



## Joint Faculty of Intensive Care Medicine of Ireland

College of Anaesthetists of Ireland • Intensive Care Society of Ireland  
Royal College of Physicians of Ireland • Royal College of Surgeons in Ireland

# REGULATIONS of the JFICMI FELLOWSHIP EXAMINATION

(Includes AIMS, SCOPE and CONTEXT of exam within the Training Programme)

## 1. INTRODUCTION

The Fellowship exam of the JFICMI is a stage in the overall assessment of the trainee as s/he progresses through Intensive Care Medicine training— see the Faculty's document on Training Pathways and Regulations. Although it is an obligatory summative process at the end of the first year of 'supra-specialty' training, and is necessary if progressing to the second (final) year of 'supra-specialty' training, the approach to the exam should be as a stepping stone in the global acquisition (and assessment) of the competencies necessary to achieve completion of specialist training in Intensive Care Medicine.

In Ireland, accredited satisfactory completion of one year of 'supraspecialty' training in ICM, plus success at the JFICMI Fellowship examination, confers eligibility to apply for a position of consultant with a Special Interest in Intensive Care Medicine. To date, these positions have only been utilised for Consultant Anaesthetist with an interest in ICM positions.

A further year of accredited training (after success at the JFICMI) and ultimate sign-off of CSCST from the JFICMI confers eligibility to apply for specialist registration in Intensive Care Medicine (with the Medical Council of Ireland) and for a Consultant in Intensive Care Medicine position.

## 2. GENERAL AIMS / OBJECTIVES OF THE EXAMINATION ASSESSMENT

### Clinical Capacity Of Candidate

#### 1. *Immediate Assessment and Therapy (Resuscitation)*

The trainee should be able to make a quick and accurate assessment of the life threatening problems in a critically ill patient and apply life supporting therapy.

#### 2. *Formal Medical Assessment, Problem Solving and Decision Making*

Following resuscitation, the trainee should be able to undertake or contribute to the continuing management of the acutely ill patient.

#### 39. *Consultation and Collaboration*

The trainee should understand that consultation with medical, nursing, support staff and family plays a vital role in the management of critically ill patients.

#### *4. Management of System(s) Failure*

The trainee should be able to manage a patient with a single or multiple system organ failure.

#### *5. Retrieval and Transport*

The trainee should be able to manage or supervise the movement of a critically ill or injured patient to a hospital from another hospital, place of injury or site of a mass disaster.

#### *6. Disease and Disease Processes - General Medical and Surgical Conditions*

The trainee should have a broad and sound understanding of general medical and surgical conditions together with a detailed knowledge of medical and surgical emergencies.

#### *7. Paediatric Knowledge and Skills*

The trainee should be able to recognise life threatening conditions, institute basic or advanced life support, carry out transportation, stabilise the child in the intensive care unit or prepare for management during secondary transportation to a paediatric unit.

#### *8. Anaesthesia*

The trainee should understand the preoperative, intra-operative and postoperative management of patients receiving general, regional or local anaesthesia as might be relevant to the practice of ICM.

#### *9. Analgesia*

The trainee should be able to provide satisfactory pain relief for acutely ill or injured patients.

#### *10. Sedation*

The trainee should know how to provide adequate rest and sleep for critically ill patients including those in the intensive care ward.

#### *11. Therapeutic Agents*

The trainee should understand the principles and practice of the use of therapeutic agents in the critically ill patient.

#### *12. Adverse Reactions*

The trainee should be able to manage the adverse effects of drugs or procedures including the related discussion with the patient or his / her family.

#### *13. Monitoring, Investigations and Interpretation of Data*

The trainee should have a detailed knowledge of the investigations and monitoring techniques commonly used in intensive care and a general knowledge of the procedures in medicine and surgery.

#### *14. Principles of Monitoring and patient equipment.*

The trainee should understand the principles of the measurement of biological variables and have a working knowledge of the practicalities and trouble-shooting of equipment on which critically ill patients have an everyday dependence. S/he should know the indications for and the selection of suitable methods of monitoring or investigation taking into account their accuracy, convenience, reliability, hazards, cost and servicing and relevance to the patient's condition.

#### 15. *Environmental Safety*

The trainee should understand the hazards to patients and staff from electrical equipment. S/he should appreciate the uses and hazards of Ionising Radiation in the practice of intensive care.

