

# THE CCST IN INTENSIVE CARE MEDICINE

## Competency-Based Training and Assessment

### PART III

## ASSESSMENT OF COMPETENCE AT BASIC (SENIOR HOUSE OFFICER) LEVEL

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#### **Terminology and scope of these documents:**

The term 'intensive care' in this document is synonymous with 'critical care' or 'intensive therapy'. 'Intensive care unit (ICU)' is synonymous with critical care unit or 'intensive therapy unit (ITU)'. High dependency, step-down care, and outreach care are also considered in these documents.

#### **Revisions and comments:**

This version of the training programme is valid for 2001. It will be reviewed annually. Comments on the training programme are welcome, and should be directed to the chair of the ICBTICM.

## **1: INTRODUCTION**

This document contains the forms that must be completed for assessment of competence of trainees in intensive care medicine, at senior house officer (SHO) level. It replaces all previous training documents published by the Intercollegiate Board for Training in Intensive care Medicine (ICBTICM). Its content applies to all trainees at SHO level taking up a post on or after 1<sup>st</sup> February 2001. It will be revised annually, and any changes that are required will come into force six months following their publication. The ICBTICM wishes to receive comments on the Training Programme from both trainers and trainees. These should be addressed to the Chairman of the Board.

### **Basic (SHO) level training requirements**

The minimum requirement at basic (SHO) level is three months in ICM, six months in anaesthesia, and six months in general medicine, as described in Part I of the competency training documents. The latter two elements are referred to as 'complementary speciality' training. This training can be acquired in various ways, but it is usual for a proportion to form part of base speciality training. At present, most trainees in anaesthesia, and a smaller number in general internal medicine and surgery, obtain ICM experience as part of their two or three year base speciality SHO rotational training programmes which all UK trainees undertake before entering specialist registrar training programmes. They thus also satisfy one of the two 'complementary speciality' training requirements. In those SHO rotations which also offer training in intensive care medicine, the ICM module varies from three blocks of one month for some rotations, to one block of six months for others. Although the minimum requirement is for three months (as one block of three months, three blocks of one month, or two blocks of six weeks), those posts which offer the longer period of six months continuous training in ICM provide better opportunities for reinforcement of learning, improved continuity of clinical care, and more effective integration of the trainee in the ICU team and the activities of the unit. The Board recognises the added value of a more prolonged period of exposure to intensive care at this level.

Before a trainee can apply for an SpR post in ICM, he or she must have satisfied the SHO-level requirements for training in ICM, medicine and anaesthesia as described above, and must also have been appointed to an SpR post in anaesthesia, medicine, surgery, or accident and emergency medicine. SHOs cannot apply for SpR posts in ICM.

## **2. GENERAL PRINCIPLES OF WORKPLACE ASSESSMENTS**

Competency-based training provides the means for assessing trainees in a standardised manner in their place of work and while delivering care to patients. This common framework for assessment allows the ICBTICM and the Royal Colleges to enhance the high quality of training already provided, within the framework of existing methods for teaching and assessment. It also makes explicit the minimum standards that must be achieved for the purposes of equivalence of training, and for recognising training obtained in other countries.

Trainers must be as honest and objective as possible when assessing trainees: otherwise not only does the process become fundamentally flawed, but patients may be put at risk. The first point of contact for all trainees in ICM is their Local Educational Supervisor (LES), who is the equivalent of a base speciality College Tutor. The LES will need to maintain good communication with the trainee's base speciality College Tutor, as well as with the Regional Advisor in ICM, who in turn will communicate both with the corresponding base speciality RA and with the ICBTICM. The LES or other designated consultants who meet the criteria to be trainers should perform assessments.

All trainees when they start a training module in ICM should complete an educational contract or equivalent method for assessing training needs, should undergo regular in-service training assessments (RITA) to document their progress, and should maintain a portfolio of educational activities within their educational training record. LESs will be expected to communicate closely with the relevant college tutor for the trainee's base speciality. There should be an initial assessment at the start of training (within the first few days) at which an outline educational contract is established between trainer and trainee. This should be reviewed regularly. Progress should be assessed at least every three months, and should be based on the educational contract and the Assessments of Competence.

Workplace assessments should be conducted in a manner which best allows trainees to demonstrate their competence in knowledge, skills and attitudes. This will involve a combination of continuous assessment, informal assessment during routine clinical work, and more formal assessment of certain aspects of practice. For example, if a trainer has observed during routine practice that a trainee communicates effectively with patients and relatives, or can perform a given practical procedure safely, he or she could be identified as competent in those aspects without requiring formal further examination. Indeed, the purpose of workplace assessments of competence is that they depend for their validity on using real-life situations, and avoid the artificiality of formal examination. Detailed guidance is given in the preamble to each assessment form.

General principles which must be observed, and which are common to all assessments are as follows:

- Trainers must be able to justify the basis on which they identify trainees as either competent or not competent in a given skill or attitude. This will usually be on the basis of direct observation, or observations made by other trainers.
- Two trainers must sign each group of competency assessments. This does not mean that both need to have been present at the same time to witness each item, but it does mean that two trainers must have agreed the final outcome of that assessment.
- Trainees must be informed if there is any doubt about their competence. It would not be acceptable to give an adverse assessment at the end of training without prior discussion and remedial teaching.
- Competency-based training replaces time-based training, in that some trainees may require longer than others to achieve a given level of competence. Thus, a trainee who has for whatever reason been unable to acquire satisfactory competence in a given practical procedure during a particular training module, could acquire that competence subsequently, and then would have completed the assessment satisfactorily.

### **3. NOTES ON THE CORE CURRICULUM FOR ICM**

The core curriculum for training in adult ICM is presented in Part II of the competency training documents as part of the Educational Training Record. The content of each domain is presented as *Knowledge, Skills, Attitudes and behaviour*, and *Workplace training objectives*, in addition to basic sciences. This format inevitably results in repetition and some redundancy, with the same topic appearing in more than one domain or area. Similarly there is inevitably some crossover between the knowledge and skills lists. The *Workplace training objectives* are intended to assist the trainees' self-directed learning and to indicate key aspects of clinical practice that they could be expected to demonstrate in order to satisfy their workplace assessments. The curriculum refers only to adult practice except for those items listed in the paediatric section.

