pre-anaesthetic assessment	UK	DR, LT, SL, CL, EL	1(b)	•		•							
		(d) The predicted difficult airway	UK	EL	1(b)	•		•							
		(e) The failed airway	UK		1(b)	•		•							
		(f) Maintenance of anaesthesia	UK		1(b)	•		•							

(Continued)

Capability in Practice	Descriptor		Learning Methods	A	Assessment Methods									GPCs
					KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
Theme 2. Providing pre-hospital emergency medical care														
2.6 Provide analgesia, procedural sedation and anaesthesia in the pre-hospital environment (cont.)	2.6.10	**Describe the pre-hospital management of anaesthetic-related complications:**												2diii, 2div, 2dv
		(a) Hyper/hypotension	UK	1(b)	•		•						•	
		(b) Hypoxia	UK	1(b)	•		•						•	
		(c) Hyper/Hypocarbia	UK	1(b)	•		•						•	
		(d) High inflation pressures	UK	1(b)	•		•						•	
		(e) Low inflation pressures	UK	1(b)	•		•						•	
		(f) Tracheal tube displacement	UK	1(b)	•		•						•	
		(g) Gastric insufflation	UK DR, LT, SL, CL, EL	1(b)	•		•						•	
		(h) Regurgitation / vomiting	UK	1(b)	•		•						•	
		(i) Unplanned extubation	UK	1(b)	•		•						•	
	2.6.11	Describe the regulatory framework underpinning pre-hospital emergency anaesthesia.	UK	1(b)	•		•						•	
	2.6.12	Critique published guidelines related to the clinical practice of pre-hospital procedural sedation and emergency anaesthesia	UK	2			•						•	
	2.6.13	**Demonstrate appropriate risk/benefit analysis for all age groups for pre-hospital:**												
		(a) Analgesia	TS	1(b)		•	•	•			•			
		(b) Regional anaesthesia	TS LT, DP, SL, CL, EL	1(b)		•	•	•			•			
		(c) Procedural sedation	TS	1(b)		•	•	•			•			
		(d) Emergency anaesthesia	TS	1(b)		•	•	•			•			

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
2.6 Provide analgesia, procedural sedation and anaesthesia in the pre-hospital environment (cont.)	2.6.14	**Demonstrate, in patients of all age groups, safe pre-hospital:**												2diii, 2div, 2dv
		(a) Analgesia	TS	1(b)		•		•	•					
		(b) Regional anaesthesia	TS	1(b)		•		•	•					
		(c) Procedural sedation	TS (LT, DP, SL, CL, EL)	1(b)		•		•	•					
		(d) Emergency anaesthesia	TS	1(b)		•		•	•					
	2.6.15	Demonstrate techniques for managing failed direct laryngoscopy	TS (EL)	1(b)		•		•	•					
	2.6.16	Demonstrate techniques for managing a difficult airway	TS	1(b)		•		•	•					
	2.6.17	**Demonstrate the pre-hospital management of anaesthesia-related complications:**												
		(a) Hyper/hypotension	TS	1(b)		•		•	•					
		(b) Hypoxia	TS	1(b)		•		•	•					
		(c) Hyper/Hypocarbia	TS	1(b)		•		•	•					
		(d) High inflation pressures	TS (LT, DP, SL, CL, EL)	1(b)		•		•	•					
		(e) Low inflation pressures	TS	1(b)		•		•	•					
		(f) Tracheal tube displacement	TS	1(b)		•		•	•					
		(g) Gastric insufflation	TS	1(b)		•		•						
		(h) Regurgitation / vomiting	TS	1(b)		•		•						
		(i) Unplanned extubation	TS	1(b)		•		•						

(Continued)

111

Capability in Practice	Descriptor		Learning Methods		A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 2. Providing pre-hospital emergency medical care														
2.6 Provide analgesia, procedural sedation and anaesthesia in the pre-hospital environment (cont.)	2.6.18	**Demonstrate, in patients of all age groups, an appropriately confident and methodical approach to:**													2diii, 2div, 2dv
		(a) Analgesia	NTS		1(b)				•		•	•			
		(b) Regional anaesthesia	NTS	RM, RP,	1(b)				•		•	•			
		(c) Procedural sedation	NTS	SL, EL	1(b)				•		•	•			
		(d) Emergency anaesthesia.	NTS		1(b)				•		•	•			
	2.7.1	Describe the anatomic and physiologic changes of pregnancy	UK	DR, LT, SL, CL,	1(b)	•	•	•						•	2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.7.2	Describe the stages of labour, the process of delivery and the common complications	UK	EL	1(b)	•	•	•						•	
2.7 Manage obstetric emergencies in the pre-hospital environment	2.7.3	**Differentiate acute pre-hospital presentations related:**													
		(a) directly to pregnancy	UK		1(b)	•		•							
		(b) to labour and childbirth	UK	DR, LT,	1(b)	•		•							
		(c) to acute medical emergencies in a pregnant patient	UK	SL, CL, EL	1(b)	•		•							
		(d) to injury in a pregnant patient	UK		1(b)	•		•							
	2.7.4	**Critique pre-hospital management strategies for:**													
		(a) Ante-partum haemorrhage	UK		1(b)			•						•	
		(b) Post-partum haemorrhage	UK	DR, LT,	1(b)			•						•	
		(c) Obstructed labour	UK	SL, CL, EL	1(b)			•						•	
		(d) Cardiac arrest	UK		1(b)			•						•	

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 2. Providing pre-hospital emergency medical care												
	2.7.5	Describe the applied pharmacology of emergency care of the pregnant patient	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.7.6	Contrast the options for emergency pre-hospital delivery	UK		1(b)			•						•	
	2.7.7	Demonstrate the assessment of the pregnant patient in the pre-hospital environment	TS	LT, DP, SL, CL, EL	2		•		•						
2.7 Manage obstetric emergencies in the pre-hospital environment (cont.)		**Demonstrate pre-hospital management of:**													
	2.7.8	(a) a patient with a pregnancy related emergency	TS		2		•		•						
		(b) emergency childbirth	TS		2		•		•	•					
		(c) an acute medical emergency in a pregnant patient	TS		2		•		•						
		(d) major trauma in a pregnant patient	TS	LT, DP, SL, CL, EL	2		•		•						
	2.7.9	Demonstrate effective physical manoeuvres in abnormal labour and post-partum haemorrhage	TS		2		•		•	•					
	2.7.10	Demonstrate the technique for resuscitative hysterotomy	TS		2		•		•	•					
	2.7.11	Demonstrate the technique for emergency episiotomy	TS		2		•		•	•					
2.8 Manage the newborn in the pre-hospital environment	2.8.1	Describe the applied physiology and anatomy of the newborn baby	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.8.2	Describe the initial care of the newborn	UK		1(b)	•		•						•	
	2.8.3	Describe conditions of the newborn commonly encountered in the pre-hospital setting	UK		1(b)	•		•						•	

(Continued)

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
2.8 Manage the newborn in the pre-hospital environment (cont.)	2.8.4	Contrast the differences in general care between term and pre-term newborns	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.8.5	Critique the role of newborn life support in the pre-hospital environment	UK	CL, EL	1(b)			•						•	
	2.8.6	Demonstrate provision of care to the newborn in the pre-hospital environment	TS	LT, DP, SL, CL, EL	1(b)		•		•						
	2.8.7	Demonstrate resuscitation of the newborn	TS		1(b)		•			•					
	2.8.8	Demonstrate the ability to recognise the emotional needs of the mother and family	NTS	RM, RP, SL, CL, EL	1(b)		•		•						
2.9 Manage the ill of injured child in the pre-hospital environment	2.9.1	Describe the epidemiology of severe illness in the paediatric pre-hospital population	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi, 3b, 7
	2.9.2	Describe the applied anatomy and physiology of the infant and child	UK	CL, EL	1(b)	•		•	•					•	
	2.9.3	**Describe the immediate pre-hospital emergency management of the following acute medical presentations in infants and children:**													
		(a) Airway obstruction/choking/stridor	UK		1(b)	•		•						•	
		(b) Acute respiratory distress	UK		1(b)	•		•						•	
		(c) Central cyanosis	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(d) Shock	UK		1(b)	•		•						•	
		(e) Abnormal pulse rate or rhythm	UK		1(b)	•		•						•	
		(f) Decreased conscious level	UK		1(b)	•		•						•	
		(g) Seizures	UK		1(b)	•		•						•	
		(h) Sudden weakness/paralysis/abnormal sensation	UK		1(b)	•		•						•	

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 2. Providing pre-hospital emergency medical care													2di, 2dii, 2diii, 2div, 2dv, 2dvi, 3b, 7
	(i) Intoxication and poisoning	UK		1(b)	•		•						•	
	(j) Hypoglycaemia	UK		1(b)	•		•						•	
	(k) Acute vomiting	UK		1(b)	•		•						•	
	(l) Acute abdominal/loin/scrotal pain	UK		1(b)	•		•						•	
2.9.3 cont.	(m) Acute febrile illness	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	(n) Acute rash	UK		1(b)	•		•						•	
	(o) Acute pain	UK		1(b)	•		•						•	
2.9 Manage the ill or injured child in the pre-hospital environment (cont.)	(p) Bites, stings and envenomation	UK		1(b)	•		•						•	
	(q) Acute allergic reaction	UK		1(b)	•		•						•	
	(r) Non-accidental injury	UK		1(b)	•		•						•	
	Critique the current best practice in the pre-hospital management of:													
	(a) Infectious upper airway compromise	UK		2	•		•						•	
	(b) Asthma	UK		2	•		•						•	
2.9.4	(c) Anaphylaxis	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	(d) Sepsis	UK		1(b)	•		•						•	
	(e) Meningoencephalitis	UK		1(b)	•		•						•	
	(f) Status epilepticus	UK		1(b)	•		•						•	
	(g) Diabetic emergencies	UK		2	•		•						•	

(Continued)

115

Capability in Practice	Descriptor			Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 2. Providing pre-hospital emergency medical care														
	2.9.5	Describe the applied pharmacology of commonly used medicines given in the pre-hospital environment to newborns, infants and children	UK		2	•		•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi, 2viii, 3b, 7
	2.9.6	Explain why drug prescribing in children should be based on a paediatric specific formulary	UK		1(b)	•		•						•	
	2.9.7	Describe fluid management in critical illness or injury in all age groups	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	2.9.8	Describe the policies and procedures for safeguarding children within the EMS system	UK		1(b)	•		•						•	
	2.9.9	Differentiate the types of child abuse (neglect, emotional, physical and sexual abuse)	UK		1(a)	•		•						•	
2.9 Manage the ill of injured child in the pre-hospital environment (cont.)	2.9.10	Critique signs of physical abuse suggestive of non-accidental injury	UK		1(a)	•	•	•	•					•	
	2.9.11	Analyse the organisation of paediatric critical care and how this may influence pre-hospital destination triage decisions	UK		1(b)	•	•	•	•			•		•	
	2.9.12	Demonstrate the ability to formulate differential diagnoses for an acute, undifferentiated emergency presentation in all age groups	TS	LT, DP, SL, CL, EL	1(b)	•	•	•	•						
	2.9.13	**Demonstrate the immediate pre-hospital emergency management of the following acute medical presentations in children:**													
		(a) Airway obstruction/choking/stridor	TS		1(b)	•	•	•	•						
		(b) Acute respiratory distress	TS		1(b)	•	•	•	•						
		(c) Central cyanosis	TS	LT, DP, SL, CL, EL	1(b)	•	•	•	•						
		(d) Shock	TS		1(b)	•	•	•	•						
		(e) Abnormal pulse rate or rhythm	TS		1(b)	•	•	•	•						
		(f) Decreased conscious level	TS		1(b)	•	•	•	•						
		(g) Seizures	TS		1(b)	•	•	•	•						