#### 16. *Interpretation of Data*

The trainee should know how to critically evaluate and use the data that he/she collects.

#### 17. *Technical Skills*

The trainee should know the indications, contraindications and complications of procedures commonly performed in intensive care.

#### 18. *Attitudes*

The trainee should have those attitudes which cause him/her to act in the best interests of the patients, their relatives and the staff of the intensive care unit.

#### 19. *Administration, Organisation and Education*

By the end of training, the trainee should have some knowledge and skill of the administration and organisation of an intensive care unit so that clinical care, patient and relative satisfaction, research and teaching are carried out optimally.

### 3. SCOPE OF THE EXAM ASSESSMENT

The material on which the candidate are assessed includes all the theoretical and practical knowledge required to deliver high quality Critical Care to all conditions commonly treated in ICU and by the Critical Care team. The exam is designed as a summative assessment (after one year of supra-specialty training in Intensive Care Medicine) and is conducted against a background of the candidate having attained documented competency in the Faculty's 12 domains of competency – see the Faculty's Competency assessment format.

The breadth of the curriculum is outlined below and has been drawn up taking international comparisons into account - including the European Board of Intensive Care Medicine's competency programme, Cobatrice ([www.cobatrice.org](http://www.cobatrice.org)) and the Australia New Zealand programme.

Doctors training in intensive care must understand the patho-physiology, construct a differential diagnosis and apply the appropriate therapeutic (and prophylactic) interventions in the following (non-comprehensive) list of disorders. S/he must be able to perform a number of specific procedures – also outlined below. The (non-comprehensive) range of disorders is subdivided below, system by system, into

## Theoretical Knowledge and Interventions / Procedures

### Respiratory

#### *Theoretical Knowledge*

Airway difficulties (including respiratory arrest, upper airway obstruction, smoke or burns airway damage); adult respiratory distress syndrome hypercapnic respiratory failure, severe pneumonia and asthma, chest trauma; respiratory musculo-skeletal and neuro-muscular disorders, thoracic surgery. Interpretation of arterial and mixed venous blood gases, assessment of gas exchange and respiratory mechanics. High level competence in chest X-ray interpretation and competence / knowledge of CT and other chest imaging.

#### *Interventions and Procedures*

Maintenance of open airway, including tracheal intubation (oral and nasal), tracheostomy and percutaneous tracheostomy and emergency cricothyrotomy, use of laryngeal mask, suctioning of the airway, setting and tuning of the respirator with different modes of ventilation, titration of oxygen therapy, use of positive endexpiratory pressure, use of mask ventilation and continuous positive airway pressure, techniques of weaning from mechanical ventilation, placement of a thoracostomy tube, implementation of respiratory pharmacological support, bronchofibroscopy / broncho-alveolar lavage and weaning from ventilation.

### Cardiovascular

#### *Theoretical Knowledge*

Hemodynamic instability and shock, cardiac arrest, acute coronary syndromes, severe heart failure, cardiogenic pulmonary oedema, common arrhythmias and conduction disturbances, specific cardiac disorders (e.g. cardiomyopathies, valvular heart disease, atrial or ventricular septal defects, myocarditis), tamponade, pulmonary embolism, aortic dissection, hypertensive crisis, peripheral vascular diseases, cardiovascular surgery, congenital heart disease, persistent fetal circulation.

#### *Interventions and Procedures*

Placement of a central venous catheter and arterial catheter (by different routes and using ultrasound guidance appropriately), a pulmonary artery catheter or (where appropriate) other invasive advanced haemodynamic catheter(s); measurement and interpretation of the haemodynamic variables (including the derived variables), performance / interpretation of Transthoracic Echocardiography (at least at a basic level), implementation of cardiovascular support, antiarrhythmic therapy and thrombolysis; pericardiocentesis, placement of temporary pacing, basic and advanced cardiopulmonary resuscitation (CPR), cardioversion.

Advisable: circulatory assist devices (e.g. intra-aortic balloon pump), cardiovascular echo-Doppler techniques.

### Neuro/Psychiatric

### *Theoretical Knowledge*

Coma, head trauma, intracranial hypertension, cerebro-vascular accidents, cerebral vasospasm, meningo-encephalitis, acute neuromuscular diseases (including myasthenia & Guillain Barré syndrome), hypoxic-ischaemic brain damage, acute confusional states, spinal cord injury, neurosurgery, brain(stem) death, dystonic syndromes, tetanus. Basic interpretation of a brain CT-scan, MRI and other imaging and electroencephalography.