The domains are presented as tables, which allow trainees to track the progression of their learning from basic, through intermediate, to advanced level by entering a mark in the appropriate box. It is not intended that these lists and tables be used for the assessment of competence, but simply to facilitate self-directed learning, and to help trainers identify any deficiencies in clinical experience. No trainee can be expected to have a comprehensive knowledge of every single aspect of the curriculum, and it is not expected that every box at each level will be filled in. Trainees can use the 'definitions of level of competence' which precedes the competency domains as a guide.

## **4. DOCUMENTATION OF COMPETENCE IN ICM AND THE COMPLEMENTARY SPECIALITIES (ANAESTHESIA AND INTERNAL MEDICINE) AT BASIC (SHO) LEVEL**

This section contains the forms, which must be completed by trainers and trainee to confirm that the trainee has satisfactorily met the minimum standards required for achieving competence at basic (SHO) level in each of the three elements

1. three months of intensive care medicine, and
2. six months in the complementary speciality of anaesthesia
3. six months in the complementary speciality of internal medicine.

Without satisfactory completion of these documents, a trainee cannot apply for a SpR post in ICM.

Because of this, and given that the three elements of training may be undertaken in different hospitals at widely separate times, SHO competencies must be documented carefully.

Assessments should be performed by, or with the approval of, the LES or relevant College Tutor, or other designated consultants who meet the criteria to be trainers<sup>1</sup>. The precise way in which the assessments are conducted will depend on circumstances and local practice. It will often be possible for assessments to take place during routine clinical work, and for different elements to have been assessed by different assessors at different times. However, the assessments must include all the items listed in the following forms, and two consultant assessors, who confirm that the trainee has achieved those competencies, must have assessed each competency grouping. The assessments must be signed by both assessors and by the trainee. Copies of the outcome of these assessments must be held by the trainee, the LES-ICM, and the base speciality College Tutor.

### **The trainee will be assessed in the following areas:**

#### **During training in anaesthesia:**

- a) Preoperative assessment.
- b) General anaesthesia for ASA I or II patients (including equipment and anaesthetic machine check.)
- c) Rapid sequence induction.
- d) CPR skills.
- e) Clinical judgement, attitudes and behaviour
- f) Confirmation of satisfactory completion of training in anaesthetic module

#### **During training in general medicine:**

- a) General aspects of clinical history taking, examination and investigation of patients
- b) Specific management of common medical emergencies
- c) CPR skills (if not already assessed in anaesthetic or intensive care modules or no ALS course in preceding 12 months)
- d) Clinical judgement, attitudes and behaviour

#### **During training in intensive care medicine:**

- a) CPR skills (if not already assessed in anaesthetic or internal medicine modules, or no ALS course in preceding 12 months)
- b) Rapid sequence induction and tracheal intubation (if not yet assessed in anaesthetic module)
- c) Initial assessment and stabilisation of the acutely ill patient
- d) Organ support and practical procedures
- e) Communication skills, clinical judgement, attitudes and behaviour

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<sup>1</sup> A trainer is defined in *The CCST in Intensive Care Medicine Part I: A reference manual for trainees and trainers*

## 4.i). ASSESSMENT OF COMPETENCE OF SHO ICM TRAINEES UNDERTAKING THE SIX MONTH COMPLEMENTARY SPECIALITY TRAINING MODULE IN ANAESTHESIA

This will be conducted using the Initial Test of Competency in Anaesthesia developed by the Royal College of Anaesthetists. The test, the assessment forms, and the explanatory notes are reproduced here in full (with minor modification to include confirmation of duration of complementary speciality training). It should be noted that the assessments of rapid sequence induction and cardiopulmonary resuscitation (CPR) could be assessed during the three month intensive care medicine module; and that CPR could also be assessed during the internal medicine module.

Before being permitted to practice anaesthesia without **immediate supervision**<sup>2</sup>, all trainees must achieve a satisfactory standard in an assessment of competency involving at least two consultant anaesthetists who meet the criteria to be trainers. **This applies to both new trainees and to more experienced trainees working in the United Kingdom for the first time.** Although the assessment process is the responsibility of the College Tutor, it can be delegated to other trainers, as appropriate.

This initial assessment is designed to demonstrate the possession of basic key components of clinical skill, knowledge and other attributes necessary to progress in the specialty. **Until this assessment is completed successfully, no trainee can deliver anaesthesia without immediate supervision either during daytime or 'out-of-hours'.**

It is intended that this assessment should be completed by a typical trainee after approximately 3 months of full-time training in anaesthesia, but the exact timing will need to be determined on an individual basis. More experienced trainees who are working in the United Kingdom for the first time, whatever their grade, could be assessed much earlier than 3 months, after a relatively short period of familiarisation.

### The trainee will be assessed in the following areas:

- a) Preoperative assessment.
- b) General anaesthesia for ASA I or II patients (including equipment and anaesthetic machine check.)
- c) Rapid sequence induction.
- d) CPR skills.
- e) Clinical judgement, attitudes and behaviour
- f) Confirmation of satisfactory completion of training in anaesthetic module

The patients seen by trainees will need to be selected so as to be appropriate to the trainees' limited exposure within the specialty and should always be of ASA I or II. If a trainee has successfully completed an ALS course within the last 12 months, (d) can be omitted

Only after this test has been satisfactorily completed can a trainee progress beyond immediate supervision.

Assessments will be formal. Both the assessment and its outcome must be recorded in departmental records and in the trainee's personal record. Should a trainee be assessed as unsatisfactory in any area, and thus be referred for further closely supervised training, the reasons for this referral must be recorded. The names of assessors must be legible, as must any additional comments.

