

Regulations for Faculty of Pre-Hospital Care Accreditation of Level 8 (Consultant) Practitioners in Pre-Hospital Emergency Medicine

1. Background

- 1.1 Pre-Hospital Emergency Medicine (PHEM) is approved by the General Medical Council (GMC) as a medical subspecialty of the existing specialties of Emergency Medicine, Anaesthetics and Intensive Care Medicine. The Faculty of Pre-Hospital Care (FPHC) and Intercollegiate Board for Training in Pre-Hospital Emergency Medicine (IBTPHEM) continue to seek the expansion of the range of specialties (including General Practice) in which subspecialty registration in PHEM can be gained, but it is anticipated that this will take some years to come to fruition.
- 1.2 At the present time, UK-based doctors who are actively practising PHEM are currently only eligible for the subspecialty to be added to their entry on the Specialist Register if they:
 - (a) hold a Certificate of Completion of Training (CCT) or Certificate of Equivalence in Specialty Training (CESR), or historical equivalent, in Emergency Medicine, Anaesthetics or Intensive Care Medicine
 - and
 - (b) have successfully completed PHEM subspecialty training as part of a GMC approved training programme.
- 1.3 Similarly, pre-hospital practitioners from paramedic and nursing backgrounds who have developed an extended scope of practice that encompasses roles historically associated with medical practice have been unable to formally demonstrate that their knowledge, skills and experience reflect the PHEM medical subspecialty curriculum and approach equivalence with medical subspecialty consultant practice.
- 1.4 The FPHC, in collaboration with the IBTPHEM, has therefore developed a process by which doctors in any medical specialty (including General Practice), and paramedics or nurses with an extended scope of practice, who are working at consultant level, can provide robust and objective documentary evidence of their PHEM knowledge, skills and experience to support the award of Faculty Accreditation as a Consultant (Level 8) Practitioner in PHEM. Faculty Accreditation has been created to address inequitable access to PHEM subspecialty training for medical specialties and provide equitable access to accreditation for multi-professional pre-hospital practitioners.
- 1.5 The FPHC and IBTPHEM have adopted the UK Sector Skills Council nine-level Career Framework (figure 1) to help differentiate levels of clinical practice. Consultant-level practice commences at level 8. A practitioner operating at this level is expected to have a high degree of expertise across a substantial breadth of PHEM service delivery. They typically have considerable clinical and/or organisational responsibilities as well as professional clinical autonomy.
- 1.6 Faculty Accreditation is intended to provide recognition of equivalence to PHEM subspecialist registration. It is not an alternative to subspecialty training for those medical specialties that are able to access it. It should not be considered as a short cut or workaround. There is also currently no guarantee, for regulatory reasons, that Faculty Accreditation will result in the addition of PHEM on a doctor's entry in the Specialist Register. Similarly, neither the Health and Care Professions Council nor the Nursing and Midwifery Council currently have a mechanism for subspecialist registration. In professional terms however, Faculty Accreditation

is regarded as being the current, closest equivalent to subspecialist registration and consultant practice in PHEM.



Figure 1. UK Sector Skills Council for Health Career Framework

2. Pathway to Faculty Accreditation

2.1 These regulations explain the Faculty Accreditation application process.

2.2 The pathway to Faculty Accreditation commences with successful completion of the Fellowship in Immediate Medical Care (FIMC) examination. For non-PHEM trainees, admission to the FIMC requires a Certificate of FIMC Eligibility which ensures that they are able to demonstrate clinical and operational experience that reflects the content of the GMC-approved PHEM subspecialty curriculum and syllabus, upon which the FIMC is based, and have a reasonable chance of success. The standard setting for the FIMC is based on what is described as the 'minimally competent' Level 8 practitioner (i.e. the person operating at the level 7/8 threshold).

2.3 The regulations pertaining to the Certificate of FIMC Eligibility, which are available from the FPHC, require applicants to provide evidence that they have effectively mirrored the PHEM curriculum in whatever combination of historical training they have undertaken and experience that they have gained. It is essential to note that, as a minimum, applicants must hold the Diploma in Immediate Medical Care (DIMC), which can only be attempted after 5 years of post-registration clinical practice, and, in practical terms, have at least 12 months of PHEM clinical and operational experience.

2.4 Having achieved the FIMC by examination, Faculty Accreditation requires the practitioner to demonstrate equivalent expertise and experience in the domains of the Skills for Health descriptors for the Level 8 (Consultant) practitioner.