Capability in Practice	Descriptor		Learning Methods	A	Assessment Methods									GPCs
					KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
	Theme 2. Providing pre-hospital emergency medical care													
2.9 Manage the ill of injured child in the pre-hospital environment (cont.)	2.9.13 cont.	(h) Sudden weakness/paralysis/abnormal sensation	TS	1(b)		•		•						2di, 2dii, 2diii, 2div, 2dvi, 3b, 7
		(i) Intoxication and poisoning	TS	1(b)		•		•						
		(j) Hypoglycaemia	TS	1(b)		•		•						
		(k) Acute vomiting	TS	1(b)		•		•						
		(l) Acute abdominal/loin/scrotal pain	TS	LT, DP, SL, CL, EL	1(b)		•		•					
		(m) Acute febrile illness	TS	1(b)		•		•						
		(n) Acute rash	TS	1(b)		•		•						
		(o) Acute pain	TS	1(b)		•		•						
		(p) Bites stings and envenomation	TS	1(b)		•		•						
		(q) Acute allergic reaction	TS	1(b)		•		•						
		(r) Non-accidental injury	TS	1(b)		•		•						
	2.9.14	**Demonstrate the pre-hospital management of:**												
		(a) Infectious upper airway compromise	TS	1(b)		•		•						
		(b) Asthma	TS	1(b)		•		•						
		(c) Anaphylaxis	TS	LT, DP, SL, CL, EL	1(b)		•		•					
		(d) Sepsis	TS	1(b)		•		•						
		(e) Meningoencephalitis	TS	1(b)		•		•						
		(f) Status epilepticus	TS	1(b)		•		•						
		(g) Diabetic emergencies	TS	1(b)		•		•						

(Continued)

Theme 2. Providing pre-hospital emergency medical care

Capability in Practice	Descriptor			A (Learning Methods)	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
2.9 Manage the ill of injured child in the pre-hospital environment (cont.)	2.9.15	Demonstrate adaptations to clinical practice necessary for performing effective clinical examination and interventions in all age groups	TS	LT, DP, SL, CL, EL	1(b)		•		•			•			2di, 2dii, 2diii, 2div, 2dv, 2dvi, 3b, 7
	2.9.16	Demonstrate the ability to manage a child refusing treatment for a possible life-threatening condition	NTS	EL	1(b)		•		•			•			
	2.9.17	Demonstrate appropriately confident and methodical approach to management and decision-making for paediatric medical emergencies	NTS	RM, RP, SL, CL, EL	1(b)		•		•			•			
	2.9.18	Demonstrates ability to treat children with patience, dignity and respect	NTS	EL	1(b)		•		•		•	•			
2.10 Manage the bariatric patient in the pre-hospital environment	2.10.1	Describe the applied anatomy and physiology of the bariatric patient	UK		2	•		•						•	2di, 2dii, 2diii, 2div, 2dv, 2dvi
	2.10.2	Critique the limitations of standard clinical equipment and monitoring in the bariatric patient	UK		2			•						•	
	2.10.3	Describe the applied pharmacology of commonly used pre-hospital drugs in bariatric patients	UK	DR, LT, SL, CL, EL	2	•		•						•	
	2.10.4	Critique ventilation strategies in bariatric patients	UK		2	•		•						•	
	2.10.5	Critique the limitations of rescue equipment and vehicles for bariatric patients	UK		2	•		•						•	
	2.10.6	Describe the policies and procedures for the transport of bariatric patients within the EMS system	UK		2	•	•	•						•	
	2.10.7	Describe strategies to facilitate rescue and extrication of the bariatric patient	UK		2	•	•	•							
	2.10.8	Demonstrate a calculation of ideal body weight in bariatric patients	TS	LT, DP, SL, CL, EL	2	•	•	•	•					•	
	2.10.9	Select appropriate manual handling adjuncts for moving bariatric patients	TS	EL	2		•	•	•	•				•	

Capability in Practice	Descriptor		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
			Theme 2. Providing pre-hospital emergency medical care												
2.11 Manage the elderly patient in the pre-hospital environment		2.11.1	Describe the applied anatomy and physiology of ageing	UK	1(b)	•		•						•	2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi, 7
		2.11.2	Describe the epidemiology of injury and illness in the elderly population	UK	1(b)	•		•						•	
		2.11.3	Critique the effect of polypharmacy in the elderly	UK	1(b)	•		•	•					•	
		2.11.4	Describe the applied pharmacology of commonly used drugs used in the pre-hospital environment in elderly patients	UK, DR, LT, SL, CL, EL	1(b)	•		•							
		2.11.5	Describe the policies and procedures for protecting vulnerable adults within the EMS system	UK	1(b)	•		•						•	
		2.11.6	Analyse wider psychosocial issues in pre-hospital triage and decision-making for elderly patients	UK	1(b)	•	•	•	•			•		•	
2.12 Manage acutely disturbed behaviour in the pre-hospital environment		2.12.1	Categorise the range of mental health disorders presenting as pre-hospital emergencies	UK	2	•		•						•	2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi, 3b, 4, 7
		2.12.2	Describe acute mental health service provision within the EMS system	UK	2	•		•						•	
		2.12.3	Explain the multi-disciplinary nature of child and adolescent mental health services	UK, DR, LT, SL, CL, EL	2	•		•						•	
		2.12.4	Differentiate organic brain syndromes from acute psychiatric illness	UK	2	•	•	•						•	
		2.12.5	Explain why acutely disturbed behaviour can be a cause or consequence of illness of injury	UK	2	•	•	•				•		•	
			Describe strategies for undertaking a pre-hospital:												
	2.12.6	(a)	Mental state examination	UK	2	•		•						•	
		(b)	Self-harm risk assessment	UK, DR, LT, SL, EL	2	•		•						•	
		(c)	Suicide risk assessment	UK, CL, EL	2	•		•						•	
		(d)	Violence risk assessment	UK	2	•		•						•	
			Describe strategies for:												
	2.12.7	(a)	Control and restraint	UK, DR, LT, SL, EL	2	•		•						•	
		(b)	Rapid tranquilisation	UK, CL, EL	2	•		•						•	

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
														Assessment Methods
Theme 2. Providing pre-hospital emergency medical care														
2.12 Manage acute behavioural disturbance in the pre-hospital environment (cont.)	2.12.8	**Demonstrate strategies for undertaking a pre-hospital:**												2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi, 3b, 4, 7
		(a) Mental state examination	NTS	2		•		•			•			
		(b) Self-harm risk assessment	NTS	2		•		•			•			
		(c) Suicide risk assessment	NTS	LT, DP, SL, CL, EL	2		•		•			•			
		(d) Violence risk assessment	NTS	2		•		•			•			
	2.12.9	**Demonstrate strategies for:**												
		(a) Control and restraint	TS	LT, DP, SL, CL, EL	2		•		•			•			
		(b) Rapid tranquilisation	TS	2		•		•			•			
2.13 Provide end-of-life care and immediate management of bereavement	2.13.1	**Describe the management of a pre-hospital death involving:**												2di, 2dii, 2diii, 2div, 2dv, 2dvi, 3b, 7
		(a) An adult	UK	2	•	•	•						•	
		(b) An infant or child	UK	DR, LT, SL, CL, EL	2	•	•	•						•	
		(c) Multiple casualties	UK	2	•	•	•						•	
	2.13.2	Describe the variations in approach to death among different cultural and religious groups	UK	2	•	•	•						•	
	2.13.3	Demonstrate the ability to complete the administrative requirements pertaining to a death in the pre-hospital environment.	TS	LT, SL, DP, CL, EL	2		•		•			•			
	2.13.4	Demonstrate the ability to manage end of life decisions and care in the pre-hospital environment	NTS	RM, RP, SL, EL	2		•		•			•			
	2.13.5	Display a professional and sensitive approach to relatives and colleagues following a pre-hospital death	NTS	2		•		•			•			

Using Pre-Hospital Equipment

Pre-hospital emergency medical practice utilises a wide range of medicines, devices and portable equipment, both at the scene and whilst in-transit.

Learning Outcomes

- **On completion of introductory training, the trainee will** be able to administer medicines and safely operate commonly used medical and non-medical equipment in the pre-hospital environment.

- **On completion of developmental training, the trainee will** be able to demonstrate understanding of the regulation and application of medicines and equipment in a broader range of pre-hospital operational environments.

- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will** be competent in the administration of medicines, and the application and operation of devices and portable equipment required in pre-hospital and in-transit emergency care, appreciating the principles underlying their function and design.

Capabilities In Practice

3.1 Apply equipment governance principles and practice

3.2 Understand and use personal protective equipment

3.3 Operate all types of commonly used pre-hospital emergency medical devices

3.4 Operate common non-medical pre-hospital equipment

3.5 Manage and administer medicines

Theme 3. Using pre-hospital equipment

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
3.1 Apply equipment governance principles and practice	3.1.1	Categorise pre-hospital equipment	UK		1(a)	•		•						•	2dv
	3.1.2	Describe the principles of equipment governance	UK	DR, LT, SL, EL, CL	1(b)	•		•						•	
	3.1.3	Describe the relevance of the regulatory framework for medical devices	UK		1(b)	•		•						•	
		Demonstrate equipment governance procedures:													
	3.1.4	(a) in the pre-deployment phase	TS	DR, LT, SL, EL, DP	1(b)	•		•		•		•			
		(b) during deployment and clinical care	TS		1(b)	•	•			•		•			
		(c) on completion of deployment	TS		1(b)	•	•			•		•			
	3.1.5	Demonstrate a professional approach to equipment governance	NTS	RM, EL, SL	1(b)		•				•	•			
3.2 Understand and use personal protective equipment	3.2.1	Categorise personal protective equipment (PPE)	UK		1(a)	•		•		•				•	2dv, 2dvi
	3.2.2	Describe the principles underlying PPE function and design	UK	DR, LT, SL, EL, CL	1(a)	•		•						•	
	3.2.3	Describe when PPE must be used	UK		1(a)	•		•						•	
	3.2.4	Describe procedures for checking and maintaining PPE	UK		1(a)	•		•						•	
	3.2.5	Demonstrate the correct use of PPE	TS	DR, LT, SL, EL, DP	1(a)		•		•	•					
	3.2.6	Demonstrate the ability to operate whilst using PPE	TS		1(a)		•		•	•					
	3.2.7	Demonstrate a professional approach to the use of PPE	NTS	RM, EL, SL	1(b)		•		•		•	•			
	3.3.1	**Describe the principles underlying the function and design of pre-hospital:**													
		(a) Airway management devices	UK	DR, LT, SL, EL, CL	1(a)	•		•		•			•	•	

DR	Directed Reading	DP	Deliberate Practice	SL	Simulation Learning
RP	Reflective Practice	CL	Collaborative Learning	EL	Experiential Learning
LT	Lectures and Tutorials		
RM	Role Modeling		