### Following the assessment:

**If satisfactory;** trainees may begin to undertake cases delegated to them, without immediate supervision and may be given increased clinical responsibility (for example by working on the 'on-call' rota with local or distant supervision<sup>8</sup>.)

**If unsatisfactory;** trainees will need targeted instruction and a re-test. Whether the whole assessment is to be repeated, or targeted at deficient areas is a decision to be taken locally, with regard to local circumstances, and is left to the discretion of the assessors.

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<sup>2</sup> Levels of supervision are defined in *The CCST in Anaesthesia, I: General Principles*

## 4.i.a) Pre-operative assessment

### Clinical skills

1. Is able to demonstrate satisfactory communication with staff and patients.
2. Is able, in a manner appropriate to the patient, to take a relevant history, explain the necessary aspects of anaesthesia, and answer their questions.
3. Is able to assess the airway
4. Is able to recognise potential problems requiring senior help
5. Is able to explain the management of post-operative pain and symptom control in a manner appropriate to the patient
6. Is able to interpret basic investigations (FBC, U & Es, chest x ray, ECG)
7. Is able to choose and prescribe an appropriate pre-medication.

### Knowledge

1. The ASA scale of fitness.
2. The relevance of common inter-current diseases to anaesthesia and surgery.
3. Consent for anaesthesia.
4. Predictors of difficult intubation

### Setting:

**Patients:** All appropriate patients aged 16 and over.

### Assessments:

- \* A ward based demonstration of practical skills.
- \* Simultaneous oral confirmation of understanding.

### Guidance:

This is a preliminary test to ensure that the trainee communicates adequately and understands the broad outline of anaesthetic assessment. After three months of training the trainee should be expected to identify patients who are low risk from the anaesthetist's point of view. There is no expectation of the trainee being able to determine the fitness of patients for operation who are severely ill or who have inter-current disease. The expectation is that they will know which cases to refer to or discuss with senior colleagues. The trainee should have an understanding of whatever premedication he or she intends to use.

**4.i.a) Assessment of Pre-operative assessment of patients**

The trainee must be accompanied on a pre-operative round of patients.

Name of trainee.....

**The Trainee:**

	Yes	No
Communicates in a satisfactory manner with patients	<input type="checkbox"/>	<input type="checkbox"/>
Obtains relevant history	<input type="checkbox"/>	<input type="checkbox"/>
Undertakes any physical examination (if indicated)	<input type="checkbox"/>	<input type="checkbox"/>
Assesses the airway	<input type="checkbox"/>	<input type="checkbox"/>
Understands the pre-operative investigations	<input type="checkbox"/>	<input type="checkbox"/>
Explains anaesthesia clearly	<input type="checkbox"/>	<input type="checkbox"/>
Discusses pain and explains post operative analgesia clearly	<input type="checkbox"/>	<input type="checkbox"/>
Prescribes pre-operative medication as needed	<input type="checkbox"/>	<input type="checkbox"/>
Understands the ASA classification	<input type="checkbox"/>	<input type="checkbox"/>
Understands consent for anaesthesia and operation	<input type="checkbox"/>	<input type="checkbox"/>

This assessment was completed satisfactorily    
IF NO, GIVE REASONS:

Signed ..... Print name..... Date .....

Signed: ..... Print name ..... Date.....

## 4.i.b): Administration of a safe general anaesthetic to an ASA I or II patient.

### Clinical skills

1. Explanation of the anaesthetic procedure(s) and surgery to the patient.
2. Appropriate Choice of anaesthetic technique.
3. Pre-use equipment checks
4. Proper placement of IV cannula.
5. Attachment of monitoring (including ECG) before induction of anaesthesia
6. Measures blood pressure non-invasively
7. Pre-oxygenation.
8. Satisfactory induction technique.
9. Appropriate management of the airway.
10. Maintenance of anaesthesia, including analgesia.
11. Appropriate perioperative monitoring and its interpretation
12. Recognition and immediate management of any adverse events which might occur
13. Proper measures during emergence from general anaesthesia.
14. Satisfactory hand over to recovery staff.
15. Accurate completion of anaesthetic and other records.
16. Prescription of appropriate post-operative analgesia and anti-emetics
17. Choice of post operative oxygen therapy.
18. Instructions for continued IV therapies (if relevant).

### Knowledge:

1. The effects of anaesthetic induction on cardiac and respiratory function
2. The rationale for pre-oxygenation.
3. Methods available for the detection of misplaced ET tubes, including capnography
4. Common causes of arterial desaturation (cyanosis) occurring during induction, maintenance and recovery
5. Common causes and management of intra-operative hypertension and hypotension
6. The immediate management only of cyanosis, apnoea, inability to ventilate, aspiration, bronchospasm, anaphylaxis and malignant hyperpyrexia
7. Trainees must demonstrate an adequate, basic, practical knowledge of anaesthetic pharmacology to support their practice, for example, know about: 2 induction agents, 2 volatile agents, 2 opioids, suxamethonium and 1 competitive relaxant.

### Setting:

**Patients:** ASA I and II patients requiring uncomplicated surgery in the supine position e.g. hernia, varicose veins, hysterectomy, arthroscopy.

**Location:** Operating theatre.

**Situations:** Supervised theatre practice.

### Assessments:

- \* A theatre based demonstration of practical skills.
- \* Simultaneous oral case discussion of understanding.

### Guidance:

The trainee should be observed undertaking a number of cases using facemask and airway, laryngeal mask and endotracheal tube. Care should be taken to ensure that the trainee is skilled in use of bag and mask and does not always rely on the laryngeal mask. The assessor should let the trainee proceed largely without interference and note problems of technique. This should be combined with a question and answer session covering the underlying comprehension of the trainee. The level of knowledge expected is that of a trainee who has been working in anaesthesia for 3 months and should be sufficient to support the specified clinical skills. Exclusions are specialised surgery, rapid sequence induction and children under the age of 16 years.