3. **Faculty Accreditation as a Level 8 (Consultant) Practitioner**

3.1 This is the formal application for Faculty Accreditation.

3.2 Applicants must:

- (a) Hold current professional registration
- (b) Hold the FIMC RCSEd
- (c) Be a member of the FPHC in good standing
- (d) Submit a professionally presented portfolio covering all domains of the Skills for Health descriptors for the level 8 (Consultant) practitioner.

3.3 Guidance on preparation of the portfolio of clinical and operational experience

- (a) Candidates should submit a portfolio that covers all domains of the Skills for Health descriptors for the Level 8 (Consultant) practitioner. The portfolio should be constructed and presented as described in this detailed guidance. The Faculty of Pre-Hospital Care will assess the portfolio against the Skills for Health level 8 descriptors.
- (b) The portfolio should be presented as a single volume with clearly delineated sections arranged as listed below. All pages must be numbered sequentially. More detailed descriptions of each section of the portfolio are available in paragraph 3.4
 - Section 1 - Details of current professional practice
 - Section 2 - Evidence of level 8 practice
 - Section 3 – Evidence of working in emergency medical systems and current operational practice
 - Section 4 – Expanded case studies
- (c) Portfolio formatting
 - The portfolio must be presented as a single volume with a title page, a contents page and organised sections as per paragraph 3.3
 - Text within the portfolio should generally be one and a half spacing with paragraph justification.
 - Text should be Arial 14 point for headings, 12 point for subheadings (both in bold) and 11 point for the body.
 - Vancouver referencing conventions should be used throughout. Where other documents, such as letters, are included in the portfolio, these should be legible and have the correct sequence of page numbering applied.
 - Every page must also clearly state the applicant's name in a header or footer.
- (d) Portfolio Evidence. The Faculty Accreditation process mirrors, in terms and standards of evidence, the GMC's processes for application for PHEM subspecialist registration. Portfolio content that relates to evidence of qualifications, education or clinical or operational experience must be authenticated or validated, translated where necessary and appropriately anonymised.
 - Documentary evidence pertaining to training and/or clinical and operational experience must be validated by someone in a medical supervisory position who works within the relevant organisation where the training or experience took place

and who can confirm that the evidence presented is a true reflection of clinical experience.

- Employment letters and job descriptions can be validated by the employing organisation's administrative personnel responsible for human resources. Validation should include the organisation's details and the validator's name, job title, original signature or e-signature, and email address.
 - Original letters and testimonials, on headed paper and containing an original signature or e-signature, may be included in the portfolio.
 - Any evidence not correctly validated will be returned. The Faculty retains the right to contact any validator.
- (e) All patient identifying details, details of patients' relatives and details of colleagues involved in direct clinical care must be anonymised. This means removal of names (first and last), addresses, contact details such as phone numbers or email addresses, NHS numbers, other individual patient numbers, including hospital or unit numbers and GMC/HPC/NMC numbers. Gender and age do not need to be anonymised. Redaction software is recommended as this ensures information remains anonymised through the scanning and review process. If identifiable personal information is found, the portfolio will be returned for anonymisation.
- (f) Any documents that are not in English must be accompanied by a complete and accurate translation. The translation must be from a court/council appointed translator or reputable commercial translation service. Translated documents must bear the contact details of the translation service or translator. A copy of the document that has been translated should be attached to the translation and stamped and signed by the translation service.

4. The Portfolio of Evidence

4.1 Section 1 - Details of professional practice. This section should contain:

- (a) Basic information (name, date of birth, GMC/HPC/NMC number, primary medical, nursing or paramedic qualification and university, main postgraduate medical qualification, college affiliations, details of substantive NHS, CQC-registered (or equivalent) PHEM provider or military clinical employment and full work address).
- (b) Appraisal information (evidence of appraisal within a substantive NHS, CQC-registered (or equivalent) PHEM provider or military clinical service post).
PHEM specific information (place(s) of work for PHEM activity, name of medical director(s) or clinical lead(s) for each PHEM service, years of active PHEM operational practice)

4.2 Section 2 - Evidence of level 8 practice. This section should illustrate how the applicant's professional practice encompasses the domains of the Skills for Health descriptors for the level 8 (Consultant) practitioner, and clearly demonstrate sustained and consolidated consultant practice. This is beyond the level required for the Certificate of FIMC Eligibility or successful completion of the FIMC. There should be narrative accounts of examples with reference to where evidence can be found to support the account. This section should be limited to a maximum of 4,000 words, excluding appendices. The portfolio need not contain the physical evidence but it should cover all of the following domains:

- (a) Knowledge, Skills, Training and Experience. The applicant should demonstrate in-depth and advanced specialist knowledge of the clinical and operational practice of PHEM across the PHEM syllabus. The applicant should demonstrate experience and competence in delivery of PHEM clinical care.

