Regulations for the issue of a Certificate of FIMC Eligibility

1. Background

1.1 The Fellowship in Immediate Medical Care (FIMC) is the highest level of formal qualification available for pre-hospital practitioners.

1.2 The FIMC examination regulations (available from the Royal College of Surgeons of Edinburgh's website) define the current eligibility requirements.

1.3 The FIMC eligibility requirements are intended to ensure that applicants are suitably prepared for the examination. Those applicants who are undergoing or have completed GMC approved sub-specialty training in Pre-hospital Emergency Medicine (PHEM) must have their applications countersigned by a UK approved PHEM Training Programme Director to confirm their suitability to undertake the examination.

1.4 Practitioners who have undertaken alternative forms of pre-hospital care training outside of approved PHEM subspecialty training programmes must demonstrate that their experience and training can be considered equivalent to that of a sub-specialty trainee. This requires that the applicant submits a Certificate of FIMC Eligibility issued by the Faculty of Pre-Hospital Care.

1.5 These regulations relate to the process for the issue of a Certificate of FIMC Eligibility. It should be noted that the issue of a Certificate of FIMC Eligibility simply confirms that the applicant has demonstrated that they have equivalent (or greater) clinical and operational experience as a PHEM sub-specialist trainee at the point of application for the FIMC.

2 Requirements

2.1 In order to obtain a Certificate of FIMC Eligibility, an applicant must provide an **electronic** (one single file) portfolio of evidence of the following:

2.1.1 A logbook with a minimum of 80 verified clinical cases attended by the practitioner. There is no specified format of the logbook or defined time period. Applicants should ensure that the logbook does not contain any patient identifiable data. Entries should be able to be verified if necessary (e.g. through records held by service providers).

2.1.2 Four PHEM expanded case studies drawn from cases attended in the 24 months preceding the application – one of which must be related to a patient under 6 years of age and one of which must be related to a pre-hospital procedural sedation or anaesthesia case. The format of an expanded case study is provided at Annex A.

2.1.3 A completed multi-source feedback undertaken in the 12 months preceding the application. There is no specified format for the multi-source feedback.

2.1.4 A portfolio of 'work-place based assessments' that effectively mirrors the minimum recommended requirement within the PHEM Curriculum. Details of these assessments can be obtained from the current PHEM Curriculum. It is recognised that these

assessments may not have been undertaken in a formal or conventional 'work' role or by a person who is a Local Trainer, Clinical Supervisor or Educational Supervisor in the context of PHEM training programmes. There is therefore no specified format for the assessments or the portfolio although the templates in the PHEM curriculum may be utilised. The aim is for applicants to be able to demonstrate that their learning, training and experience mirrors the formative learning and development processes experienced by PHEM trainees. There is no specified time period for the assessments.

2.1.5 A portfolio of evidence of involvement with structured and managed Clinical Governance processes relating to patient safety, clinical effectiveness and patient experience. This may include clinical audits, patient surveys, clinical case reviews and similar activities. There is no specified format for this portfolio.

2.1.6 Evidence of having delivered teaching on courses and/or educational programmes specific to clinical pre-hospital care within the 12 months preceding the application. The 'Teaching Observation' work-place based assessment in the PHEM Curriculum or a similar tool may be used but there is no specified format for this evidence.

2.1.7 Evidence of some form of scholarly activity in pre-hospital care. There is no specified format for this evidence. Scholarly activity may include one or more of:

a. Discovery (developing knowledge in the field of pre-hospital care through any recognised research methodology).
b. Integration (synthesising knowledge and ideas related to pre-hospital care practice in a structured and systematic way).
c. Application (applying knowledge to the operational environment in a structured and systematic way).

2.1.8 Evidence of compliance with the Code of Practice between Ambulance Services and Immediate Care Doctors (or an equivalent code) either through:

a. Current BASICS accreditation, or
b. A letter of endorsement from the relevant regional Ambulance Service Medical Director, or
c. A letter of endorsement from the relevant Regional Faculty Office, or
d. A letter of endorsement from the applicant's Medical Director.

3 Application process

3.1 Applications will be considered by the Faculty of Pre-hospital Care quarterly. Dates for submission deadlines will be published by the Faculty. The application process may take up to three months.