**4.i.b) Assessment of ability to administer a general anaesthetic competently to an elective ASA I or II patient.**

Name of trainee .....

**(i) General anaesthesia with spontaneous respiration**

The Trainee:

	Yes	No
Properly prepares the anaesthetic room and operating theatre	<input type="checkbox"/>	<input type="checkbox"/>
Satisfactorily conducts a pre-operative equipment check (including the anaesthetic machine and breathing system)	<input type="checkbox"/>	<input type="checkbox"/>
Has properly prepared and assessed the patient for surgery	<input type="checkbox"/>	<input type="checkbox"/>
Chooses an appropriate anaesthetic technique	<input type="checkbox"/>	<input type="checkbox"/>
Establishes IV access	<input type="checkbox"/>	<input type="checkbox"/>
Establishes ECG and pulse oximetry in the anaesthetic room	<input type="checkbox"/>	<input type="checkbox"/>
Measures the patients blood pressure prior to induction	<input type="checkbox"/>	<input type="checkbox"/>
Pre-oxygenates as necessary	<input type="checkbox"/>	<input type="checkbox"/>
Induces anaesthesia satisfactorily	<input type="checkbox"/>	<input type="checkbox"/>
Manages airway competently	<input type="checkbox"/>	<input type="checkbox"/>
I) Face mask (+/-) airway	<input type="checkbox"/>	<input type="checkbox"/>
II) LMA	<input type="checkbox"/>	<input type="checkbox"/>
Makes satisfactory transfer to operating theatre	<input type="checkbox"/>	<input type="checkbox"/>
Positions patient safely	<input type="checkbox"/>	<input type="checkbox"/>
Maintains and monitors anaesthesia satisfactorily	<input type="checkbox"/>	<input type="checkbox"/>
Conducts emergence and recovery safely	<input type="checkbox"/>	<input type="checkbox"/>
Keeps an appropriate and legible anaesthetic record	<input type="checkbox"/>	<input type="checkbox"/>
Prescribes analgesia appropriately	<input type="checkbox"/>	<input type="checkbox"/>
Properly supervises discharge of patient from recovery	<input type="checkbox"/>	<input type="checkbox"/>
Understands the need for oxygen therapy	<input type="checkbox"/>	<input type="checkbox"/>
This assessment was completed satisfactorily	<input type="checkbox"/>	<input type="checkbox"/>
IF NO, GIVE REASONS:		

Signed .....Print name..... Date.....

Signed .....Print name.....Date .....

**4.i.b.(ii) General anaesthesia with endotracheal intubation.**

**Name of trainee.....**

In addition to the above, the trainee must demonstrate the following:

	Yes	No
Assesses the airway properly	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge of factors which may make intubation difficult	<input type="checkbox"/>	<input type="checkbox"/>
Satisfactory use of laryngoscope	<input type="checkbox"/>	<input type="checkbox"/>
Correct placement of endotracheal tube*	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates position of endotracheal tube by	<input type="checkbox"/>	<input type="checkbox"/>
(i) observation	<input type="checkbox"/>	<input type="checkbox"/>
(ii) auscultation	<input type="checkbox"/>	<input type="checkbox"/>
(iii) capnography	<input type="checkbox"/>	<input type="checkbox"/>
This assessment was completed satisfactorily IF NO, GIVE REASONS:	<input type="checkbox"/>	<input type="checkbox"/>

Signed.....Print name.....Date.....

Signed .....Print name.....Date .....

\*If intubation is not possible, the trainee should maintain the airway and allow the assessor to intubate the patient.

#### 4.i.c) Rapid Sequence Induction for an ASA I or II patient.

##### Clinical skills

1. Detection of risk factors relating to slow gastric emptying, regurgitation and aspiration.
2. Use of drugs (antacids, H<sub>2</sub> receptor antagonists etc) in the management of the patient at risk of aspiration
3. Explanation of pre-oxygenation to the patient
4. Proper explanation of rapid sequence induction (RSI) to patient.
5. Proper demonstration of cricoid pressure to the patient and assistant.
6. Demonstration of the use of:
  - a) tipping trolley
  - b) suction
  - c) oxygen flush
7. Appropriate choice of induction and relaxant drugs.
8. Attachment of ECG, pulse oximeter and measurement of BP before induction.
9. Pre-oxygenation.
10. Satisfactory rapid sequence induction technique.
11. Demonstration of proper measures to minimise aspiration risk during emergence from anaesthesia.

##### Knowledge:

1. Risk factors causing regurgitation and aspiration.
2. Factors influencing gastric emptying, especially trauma and opioids.
3. Fasting periods in relation to urgency of surgery
4. Reduction of the risks of regurgitation.
5. Failed intubation drill, emergency airways
6. The emergency treatment of aspiration of gastric contents
7. Basic pharmacology of suxamethonium and repeated doses.

##### Setting:

**Patients:** Starved ASA I and II patients aged 16 and over having uncomplicated elective or urgent surgery with normal upper airway anatomy.

**Location:** Operating theatre.

**Situations:** Supervised theatre practice.

##### Assessments:

- |   |
|---|
| <ul style="list-style-type: none"><li>* A theatre based demonstration of practical skills.</li><li>* Simultaneous oral test of understanding.</li></ul> |
|---|

##### Guidance:

This test should ensure competent management of the airway during straightforward urgent surgery. The test must be done on a patient who is adequately starved prior to induction of anaesthesia. The trainee should be able to discuss methods of prediction of the difficult airway and of difficult intubation. They should be able to explain the failed intubation drill, and the immediate management of the patient that aspirates gastric contents.

#### 4.i.c) Assessment of Rapid Sequence Induction (RSI)

Name of trainee.....