- (b) **Supervision.** The applicant should demonstrate substantial leadership, innovation and independence in the context of the delivery of PHEM clinical services. Being qualified as a Medical Trainer (Clinical or Educational Supervisor) in a PHEM Training Programme would be an example of practice at this level.
- (c) **Professional and vocational competence.** The applicant should demonstrate sustained commitment to development of PHEM as a specialist area of clinical practice. They should demonstrate promotion of social/ethical advancement at all levels of PHEM clinical practice.
- (d) **Analytical/Clinical Skills and Patient Care.** The applicant should demonstrate highly specialist clinical and technical PHEM skills, including the provision of remote clinical advice. The applicant should demonstrate their ability to act as an expert in PHEM.
- (e) **Organisational Skills and Autonomy/Freedom to Act.** The applicant should demonstrate that they direct and influence commissioning and/or PHEM service provision OR that they are accountable for the direct delivery of PHEM clinical service(s).
- (f) **Planning, Policy and Service Development.** The applicant should demonstrate that they develop and implement policy and PHEM service developments which impact beyond their own area of responsibility and beyond their organisation.
- (g) **Financial, Administration, Physical and Human Resources.** The applicant should demonstrate that they are responsible for delivery of PHEM teaching and training programmes OR are a budget holder for one or more PHEM services and are responsible for physical assets.
- (h) **Research and Development.** The applicant should demonstrate that they implement wider research and development findings into PHEM clinical practice AND provide supervision for trainees undertaking research and development work OR initiate, develop and/or manage PHEM research, development and/or service evaluation programmes with external impact.

4.3 **Section 3 – Evidence of working in emergency medical systems and current operational practice.** This section should include evidence of at least five years of operational activity in PHEM, of which at least four must be after the applicant's acquisition of the FIMC. The focus should be on the operational aspects of experience rather than direct clinical care. This section should also include evidence of continued professional development in basic and advanced newborn, paediatric and adult life support (both medical and trauma). The actual logbooks or logbook details should not be included. Instead, there should be a detailed breakdown of the distribution of patients. It is not necessary for applicants to have seen every clinical presentation in the syllabus but it is necessary to be able to demonstrate what range of presentations and conditions have been managed, and what learning or training has been undertaken to cover the presentations and conditions yet to be encountered.

4.4 The requirement for evidence of five years of operational activity in PHEM has been a matter of extensive discussion within the FPHC, IBTPHEM and wider pre-hospital community. It is essential to appreciate that parity and equivalence lie at the heart of the Faculty Accreditation concept. The aim is for eligible applicants to demonstrate that their learning, training and experience mirrors that required for PHEM subspecialist registration with the GMC, which by virtue of being a subspecialty within the specialties of Emergency Medicine, Anaesthetics or Intensive Care Medicine, includes at least eight to nine years of post-registration learning, training and experience (figure 2). Subspecialty training in PHEM includes a minimum of 12 months whole-time equivalent (48 hours/week) during that specialty training. This primary route to subspecialist registration includes at least two to three rounds of national recruitment (including competitive application and interview) to approved training posts, and at least eight to nine rounds of annual, national/regional panel assessment and review of competency progression. Any equivalence route to accreditation

cannot compromise the primary route to PHEM subspecialist registration or undermine the commitment of Colleges, trainees and trainers involved in this primary route.

4.5 Figure 2 illustrates the parallel career development pathways for the PHEM medical subspecialist trainee and the non-PHEM-trainee practitioner. The earliest that either route can access the DIMC is after 5 years of post-registration clinical practice. Access to the FIMC also requires, in practical terms, at least 12 months' whole-time equivalent practice in PHEM. The remainder until nine years post-registration is four years, hence the Faculty Accreditation requirement of five years' operational activity in PHEM, of which up to 12 months can be prior to the applicant's achievement of the FIMC.