### *Interventions and Procedures*

Monitoring and control of intracranial pressure.

Advisable: measurements of jugular venous saturation, cerebral Doppler velocities and cerebral blood flow. Cerebral ultrasound (neonatal paediatrics). Provision of analgesia and sedation. Management of the (potential) organ donor.

### Renal/Metabolic

#### *Theoretical Knowledge*

Acute kidney injury and chronic renal failure. Modification of drug doses in renal failure. Diabetes insipidus. Electrolyte and acid-base and fluid balance disorders - e.g. severe disorders of water, sodium, potassium and calcium balance. Endocrine disorders (including all diabetic emergencies).

#### *Interventions and Procedures*

Prevention of acute renal failure, management of oliguria. Renal replacement techniques: intermittent/continuous haemodiafiltration, peritoneal dialysis.

Supplementation - e.g. phosphate, trace element. Implementation of appropriate intravenous fluid and electrolyte therapy. Specific therapies of endocrine crises.

### Gastro-intestinal and Nutrition

#### *Theoretical Knowledge*

Inflammatory bowel diseases, severe acute pancreatitis, acute and chronic liver failure, indications for emergency hepatic transplantation, prevention and treatment of acute GI bleeding (including variceal bleeding), peritonitis, mesenteric infarction, perforated viscus, bowel obstruction, abdominal trauma, abdominal surgery, diarrhoea. Nutritional assessment and management.

#### *Interventions and Procedures*

Placement of an NG tube or of oesophageal and/or gastric tamponade balloon, enteral and parenteral nutrition (various routes). Management of encephalopathy. Advisable: placement of a duodenal feeding tube, peritoneal aspiration or lavage.

### Haematologic

#### *Theoretical Knowledge*

Disseminated intravascular coagulation and other coagulation disorders, haemolytic syndromes, acute and chronic anaemia, immune disorders, HELLP syndrome. Lymphoproliferative disorders. Chemotherapy. Interpretation of blood film and a

coagulation profile.

*Interventions and Procedures*

Correction of haemostatic and coagulation disorders, implementation of thrombolysis. Blood component therapy. Management of pancytopenia.

Advisable: plasma exchange.

Musculo-skeletal/Skin

*Theoretical Knowledge*

Multiple trauma, rhabdomyolysis, compartment syndromes, disuse atrophy, foot-drop, burns, severe desquamative disorders.

*Interventions and Procedures*

Fluid therapy, alkalisation (when indicated), physiotherapy, rehabilitation, fluidised bed therapy when indicated.

Infection/Sepsis

*Theoretical Knowledge*

Severe community acquired infections due to aerobic and anaerobic bacteria, viruses, fungi and parasites – particularly those causing severe pneumonia, encephalo-meningitis, gastrointestinal / abdominal and soft tissue infections, urosepsis and sepsis of other or unknown aetiology; also nosocomial and device-related infections, infections in the immunocompromised, tropical diseases / diseases in travellers. Principles and specifics of appropriate antimicrobial therapy, immunotherapy and antimicrobial stewardship. Inflammation, septic/systemic inflammatory response syndrome, severe sepsis and septic shock and multi-organ dysfunction. Infection control and risk management procedures.

*Interventions and Procedures*

Septic work-up. Initiation of immediate supportive and specific (antimicrobial) therapy and the expeditious implementation / organisation of source control procedures. Knowledge of the indications for patient isolation, family/staff prophylaxis and for discontinuation of patient isolation.

Obstetric

*Theoretical Knowledge*

Pre-eclamptic toxemia, eclampsia, haemorrhage and sepsis. cardiomyopathy of pregnancy, amniotic fluid embolism,

*Interventions and Procedures*

Management of obstetric emergencies, principles surrounding and practice of transporting the patient to a critical care facility.

Paediatric

*Theoretical Knowledge*

Acute respiratory failure, cardiac failure, trauma, severe infections, intoxications,

metabolic disorders, seizures, epiglottitis, croup.

*Interventions and Procedures*

Paediatric resuscitation and transport to a paediatric critical care centre.

Toxicology, Poisoning

*Theoretical Knowledge*

Acute intoxications, drug overdose, serious adverse reactions, anaphylaxis, animal bites/ envenomation.