The Trainee must demonstrate:

	Yes	No
Preparation of the anaesthetic room and operating theatre	<input type="checkbox"/>	<input type="checkbox"/>
Satisfactorily checking of the anaesthetic machine, sucker etc.	<input type="checkbox"/>	<input type="checkbox"/>
Preparation of the patient (information and positioning)	<input type="checkbox"/>	<input type="checkbox"/>
An understanding of the mandatory periods for pre-operative fasting	<input type="checkbox"/>	<input type="checkbox"/>
An understanding of the indications for RSI	<input type="checkbox"/>	<input type="checkbox"/>
An adequate explanation of RSI to the patient, including cricoid pressure	<input type="checkbox"/>	<input type="checkbox"/>
To the assistant how to apply cricoid pressure	<input type="checkbox"/>	<input type="checkbox"/>
Proper pre-oxygenation of the patient	<input type="checkbox"/>	<input type="checkbox"/>
The undertaking of a RSI	<input type="checkbox"/>	<input type="checkbox"/>
Correct placement of tracheal tube	<input type="checkbox"/>	<input type="checkbox"/>
This assessment was completed satisfactorily	<input type="checkbox"/>	<input type="checkbox"/>
IF NO, GIVE REASONS:		

Signed..... Print name

Date .....

Signed .....Print name

Date .....

#### 4.i.d) Cardiopulmonary resuscitation (CPR).

##### Clinical skills

1. Able to recognise cardiac and respiratory arrest
2. Able to perform cardiac compression.
3. Able to manage the airway during cardiopulmonary resuscitation (CPR): using expired air breathing, bag and mask, laryngeal mask and endotracheal intubation.
4. Able to perform CPR either single-handed or as a member of a team.
5. Able to use the defibrillator.
6. Able to interpret arrhythmias causing and associated with cardiac arrest
7. To perform resuscitation sequences for ventricular tachycardia, VF, asystole, EMD.
8. Able to move a patient into the recovery position

##### Knowledge:

1. Resuscitation guidelines of Resuscitation Council (UK)
2. The factors relating to brain injury at cardiac arrest.
3. Factors influencing the effectiveness of cardiac compression.
4. Drugs used during CPR (adrenaline (epinephrine), atropine, lignocaine, calcium, magnesium, sodium bicarbonate).
5. The ethics of CPR: who might benefit.
6. Record keeping at CPR.

##### Setting:

Simulated scenario of collapse requiring cardiopulmonary resuscitation during a practical teaching session

**Role:** Initiate and maintain CPR when necessary. Undertake the role of team leader if no more senior doctor is present, continuing CPR as appropriate, administering necessary drugs and defibrillating if needed. If a more experienced resuscitator is available will adopt an appropriate role in the resuscitation team.

**Locations:** Wherever necessary.

##### Assessments:

- \* Manikin based practical assessment of CPR skills.
- \* Arrhythmia recognition session using monitor and simulator.
- \* Oral assessment of knowledge of resuscitation.

If a trainee has completed an ALS course within the last 12 months, the assessment of CPR competency can be assumed and signed off overleaf with a comment made to that effect under the signature(s). This assessment may also be conducted during the internal medicine or intensive care modules.

#### 4.i.d) Assessment of Cardiopulmonary resuscitation

This assessment may be undertaken at any time and may be combined with a practical teaching session.

Name of trainee.....

##### The Trainee:

	Yes	No
Ensures personal safety and that of the staff	<input type="checkbox"/>	<input type="checkbox"/>
Calls for help	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates the diagnostic method	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates mask to mouth rescue breathing.	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates ventilation with mask and bag	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates satisfactory insertion of and ventilation with ET tube	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates satisfactory cardiac compression.	<input type="checkbox"/>	<input type="checkbox"/>
Satisfactorily interprets common arrhythmias on ECG monitor.	<input type="checkbox"/>	<input type="checkbox"/>
Explains the indications for defibrillation.	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates correct use of defibrillator	<input type="checkbox"/>	<input type="checkbox"/>
Explains the use of appropriate drugs during resuscitation	<input type="checkbox"/>	<input type="checkbox"/>
Can undertake the lead role in directing CPR.	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrates moving a patient into the recovery position	<input type="checkbox"/>	<input type="checkbox"/>
This assessment was completed satisfactorily IF NO, GIVE REASONS	<input type="checkbox"/>	<input type="checkbox"/>

Signed..... Print name..... Date .....

Signed ..... Print name ..... Date.....

If a trainee has completed an ALS course within the last 12 months, the assessment of CPR competency can be assumed and signed with a comment made to that effect under the signature(s).

**4.i.e): Clinical judgement, attitudes and behaviour**

At SHO level all that is required is confirmation of the statements below:

Name of trainee \_\_\_\_\_

To the best of my knowledge and belief this trainee has

- 1. Shown care and respect for patients
- 2. Demonstrated a willingness to learn
- 3. Asked for help appropriately
- 4. Appeared reliable and trustworthy

Signed.....Print name.....Date.....

Signed.....Print name.....Date.....

**4.i.f) Confirmation of satisfactory completion of six month complementary module in anaesthesia, (or equivalent period for SHOs in anaesthesia)**

Name of trainee: \_\_\_\_\_

Period of anaesthetic training and hospital placements (list below):

Dates:

Place:

I confirm that this trainee has satisfactorily completed the six month complementary module in anaesthesia, or its equivalent

Signed.....Print name.....Date.....

Signed.....Print name.....Date.....

## **4.ii) ASSESSMENT OF COMPETENCE OF SHO TRAINEES UNDERTAKING THE SIX MONTH COMPLEMENTARY SPECIALITY TRAINING MODULE IN GENERAL INTERNAL MEDICINE**

Trainees will be expected to demonstrate sufficient knowledge and skills to permit them to initiate appropriate acute management of patients with common medical disorders.

The assessments will be conducted in the workplace, usually during the second three months of the module.

### **The trainee will be assessed in the following:**

- a) General aspects of clinical history taking, examination and investigation of patients
- b) Specific management of common medical emergencies
- c) CPR skills (if not already assessed in anaesthetic or intensive care modules or no ALS course in preceding 12 months)
- d) Clinical judgement, attitudes and behaviour

### **Settings:**

All appropriate hospitalised patients aged 16 and over. The trainee may be observed delivering care to patients in the clinic, wards, and emergency department.