Capability in Practice	Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 3. Using pre-hospital equipment												
3.3 Operate all types of commonly used pre-hospital emergency medical devices	3.3.1 (b) Ventilatory support devices		1(a)	•		•					•	•	
	(c) Devices for controlling haemorrhage		1(a)	•		•		•			•	•	
	(d) Devices for accessing the circulation		1(a)	•		•		•			•	•	
	(e) Devices for supporting the circulation		1(a)	•		•		•			•	•	
	(f) Devices for administering medicines and blood products		1(a)	•		•		•			•	•	
	(g) Devices for managing soft tissue injuries, wounds and burns	DR, LT, SL, EL, CL	1(a)	•		•		•			•	•	
	(h) Devices for immobilising joints, limbs and patients		1(a)	•		•					•	•	
	(i) Devices for near-patient testing		1(b)	•		•					•	•	
	(j) Devices for temperature management		1(b)	•		•					•	•	
	(k) Devices for non-invasive patient monitoring		1(a)	•		•		•			•	•	
	(l) Devices for invasive patient monitoring		1(b)	•		•					•	•	
	(m) Devices for imaging and diagnosis		2	•		•					•	•	
	(n) Devices for moving and handling patients		1(b)	•		•					•	•	
	3.3.2 **Contrast the effectiveness of different devices within each of:**												2dv
	(a) Airway management devices		1(b)	•	•	•		•				•	
	(b) Ventilatory support devices		1(b)	•	•	•		•				•	
	(c) Devices for controlling haemorrhage		1(b)	•	•	•		•				•	
	(d) Devices for accessing the circulation	DR, LT, SL, EL, CL	1(b)	•	•	•		•				•	
	(e) Devices for supporting the circulation		1(b)	•	•	•		•				•	
	(f) Devices for administering medicine and blood products		1(b)	•	•	•		•				•	
	(g) Devices for managing soft tissue injuries, wounds and burns		1(b)	•	•	•		•				•	

(Continued)

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 3. Using pre-hospital equipment												
3.3 Operate all types of commonly used pre-hospital emergency medical devices (cont.)	3.3.2	(h) Devices for immobilising joints, limbs and patients	UK	1(b)	•	•	•		•				•	2dv
		(i) Devices for near patient testing	UK	2	•	•	•		•				•	
		(j) Devices for temperature management	UK	2	•	•	•		•				•	
		(k) Devices for non-invasive patient monitoring	UK	1(a)	•	•	•		•				•	
		(l) Devices for invasive patient monitoring	UK	1(b)	•	•	•		•				•	
		(m) Devices for imaging and diagnosis	UK	2	•	•	•		•				•	
		(n) Devices for moving and handling patients	UK	1(a)	•	•	•		•				•	
	3.3.3	**Demonstrate confident and technically correct operation of:**												
		(a) Airway management devices	TS	1(a)	•	•	•	•	•		•			
		(b) Ventilatory support devices	TS	1(a)	•	•	•	•	•		•			
		(c) Devices for controlling haemorrhage	TS	1(a)	•	•	•	•	•		•			
		(d) Devices for accessing the circulation	TS	1(a)	•	•	•	•	•		•			
		(e) Devices for supporting the circulation	TS	1(a)	•	•	•	•	•		•			
		(f) Devices for administering medicine and blood products	TS	1(a)	•	•	•	•	•		•			
		(g) Devices for managing soft tissue injuries, wounds and burns	TS	1(b)	•	•	•	•	•		•			
		(h) Devices for immobilising joints, limbs and patients	TS	1(a)	•	•	•	•	•		•			
		(i) Devices for near patient testing	TS	1(b)	•	•	•	•	•		•			
		(j) Devices for temperature management	TS	1(b)	•	•	•	•	•		•			
		(k) Devices for non-invasive patient monitoring	TS	1(a)	•	•	•	•	•		•			
		(l) Devices for invasive patient monitoring	TS	1(b)	•	•	•	•	•		•			
		(m) Devices for imaging and diagnosis	TS	2	•	•	•	•	•		•			
		(n) Devices for moving and handling patients	TS	1(a)	•	•	•	•	•		•			

Learning Methods for 3.3.2 (j)–(l): DR, LT, SL, EL, CL

Learning Methods for 3.3.3 (g)–(h): DR, LT, SL, EL, CL

Theme 3. Using pre-hospital equipment

Capability in Practice		Descriptor	Learning Methods		A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
3.3 Operate all types of commonly used pre-hospital emergency medical devices (cont.)	3.3.4	**Demonstrate correct management of critical device failures and, where relevant, alarms within each of:**													2dv
		(a) Airway management devices	TS		1(a)	•	•		•	•		•			
		(b) Ventilatory support devices	TS		1(a)	•	•		•	•		•			
		(c) Devices for controlling haemorrhage	TS		1(a)	•	•		•	•		•			
		(d) Devices for accessing the circulation	TS		1(a)	•	•		•	•		•			
		(e) Devices for supporting the circulation	TS		1(a)	•	•		•	•		•			
		(f) Devices for administering medicine and blood products	TS		1(a)	•	•		•	•		•			
		(g) Devices for managing soft tissue injuries, wounds and burns	TS	DR, LT, SL, EL, CL	1(b)	•	•		•	•		•			
		(h) Devices for immobilising joints, limbs and patients	TS		1(a)	•	•		•	•		•			
		(i) Devices for near patient testing	TS		1(b)	•	•		•	•		•			
		(j) Devices for temperature management	TS		2	•	•		•	•		•			
		(k) Devices for non-invasive patient monitoring	TS		1(a)	•	•		•	•		•			
		(l) Devices for invasive patient monitoring	TS		1(b)	•	•		•	•		•			
		(m) Devices for imaging and diagnosis	TS		2	•	•		•	•		•			
		(n) Devices for moving and handling patients	TS		1(a)	•	•		•	•		•			
	3.3.5	Demonstrate a professional approach to maintaining knowledge and skills in the operation of medical equipment	NTS	RM, CL, EL, SL	1(b)		•				•	•			

(Continued)

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 3. Using pre-hospital equipment													
	3.4.1	**Describe the operation of common pre-hospital:**												2a, 3b
		(a) Communications equipment	UK	1(a)	•			•	•				•	
		(b) Audiovisual recording equipment	UK / DR, LT,	1(b)	•		•	•	•				•	
		(c) Incident management equipment	UK / SL, CL,	1(b)	•		•	•	•				•	
		(d) Navigation equipment	UK / EL	1(a)	•		•	•	•				•	
		(e) Information management equipment	UK	1(b)	•		•	•	•				•	
3.4 Operate common non-medical pre-hospital equipment	3.4.2	**Demonstrate confident and technically correct operation of:**												
		(a) Communications equipment	TS	1(a)		•		•	•		•			
		(b) Audiovisual recording equipment	TS / LT, SL,	1(b)		•		•	•		•			
		(c) Incident management equipment	TS / CL, EL,	1(b)		•		•	•		•			
		(d) Navigation equipment	TS / RP	1(a)		•		•	•		•			
		(e) Information management equipment	TS	1(b)		•		•	•		•			
	3.4.3	Demonstrate a professional approach to maintaining skills and knowledge in the operation of non-medical equipment	NTS / RM, SL, EL	1(b)			•	•		•	•			

126

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
									Assessment Methods					
		Theme 3. Using pre-hospital equipment												
	3.5.1	Describe the principles of good pre-hospital medicines management	UK	1(a)	•		•	•					•	
	3.5.2	Describe the principles of safe pre-hospital prescribing	UK	1(b)	•		•						•	
	3.5.3	Categorise medicines used in Pre-Hospital Emergency Medicine	UK	1(a)	•		•						•	
	3.5.4	Describe the relevance of the regulatory framework for medicines in multi-professional pre-hospital practice	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	3.5.5	Describe the application of controlled drugs legislation and procedures to pre-hospital practice	UK	1(b)	•		•				•		•	
	3.5.6	List medical gases in common pre-hospital use	UK	1(a)	•		•	•					•	
3.5 Manage and administer medicines	3.5.7	Describe the dangers of medical gases used in pre-hospital care and the precautions that ensure safety during administration	UK	1(a)	•		•	•					•	
	3.5.8	List blood products in pre-hospital use	UK	1(b)	•		•	•					•	
	3.5.9	Demonstrate safe prescription and dispensing of medicines	TS	1(b)		•		•	•		•			
	3.5.10	Demonstrate preparation of medicines for parenteral use	TS	1(a)		•	•	•	•		•			
	3.5.11	Demonstrate safe and effective administration of medicines by all routes	TS	1(a)		•	•	•	•		•			
	3.5.12	Demonstrate compliance with legislation related to Controlled Drugs	TS	LT, SL, CL, EL	1(a)		•		•	•		•			
	3.5.13	Demonstrate safe use of a medical gas cylinder	TS	1(a)		•	•	•	•		•			
	3.5.14	Demonstrate safe handling, transport and storage of medical gas cylinders in the pre-hospital environment	TS	1(b)		•	•	•	•		•			
	3.5.15	Demonstrate safe and effective administration of blood products	TS	1(b)		•	•	•	•	•				
	3.5.16	Demonstrate a professional approach to management and administration of medicines	NTS	RM, SL, CL, EL	1(b)		•	•	•	•				2div

Supporting Rescue and Extrication

Pre-hospital emergency medical services are frequently targeted at patients who, because of entrapment, local geography or functional geographic constraints, cannot simply be taken to the nearest appropriate hospital.

Learning Outcomes

- **On completion of introductory training, the trainee will** be able to work safely in the common pre-hospital entrapment situations, undertake dynamic risk assessments and work effectively with ambulance and rescue services to support extrication.
- **On completion of developmental training, the trainee will** have developed a wider understanding and experience of entrapment and the capabilities of rescue services, and gained some experience of managing trapped patients and supporting rescue and extrication.
- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will** possess the underpinning knowledge, technical skills and non-technical skills required to manage a trapped patient and interact effectively with professional rescue service personnel in pre-hospital situations.

Capabilities in Practice

4.1 Work within the rescue environment
4.2 Understand entrapment
4.3 Support extrication
4.4 Clinically manage the trapped patient

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 4. Supporting rescue and extrication												
4.1 Work within the rescue environment	4.1.1	**Describe the specific hazards to rescue in the following situations:**												1, 2a, 2b, 2c, 5, 6a
		(a) Road traffic collisions	UK	1(b)	•		•						•	
		(b) Industrial site incidents	UK	1(b)	•		•						•	
		(c) Aircraft related incidents	UK	1(b)	•		•						•	
		(d) Agricultural site incidents	UK	1(b)	•		•						•	
		(e) Remote area incidents	UK	2	•		•						•	
		(f) Confined space incidents	UK	2	•		•						•	
		(g) Collapsed structures	UK	2	•		•						•	
		(h) Explosive device incidents	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(i) Firearms incidents	UK	1(b)	•		•						•	
		(j) Scenes of violent assault	UK	1(b)	•		•						•	
		(k) Hazardous materials incidents	UK	2	•		•						•	
		(l) Incidents at height	UK	1(b)	•		•						•	
		(m) Incidents on steep slopes	UK	2	•		•						•	
		(n) Water related incidents	UK	2	•		•						•	
		(o) Fires	UK	1(b)	•		•						•	
		(p) Rail incidents	UK	1(b)	•		•						•	
	4.1.2	**Explain the rescue capabilities of:**												
		(a) Police personnel	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(b) Fire personnel	UK	1(b)	•		•						•	

DR	Directed Reading	LT	Lectures and Tutorials	DP	Deliberate Practice	SL	Simulation Learning
RP	Reflective Practice	RM	Role Modeling	CL	Collaborative Learning	EL	Experiential Learning

Theme 4. Supporting rescue and extrication

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
4.1 Work within the rescue environment	4.1.2 (cont.)	(c) Medical personnel	UK	1(b)	•		•						•	1, 2a, 2b, 2c, 5, 6a
		(d) Specialist rescue personnel	UK	2	•		•						•	
		(e) Voluntary emergency services personnel	UK	2	•		•						•	
	4.1.3	Critique the role of Pre-Hospital Emergency Medicine specialists in rescue	UK	2	•		•						•	
	4.1.4	Explain the concept of generic risk assessments for rescue operations	UK	1(b)	•		•						•	
	4.1.5	Describe the relationship between generic risk assessment and dynamic risk assessment for rescue operations	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	4.1.6	Describe the physiological, psychological and physical effects on patients of rescue operations in different settings	UK	2	•		•						•	
	4.1.7	Describe the physiological, psychological and physical effects of rescue operations on rescue and healthcare personnel	UK	2	•		•						•	
	4.1.8	Describe strategies to optimise the rescue environment for clinical assessment and care	UK	1(b)	•		•						•	
	4.1.9	Demonstrate a generic risk assessment for medical personnel supporting a typical rescue operation within the EMS system	TS	LT, SL, CL, EL, DP	1(b)				•	•		•			
	4.1.10	Demonstrate a dynamic risk assessment in practice at a rescue operation	TS	DP	2		•		•	•		•			
	4.1.11	Demonstrate resilience across the spectrum of rescue environments	NTS	RM, SL, CL, EL	1(b)		•				•	•	•		
4.2 Understand entrapment	4.2.1	Categorise types of entrapment	UK	DR, LT, SL, CL, EL	1(b)	•		•				•			2c, 6a