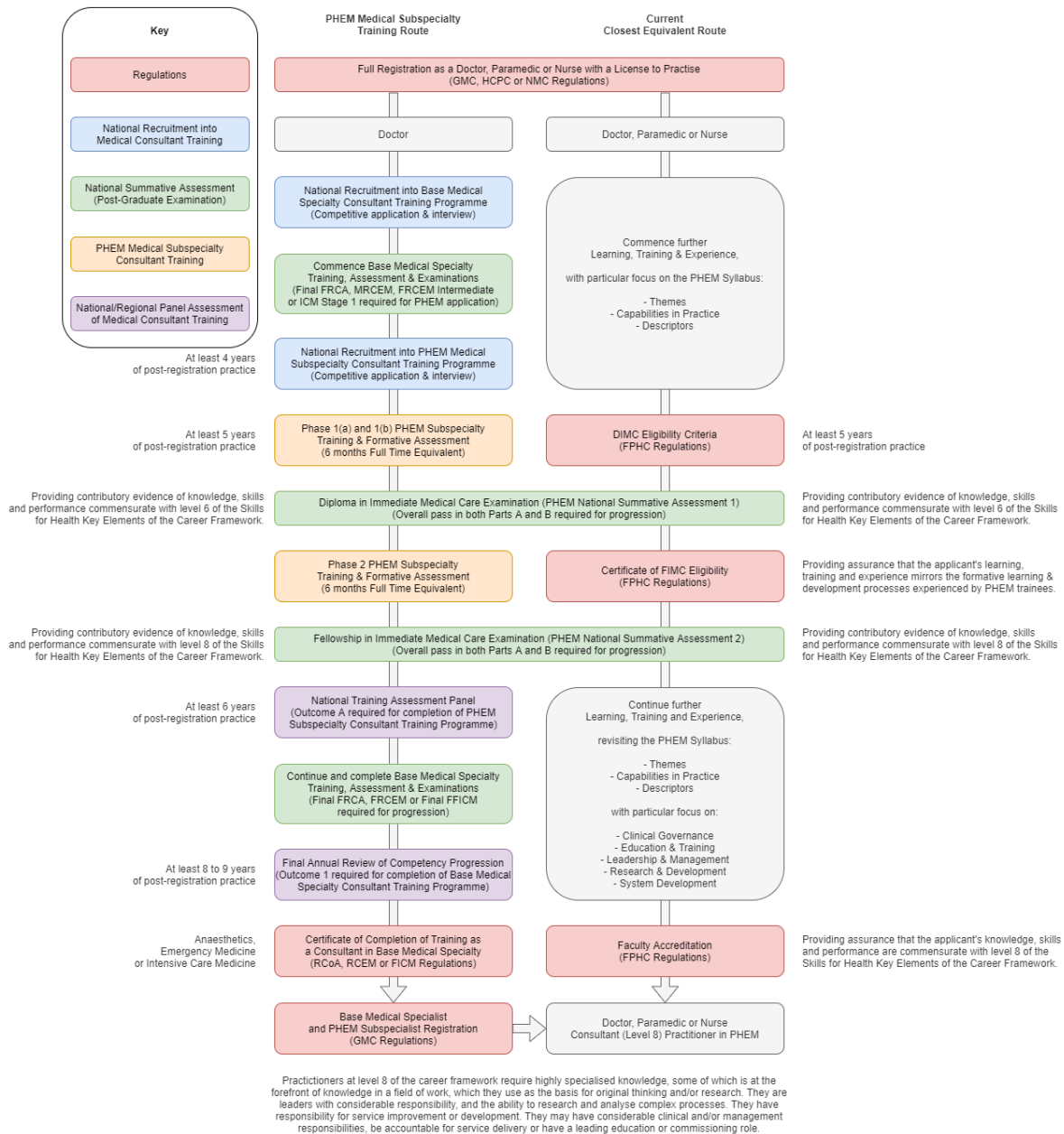


Figure 2. Summary comparison of PHEM Medical Subspecialty Consultant and current closest equivalent training routes.

4.6 **Section 4 – Expanded case studies.** Four anonymised cases should be included as examples of the applicant's personal consultant-level involvement in the pre-hospital treatment/management of at least one adult, one child (under 6yo), one medically unwell patient, one injured patient, one pre-hospital sedation and one pre-hospital emergency anaesthetic. One of these cases should also involve the applicant's provision of remote clinical advice. The format in Appendix A can be used to guide the description of example

cases. These must be new cases that have not been used for any previous application for a Certificate of FIMC Eligibility.

- 4.7 The regulations are prescriptive regarding the structure and content for the portfolio of clinical and operational experience in order that applications from a diverse range of professional backgrounds are consistent in their presentation and content. Applicants should be aware that specialist plagiarism detection software will be applied to the electronic submission of the portfolio file. Any suspected cases of plagiarism will be investigated.