*Interventions and Procedures*

Gastric lavage (where indicated) and charcoal therapy. Implementation of specific antidote therapy. Knowledge of appropriate supportive therapy.

Advisable: blood purification techniques, hyperbaric oxygenation as may be indicated.

Environmental hazards

*Theoretical Knowledge*

Hypo- and hyperthermia, near-drowning, electrocution, radiations, chemical injuries, electrical safety/microshock.

General

- o Pharmacology, pharmacodynamics, pharmacokinetics and drug interactions.
- o Transport of the critically ill.
- o Administration and budgeting.
- o Total quality assessment/audit: measurement of severity of illness and outcome assessment.
- o Clinical research.
- o Ethical and legal aspects.

**4. JFICMI FELLOWSHIP EXAM - in context within overall ICM training.**

The aims outlined below should be read in conjunction with the Faculty's required Training Competencies - modified from Cobatrice – which are viewable on the Faculty's website

They define the attributes of a doctor training in intensive care as a member of a health care team who is an individual who maintains self education and is involved in the education of others. They outline those qualities of a doctor training in intensive care which are important in relation to personal qualities, the management of patients and relationships with other practitioners of medicine, members of the health care team and the community as a whole.

**Knowledge, skills and Attitudes of trainees.**

During formal training, trainees should acquire these attributes and act correspondingly in a manner appropriate to a consultant in Intensive Care Medicine:-

1. Acquire such knowledge, problem solving ability, practical skills and attitudes applicable to intensive care as will most effectively allow them to provide optimum individual patient care and promote the health of the community within and outside the hospital.
2. Become safe, competent, practical intensive care doctors such that they are able, as appropriate, to conduct the overall management of a patient, to act as a consultant or co- ordinate the efforts of a number of consultants and healthcare services.
3. Develop the ability to respond rapidly and appropriately to life threatening problems and become effective judges of the priorities of resuscitation in respect of specific diagnosis and approaches to patient management.
4. Develop a sense of commitment to individual patients such that they do not relinquish immediate care of the patient to less able members of the staff until the patient's condition is stable.
5. Become competent in those aspects of medicine, surgery, paediatrics, obstetrics, anaesthesia and other disciplines which are relevant to the practice of intensive care medicine. In turn, the trainees should contribute their developing skills as consultants to these disciplines.
6. Develop the habit of self-assessment so that they realise their limitations in the practice of specialist disciplines.
7. Be willing and able to continue their own education and contribute to the education of nursing, medical and paramedical staff.
8. Ensure that the patient's welfare is pre-eminent in the resolution of medical, political, ethical or moral conflicts. Balance the solutions for clinical problems with the resources for the management of these problems such that the interests of the patients, their relatives and the community are served best.
9. Be able to act appropriately as a member or leader of a therapeutic team.
10. Seek to modify the stresses which the intensive care environment places upon the patients, their relatives and members of the staff.
11. Be eager to enquire into clinical and scientific problems, adopting a critical attitude to available information.
12. Seek to participate in the processes of clinical audit, peer review and continuing medical education.
13. Seek to recognise those changes in their specialty, medicine or society, which should modify their practice and adapt their skills accordingly. Maintain compliance



with and an acceptable continuing professional competence scheme.

## 5. REGULATIONS OF THE JFICMI FELLOWSHIP EXAMINATION

1. The examination is normally held once each year in April/May unless otherwise organised by the Examinations and Training committee of the JFICMI.

2. Candidates must hold a Fellowship/Membership in their parent speciality (medicine, surgery or anaesthesia) - i.e. FCAI, MRCPI, MRCSI or equivalent.

3. Candidates must accumulate a total of 12 months full-time post-registration training in Intensive Care Medicine in accordance with the Faculty's document on Training Pathways and Regulations – appendix 6 of IMC submission. For details of the said 12 months of training, see also items 3a) - 3d) and 4a) - 4c) below.

a) The candidate should be a registered trainee with the JFICMI

b) The training should be approved in advance by the Examinations and Training committee of the Joint Faculty of Intensive Care Medicine of Ireland.

c) At least six months of the candidate's pre-JFICMI training in ICM (in ICU, not complementary training) needs to be attained either after acquiring a CST in the candidate's base specialty or in the 24 months before such base specialty CST is acquired.

d) A maximum of 2 months of modular training may be outstanding (from the 12 months of required training) at the time the candidate takes the exam. Presuming success at the examination, the award of JFICMI will not be conferred until the outstanding 2mths of training is signed off by the supervisor of training and approved by the Examinations and Training committee.