(Continued)

Theme 4. Supporting rescue and extrication

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
4.2 Understand entrapment	4.2.2	**Describe the typical 'mechanisms' of entrapment in the following situations:**													2c, 6a
		(a) Road traffic collisions	UK		1(b)	•		•						•	
		(b) Industrial site incidents	UK		1(b)	•		•						•	
		(c) Aircraft related incidents	UK		1(b)	•		•						•	
		(d) Agricultural site incidents	UK		1(b)	•		•						•	
		(e) Remote area incidents	UK		2	•		•						•	
		(f) Confined space incidents	UK		2	•		•						•	
		(g) Collapsed structures	UK		2	•		•						•	
		(h) Explosive device incidents	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(i) Firearms incidents	UK		1(b)	•		•						•	
		(j) Scenes of violent assault	UK		1(b)	•		•						•	
		(k) Hazardous materials incidents	UK		2	•		•						•	
		(l) Incidents at height	UK		1(b)	•		•						•	
		(m) Incidents on steep slopes	UK		2	•		•						•	
		(n) Water related incidents	UK		2	•		•						•	
		(o) Fires	UK		1(b)	•		•						•	
		(p) Rail incidents	UK		1(b)	•		•						•	

Theme 4. Supporting rescue and extrication

Capability in Practice	Descriptor		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		4.3.1	Describe the principles of extrication	UK		1(b)	•		•						•	1, 2a, 2b, 2c, 5, 6a
		4.3.2	Critique the role of medical interventions in facilitating extrication	UK	DR, LT, DP, SL, RP, CL, EL	2	•		•						•	
		4.3.3	Describe technical extrication processes for road traffic related entrapment	UK		1(b)	•		•						•	
		4.3.4	Critique the capabilities and limitations of commonly used rescue and extrication equipment	UK		2	•		•						•	
4.3 Support Extrication		4.3.5	Describe strategies for expediting extrication	UK		2	•		•						•	
		4.3.6	Demonstrate the ability to make a rapid assessment of the extrication needs of a trapped patient	TS		1(b)		•		•			•	•		
		4.3.7	Demonstrate the ability to manage clinical equipment during the extrication process	TS	DR, LT, DP, SL, RP,	1(b)		•		•			•	•		
		4.3.8	Demonstrate the ability to facilitate extrication through medical intervention	TS		1(b)		•		•			•	•		
		4.3.9	Demonstrate how clinical judgement influences the tempo of rescue operations	TS		2		•		•			•	•		
		4.3.10	Display confidence in supporting extrication	NTS	RM, EL,	1(b)		•		•		•	•			
		4.3.11	Display medical leadership in coordinating medical and rescue interventions	NTS	SL, RP, DP	2		•		•		•	•			
		4.4.1	Describe the adverse physiological effects specifically associated with entrapment	UK		1(b)	•		•						•	1, 2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 5, 6a
4.4 Clinically manage the trapped patient		4.4.2	Describe pain management strategies for the trapped patient	UK		1(b)	•		•						•	
		4.4.3	Critique the role of patient monitoring during entrapment and extrication	UK	DR, LT, SL, RP, CL, EL	2	•		•						•	
		4.4.4	Critique clinical strategies for injury management in the trapped patient compared to the non-trapped patient	UK		2	•		•						•	
		4.4.5	Critique clinical strategies for organ and/or system support in the trapped patient compared to the non-trapped patient	UK		2	•								•	

(Continued)

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 4. Supporting rescue and extrication													
	Describe clinical strategies for the management of trapped patients with:													1, 2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi, 5, 6a
	4.4.6	(a) Impalement	UK	2	•		•				•		•	
		(b) Crush injury	UK	2	•		•				•		•	
		(c) Hypothermia	UK	2	•		•				•		•	
		(d) Prolonged entrapment	UK	2	•		•				•		•	
		(e) Severe limb entrapment	UK	DR, LT, SL, RP, CL, EL	2	•		•				•		•	
4.4 Clinically manage the trapped patient (cont.)	4.4.7	Describe the impact of medical intervention on rescue timescales and techniques	UK		2	•		•				•		•	
	4.4.8	Differentiate the level and nature of clinical interventions at different stages of extrication	UK		2	•		•						•	
	4.4.9	Describe strategies for managing entrapment of more than one patient at an incident	UK		2	•		•						•	
	4.4.10	Demonstrate the ability to make a rapid assessment of the clinical needs of a trapped patient	TS	LT, DP, SL, RP, EL	2		•		•			•			
	4.4.11	Demonstrate effective management of the trapped patient	TS	RM, CL, EL	2		•		•			•			
	4.4.12	Display confidence in managing the trapped patient	NTS		2		•		•		•	•	•		
	4.4.13	Display leadership in coordinating multi-professional medical care of trapped patients	NTS	RM, EL, SL, RP, DP	2		•		•		•	•	•		
	4.4.14	Demonstrate a compassionate patient-focused approach throughout rescue and extrication	NTS		2		•		•		•	•	•	•	

134

Supporting Safe Patient Transfer

Safe and effective transfer of the seriously ill or injured patient, whether from scene or between hospitals, involves coordination, optimisation and maintenance of critical care, in order to minimise time to definitive treatment, without delaying or compromising resuscitation.

Learning Outcomes

- **On completion of introductory training, the trainee will** understand the principles of safe patient transfer and have a basic knowledge of transfer equipment, destinations and transport systems.
- **On completion of developmental training, the trainee will** have developed a wider understanding, and gained some experience, of coordinating and undertaking safe patient transfers from incident scenes and between hospitals.
- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will** make destination hospital triage decisions, select the most appropriate transport platform, provide safe, effective and focused in-transit critical care and ensure that the patient's condition and immediate needs are communicated to receiving hospital clinical staff.

Capabilities in Practice

5.1   Understand the concepts underpinning transfer medicine
5.2   Understand the applied physiology of patient transfer
5.3   Coordinate and plan patient transfer
5.4   Prepare patients for transport
5.5   Utilise a range of patient transport modalities
5.6   Clinically manage patients during transport

Theme 5. Supporting safe patient transfer

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
5.1 Understand the concepts underpinning transfer medicine	5.1.1	Describe the policies and procedures for pre-hospital and emergent inter-facility (inter-hospital) transfer within the EMS system	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	1, 2di, 2dii, 2diii, 2div, 2dv, 2dvi, 5, 6a
	5.1.2	Critique the need for pre-hospital and emergent inter-facility transfer within the EMS system	UK		1(b)	•		•						•	
	5.1.3	Contrast the risks and benefits associated with extended pre-hospital and emergent inter-facility transfer	UK		1(b)	•		•						•	
	5.1.4	Analyse the evidence related to the risks and benefits of extended pre-hospital transfer (facility by-pass) and emergency inter-facility transfer	UK		2	•		•						•	
	5.1.5	Describe lines of accountability and responsibility in relation to pre-hospital transfer and emergent inter-facility transfer	UK		1(b)	•		•						•	
	5.1.6	Describe the roles and responsibilities of all staff accompanying the patient during transfer	UK		1(b)	•		•						•	
	5.1.7	Analyse the ethical and legal issues related to patient transfer	UK		2	•		•						•	
	5.1.8	Demonstrate a professional approach to transfer medicine	NTS	RM, SL, RP	1(b)			•	•	•	•	•	•		

DR	Directed Reading	LT	Lectures and Tutorials	DP	Deliberate Practice	SL	Simulation Learning
RP	Reflective Practice	RM	Role Modeling	CL	Collaborative Learning	EL	Experiential Learning

Capability in Practice		Descriptor	Learning Methods	A	Assessment Methods									GPCs
					KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
Theme 5. Supporting safe patient transfer														
5.2 Understand the applied physiology of patient transfer	5.2.1	Describe the physiological and physical effects of movement of patients	UK	1(b)	•		•		•				•	2c, 2di
	5.2.2	Describe the physiological and physical effects of transfer on attendants	DR, LT, SL, CL, EL	1(b)	•		•						•	
	5.2.3	Describe the physiological effects of altitude on patients during transfer	UK	1(b)	•		•						•	
	5.2.4	Demonstrate ability to integrate patient diagnosis with the physiological effects of transport	TS	DR, LT, SL CL, EL	1(b)		•		•			•		
	5.2.5	Demonstrate resilience when undertaking patient transfer	NTS	RM, EL, SL	2						•	•			
5.3 Co-ordinate and plan patient transfer	5.3.1	Describe the principles of planning and coordinating patient transfer	UK	1(b)	•				•				•	1, 2b, 5, 6a
	5.3.2	Describe the principles determining destination hospital selection	UK	DR, LT, SL, DP, CL, EL	1(a)	•		•						•	
	5.3.3	List the equipment required for pre-hospital and inter-facility transfer	UK	1(a)	•		•						•	

(Continued)

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 5. Supporting safe patient transfer													
5.3 Co-ordinate and plan patient transfer (cont.)	5.3.4	Demonstrate the ability to reconcile the risks and benefits of transfer	TS		1(b)	•						•			1, 2b, 5, 6a
	5.3.5	Demonstrate the ability to determine consumable resource requirements for transfer	TS	LT, SL, DP, CL, EL	1(b)	•			•	•		•			
	5.3.6	Demonstrate co-ordination of extended pre-hospital transfer	TS		2				•	•		•	•		
	5.3.7	Demonstrate co-ordination of emergency inter-facility transfer	TS		2				•	•		•	•		
	5.3.8	Demonstrate a professional approach to the planning and co-ordination of patient transfer	NTS	RM, EL, SL, RP	1(b)				•	•	•	•			
	5.3.9	Demonstrate the ability to acknowledge futility and avoid inappropriate inter-facility transfer	NTS		1(b)				•	•	•	•			
5.4 Prepare patients for transport	5.4.1	List strategies for optimising a patient's physiology prior to transfer	UK	DR, LT, SL, CL, EL	1(b)	•	•	•						•	2a
	5.4.2	Describe pre-transfer measures to minimise risks to patients during transfer	UK		1(b)	•	•	•						•	
	5.4.3	Demonstrate the ability to determine when patients are in their optimum clinical condition for transfer	TS		1(b)		•		•			•			
	5.4.4	Demonstrate the correct preparation of patients for safe pre-hospital transfer	TS	LT, SL, CL, DP, EL	2		•		•	•		•			
	5.4.5	Demonstrate the correct preparation of patients for safe inter-facility transfer	TS		2		•		•	•		•			
	5.4.6	Demonstrate a professional approach to preparation of patients for transfer	NTS	RM, SL, EL, RP	1(b)	•			•	•	•				