3.2 All applications must follow the format outlined in these regulations and include all the relevant supporting documentation. Incomplete applications will be rejected and returned for re-submission at a later date.

3.3 Applications must be submitted in writing and be accompanied by the relevant fee, details of which are available from the Faculty. Applicants who are unsuccessful will not be entitled to a refund.

3.4 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.

3.5 A maximum of four applications for Certificate of FIMC Eligibility may be made.

4 Decisions

4.1 The application will be reviewed by a panel of two current FIMC examiners nominated by the Convener of Examinations. There are two outcomes from an application for a Certificate of FIMC Eligibility:

a. Criteria at paragraph 2.2 above have been fully met and a Certificate of FIMC Eligibility, valid for two years from the date of issue, can be issued. This certificate does not confer the FIMC post nominal letters, replace the FIMC examination application process or guarantee access to any specific FIMC diet.

b. Criteria at paragraph 2.2 above have not been met. Unsuccessful applicants will be provided with constructive feedback.

5 Appeals process

5.1 If an applicant is dissatisfied and wishes to challenge the points set out in the decision, he/she may submit an Appeal to the Faculty Executive. The Appeal must be accompanied by the required fee (details available from the Faculty office) and must be received within two months of the date of the decision letter.

5.2 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 is 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 appeal fee.

5.3 On appointment, the appeal panel will consist of two FIMC examiners 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 RCSEd Procedures for Appeal Hearings. 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.

5.4 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 without payment of any fee.

5.5 The Chairman 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.

Regulations approved by Faculty Board, 28 April 2015

Annex A to Regulations for the issue of a Certificate of FIMC Eligibility

Guidance on preparation of expanded case studies

A1. Applicants for a Certificate of FIMC Eligibility are required to submit four detailed 'Expanded Case Studies' related to the PHEM curriculum themes.

A2. Expanded Case Studies provide pre-hospital clinicians with an opportunity to explore interesting, important or memorable cases 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 prepared and submitted. Electronic submission is not permitted. The expanded case studies should reflect the current UK PHEM curriculum (available at www.ibtphem.org.uk). One case study must be related to a patient under 6 years of age and one must be related to a pre-hospital procedural sedation or anaesthesia case. The themes are:

A4. Each case study should be 750 to 1500 words long. Across the eight expanded cases this should represent around 10,000 words. Double spacing and paragraph justification should be used throughout. Text should be Arial 14 point for headings, 12 point for subheadings (both in bold) and 11 point for the body. There should be a 2.5 cm margin all round. Abbreviations should be defined the first time they are used and 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. Journal titles are to be abbreviated. All eight expanded case studies should be in a single bound volume with a contents page and a title page that states the name of the applicant.

A5. The cases should use the following format:

(i) Title - informs the reader of the situation.

(ii) Introduction - explains succinctly why the case has been chosen and any directly relevant curriculum units.

(iii) Clinical description - succinctly and anonymously describes relevant aspects of the incident, clinical care and overall management of the case together with 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 limitations of the review.

(v) Conclusion – a summary of 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.

A7. If photographic or radiological images, or equivalent, are used to illustrate the expanded

case summary, care must be taken to ensure that they are (a) 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.

A8. 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.

A9. Each domain is scored out of 5 according to the assessment below. The maximum attainable total is 25 marks. Each case study must achieve a score of 3 or above.

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

A10. Example of an expanded case study

The management of eclampsia in the pre-hospital domain

1. Introduction

Exposure of pre-hospital clinicians to maternal complications of pregnancy is limited. This case raises a number of interesting management issues and learning opportunities: (1) The differential diagnosis of seizures in women of menstruating age, (2) the risk/benefit assessment for pre-hospital emergency anaesthesia, (3) the specific treatment of eclamptic seizures, (4) The benefit of anticipating the patients clinical course, (5) the multidisciplinary on going management of eclampsia. The curriculum theme covered in this case study is 'providing pre-hospital emergency medical care'. The curriculum elements that are relevant are: 2.1.2a,h; 2.1.3g; 2.1.7; 2.1.10; 2.1.11; 2.1.13; 2.1.15; 2.1.16; 2.2.7; 2.2.10; 2.4.9a,m; 2.6.7c; 2.6.13d; 2.7.3c; 2.7.8c.