Any flexibility in the make-up of candidate's training is at the discretion of the Committee. Retrospective recognition of training will be limited.

4. The 12 month training period of supervised modular training will be made up as outlined in either 4a) or 4b) below; compliance with 4c) is also required.

4 a) Twelve months in an ICU or ICUs accredited for training by the Faculty, of which eight months must be in a general adult ICU. This must be taken in periods of not less than two months and the total twelve month period must be accumulated over a period of no more than six years.

4 b) Six months in an ICU or ICUs accredited for training by the Faculty and six months which will vary appropriately with the clinical background of the candidate and his/her specialty. Candidates should consult the Faculty's Training regulations (Appendix 6) for a guide to accepted Training Pathways (including Complementary Training) for those from differing base specialty backgrounds.

4 c) A minimum of six months training must be undertaken in Ireland in a centre accredited by the Faculty. All applications for approval of training will require certification by the candidate's supervisor of intensive care training (see exam application form – appendix 8a of IMC submission) and be submitted to the Exams

and Training committee during the course of training, or at latest, by the closing date for applications for the exam.

Applications for recognition of other complementary or equivalent training / experience will be assessed by the Exams and Training committee.

5. In the examination, the material on which the candidate will be assessed will include all the theoretical and practical knowledge required to deliver high quality Intensive Care to all conditions commonly treated in ICU and is outlined in Sections 2, 3 and 4 above. Furthermore the material outlined in the Faculty's Competency document (modified from Cobatrice) is available from the Faculty office or website (Appendix 11).

The components of the exam itself are a written paper [Short answer questions(SAQ) and a Multiple Choice Questionnaire( MCQ) paper], a clinical exam and viva exam and these are outlined in Faculty's document on JFICMI Fellowship Exam format - Appendix 8c of IMC submission. Further details are available from the Faculty or Examinations office. Example written papers from earlier years are available from the Faculty office – see appendix 8b of IMC submission for written papers from the 5 years (2010 – 2014).

6. Registered candidates must give at least six weeks' notice in writing to the Secretary of the JFICMI of their intention to present themselves for examination. A closing date for examinations will be posted on the Faculty's website for the attention of registered trainees and Supervisors of Training. Once a candidate's application is approved, this notice will be forwarded the Exams office carrying out the Exam – currently the Exams office of the CAI. The application must be accompanied by a completed application form along with the required documentation and fee.

7. Candidates who pass the examination are admitted to the roll of Fellows of the JFICMI upon satisfactory completion of all modules of training. They will be invited to the conferring ceremony and conferred after the graduand Fellow's declaration – available from the Faculty or on the website (see Appendix 8e of IMC submission). A Conferring fee is payable before Fellowship is conferred – see Fellowship Parchment format (Appendix 8f of IMC submission).

8. Candidates who withdraw their application for admission to the examination in writing may be refunded the fee (less 20% administrative charge) provided that such withdrawal is received before the closing date to the examination (see website for Faculty calendar). No refund will be made in respect of withdrawals after the closing date or for absence from the examination.

9. The exam results are posted immediately after the meeting of the Court of Examiners on the evening of the examination. The Faculty's Court of Examiners then meet the successful candidates. The Chair of the examination (or a designate examiner) meets any candidate who has been unsuccessful to review his / her results and offer any post-exam advice or counselling, as may be appropriate.

10. Any representation or appeal which a candidate may wish to make with regard to the conduct or outcome of the examination must be addressed to the Secretary of the Exams and Training committee and not to any individual Examiner. The representation will be reviewed by the Exams and Training committee and an outcome, once approved by the Board, will be conveyed to the applicant.

11. The JFICMI may refuse to admit to the Examination, or to proceed with the Examination, any candidate who infringes any regulation of the Faculty or who is considered by the Examiners to have been guilty of behaviour prejudicial to the proper conduct and management of the examination.

12. Due to the need to organise Clinical Exams for candidates, the number of candidates accepted to sit the Fellowship each year is limited. Early application is advised.

13. The maximum number of opportunities to sit the Examination offered to each candidate is four. Candidates are strongly advised to seek advice / counselling from their supervisor of training or from the Faculty's Exams and Training Committee even after one failed attempt at the examination. If the exam is failed on two occasions, very careful reconsideration and re-assessment as outlined above is advised.

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