Theme 5. Supporting safe patient transfer

Capability in Practice	Descriptor		Learning Methods	A	Assessment Methods									GPCs
					KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
5.5 Utilise a range of patient transport modalities	5.5.1	Categorise patient transport modalities	UK	1(b)	•		•						•	2a
	5.5.2	Differentiate the risks and benefits of road, helicopter, fixed wing and other transport modalities	UK	2	•	•	•				•		•	
	5.5.3	Describe the training requirements for personnel escorting patients according to transport modality	UK	1(b)	•		•						•	
	5.5.4	Describe the risks, benefits and legal constraints pertaining to transporting relatives	UK	2	•		•						•	
	5.5.5	Demonstrate the ability to transfer patients using a range of transport modalities	TS	2			•		•		•			
	5.5.6	Demonstrate a professional approach to the use of different transport modalities	NTS	2			•			•	•			
5.6 Clinically manage patients during transport	5.6.1	Critique the minimum standards for monitoring during transfer	UK	1(b)	•	•	•				•		•	2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
	5.6.2	Describe the interventions which can be undertaken during transfer	UK	1(b)	•		•						•	
	5.6.3	Describe the common problems experienced during patient transfer	UK	1(b)	•		•						•	

Learning Methods for 5.5.2: DR, LT, SL, CL, EL
Learning Methods for 5.5.4: DR, LT, SL, CL, EL
Learning Methods for 5.5.5: LT, SL, EL, DP
Learning Methods for 5.5.6: RM, SL, EL, CL, RP
Learning Methods for 5.6.2: DR, LT, SL, CL, EL

(Continued)

139

Capability in Practice	Descriptor	A	Learning Methods	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Describe the specific clinical management of the following patient groups before and during pre-hospital or emergency inter-facility transfer:												2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
	(a) Patients with major head injuries — UK	1(b)		•		•				•	•	•	
	(b) Patients with contagious diseases — UK	2		•		•				•	•	•	
5.6 Clinically manage patients during transport (cont.)	(c) Patients with unstable spinal or pelvic fractures — UK	1(b)		•		•				•	•	•	
	(d) Patients with major burns — UK	1(b)		•		•				•	•	•	
5.6.4	(e) Patients with single organ/system failure — UK	1(b)	DR, LT, SL, CL, EL	•		•				•	•	•	
	(f) Patients with multiple organ/system failure — UK	2		•		•				•	•	•	
	(g) Patients who are pregnant — UK	2		•		•				•	•	•	
	(h) Patients who are children — UK	2		•		•				•	•	•	
	(i) Patients who are infants — UK	2		•		•				•	•	•	
	(j) Patients who are newborn — UK	2		•		•				•	•	•	
	(k) Patients with acutely disturbed behaviour — UK	2		•		•				•	•	•	

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Theme 5. Supporting safe patient transfer												
	5.6.5	Demonstrate appropriate choices of sedation, muscle relaxation and analgesia to maintain the patient's clinical status during transfer (for all age groups)	TS	2	•	•	•	•			•			
	5.6.6	Demonstrate the safe pre-hospital transfer of all age groups of ventilated patients	TS, LT, SL, EL, DP	1(b)	•	•		•			•	•		
	5.6.7	Demonstrate the safe inter-facility transfer of all age groups of ventilated patients	TS	2		•		•			•	•		2a, 2b, 2c, 2di, 2dii, 2diii, 2div, 2dv, 2dvi
5.6 Clinically manage patients during transport (cont.)	5.6.8	Demonstrate accurate clinical records before, during and after transfer	TS	1(b)	•	•		•			•	•		
	5.6.9	Demonstrate the ability to maintain monitoring of vital signs throughout transfer	TS	1(b)	•	•		•			•	•		
		Demonstrate the ability to manage sudden in-transit loss of:												
	5.6.10	(a) Airway control	TS, LT, SL, EL, DP	1(b)	•	•		•			•	•		
		(b) Oxygen	TS	1(b)	•	•		•			•	•		
		(c) Vascular access	TS	1(b)	•	•		•			•	•		
		(d) Monitoring	TS	1(b)	•	•		•			•	•		
		(e) Infusions	TS	1(b)	•	•		•			•	•		
		(f) Power	TS	1(b)	•	•		•			•	•		
	5.6.11	Demonstrate a professional approach to the clinical management of patients undergoing pre-hospital or emergent inter-facility transfer	NTS, RM, EL, SL, RP	1(b)	•	•		•		•	•	•		

Supporting Emergency Preparedness and Response

PHEM subspecialty training ensures that practitioners are appropriately prepared and equipped for larger scale emergency incidents in terms of their understanding of emergency planning and the principles of major incident management.

Learning Outcomes

- **On completion of introductory training, the trainee will** understand the principles of emergency preparedness, response and recovery, and safely operate within a multiple casualty incident.

- **On completion of developmental training, the trainee will** have developed a wider understanding, and gained some experience, of emergency preparedness, response and recovery, and be able to effectively fulfil an operational level role.

- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will** be appropriately prepared and equipped for larger scale emergency incidents, by understanding the principles of emergency planning and major incident management.

Capabilities in Practice

6.1 Understand principles of emergency preparedness, response and recovery

6.2 Respond to emergencies at operational (bronze) level

6.3 Respond to emergencies at tactical (silver) level

6.4 Manage chemical, biological and radiological (CBR) emergencies

6.5 Understand the psychosocial and mental health aspects of multiple casualty incidents

Theme 6. Supporting emergency preparedness and response

Capability in Practice	Descriptor			Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
			Define, in the context of emergency planning:												
6.1 Understand principles of emergency preparedness, response and recovery	6.1.1	(a) Preparedness,		UK	1(b)	•		•						•	1, 2b, 2c, 5, 6a
		(b) Response		UK	1(b)	•		•						•	
		(c) Recovery		UK	1(b)	•		•						•	
	6.1.2	Describe current national guidance and legislation in relation to emergency preparedness and response		DR, LT, SL, CL, EL — UK	1(b)	•		•						•	
	6.1.3	Categorise classes of major incident		UK	1(b)	•		•						•	
	6.1.4	List the capabilities of services and agencies involved in emergency preparedness, response and recovery		UK	1(b)	•		•	•					•	
		Critique the possible roles of the Sub-Specialist in PHEM at the:													
	6.1.5	(a) Operational (bronze) level		UK	1(b)	•		•						•	
		(b) Tactical (silver) level		UK	1(b)	•		•						•	
		(c) Strategic (gold) level		UK	1(b)	•		•						•	
	6.1.6	Critique lessons identified from historical major incidents		DR, LT, SL, CL, EL — UK	2	•		•						•	
	6.1.7	Critique the role of the health services in the multi-agency major incident		UK	2			•	•					•	
	6.1.8	Critique the ethical issues surrounding decision-making during a health care major incident		UK	2			•	•					•	
	6.1.9	Demonstrate the ability to prepare a generic major incident plan		LT, SL, CL, EL, DP — TS	2	•		•	•	•					
	6.1.10	Demonstrate the application of the principles of emergency preparedness and response		DP — TS	2	•			•						

Assessment Methods: KT, CEX, CbD, SIM, DOPS, MSF, OSAT, LOG, TO

DR	Directed Reading	DP	Deliberate Practice
RP	Reflective Practice	CL	Collaborative Learning
LT	Lectures and Tutorials	SL	Simulation Learning
RM	Role Modeling	EL	Experiential Learning

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
Theme 6. Supporting emergency preparedness and response															
	6.2.1	Critique the range of skills required by health service personnel for an effective major incident response	UK	DR, LT, SL, CL, EL	2									•	
		List the duties of the operational level:													
	6.2.2	(a) Medical personnel	UK		1(b)	•		•						•	
		(b) Ambulance personnel	UK		1(b)	•		•						•	
		(c) Fire personnel	UK		1(b)	•		•						•	
		(d) Police personnel	UK		1(b)	•		•						•	
	6.2.3	Describe the policies and procedures relating to operational level medical staff within the EMS system	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	1, 2b, 2c, 5, 6a
6.2 Respond to emergencies at operational (bronze) level	6.2.4	Describe the principles of triage	UK		1(b)	•		•						•	
	6.2.5	Critique commonly used triage tools	UK		1(b)	•		•						•	
	6.2.6	Describe the components of incident debriefing	UK		1(b)	•		•						•	
	6.2.7	Demonstrate familiarity with policies and procedures for medical roles at the operational level	TS		1(b)	•		•	•			•			
	6.2.8	Demonstrate the ability to maintain a comprehensive decision log	TS	DR, LT, DP, SL, EL	1(b)	•			•			•			
	6.2.9	Demonstrate the ability to appropriately use triage tools	TS		1(b)	•			•			•			
	6.2.10	Demonstrate the ability to competently perform in medical roles at the operational level	TS		1(b)	•			•			•			
	6.2.11	Demonstrate participation in incident debriefing	TS		1(b)	•			•		•	•			
	6.2.12	Demonstrate the ethical application of triage	NTS	RM, EL, SL, RP	1(b)	•			•		•	•			
	6.2.13	Demonstrate confidence in undertaking triage	NTS		1(b)	•			•		•	•			
	6.2.14	Demonstrate confidence in the performance of medical roles at the operational level	NTS		1(b)	•			•		•	•			

(Continued)

Theme 6. Supporting emergency preparedness and response

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	List the duties of the tactical level:													
6.3 Respond to emergencies at tactical (silver) level	6.3.1	(a) Medical personnel	UK	2	•		•						•	1, 2b, 2c, 5, 6a
		(b) Ambulance personnel	UK	2	•		•						•	
		(c) Fire personnel	UK	2	•		•						•	
		(d) Police personnel	UK	2	•		•						•	
	6.3.2	Describe the policies and procedures relating to tactical level medical staff within the EMS system	DR, LT, SL, RP, CL, EL — UK	2	•		•						•	
	6.3.3	Critique the role played by the media at major incidents	UK	2	•		•						•	
	6.3.4	Critique lessons identified relating to tactical command of historical major incidents	UK	2	•		•						•	
		Critique strategies for managing:												
	6.3.5	(a) A multi-sector incident	UK	2	•		•						•	
		(b) A casualty clearing station	UK	2	•		•						•	
		(c) A survivor reception centre	DR, LT, SL, RP, CL, EL — UK	2	•		•						•	
		(d) The deceased	UK	2	•		•						•	
		(e) Communication	UK	2	•		•						•	
		(f) Multi-disciplinary briefings	UK	2	•		•						•	
		(g) Sustainability	UK	2	•		•						•	

Theme 6. Supporting emergency preparedness and response

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
6.3 Respond to emergencies at tactical (silver) level (cont.)	6.3.6	Demonstrate familiarity with policies and procedures for medical roles at the tactical level	TS	2	•	•	•	•			•			1, 2b, 2c, 5, 6a
	6.3.7	Demonstrate the ability to maintain a comprehensive decision log	TS	LT, SL, DP, RP, CL, EL	2		•		•			•			
	6.3.8	Demonstrate the ability to competently perform in medical roles at the tactical level	TS		2	•	•		•			•			
	6.3.9	**Demonstrate the ability to support the management of:**													
		(a) A multi-sector incident	TS		2		•		•			•			
		(b) A casualty clearing station	TS		2		•		•			•			
		(c) A survivor reception centre	TS		2		•		•			•			
		(d) The deceased	TS	LT, SL, DP, RP, CL, EL	2		•		•			•			
		(e) Communication	TS		2		•		•			•			
		(f) Multi-disciplinary briefings	TS		2		•		•			•			
		(g) Sustainability	TS		2		•		•			•			
	6.3.10	Demonstrate the ability to conduct an incident debriefing	TS		2		•		•			•			

(Continued)