5. The application process

- 5.1 Applications for Faculty Accreditation must be submitted using the Application Form for Faculty Accreditation of Consultant (Level 8) in Pre-Hospital Emergency Medicine. The PDF file should be submitted as an electronic upload (Link Share). The Faculty office will provide applicants with details of how to access the electronic upload portal.

- 5.2 Applications are considered by the FPHC quarterly. Dates for submission deadlines will be published by the Faculty. The application process will typically take three months.

- 5.3 All applications must follow the format outlined in these regulations and include all the relevant supporting documentation. Incomplete applications will be rejected and returned, and would require resubmission at a later date.

- 5.4 An application fee must accompany the application. Details of the required fee will be available from the Faculty of Pre-Hospital Care. Applicants who are unsuccessful/whose portfolios are rejected will not be entitled to a refund. If an applicant withdraws their application before it has been considered by a panel (and before any administrative arrangements have been finalised), they will be entitled to a full refund less 10% administrative costs.

- 5.5 The application and portfolio review will be undertaken by a panel of at least three assessors. The panel shall comprise of:

- a chairperson who is the Level 8 Accreditation Lead or an Office Bearer of the Faculty

and

- at least two other Faculty members, who are current Level 8 Accredited Practitioners and/or FIMC examiners and wherever possible:

- at least one of whom is from the same professional background as the candidate

and

- at least one of whom is a current PHEM subspecialty training programme Medical Trainer¹.

¹ As per the 2022 PHEM Subspecialty Curriculum, Section 5: Guidance for Trainers, Local Education Providers and Deaneries:

"5.2.3 The GMC set criteria for medical trainers. 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 and educational supervisor..."

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..."*

- 5.6 All applicants for Faculty Accreditation are required to be interviewed by the panel in person on the date that the panel meets. The Faculty will confirm the venue, date and time for the panel meeting six weeks in advance. No travel or subsistence allowances are available for applicants attending interview panels. Applicants who are unable to attend the panel should provide an explanation in writing and should expect that their application and interview will be deferred to the next panel.
- 5.7 A decision letter will be sent to all applicants within 21 working days of the panel meeting. There are two outcomes from an application for Faculty Accreditation:
- (a) Criteria for Faculty Accreditation have been fully met.
- or
- (b) Criteria for Faculty Accreditation have not been met – Application rejected and returned. Unsuccessful applicants will be provided with constructive feedback.
- 5.8 The Faculty will write to the registration body of each successful applicant to inform them of the Faculty Accreditation and request that this be recognised and/or acknowledged in the applicant's professional registration records. The Faculty will validate every page of the physical portfolio in accordance with GMC's evidence standards.¹
- 5.9 Unsuccessful applicants are entitled to appeal using the process described in section 5. below
- 5.10 A maximum of four applications for Faculty Accreditation may be made. Those four attempts (including interview) must be completed within three years of the first interview date.

6. Appeals

- 6.1 If an applicant is dissatisfied with the outcome and wishes to challenge the decision letter, he/she may submit an Appeal to the Faculty. The Appeal must be accompanied by the required fee (details available from the Faculty) and must be received within two months of the date of the decision letter.
- 6.2 The Faculty will confirm receipt in writing and advise the Appellant of a date by which an Appeal Panel will be appointed, which will not be more than three calendar months after the date of receipt of the appeal. At the time the appeal is lodged, the Appellant can request a meeting with a senior member of the Faculty who was not involved in the initial assessment or the appeal, to discuss the processes. The senior member of the Faculty will be nominated by the Faculty Executive. The content of this meeting cannot be used as further evidence towards the case of the Appellant or the Faculty. After this meeting, the Appellant may withdraw his/her application and, providing it is prior to the final date set for the appointment of the Appeal Panel, receive a full refund of the fee.
- 6.3 The appeal panel will consist of two members of the Faculty Executive who have not previously been involved at any time in the assessment of the Appellant's application or his/her Review, and a Chairman, who will have no formal connection with the Faculty. The Appeal hearing date will be set by the Faculty. The panel shall proceed to hear the appeal in accordance with Royal College of Surgeons of Edinburgh regulations for appeals. It shall allow adequate periods of notice to both parties, an opportunity for the Appellant to be present in person and to be represented, and an opportunity for the Appellant, or his/her representative, to present the Appeal and to respond to any answer the Faculty may make.
- 6.4 At the conclusion of the proceedings the panel shall reach its findings. The findings a panel may make shall be as follows:
- (a) That the Appeal is dismissed; no further appeal may be considered.