### **Clinical Skills to be assessed in 4.ii.a and 4.ii.b:**

- Able to demonstrate satisfactory communication with staff and patients
- Identifies main aspects of clinical history
- Examines patients appropriately, with consideration, and identifies main abnormalities
- Orders relevant investigations
- Identifies common abnormalities from ECGs, chest X-rays and arterial blood gas analyses
- Forms a reasonable differential diagnosis
- Proposes appropriate treatment plans
- Correctly prepares drugs for administration
- Safely administers drug treatment including oxygen therapy
- Requests senior/more experienced help when appropriate

### **Knowledge to be assessed in 4.ii.a and 4.ii.b:**

- Presenting features of common acute medical conditions
- Risk factors precipitating the acute presentation of these conditions
- Common treatment algorithms (e.g.: myocardial infarction, asthma, COAD, diabetic ketoacidosis)
- Indications, contraindications, doses, routes of administration, and complications of drugs used
- Clinical and laboratory measures of acuity and severity of disease

**4.ii.a) Assessment of general aspects of clinical history taking, examination and investigation of patients**

The trainee must have been observed delivering care to patients.

Name of trainee.....

**The Trainee:**

	Yes	No
Communicates in a satisfactory manner with patients	<input type="checkbox"/>	<input type="checkbox"/>
Obtains relevant history	<input type="checkbox"/>	<input type="checkbox"/>
Undertakes physical examination correctly and with consideration	<input type="checkbox"/>	<input type="checkbox"/>
Identifies main abnormalities on examination	<input type="checkbox"/>	<input type="checkbox"/>
Forms a preliminary differential diagnosis	<input type="checkbox"/>	<input type="checkbox"/>
Proposes appropriate investigations	<input type="checkbox"/>	<input type="checkbox"/>
Interprets results of investigations	<input type="checkbox"/>	<input type="checkbox"/>
Forms a definitive diagnosis	<input type="checkbox"/>	<input type="checkbox"/>
Proposes an appropriate management plan	<input type="checkbox"/>	<input type="checkbox"/>
Describes how to convey information to the patient	<input type="checkbox"/>	<input type="checkbox"/>
This assessment was completed satisfactorily IF NO, GIVE REASONS:	<input type="checkbox"/>	<input type="checkbox"/>

Signed .....

Print name.....

Date .....

Signed: .....

Print name .....

Date.....

Signed by trainee: .....

#### 4.ii.b) Assessment of management of specific acute medical conditions

These assessments evaluate the ability of the trainee to manage patients presenting with common acute conditions (for example, myocardial infarction, asthma, diabetic ketoacidosis, acute renal dysfunction etc). Evidently the precise conditions will depend on hospital case mix, but it is expected that only the more common ones will be used for the assessments. It is anticipated that the assessments will be made during or after ward rounds, and will involve those patients with whom the trainee has had clinical contact. The trainee should know treatment algorithms for common conditions (e.g.: thrombolysis for myocardial infarction, management of acute asthma etc).

Name of trainee: \_\_\_\_\_

#### The Trainee:

	Yes	No
Describes common presenting symptoms and signs correctly	<input type="checkbox"/>	<input type="checkbox"/>
Identifies risk factors precipitating acute presentation	<input type="checkbox"/>	<input type="checkbox"/>
Identifies associated co-morbid diseases	<input type="checkbox"/>	<input type="checkbox"/>
Describes and anticipates main acute complications	<input type="checkbox"/>	<input type="checkbox"/>
Initiates emergency treatment promptly and safely	<input type="checkbox"/>	<input type="checkbox"/>
Selects appropriate investigations including ABGs, and interprets results	<input type="checkbox"/>	<input type="checkbox"/>
Forms a definitive diagnosis	<input type="checkbox"/>	<input type="checkbox"/>
Uses and adheres to treatment algorithms where these are available	<input type="checkbox"/>	<input type="checkbox"/>
Proposes an appropriate management plan	<input type="checkbox"/>	<input type="checkbox"/>
Communicates appropriately with the patient or relatives	<input type="checkbox"/>	<input type="checkbox"/>
Communicates effectively with nursing and medical colleagues	<input type="checkbox"/>	<input type="checkbox"/>
This assessment was completed satisfactorily	<input type="checkbox"/>	<input type="checkbox"/>

IF NO, GIVE REASONS:

Signed ..... Print name..... Date .....

Signed: ..... Print name ..... Date.....

Signed by trainee: .....

**4.ii.c) Cardiopulmonary resuscitation assessment: See section 4.i.d**

If within the last 12 months the trainee has been assessed as competent in CPR in either the anaesthetic or the intensive care modules, or has successfully undertaken an ALS course, this section can be omitted. If not, then the assessment must be performed using the forms in section 4.i.d

**4.ii.d) Clinical judgement, attitudes and behaviour**

At SHO level all that is required is confirmation of the statements below:

Name of trainee \_\_\_\_\_

To the best of my knowledge and belief, during internal medicine training this trainee has:

- Shown care and respect for patients
- Demonstrated a willingness to learn
- Asked for help appropriately
- Appeared reliable and trustworthy

Signed.....Print name.....Date.....

Signed.....Print name.....Date.....

**4.ii.e) Confirmation of satisfactory completion of six month complementary module in internal medicine (or equivalent period for SHOs in internal medicine)**

Name of trainee:\_\_\_\_\_

Period of training in internal medicine, and hospital placements (list below, and in ETR - Part II of the training documents):

Dates:

Place:

I confirm that this trainee has satisfactorily completed the six month complementary module in internal medicine, or its equivalent

Signed.....Print name.....Date.....

Signed.....Print name.....Date.....