147

Theme 6. Supporting emergency preparedness and response

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
6.4 Manage chemical, biological and radiological (CBR) emergencies	6.4.1	Critique lessons identified from previous CBR incidents within the EMS system	UK	2	•		•						•	1, 2b, 2c, 5, 6a
	6.4.2	List sources of CBR agent advice	UK	2	•		•						•	
	6.4.3	Describe the initial approach to a suspected CBR incident	UK	2	•		•						•	
	6.4.4	Contrast the principles of detection and identification of CBR agents	UK	DR, LT, SL, CL, EL	2	•		•						•	
	6.4.5	Describe the levels of Personal Protective Equipment used for pre-hospital CBR incidents	UK	2	•		•						•	
	6.4.6	Describe the pre-hospital triage processes for patients involved in CBR incidents	UK	2	•		•						•	
	6.4.7	Describe the differences in triage for CBR incidents	UK	2	•		•						•	
	6.4.8	**Describe the capabilities of pre-hospital:**												
		(a) Chemical detection	UK	DR, LT, SL, CL, EL	2	•		•						•	
		(b) Biological detection	UK		2	•		•						•	
		(c) Radiation detection	UK		2	•		•						•	

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Theme 6. Supporting emergency preparedness and response													1, 2b, 2c, 5, 6a
	Describe the clinical features of:													
	6.4.9	(a) Chemical agent exposure syndromes	UK	DR, LT,	2	•	•	•						•	
		(b) Biological agent exposure syndromes	UK	SL, CL,	2	•	•	•						•	
		(c) Radiation agent exposure syndromes	UK	EL	2	•	•	•						•	
	Describe the pre-hospital management of:													
	6.4.10	(a) Chemical agent exposure syndromes	UK		2	•	•	•						•	
		(b) Biological agent exposure syndromes	UK	DR, LT,	2	•	•	•						•	
		(c) Radiation agent exposure syndromes	UK	SL, CL,	2	•	•	•						•	
6.4 Manage chemical, biological and radiological (CBR) emergencies (cont.)	6.4.11	Describe strategies for pre-hospital decontamination	UK	EL	2	•	•	•						•	
	6.4.12	Demonstrate safe approach to a suspected CBR agent incident	TS	LT, DP,	2	•	•		•			•			
	6.4.13	Demonstrate correct selection and use of PPE for initial management of a suspected CBR agent incident	TS	SL, CL, EL	2	•	•		•			•			
	Demonstrate the pre-hospital clinical management of:													
	6.4.14	(a) Chemical agent exposure syndromes	TS	LT, DP,	2	•	•		•			•			
		(b) Biological agent exposure syndromes	TS	SL, CL,	2	•	•		•			•			
		(c) Radiation agent exposure syndromes	TS	EL	2	•	•		•			•			
	6.4.15	Demonstrate resilience working within a CBR context	NTS	RM, RP, SL, EL	2				•		•	•			

(Continued)

Capability in Practice	Descriptor		Learning Methods	A	Assessment Methods									GPCs
					KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
Theme 6. Supporting emergency preparedness and response														
6.5 Understand the psychosocial and mental health aspects of multiple casualty incidents	6.5.1	Demonstrate understanding of key terms used in psychosocial and mental health care of emergencies and major incidents		UK	2	•		•							1, 2b, 2c, 5, 6a, 7
	6.5.2	Describe the defining nature of events and circumstances that are psychosocially traumatic		UK	2	•		•						•	
	6.5.3	Describe the common psychosocial responses of people affected by, or involved in, emergencies and major incidents		UK	2	•		•						•	
	6.5.4	Describe the common coping mechanisms that people of all ages use when faced with events that cause severe stress	DR, LT, SL, CL, EL	UK	2	•		•						•	
	6.5.5	Define psychosocial resilience in the context of traumatic events and circumstances and its personal and collective dimensions		UK	2	•		•						•	
	6.5.6	Demonstrate an understanding of the nature of distress and its differentiation from mental disorders		UK	2	•		•						•	
	6.5.7	Describe in outline the evidence-based principles for psychosocial and mental health care for people who are affected by emergencies and major incidents		UK	2	•		•						•	
	6.5.8	Critique local, national and international guidelines on mental health and psychosocial support in emergency settings		UK	2	•		•						•	

Capability in Practice		Descriptor	Learning Methods	A	Assessment Methods									GPCs
					KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
Theme 6. Supporting emergency preparedness and response														
6.5 Understand the psychosocial and mental health aspects of multiple casualty incidents (cont.)	6.5.9	Demonstrate the ability to conduct initial psychosocial assessments in a range of pre-hospital environments	TS / LT, SL, RP, RM, CL, EL	2	•			•						1, 2b, 2c, 5, 6a,7
	6.5.10	Demonstrate the ability to identify patients who may require urgent specialist mental health care	TS	2	•		•	•	•					
		Demonstrate, in the context of interacting with persons involved in emergencies and major incidents:												
	6.5.11	(a) Active listening	TS	2		•	•	•	•					
		(b) Ability to differentiate distress from disorder	TS	2		•	•	•	•					
		(c) Actions to avoid adverse psychological reactions (including panic)	TS / LT, SL, RP, RM, CL, EL	2		•	•	•	•					
	6.5.12	Demonstrate ability to gain access to appropriate immediate psychosocial support	TS	2	•	•		•						
	6.5.13	Display awareness of personal psychosocial coping strategies and needs	NTS	2			•		•	•	•			
	6.5.14	Display a professional approach to the consideration of psychosocial and mental health aspects of multiple casualty incidents	NTS / RM	2			•		•	•	•			

Operational Practice

Learning Outcomes

- **On completion of introductory training, the trainee will possess the knowledge, skills and non-technical skills required to** follow local operational procedures and safely deploy to pre-hospital incidents as part of a pre-hospital team.

- **On completion of developmental training, the trainee will possess the knowledge, skills and non-technical skills required to** undertake duties across a broader range of complexity, having acquired operational experience which encompasses scene management, multi-agency working and clinical practice.

- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will possess the knowledge, skills and non-technical skills required to** maintain safe and effective operational practice within a PHEM service, including when responding to incidents by road or air, utilising telecommunications, risk-assessing and managing incident scenes, and maintaining records.

Capabilities in Practice

A.1	Apply the syllabus to local operations
A.2	Respond to incidents by road
A.3	Respond to incidents by air
A.4	Utilise telecommunications and voice procedure
A.5	Apply principles of dynamic risk assessment at incident scenes
A.6	Provide scene management
A.7	Maintain records
A.8	Apply infection prevention and control principles and procedures
A.9	Apply moving and handling principles and procedures
A.10	Apply principles of Equality and Diversity

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Cross-cutting Theme A. Operational practice													
	Critique how your local PHEM operation:													
	A.1.1	(a) Works within the EMS system	UK	1(b)	•		•				•		•	
		(b) Provides pre-hospital emergency medical Care	UK	1(b)	•		•				•		•	
		(c) Uses Pre-hospital Equipment	UK, DR, LT, CL	1(b)	•		•				•		•	
		(d) Supports Rescue and Extrication	UK	1(b)	•		•				•		•	
		(e) Supports safe patient transfer	UK	1(b)	•		•				•		•	
		(f) Supports emergency preparedness and response	UK	1(b)	•		•				•		•	
A.1 Apply the syllabus to local operations	**Describe the provisions within your local PHEM operation for:**													3c, 4
	A.1.2	(a) Team resource management	UK, DR, LT, CL	1(b)	•		•				•		•	
		(b) Clinical governance	UK	1(b)	•		•				•		•	
	Describe the distinguishing features of your local PHEM operation with respect to:													
	A.1.3	(a) Epidemiology	UK	1(b)	•		•				•		•	
		(b) The EMS system	UK	1(b)	•		•				•		•	
		(c) Concept of operations	UK, DR, LT, CL	1(b)	•		•				•		•	
		(d) Operational environment	UK	1(b)	•		•				•		•	
		(e) Staffing and skill mix	UK	1(b)	•		•				•		•	
		(f) Transport platforms	UK	1(b)	•		•				•		•	

DR	Directed Reading	LT	Lectures and Tutorials	DP	Deliberate Practice	SL	Simulation Learning
RP	Reflective Practice	RM	Role Modeling	CL	Collaborative Learning	EL	Experiential Learning

Capability in Practice		Descriptor	A	Learning Methods	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
Cross-cutting Theme A. Operational practice														
A.2 Respond to incidents by road	A.2.1	Critique the risks and benefits of responding by road	1(b)	UK	•		•	•			•		•	1, 5
	A.2.2	Critique the role of the co-driver when using emergency driving procedure	1(b)	UK	•		•	•			•		•	
	A.2.3	Critique the benefits and limitations of different road transport platforms within the EMS system	1(b)	UK; DR, LT, SL	•		•	•			•		•	
	A.2.4	Demonstrate the ability to act as an effective co-driver when responding by road	1(b)	TS		•	•	•			•			
	A.2.5	Demonstrate the ability to undertake a risk assessment related to responding by road	1(b)	TS		•	•	•			•			
A.3 Respond to incidents by air	A.3.1	Critique the risks and benefits of responding by air	1(b)	UK; DR, LT, SL	•		•	•			•		•	1, 5
	A.3.2	**Critique the role and responsibilities of:**												
		(a) Aircrew	1(b)	UK	•		•				•		•	
		(b) HEMS Crew Member	1(b)	UK	•		•				•		•	
		(c) Medical Passenger	1(b)	UK	•		•				•		•	
	A.3.3	Define common terms used in aviation in the context of acting as a medical passenger	1(b)	UK	•		•				•		•	
	A.3.4	Describe the criteria for a helicopter landing site	1(b)	UK; DR, LT, SL	•		•				•		•	
	A.3.5	Differentiate the terms 'Air Ambulance' and 'HEMS'	1(b)	UK	•		•				•		•	
	A.3.6	Describe the regulations pertaining to HEMS and air ambulance deployment	1(b)	UK	•		•						•	
	A.3.7	Critique the evidence regarding the role of helicopters within EMS systems	2	UK	•		•						•	
	A.3.8	Analyse the benefits and limitations of different air transport platforms within the EMS system	1(b)	UK	•		•	•			•		•	

(Continued)

Cross-cutting Theme A. Operational practice

Capability in Practice	Descriptor	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
A.3 Respond to incidents by air (cont.)	A.3.9	Describe the content of a pre-deployment briefing to a medical passenger	UK	DR, LT, SL	1(b)	•	•	•	•					•	1, 5
	A.3.10	Demonstrate the safe embarkation and disembarkation of an aircraft	TS	SL, RM	1(b)		•		•			•			
	A.3.11	Demonstrate the ability to act as an effective and safe medical passenger when responding by air	TS	SL, RM	1(b)		•		•		•	•		•	
A.4 Utilise telecommunications and voice procedure	A.4.1	Describe the phonetic alphabet	UK		1(b)	•	•		•	•				•	2c
	A.4.2	Critique the utility of formal voice procedure in effective telecommunications	UK		2			•						•	
	A.4.3	Critique the challenges to effective telecommunications in the pre-hospital environment	UK	DR, LT, DP, SL	2			•	•					•	
	A.4.4	Critique the infrastructure for telecommunications within the EMS system	UK		2		•	•	•					•	
	A.4.5	Demonstrate the effective use of common standard telecommunication procedures within the EMS system	TS	DP, SL, RM,	1(b)		•		•			•			
	A.4.6	Demonstrate the ability to pass complex messages in a clear and efficient manner	TS	EL	1(b)		•	•	•			•			
A.5 Apply principles of dynamic risk assessment at incident scenes	A.5.1	Explain the concept of generic risk assessment	UK		2	•		•						•	3a, 5, 6a
	A.5.2	Describe the principles of dynamic risk assessment	UK	DR, LT	2	•		•				•		•	