2. Clinical description

An 18 year old, 110kg woman had two days of headache and fever, with blurred vision. She had a generalized tonic-clonic seizure and her parents called an ambulance. Whilst waiting for the ambulance she vomited and became cyanosed. The paramedic ambulance team cleared her airway with suction and supported her ventilation with bag-valve-mask and oxygen. On arrival of the pre-hospital enhanced care team, she was fitting and hypoxic. The team divided up roles to achieve parallel activity including obtaining a history. An oropharyngeal airway was placed and a C-circuit ventilating bag was used to support her oxygenation. This achieved saturations in the low 90's. Blood pressure, ECG and pulse oximetry were applied. Intravenous access was obtained and a blood sugar and blood samples were taken. Intravenous cefotaxime and intravenous midazolam were given. She had strong peripheral pulses and there were no rashes, her pupils were equal and reactive. On abdominal examination, a mass was palpable up to the xiphisternum – presumed to be the uterine fundus. In support of the diagnosis of eclamptic seizures, the cuff blood pressure was 160/95. The parents did not previously know of the pregnancy and a member of the team was assigned to manage their emotional response to this finding and explain the on going management of their daughter.

A decision to intubate and ventilate her was made on the grounds of difficult oxygenation, continued seizures and anticipated clinical course of emergency caesarian section and intensive care.

She was tilted to the left side to reduce vena-caval compression. She was anaesthetized with

thiopentone and suxamethonium and intubated and ventilated. Maintenance of anaesthesia and muscle relaxation was achieved with a propofol infusion and bolus rocuronium. She was packaged for transport and given 4g of magnesium sulphate intravenously over 15 minutes. A pre-alert call was made to the local teaching hospital for neonatology, obstetrics and intensive care to be ready in the emergency department. On admission, ultrasound confirmed a 36/40 singleton pregnancy and the magnesium infusion was continued. Invasive arterial blood pressure was 195/140 and a labetalol infusion was commenced. Emergency Caesarian section was completed and she was further treated for hypertension over a 7 day ICU admission.

She and her baby made full recoveries. They have both been discharged from follow up.

3. Discussion

3.1 Severe pre-eclampsia and eclampsia

Pre- eclampsia is pregnancy-induced hypertension in association with proteinuria (> 0.3 g in 24 hours) ± oedema and virtually any organ system may be affected. Symptoms of severe headache, visual disturbance, epigastric pain and/or vomiting may occur and she had each of these features. Eclampsia is defined as the occurrence of one or more convulsions superimposed on severe pre-eclampsia.[1] Severe pre-eclampsia and eclampsia are relatively rare but serious complications of pregnancy, with around 5/1000 maternities in the UK suffering severe pre-eclampsia and 5/10 000 maternities suffering eclampsia.[2] In eclampsia, the case fatality rate has been reported as 1.8% and a further 35% of women experience a major complication.[2] 44% of eclamptic seizures occur post-natally, up to 1 month after delivery, most within the first 4 days post-partum.[3] This raises the need to search for a history of pregnancy. The etiology of pre-eclampsia and eclampsia remains poorly understood, but it is postulated to result from impaired trophoblastic invasion of the maternal spiral arteries, leading to widespread endothelial dysfunction and placental ischaemia.

3.2 The differential diagnosis of seizures in menstruating women

The differential diagnosis of a women presenting in this manner include hypoglycaemia, infection (meningo-encephalitis, brain abscess), subarachnoid haemorrhage, intra-cerebral haemorrhage, sagittal sinus venous thrombosis, thrombotic phenomena, intracranial neoplasm, head trauma, epilepsy and hypertensive encephalopathy (renal disease, eclampsia, vascular disease). The diagnosis of pregnancy related medical disease must also always be part of the differential diagnosis in children and women who are menstruating. Pre-hospital management of fitting patients focuses on resuscitation, beginning anti-convulsant treatment, considering antibiotics and safe transport to hospital for ongoing management. The diagnosis was not initially clear for this patient and this generic safe management plan was applied to her care. The specific diagnosis aided her ongoing process into hospital care, but did not change the approach to her management.