- (b) That the Appeal is justified in whole or in part but that the matter does not justify further action.
- (c) That the Appeal is justified and either that:
 - i. the decision shall be appropriately corrected and, if the consequence of such correction so requires, that the Appellant shall be declared successful in their application; or
 - ii. the result of the Appellant's application shall be declared void and that he/she shall be allowed to re-apply for Faculty Accreditation at Level 8 without payment of any fee.

6.5 The Chairman of the panel shall have the power to decide whether all, part of or none of the Appeal fee will be returned. In announcing its findings the panel shall give reasons for its decision in writing.

7. **Maintaining Faculty Accreditation**

7.1 Faculty Accreditation will be valid for 5 years from the date of Accreditation. After 5 years, an application for re-accreditation is required along with evidence of ongoing activity and personal professional development in PHEM. To remain on the Faculty Accreditation Register, the applicant must:

- (a) Remain a member of the Faculty of Pre-Hospital Care in good standing.
- (b) Maintain their relevant professional registration, and for doctors, a license to practice.
- (c) Return a five-year summary confirming their continued professional practice in PHEM.

7.2 The five-year summary return should be in the form of a letter from the applicant's medical or clinical director which confirms that the applicant:

- (a) Continues to practice PHEM at consultant level within their organisation or service
- (b) Participates in this five-year appraisal (which includes their PHEM practice)

If the applicant is a medical or clinical director of their service, then the letter should be from the applicant's Responsible Officer or equivalent.

Regulations approved by Faculty Executive, February 2024.

Appendix A to Regulations for Faculty of Pre-Hospital Care Accreditation of Level 8 (Consultant) Practitioners in Pre-Hospital Emergency Medicine

Guidance on preparation of expanded case studies

A1. Applicants for Faculty Accreditation are required to submit **four** detailed 'Expanded Case Studies' mapped to the PHEM syllabus capabilities in practice.

A2. Expanded Case Studies provide pre-hospital clinicians with an opportunity to demonstrate their experience and knowledge by describing interesting, important or memorable cases, and their wider significance, in a structured and detailed manner. The expanded case studies are formally assessed and this document provides guidance on their expected number, content, structure and standard.

A3. Four expanded case studies should be included as examples of the applicant's personal consultant-level involvement in the pre-hospital treatment/management of at least one adult, one child (under 6yo), one medically unwell patient, one injured patient, one pre-hospital sedation and one pre-hospital emergency anaesthetic. One of these cases should also involve the applicant's provision of remote clinical advice. These must be new cases that have not been used for any previous application for a Certificate of FIMC Eligibility. The expanded case studies should demonstrate the application of relevant aspects of the current UK PHEM syllabus (available at www.ibtphem.org.uk).

A4. Each case study should be 750 to 1500 words long. Across the four expanded cases this should represent around 5,000 words. The following formatting should be applied:

- A cover page with the name of the applicant and a statement of word count (excluding titles, syllabus mapping, references, figures, tables and, legends) should be prepared for each case study.
- English language.
- Portrait format.
- Double-spaced type with paragraph justification.
- Sequential numbering on each page.
- Text should be Arial 14 point for headings, 12 point for subheadings (both in bold) and 11 point for the body.
- 3 cm left hand margin and a 2 cm right hand margin.
- Abbreviations should be defined the first time they are used.
- SI units should be used throughout.
- A superscript number should be inserted in the text at the point where a source of information is referred to or cited. A consecutive number should be allocated to each source as it is referred to for the first time. Use superscript numerals *outside* periods and commas and *inside* colons and semicolons.
- When more than 2 references are cited at a given place in the manuscript, use hyphens to join the first and last numbers of a closed series; use commas without space to separate other parts of a multiple citation.
- References should be in Vancouver style and listed numerically at the end of the body of work (single line spacing may be used). Journal titles are to be abbreviated.

A5. The cases should use the following format:

- (i) Title – informs the reader of the situation (excluded from word count).
- (ii) Introduction – succinctly explains why the case has been chosen and lists the relevant syllabus Capabilities in Practice (list excluded from the word count).
- (iii) Clinical description - succinctly and anonymously describes relevant aspects of the incident, clinical care and overall management of the case together with follow-up and the outcome.

- (iv) Discussion - analyses the important learning points of the case, demonstrating the use of up-to-date and relevant information on the subject, recognising the limitations of the review.
- (v) Conclusion – summarises how the learning points from this case will inform the clinician’s future activity.
- (vi) References – in Vancouver style, including at least four but no more than ten relevant references considered *essential* reading (excluded from word count).