### **4.iii. ASSESSMENT OF COMPETENCE OF ICM TRAINEES UNDERTAKING BASIC (SHO) LEVEL TRAINING IN INTENSIVE CARE MEDICINE**

Trainees will be expected to demonstrate a level of knowledge and skills which permit them to identify acutely ill patients, initiate appropriate emergency management, stabilise them for transfer, plan their care for the first hour in ICU, and identify serious complications which may arise during intensive care.

The assessments will be conducted in the workplace, usually during the third month.

#### **The trainee will be assessed in the following:**

- a) CPR skills (if not already assessed in anaesthetic or internal medicine modules, or no ALS course in preceding 12 months)
- b) Rapid sequence induction and tracheal intubation (if not yet assessed in anaesthetic module)
- c) Initial assessment and stabilisation of the acutely ill patient
- d) Organ support and practical procedures
- e) Communication skills, clinical judgement, attitudes and behaviour

#### **4.iii.a) Cardiopulmonary resuscitation assessment: See section 4.i.d**

If within the last 12 months the trainee has been assessed as competent in CPR in either the anaesthetic or the intensive care modules, or has successfully undertaken an ALS course, this section can be omitted. If not, then the assessment must be performed using the forms in section 4.i.d

#### **4.iii.b) Rapid sequence induction and tracheal intubation: See section 4.i.c**

This assessment may be omitted if the trainee has successfully completed section 4.i.c. If not, then the assessment may be conducted either in the intensive care unit (if a suitable opportunity arises) or in theatres, whichever is the most appropriate. If it is conducted in the intensive care unit, the term 'anaesthetic room and operating theatre' should be replaced by 'bed space and equipment', and the term 'anaesthetic machine' by 'anaesthetic machine or ventilator'.

## **Notes and guidance on Assessments 4.iii.c and 4.iii.d**

### **Clinical skills & Knowledge:**

The clinical skills that are to be assessed must be supported by knowledge of the presentation, identification and management of common medical and surgical conditions which may result in critical illness. The focus is on first-point-of-contact, and the initial stabilisation of a sick patient. This will include knowledge of applied physiology and pharmacology, and an understanding of appropriate methods for basic organ system support and their potential complications.

### **Setting:**

Patients: Patients receiving intensive and high dependency care

Location: Intensive or high dependency care unit, and other clinical areas caring for acutely ill patients

Situations: Supervised delivery of patient care

### **Guidance:**

The trainee should be observed performing procedures and delivering patient care. The assessor should let the trainee proceed as far as possible without interference, while noting strengths and weaknesses of technique. This should be combined with a concurrent or subsequent discussion of understanding that assesses the underlying comprehension of the trainee. Communication with patient and staff, and personal responsibility for standards of care are all important elements.

### 4.iii.c) Assessment of initial evaluation and stabilisation of acutely ill patients

Trainees will be expected to demonstrate competence in the initial evaluation and stabilisation of acutely ill patients presenting with a variety of clinical problems, including breathlessness, hypotension  $\pm$  shock, impaired consciousness  $\pm$  fitting, and other manifestations of potentially life-threatening illness. If individual items are assessed by different assessors at different times, the assessor should indicate that a specific topic has been assessed by entering his or her initials in the relevant box

Name of trainee: \_\_\_\_\_

#### The Trainee:

	Yes	No	Assessor
Performs the basic 'ABC' clinical assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Considers, identifies and responds to major physiological abnormalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Selects appropriate methods for administering oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Selects appropriate methods of fluid resuscitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Describes likely medical and surgical differential diagnoses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Selects appropriate investigations including ABGs, and interprets results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Institutes appropriate initial treatment plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Considers factors influencing intensity and site of care (ward, HDU, ICU)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Identifies main communication tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Stabilises patients before transfer to HDU/ICU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
This assessment was completed satisfactorily IF NO, GIVE REASONS:	<input type="checkbox"/>	<input type="checkbox"/>	

Signed .....

Print name.....

Date .....

Signed: .....

Print name .....

Date.....

Signed by trainee: .....

#### 4.iii.d) Organ support and practical procedures

This assessment will usually be conducted in the ICU and related clinical environments. If individual items are assessed by different assessors at different times, the assessor should indicate that a specific topic has been assessed by entering his or her initials in the relevant box.

Name of trainee: \_\_\_\_\_

#### The Trainee:

	Yes	No	Assessor
Demonstrates aseptic peripheral venous cannulation (+ local anaesthetic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Demonstrates aseptic arterial cannulation (+ local anaesthetic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Discusses indications for and contraindications to arterial cannulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Demonstrates aseptic central venous catheterisation (CVC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Discusses indications, contraindications & complications of CVCs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Connects mechanical ventilator and selects initial settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Describes safe use of drugs to facilitate mechanical ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Describes safe management of a patient 'fighting the ventilator'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Describes principles of monitoring cardiovascular function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Describes principles of monitoring respiratory function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Describes appropriate response to oliguria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Describes advice for ward staff receiving a patient with a tracheostomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Prescribes safe administration of vasoactive drugs, electrolytes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
This assessment was completed satisfactorily IF NO, GIVE REASONS:	<input type="checkbox"/>	<input type="checkbox"/>	

Signed .....

Print name.....

Date .....

Signed: .....

Print name .....

Date.....

Signed by trainee: .....

#### 4.iii.e) Assessment of communication skills, attitudes and behaviour

This assessment will be conducted using the examples below, which are provided for guidance only, and not as prescriptive or exclusive standards. Suboptimal performance must be recognised and discussed with the trainee as early as possible and appropriate remedial action taken. Trainees must not be presented with an adverse assessment at the end of their ICM module without extensive prior warning and attempts to resolve the problem(s) in a supportive and confidential manner.