3.3 Risk assessment for pre-hospital anaesthesia

This patient had resuscitation requirements of airway management and adequate oxygenation relating to her seizures and aspiration of vomit. She had a high potential of further aspiration given her significant respiratory support. Her seizures need to be controlled and her ongoing clinical course was to emergency surgery. These factors were balanced against the risk of pre-hospital anaesthesia in an obese, pregnant, fitting patient. A decision was discussed and made by the attending team to carry out anaesthesia, as the risks from her disease were considered greater than those from the intervention given that all necessary equipment, monitoring and personnel were immediately available.

3.4 The specific treatment of eclamptic seizures

Three large randomised control trials have established magnesium sulphate as the drug of choice for the prevention and control of maternal seizures in patients with severe preeclampsia

or eclampsia. The collaborative eclampsia trial recruited 1687 women with eclampsia into an international multicentre randomised trial comparing magnesium sulphate to diazepam and phenytoin.[4] Administration of magnesium sulphate to patients with severe pre-eclampsia reduced the risk of seizures by 52% and 67% compared to treatment with diazepam and phenytoin respectively.

The possible anticonvulsant activity of magnesium may be related to its role as an *N*-methyl-D-aspartate (NMDA) receptor antagonist, Seizures are thought to be mediated at least in part by stimulation of glutamate receptors, such as the NMDA receptor. Therapeutic serum magnesium levels cause cerebral vasodilation; this may reverse the ischemia produced by cerebral vasospasm during an eclamptic episode.

The dose of magnesium used is 4g over 10 minutes, then 1g per hour for a further 24 hours. Recurrent seizures are treated with a further bolus of 2g magnesium sulphate and an increase in the background infusion to 1.5 or 2g/hour. Magnesium sulphate is excreted mainly in the urine. Magnesium causes a loss of deep tendon reflexes and respiratory depression. Calcium gluconate can be given to acutely reverse respiratory depression.

Although magnesium is widely used across the world for eclamptic seizures, there is controversy about whether it actually stops the seizures or simply reduces the motor manifestations through neuro-muscular blockade.[5] Fisher et al showed on going EEG seizure activity in the face of magnesium-related neuromuscular blockade and accompanying cessation of visible myoclonus.[6] Despite these EEG concerns, Cochrane reviews of magnesium versus phenytoin and magnesium versus diazepam concluded that magnesium is substantially more effective for the treatment of eclamptic seizures.[7,8]

Magnesium is a simple drug to carry in the pre-hospital domain and can be used for ventricular tachyarrhythmias, severe asthma, severe pre-eclampsia and eclampsia management. The use of infusion pumps enables accurate delivery of infused drugs over controllable time frames.

3.5 The multidisciplinary in-hospital management of eclampsia

Within the hospital setting, women with eclampsia are treated by a multi-disciplinary team, including obstetrics, neonatology, anaesthesia and intensive care. The team is lead by obstetrics and the focus of treatment is stabilisation of the mother's seizures and blood pressure and then progress onto caesarian section to deliver the baby and placenta.[9] Invasive blood pressure monitoring and intravenous infusions of anti-hypertensives are used to control blood pressure. Our patient received this type of team care and rapidly flowed through the emergency department to theatre and then onto the intensive care unit.

3.6 The benefit of anticipating the patient's clinical course

Knowledge of the multi-disciplinary, complex and time critical management provided to women with eclamptic seizures enables a specific pre-alert to the receiving emergency department requesting the presence of a multi-disciplinary team. A single handover of the pre-hospital management of the patient can then be achieved, greatly improving the efficiency of ongoing team care.

4. Conclusion

This case has highlighted to me the need to include pregnancy as a cause of disease in the differential diagnosis of all menstruating girls and women presenting to pre-hospital care clinicians. Management focuses on resuscitation and attention to treatable disease, explicit pre-alert and safe transport to an obstetric and neonatal receiving hospital. In my future pre-hospital activity, I will use this case to reinforce the need to maintain a wide differential diagnosis in all critically ill patients whilst attending to immediately life threatening physiological derangements.

5. References

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