A6. If photographic or radiological images, or equivalent, are used to illustrate the expanded case summary, care must be taken to ensure that they (a) are effectively anonymised or (b), where they relate to a specific patient or show identifiable features of patients (whether the focus of the case study or not), have been included with the full informed consent of the patient.

A7. Case studies will be assessed against 5 domains according to the case study structure described above. These domains are (1) Title and introduction, (2) Clinical description, (3) Discussion, (4) Conclusion, (5) References.

A8. Each domain is scored out of 5 according to the assessments below. The maximum attainable total is 25 marks. Each case study must achieve a score of 3 or above in each of the five domains.

- 5 – Outstanding / well above standard
- 4 – Good / above standard
- 3 – Pass / at minimum expected standard
- 2 – Needs improvement / below standard
- 1 – Poor, need complete revision / well below standard

Resuscitative thoracotomy: staff, skills, safety and systems

1. Introduction

Rapid decision-making and intervention are essential for successful resuscitation after cardiac arrest from a penetrating chest wound. This case has been chosen because it highlights the challenges of team leadership, technical competence and sharps safety during resuscitative thoracotomy, the importance of supporting the entire pre-hospital team and the need to ensure system-wide learning and development. Different approaches to communication and debriefing are discussed, a brief review of blood-borne virus exposure presented, and my subsequent service improvement actions summarised.

The relevant syllabus Capabilities in Practice are:

- 1.8 Work effectively with acute hospital services

- 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
- 2.5 Manage injuries in the pre-hospital environment

- 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

- 5.4 Prepare patients for transport
- 5.6 Clinically manage patients during transport

- A.2 Respond to incidents by road
- A.8 Apply infection prevention and control principles and procedures

- 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

- 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.6 Understand and apply organisational risk management processes
- C.7 Support training and development

2. Clinical Description

During a duty period as the team doctor, a critical care paramedic colleague and I were tasked to an incident involving an adult male patient, who was unconscious after being stabbed in the chest. We immediately donned stab vests and mobilised by rapid response vehicle. En route, we confirmed with ambulance control that police were present and that it was safe for us to proceed directly to the scene, rather than to a rendezvous point. On our arrival, the patient was on the floor of a very small room and the ambulance crew were undertaking CPR and attempting to insert an intravenous cannula.

It was clear to me that the patient had a precordial stab wound and no signs of life. The crew reported he was breathing on their arrival, but had just become apnoeic. Having identified traumatic cardiac arrest, I immediately directed that chest compressions be stopped and the patient moved into an adjacent, larger room. I confirmed cardiac arrest and explained the need to undertake immediate thoracotomy, which we then performed via a clamshell incision.

Exposure of the pericardium confirmed cardiac tamponade. Clot was evacuated and a right ventricular stab wound closed with surgical staples. After internal massage, compression of the aorta and 500ml of crystalloid, there was return of spontaneous circulation (RoSC).

Post-resuscitation care was initiated comprising intubation, mechanical ventilation, and anaesthesia (ketamine infusion and rocuronium bolus). Bleeding from the internal mammary arteries was controlled with mosquito forceps and the wound protected with a large, moist dressing. The patient was extricated on a scoop stretcher and reassessed in the ambulance. I then passed a structured pre-alert to the Major Trauma Centre with specific requests for massive blood loss protocol activation and cardiothoracic surgical support. We were able to maintain a mean arterial pressure over 70mmHg and we handed over a stable patient to a consultant-led trauma team.

The patient survived surgery, but died 24 hours later in intensive care from multiorgan failure. Debriefing with the receiving surgeon, I learned that a small posterior cardiac wound had been missed and the patient happened to be HIV-positive.

3. Discussion

3.1 Team leadership and communication

On our arrival, the ambulance crew were task-focused and trying to treat the patient in a confined space and I needed to employ appropriate communication methods to engage with the team and share our plan. A graded assertiveness approach is increasingly taught in safety critical industries such as aviation and healthcare. Although different language is used in different systems, the approach escalates from “hint” through six stages to “command”.¹ Mitigating language such as “Excuse me, but, when you get a moment...” has been found to be a risk in critical aviation emergencies and it is suggested that we avoid this in acute medical emergencies.¹ However, mitigating language is better for team building¹ and in this case the PHEM team and ambulance personnel had never met. I used a mitigating sentence (“Hello. I am sorry to interrupt, but this is a time-critical patient and I think thoracotomy is indicated.”) followed by a command (“Please stop what you are doing and move the patient to this room so we can do a thoracotomy.”) I have previously found this to be an effective approach: introduction, apology, take control - hopefully without losing the engagement of personnel on scene. Other communication strategies that were useful in this case included the closed loop (“Please go and get the scoop stretcher and tell me when you’ve got it.”) and “flying by voice” with the step-back method (“Ok, everyone, please listen. We have got a pulse back and now need to go to hospital. Is there anything I have forgotten to do?”).¹