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	Cross-cutting Theme A. Operational practice													
A.5 Apply principles of dynamic risk assessment at incident scenes (cont.)	A.5.3	Describe the relationship between generic and dynamic risk assessment	UK	2	•		•				•		•	3d, 5, 6a
	A.5.4	Describe how dynamic risk assessment may influence decision-making related to patient care	UK	DR, LT	2	•		•				•		•	
	A.5.5	Demonstrate the application of dynamic risk assessment to a range of incidents	TS	DR, LT, SL, EL	2				•			•			
	A.5.6	Demonstrate the mental agility to perform dynamic risk assessment	TS	DP, RP	2				•			•			
	A.6.1	Describe the stages of scene management	UK		1(b)	•		•	•			•		•	1, 5
A.6 Provide scene management	A.6.2	**Describe the roles and responsibilities of the following organisations in relation to scene management:**													
		(a) Ambulance authorities and services	UK		1(b)	•		•				•		•	
		(b) Police authorities and services	UK		1(b)	•		•				•		•	
		(c) Fire authorities and services	UK		1(b)	•		•				•		•	
		(d) Rescue authorities and services	UK	DR, LT,	1(b)	•		•				•		•	
		(e) Specialist rescue services	UK	DP, SL, RP,	1(b)	•		•				•		•	
		(f) Voluntary emergency services	UK	RM,	1(b)	•		•				•		•	
		(g) Other statutory organisations	UK	CL, EL	1(b)	•		•				•		•	
	A.6.3	Critique strategies for effective scene management	UK		1(b)	•		•	•			•		•	
	A.6.4	Critique historically identified lessons related to scene management	UK		1(b)			•	•	•				•	
	A.6.5	Demonstrate the ability to effectively manage an incident scene	TS	DP, SL, RP, RM, CL, EL	1(b)		•	•	•		•				

(Continued)

Cross-cutting Theme A. Operational practice

Capability in Practice	Descriptor		Learning Methods		A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
A.7 Maintain records	A.7.1	Describe the duties and responsibilities of the clinician pertaining to pre-hospital medical records	UK		1(b)	•		•						•	1
	A.7.2	Critique different methods of medical record keeping	UK	DR, LT,	1(b)			•						•	
	A.7.3	Describe minimum standards for good medical records	UK	RM	1(b)	•		•						•	
	A.7.4	Describe the policies and procedures for medical records management within the EMS system	UK		1(b)	•		•						•	
	A.7.5	Demonstrate the ability to maintain clear and appropriately detailed medical records	TS	SL, EL	1(b)				•		•	•	•		
	A.7.6	Demonstrate a professional attitude to critiquing medical records created by self and others	NTS	RM	1(b)				•		•	•			
A.8 Apply infection prevention and control principles and procedures	A.8.1	Critique the interplay between the requirements for infection prevention and control and the use of personal protective equipment	UK		2	•	•	•				•		•	2
	A.8.2	Critique infection prevention and control measures in the pre-hospital environment	UK	DR, LT	2	•	•	•			•	•		•	
	A.8.3	Contrast in-hospital and pre-hospital infection prevention and control measures	UK		2	•		•						•	
	A.8.4	Describe the policies and procedures for infection prevention and control within the EMS system	UK		2	•		•						•	
	A.8.5	Demonstrate best practice in infection prevention and control in the pre-hospital environment	TS	DP, SL, RM, EL	2					•	•		•		
	A.8.6	Demonstrate a professional approach to infection prevention and control	NTS	RM	2					•		•	•		

Cross-cutting Theme A. Operational practice

Capability in Practice	Code	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	A.9.1	Describe challenges related to safe patient moving and handling in the pre-hospital environment	UK		1(b)	•	•	•				•		•	
	A.9.2	Critique methods to overcome challenges to patient moving and handling in the pre-hospital environment	UK	LT, SL, EL	1(b)		•	•	•			•		•	
	A.9.3	Describe equipment used for moving and handling in the pre-hospital environment	UK		1(b)	•		•						•	
A.9 Apply moving and handling principles and procedures	A.9.4	Describe the policies and procedures for moving and handling within the EMS system	UK		1(b)	•	•	•				•		•	6a
	A.9.5	Demonstrate safe moving and handling in the pre-hospital environment	TS		1(b)		•		•	•		•			
	A.9.6	Demonstrate safe moving and handling of equipment in the pre-hospital environment	TS	LT, DP, SL, EL	1(b)		•		•	•		•			
	A.9.7	Demonstrate safe use of moving and handling equipment	TS		1(b)		•		•	•		•			
	A.9.8	Demonstrate the ability to safely load and unload patients onto transport platforms	TS		1(b)		•		•	•		•			
	A.9.9	Demonstrate a professional attitude to safe moving and handling	NTS	RM	1(b)				•		•	•			
	A.10.1	Define Equality	UK		2	•		•				•		•	
	A.10.2	Describe considerations for avoiding discrimination in pre-hospital practice	UK		2	•		•				•		•	
A.10 Apply principles of equality and diversity	A.10.3	Define Diversity	UK	DR, LT, RMRK	2	•		•				•		•	1, 7
	A.10.4	Describe considerations relating to valuing diversity in pre-hospital practice	UK		2	•		•				•		•	
	A.10.5	Describe the policies and procedures for Equality and Diversity within the EMS system	UK		2	•		•				•		•	
	A.10.6	Demonstrate a professional attitude to equality and diversity in the pre-hospital environment	NTS	RM	2				•		•	•		•	

159

Team Resource Management

Learning Outcomes

- **On completion of introductory training, the trainee will possess the knowledge, skills and non-technical skills required to** operate effectively as part of a multi-disciplinary pre-hospital team, informed by their understanding of human factors.

- **On completion of developmental training, the trainee will possess the knowledge, skills and non-technical skills required to** apply team resource management principles to more complex incidents and a wider range of multi-disciplinary teams across a spectrum of clinical contexts.

- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will possess the knowledge, skills and non-technical skills required to** lead a multi-disciplinary team in the high-hazard, resource-limited, environmentally-challenging and time-pressured pre-hospital environment.

Capabilities in Practice

B.1 Understand human factors and their role in patient and team safety

B.2 Maintain situational awareness

B.3 Understand and apply principles of decision-making

B.4 Communicate effectively

B.5 Employ effective team working

B.6 Demonstrate leadership and followership

B.7 Manage stress and fatigue

B.8 Understand and apply principles of error investigation and management

Cross-cutting Theme B. Team resource management

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
B.1 Understand human factors and their role in patient and team safety	B.1.1	Define the concept of human factors	UK		1(b)	•		•						•	5, 6a
	B.1.2	Describe the principles of human error theory	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	B.1.3	Critique the place of human factors within the context of human error theory	UK	EL	1(b)	•		•						•	
	B.1.4	**Describe the potential impact on patient and team safety of:**													
		(a) Human factors	UK		1(b)	•		•						•	
		(b) System factors	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
		(c) Organisational factors	UK		1(b)	•		•						•	
		(d) Cultural factors	UK	EL	1(b)	•		•						•	
	B.1.5	Demonstrate the practical application of human error theory to pre-hospital emergency medical practice	TS	LT, SL, RP, RM, CL, EL	1(b)		•	•	•	•	•	•			
	B.1.6	Demonstrate a professional attitude to patient safety	NTS	RM, SL, EL, RP	1(a)		•	•	•	•	•	•			
B.2 Maintain situational awareness	B.2.1	Define situational awareness	UK		1(b)	•		•						•	1, 2b
	B.2.2	Critique models of situational awareness	UK	DR, LT, SL, CL, EL	2			•						•	
	B.2.3	Critique strategies to maintain situational awareness in the pre-hospital environment	UK	EL	2			•						•	
	B.2.4	**Demonstrate, in the context of PHEM practice, the ability to:**													
		(a) Gather information	TS		1(b)		•	•	•			•			
		(b) Interpret information	TS	LT, SL, CL, EL	1(b)		•	•	•			•			
		(c) Anticipate likely events	TS		1(b)		•	•	•			•			

DR	Directed Reading	LT	Lectures and Tutorials	DP	Deliberate Practice	SL	Simulation Learning
RP	Reflective Practice	RM	Role Modeling	CL	Collaborative Learning	EL	Experiential Learning

Capability in Practice	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
			Cross-cutting Theme B. Team resource management											
	B.2.5	Display the concept of situational awareness	NTS	RM, RP, CL, EL	1(b)				•			•			1, 2b
	B.3.1	Critique pre-hospital decision-making and the often-incomplete data set	UK	DR, LT, SL, CL, EL	1(b)		•	•	•					•	5
	B.3.2	Critique different decision-making models relevant to pre-hospital practice	UK	EL	2			•						•	
		Demonstrate application of strategies to make correct decisions in the pre-hospital environment related to:													
B.3 Understand and apply principles of decision-making	B.3.3	(a) Team and patient safety	TS		1(b)		•	•	•			•			
		(b) Clinical care	TS	LT, SL,	1(b)		•	•	•			•			
		(c) Operational aspects	TS	CL, EL, DP	1(b)		•	•	•			•			
		(d) Logistics	TS		1(b)		•	•	•			•			
	B.3.4	Demonstrate the ability to balance the desirability of obtaining all relevant information with the requirement to make decisions in an appropriate time frame	NTS	RM, RP, SL, CL, EL	2		•		•		•	•			
	B.3.5	Demonstrate willingness to utilise all sources of information to aid decision-making	NTS		1(b)		•		•		•	•			
B.4 Communicate effectively	B.4.1	Describe verbal and non-verbal techniques to communicate effectively in the operational environment	UK	DR, LT, SL, EL	1(b)	•		•						•	1, 2b
	B.4.2	Describe techniques to communicate effectively in the teaching and learning environment	UK	CL	1(b)	•		•						•	

(Continued)

Cross-cutting Theme B. Team resource management

Capability in Practice		Descriptor	Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
		Describe communication techniques to:												1, 2b
B.4 Communicate effectively (cont.)	B.4.3	(a) Resolve conflict	UK	1(b)	•	•	•						•	
		(b) Convey assertiveness	UK	1(b)	•	•	•						•	
		(c) Handover clinical information	UK	DR, LT, SL, EL, CL	1(b)	•	•	•						•	
		(d) Critique performance	UK		1(b)	•	•	•						•	
		(e) Debrief	UK		1(b)	•	•	•						•	
	B.4.4	Critique barriers to effective communication in PHEM practice	UK		2		•	•						•	
	B.4.5	Demonstrate the ability to communicate in an accurate, brief and clear manner	TS	LT, SL, EL, CL, RP	1(b)		•		•		•	•			
		Demonstrate the use of communication techniques to:												
	B.4.6	(a) Resolve conflict	TS		1(b)		•	•	•			•			
		(b) Convey assertiveness	TS		1(b)		•	•	•			•			
		(c) Handover clinical information	TS	LT, SL, EL, CL, RP	1(b)		•	•	•			•			
		(d) Critique performance	TS		1(b)		•	•	•			•			
		(e) Debrief	TS		1(b)		•	•	•			•			
	B.4.7	Demonstrate the ability to adapt communication methods to the situation	TS	RP	1(b)		•	•	•			•			
	B.4.8	Demonstrate the ability to communicate effectively with different groups encountered in the pre-hospital environment	TS		1(b)		•				•	•			
	B.4.9	Demonstrate the importance of effective communication to safe and efficient delivery of patient care in the pre-hospital environment	NTS	RM, RP, CL, EL	1(b)		•		•		•	•			