Attitude or behaviour	Example of minor problem	Example of serious problem
<b>Communication skills (with patients and relatives)</b>	Occasional communication difficulties with patients or relatives have been noticed	Repeated communication difficulties with patients and relatives have been noticed. Others have commented on them.
<b>Communication skills (with staff)</b>	Occasional communication difficulties have been noticed; unsatisfactory transmission of clinical information, e.g.: handovers, ward-round	Repeated communication difficulties with staff have been noticed. Others have commented on them. Fails to pass on important clinical information
<b>Communication skills (sensitivity to needs of others)</b>	On occasions fails to listen to patients or relatives or to respect their wishes. Lacks sensitivity in handling patients occasionally	Appears oblivious to what patients and relatives say, or insensitive to their likely feelings. Fails to understand or respect different cultural and ethical perspectives
<b>Reliability and time-keeping</b>	Isolated episodes of lateness, sometimes fails to warn of problems, tends to need reminding to get things done.	Repeated episodes of lateness, often fails to warn of problems, usually needs reminding to get things done
<b>Control of moods and emotions</b>	Occasionally shows irritability or bad temper with no apparent cause. Although other staff are aware of it, work continues normally.	Is well known for being moody, irritable and bad-tempered. Other staff modify their behaviour to accommodate them. The pattern of work is adversely affected
<b>Personal presentation</b>	When seeing patients, occasionally dresses in an unprofessional way.	Frequently dresses in an unprofessional way when seeing patients who may find this distasteful or upsetting. Other aspects of personal hygiene sometimes cause offence
<b>Social behaviour</b>	Social life occasionally impinges on professional life causing lateness, tiredness at work, and difficulty with studies.	Social life repeatedly affects professional performance, is likely to be causing problems with self-directed learning and affects patient care.
<b>Conscientiousness in safe practice</b>	Usually satisfactory but has occasional lapses (e.g. doesn't sign for drugs ordered, forgets to tidy up own sharps).	More frequent or serious errors, such as failing to check donor blood against transfusion form, errors in prescription, relaxed approach to errors. Doesn't record critical incidents
<b>Initiative</b>	Rather passive. Tends to need pushing when things have to be done. Slower than he/she should be to take responsibility.	Actively avoids taking up challenges and very slow in adopting responsibility as and when problems arise
<b>Over or under assertiveness</b>	(I) May undertake inappropriate procedures because of pressure from others. (II) On occasions insists on a course of action in the face of reasonable advice to the detriment of patients and/or colleagues	(I) Fails to be assertive even when necessary for the patient's well being. Unable to control any situation. (II) Frequently causes problems and offends patients and/or colleagues by insisting on a course of action in the face of reasoned argument.
<b>Over-confidence</b>	Occasionally takes on cases that are beyond level of competence. Occasional clinical crises occur because of lack of proper planning and assessment.	Frequently exhibits lack of care in planning and execution of tasks. Works without concern beyond his/her level of training, knowledge or experience.
<b>Under-confidence</b>	Reluctant to extend clinical experience. Anxious when working alone on clinical cases that should be within his/her competence.	Frequently demonstrates and transmits anxiety to the theatre environment. Is sufficiently stressed by work that symptoms of stress become an issue and affect performance.
<b>Departmental involvement</b>	Participation below the usual expected. Tends not to attend meetings unless he/she has to.	Rarely participates in any departmental activity. Rather isolated socially from other members of the department.
<b>Team working</b>	Doesn't always consider the needs of others. Tends to press ahead with his/her own plan and expects others to adapt around it.	Careless of the needs of others. Often arrogant and thoughtless. Sufficient lack of insight that his/her behaviour frequently causes problems.
<b>Personal organisation</b>	Can be unprepared for the task in hand: sometimes forgets to bring essential items to meetings etc. Can be slow to implement agreed policy changes.	Frequently poorly prepared and disorganised. Unreliable to the extent that other staff are affected. Appears unaware of the impact their behaviour has on the working environment.
<b>Honesty and trustworthiness</b>	Has been found to manipulate the truth to prevent criticism; blames others for own errors and shortcomings	Deliberately misleads staff, patients or trainers by mis-information e.g. fills in logbook with non-existent cases; does not report serious adverse event; alters records after a problem has occurred. Fails to answer patient's / relative's queries honestly
<b>Enthusiasm</b>	Usual response to new opportunities is rather flat. Gives the appearance that work is an onerous duty rather than something to give satisfaction	Negative response to new opportunities. Always places personal convenience before that of patients or colleagues. Never volunteers and is unco-operative in solving departmental problems
<b>Record keeping</b>	Occasionally fails to keep a good record or is rather economical with basic information. Needs reminding to retrieve and document laboratory investigations.	Case notes review demonstrates frequent poor record keeping; key items of information missing, or incorrectly documented. Training record poorly maintained, possibility of falsification of entries

#### 4.iii.e: Assessment of communication skills, attitudes and behaviour

Please put a tick in the appropriate box. Any 'cause for concern' must be qualified with information. This form must be completed for each stage of ICM training, or when a trainee leaves a hospital or module

<b>Attitude or behaviour</b>	<b>Satisfactory</b>	<b>Cause for concern</b>	<b>Please give examples of cause for concern, noting date. Expand on a separate sheet if necessary</b>	<b>Initials of assessors (with dates)</b>
<b>Communication Skills (with patients &amp; relatives)</b>				
<b>Communication Skills (with staff)</b>				
<b>Communication Skills (sensitivity to another's needs)</b>				
<b>Reliability and time-keeping</b>				
<b>Control of moods and emotions</b>				
<b>Personal presentation</b>				
<b>Social behaviour</b>				
<b>Conscientiousness in checking</b>				
<b>Initiative</b>				
<b>Over or under assertiveness</b>				
<b>Over-confidence</b>				
<b>Under-confidence</b>				
<b>Departmental involvement</b>				
<b>Team working</b>				

<b>Personal organisation</b>				
<b>Honesty and trustworthiness</b>				
<b>Enthusiasm</b>				
<b>Record keeping (training record, case notes)</b>				

I confirm that any 'causes for concern' have been discussed with the trainee. The outcome of these discussions was as follows:

.....  
.....  
.....  
.....

Signed..... Name (print).....

Date.....