3.2 Debriefing and support

Debriefing has become an established practice after incidents. There is recognised value in a hot debrief with the wider team at scene or hospital, a cold debrief with the PHEM team back at base and, after more significant incidents, a formal, multi-agency after action review. Debriefing has been shown to be beneficial in reducing provider stress and improving team performance, and specific guidance exists.² The facilitator (who does not need to be the most senior team member) needs to ensure that everyone has an opportunity and is empowered to speak up. Debriefing is often structured around what went well and what can be improved (such as in the + (plus = positive) / delta (change) and 'after action review' systems.²

In our hot debrief, I was described as being very direct, "bossy" and clearly in charge. While the majority thought that the situation warranted clear leadership, one person was upset by the thoracotomy and felt my communication was too overpowering.

Recognising an opportunity to support individuals, inter-agency relationships and my continuing professional development, I organised a cold debrief with the treating PHEM and ambulance service personnel. All attendees felt this was valuable and left them with a better understanding of the rationale, process and tempo of thoracotomy. It also prompted my reflection and reading around how I can adapt my verbal and non-verbal communication to be assertive without appearing arrogant or aggressive.³

3.3 Technical competence

Resuscitative thoracotomy is a high-tempo and high-risk procedure. It is also a rare event for pre-hospital practitioners with many services undertaking fewer than one per month on average. The combination of our service's clear, evidence-based⁴ standard operating procedure (SOP), simulation training⁵ and regular rehearsal and drills meant that my colleague and I shared a robust understanding of the indications and technique. We were therefore well-prepared to immediately identify the need for a thoracotomy, minimise the time to "hand-on-heart" and achieve RoSC. Recognising valuable learning for both myself and my colleagues (including the delayed identification of the second cardiac wound), I presented the case at our next clinical governance meeting.

3.4 Sharps safety

Occupational exposure to blood borne viruses is a well-recognised risk with established processes to prevent accidental exposure. The risk of acquiring HIV following occupational exposure to infected blood is estimated to be about 3 per 1,000 injuries.⁶ After sharps safety was highlighted by a second presentation at the clinical governance meeting, I successfully proposed the introduction of a large, sterile dressing or single-use kidney dish as a dedicated area for sharps in use at scene, to minimise the risks to both personnel and patients when a sharp needs to be picked up and used again.

3.5 Service improvement

Ideally, any case involving a high-risk and/or rare procedure like thoracotomy should be flagged for formal review - regardless of the outcome. Following this case, I supported the introduction of a routine, multi-agency review process for every thoracotomy case performed by our service. The other agencies involved include the ambulance service, receiving Emergency Department, local cardiothoracic service and, where relevant, Coroner. Making this review routine avoids individual team members feeling that scrutiny is inappropriate or excessive. The process follows a template including: indication and risk-benefit analysis, surgical technique and injury management, outcome and lessons identified. The outcome of the review is then presented at the next clinical governance meeting, when any necessary modifications to equipment, SOP or training can be identified.

This case became the pilot for the first formal review. It was confirmed that the indication, risk-benefit analysis and surgical technique were correct. The outcome was considered to be related to multi-organ failure post-cardiac arrest, rather than any aspect of injury management, but associated lessons learned included the importance of searching meticulously for all cardiac wounds. The review was considered very helpful by the wider team and supported the introduction of this new, regular, procedure-specific, multi-agency review process.

4. Conclusion

This case demonstrates my consultant-level involvement in the care of an injured adult.

Evidence of my established good practice includes familiarity with our service's equipment and SOPs, engagement with training and procedural skill maintenance, rapid decision-making and clear leadership and communication, all of which facilitated this successful resuscitative thoracotomy. Considering areas for personal improvement, the hot debrief and patient follow-up have allowed me to further refine both technical (cardiac wound identification) and non-technical skills (assertiveness).

The cold debrief I organised provided further wellbeing support and learning for ambulance service personnel. My case presentation contributed to my PHEM service's clinical governance activity, including education, risk management and clinical effectiveness. Finally, my proactive participation in the successful creation and pilot of a regular, multi-agency review process following every resuscitative thoracotomy has helped ensure system-wide learning and development, in the interest of both patients and healthcare providers across the emergency care pathway.

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