Cross-cutting Theme B. Team resource management

Capability in Practice		Descriptor	Learning Methods		A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
B.5 Employ effective team working	B.5.1	Describe the attributes of an effective team	UK		1(b)	•		•						•	
	B.5.2	Contrast models of teamwork	UK	DR,	2		•	•						•	
	B.5.3	Describe strategies to support effective teamwork	UK	SL, CL, EL	2	•	•	•						•	
	B.5.4	Critique the factors that influence team working in the pre-hospital environment	UK		2			•						•	
	B.5.5	Demonstrate the ability to work in multi-disciplinary and unfamiliar teams	TS	LT, SL, RP, RM,	2		•	•	•		•	•			5
	B.5.6	Demonstrate a willingness to assume the most appropriate role in a team	NTS		1(b)		•		•		•	•		•	
	B.5.7	Demonstrate an appreciation for all team members and their contributions	NTS	CL, EL	1(b)		•	•	•		•	•			
B.6 Demonstrate leadership and followership	B.6.1	Differentiate clinical, medical and operational leadership	UK		2	•	•	•						•	
	B.6.2	Describe the attributes of an effective leader	UK	DR, LT,	2	•	•	•						•	
	B.6.3	Describe the attributes of an effective follower	UK	SL, CL, EL	2	•	•	•						•	
	B.6.4	Contrast different models of leadership	UK		2		•	•						•	
	B.6.5	Critique the clinical and non-clinical leadership roles of the PHEM practitioner	UK		2			•						•	5
	B.6.6	Demonstrate the ability to be an effective leader	TS		2		•		•			•			
	B.6.7	Demonstrate the ability to be an effective follower	TS	SL, DP, RP, RM,	1(b)		•		•			•			
	B.6.8	Demonstrate a willingness to assume and maintain a leadership role in adverse circumstances	NTS	EL	2		•		•		•	•			

(Continued)

Cross-cutting Theme B. Team resource management

Capability in Practice	Code	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
	B.7.1	Describe the definition and cause of stress	UK		1(b)	•		•						•	
	B.7.2	Describe the definition and causes of fatigue	UK	DR, LT, SL,	1(b)	•		•						•	
	B.7.3	Describe the effects of stress and fatigue on clinical and operational performance	UK	CL, EL	1(b)	•		•						•	
	B.7.4	Critique factors that reduce the ability to manage stress and fatigue	UK		2			•						•	
B.7 Manage stress and fatigue	B.7.5	Critique ways in which wellbeing may be promoted, and fatigue and stress may be minimised	UK	DR, LT, SL, EL, CL	2			•						•	5
	B.7.6	Demonstrate the ability to recognise the effects of stress and fatigue on self and others	TS	LT, SL, RP,	1(b)		•		•			•			
	B.7.7	Demonstrate the ability to institute strategies to minimise the effects of stress and fatigue on self and others	TS	CL, EL	1(b)		•		•			•			
	B.7.8	Demonstrate an open and honest approach to declaring when stress and/or fatigue may impact on own practice	NTS	RM, RP, EL, SL	1(b)		•		•		•	•			
	B.7.9	Demonstrate an open and honest approach to discussing with colleagues when stress and/or fatigue may impact on their practice	NTS	RP, EL, SL	1(b)		•		•		•	•			

Cross-cutting Theme B. Team resource management

Capability in Practice	Descriptor		Learning Methods		A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
B.8 Understand and apply principles of error investigation and management	B.8.1	Describe the policies and procedures for error investigation and management within the EMS system	UK		2	•			•					•	6a
	B.8.2	Describe the attributes of a safety culture	UK	DR,	2	•			•					•	
	B.8.3	Describe the attributes of a high reliability organisation	UK	LT, EL, CL,	2	•			•					•	
	B.8.4	Describe the techniques for effective error reporting and investigation	UK	SL	2	•			•					•	
	B.8.5	Contrast lessons identified from safety critical industries other than healthcare	UK		2	•			•					•	
	B.8.6	Demonstrate the ability to complete an investigation into a potential error	TS	LT, SL, CL, EL	2				•	•	•	•		•	
	B.8.7	Demonstrate an open and honest approach to error investigation and management	NTS	RM, RP, SL,	2					•	•			•	
	B.8.8	Demonstrate promotion of a safety culture	NTS	EL	2					•	•	•		•	

Cross-Cutting Theme C

Clinical Governance

Learning Outcomes

- **On completion of introductory training, the trainee will possess the knowledge, skills and non-technical skills required to** understand the processes used to manage the quality and safety of pre-hospital service delivery.
- **On completion of developmental training, the trainee will possess the knowledge, skills and non-technical skills required to** apply policies and procedures related to clinical governance in pre-hospital care delivery.
- **On completion of consolidation training, the trainee will have completed PHEM subspecialty training and will possess the knowledge, skills and non-technical skills required to** consistently apply clinical governance principles, techniques and mechanisms across the spectrum of pre-hospital service delivery.

Capabilities in Practice

C.1 Understand and apply principles of clinical governance as applied to pre-hospital practice

C.2 Manage and support continuous professional development

C.3 Utilise clinical evidence to support clinical practice

C.4 Utilise and prepare documents that guide practice

C.5 Support and apply quality improvement processes

C.6 Understand and apply organisational risk management processes

C.7 Support training and development

C.8 Understand and apply quality management processes

Cross-cutting Theme C. Clinical governance

Capability in Practice	Code	Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
C.1 Understand and apply principles of clinical governance as applied to pre-hospital practice	C.1.1	Describe how the mechanisms underpinning clinical governance are applied to pre-hospital practice.	UK	DR, LT, SL, CL, EL	1(b)	•		•				•		•	6a
	C.1.2	**Critique the challenges to good clinical governance posed by:**													
		(a) Small team working	UK		1(b)	•		•						•	
		(b) Lone-doctor working	UK		1(b)	•		•						•	
		(c) High-risk clinical interventions	UK		1(b)	•		•						•	
		(d) Remote and rural practice	UK	DR, LT, SL, CL, EL	1(b)	•		•						•	
	C.1.3	Describe the policies and procedures for clinical governance within the EMS system	UK		1(b)	•		•						•	
	C.1.4	Contrast local, regional, national and international regulatory frameworks for ensuring quality and safety within the EMS system	UK		2			•						•	
	C.1.5	Demonstrate a professional attitude to clinical governance	NTS	RM, RP, CL, EL	1(b)		•	•			•	•			
C.2 Manage and support continuous professional development	C.2.1	List methods to support continuous professional development (CPD) in PHEM	UK		1(b)	•								•	8
	C.2.2	Analyse strategies by which groups of small numbers of busy professionals are able to maintain effective CPD	UK	DR, LT, SL, CL, EL	2	•								•	
	C.2.3	Critique the challenges in delivering relevant multi-professional CPD	UK		2	•			•					•	
	C.2.4	Demonstrate the ability to facilitate CPD for self and others	TS	LT, DP, SL, RP, RM, CL, EL	2		•		•					•	
	C.2.5	Demonstrate a professional attitude to CPD	NTS	RM, RP, CL, EL	2						•			•	

DR	Directed Reading	LT	Lectures and Tutorials	DP	Deliberate Practice	SL	Simulation Learning
RP	Reflective Practice	RM	Role Modeling	CL	Collaborative Learning	EL	Experiential Learning

Cross-cutting Theme C. Clinical governance

Capability in Practice	Descriptor			Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
C.3 Utilise clinical evidence to support clinical practice	C.3.1	List possible sources of clinical evidence in the pre-hospital environment	UK		1(b)	•	•	•						•	6
	C.3.2	Critique the range and depth of research evidence underpinning PHEM clinical practice	UK	DR, LT, SL, CL, EL	1(b)	•	•	•						•	
	C.3.3	Describe the challenges of performing research in the pre-hospital environment	UK		2	•	•	•						•	
	C.3.4	Demonstrate the ability to integrate the latest available evidence to provide high quality care to individual patients	TS	DP, SL, RP, CL, EL	2		•	•	•			•			
	C.3.5	Demonstrate a willingness to change practice on the basis of appropriate research evidence	NTS	RM, RP, SL, CL, EL	2		•	•	•			•			
C.4 Utilise and prepare documents that guide practice		**Describe the role, in the pre-hospital environment of:**													1, 6b, 9
	C.4.1	(a) Standard operating procedures	UK		1(b)	•	•	•						•	
		(b) Routine checklists	UK		1(b)	•	•	•						•	
		(c) Emergency action checklists	UK		1(b)	•	•	•						•	
		(d) Procedural aide memoires	UK	DR, LT, SL, CL, EL	1(b)	•	•	•						•	
		(e) Patient group directions	UK		1(b)	•	•	•						•	
		(f) Clinical guidelines	UK		1(b)	•	•	•						•	
		(g) Patient information leaflets	UK		1(b)	•	•	•						•	
	C.4.2	Critique the ways in which the documents (a) to (g) above contribute to good clinical governance	UK		1(b)	•	•	•						•	
	C.4.3	Demonstrate the ability to use appropriate documents that guide practice in clinical situations	TS	SL, RP, CL, EL, DP	1(b)	•	•	•	•			•			
	C.4.4	Demonstrate the ability construct documents that guide practice	TS		1(b)	•								•	
	C.4.5	Demonstrate a professional attitude to documents that aide best practice	NTS	RM, RP, SL, EL	1(b)						•	•			

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Cross-cutting Theme C. Clinical governance

Capability in Practice		Descriptor		Learning Methods	A	Assessment Methods									GPCs
						KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	
C.5 Support and apply quality improvement processes	C.5.1	Describe the importance of and challenges to clinical information management	UK		1(b)	•		•						•	3a
	C.5.2	Describe the policies and procedures related to clinical audit within the EMS system	UK	DR, LT, SL, CL, EL	1(b)	•								•	
	C.5.3	Critique the requirement to prioritise limited audit resources to areas of greatest need	UK		2	•				•				•	
	C.5.4	Demonstrate the ability to perform a clinical audit in PHEM	TS	SL, CL, EL	1(b)					•			•	•	
	C.5.5	Demonstrate a willingness to participate in and respond to clinical audit	NTS	RM, RP, SL, EL	1(b)						•		•	•	
C.6 Understand and apply organisational risk management processes	C.6.1	Differentiate hazard and risk	UK		1(b)	•		•						•	3a, 6a
	C.6.2	Describe risk management and its components in the context of PHEM	UK	DR, LT, SL, CL, EL	1(b)	•	•	•	•					•	
	C.6.3	Describe local, regional and international processes for managing risk within the EMS system	UK		2	•								•	
	C.6.4	Demonstrate the application of risk management strategies	TS		2		•	•	•			•			
	C.6.5	Demonstrate the ability to construct a risk assessment	TS	LT, SL, CL, EL	2				•			•			
	C.6.6	Demonstrate the ability to lead an investigation into an incident	TS		2			•	•	•					
	C.6.7	Demonstrate the ability to apply the lessons identified during an investigation	TS		1(b)					•				•	
	C.6.8	Demonstrate a professional attitude to risk management	NTS	RM, RP, CL, EL, SL	1(b)				•		•				

Cross-cutting Theme C. Clinical governance

Capability in Practice		Descriptor		Learning Methods	A	KT	CEX	CbD	SIM	DOPS	MSF	OSAT	LOG	TO	GPCs
C.7 Support training and development	C.7.1	Describe the principles of adult learning	UK	DR, LT, SL, CL, EL	2	•								•	6b
	C.7.2	Analyse teaching methods suitable for major learning styles	UK		2					•				•	
	C.7.3	Demonstrate the ability to apply the principles of adult learning to the teaching and training of a multi-professional audience	TS	SL, CL, EL	2				•					•	
	C.7.4	Demonstrate a sensitive and constructive manner when approaching a trainee with difficulties	NTS	RM, RP, SL, CL, EL	2				•	•	•			•	
	C.7.5	Demonstrates a professional approach to supporting training and development	NTS		2				•	•	•			•	
C.8 Understand and apply quality management processes	C.8.1	Describe the principles of quality management	UK		2	•		•						•	6b
	C.8.2	Critique the challenges to quality management presented by PHEM	UK	DR, LT, SL, CL, EL	2	•		•						•	
	C.8.3	Critiques strategies to implement quality management processes in pre-hospital practice	UK		2			•						•	
	C.8.4	Demonstrate the ability to use quality management processes in pre-hospital practice	TS	SL, RP, CL, EL	2		•					•			