

Version 1

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Guidance on Competency sign off for Intensive Care Medicine

The Faculty of
Intensive Care Medicine

Competency sign off for Intensive Care Medicine

The faculty have been made aware via trainees, tutors and regional advisors alike that there is variation around the UK as to how competencies are achieved, and importantly how they are 'signed off'. Whilst it is clear that certain competencies are bound to be easier to sign off than others the faculty are cognisant of the fact that some trainees have struggled with certain competencies. The curriculum is due to undergo a reshaping process after the new GMC Standards for Curricula and Assessment Review is released: this will change all postgraduate curricula to be more outcomes based and also aims to reduce the burden of assessment. FICM will endeavour to implement these changes as soon as possible.

The aim of this document is to try to bring in some standardisation as to what is acceptable regarding competency sign off. We also aim to offer some useful suggestions as to how some competencies can be signed off by using resources such as the e-ICM e-learning resource. The aim of this is to try to reduce some of the assessment burden. The purpose is not necessarily to try to reduce the number of assessments that trainees do within a placement (although it will inevitably have this effect) but to ensure that they are made more valuable as an exercise and that opportunities are not missed. We would like to firmly move away from 'hunting out' a competency just for the sake of signing it off and make the entire process more valuable for trainees and trainers alike.

Assessment sign off for multiple competencies

In completing paperwork for stage sign off in ICM FICM have agreed that multiple competencies can be signed off with one assessment. While there is no absolute upper limit on competency numbers, the competencies must be directly linked to the case in hand and these competencies must also be at the correct level.

An example might be the assessment and admission of a patient from ED with sepsis where the trainee demonstrates a large number of competencies to a consultant assessor. This also has the benefit of competency assessment in context, and could include, for example technical, diagnostic interpretive and communication skills. Three such examples are considered below (**see appendix 1**). Another example might be presentations on a ward round which could include competencies in a wide number of areas.

This approach will also allow much easier linking, as the number of pieces of evidence will be considerably reduced.

In multiple competency sign off it is important that the assessor has the ability to understand the complexity of the case and in **most** cases this would be a consultant who completes the assessment. It would also be important that the consultant assessor keeps in touch with the progress of an admitted patient so that he/she is assured of the competencies being demonstrated.

Although multiple sign off will considerably ease the burden of paperwork, there still needs to be selection of different work place based assessments (WBAs) to ensure that assessment is spread over different encounters and therefore annual review of competency progression (ARCP) success still reflects a broad assessment by varying assessors.

Difficult to achieve competencies

Several competencies are difficult to achieve through direct patient care. Other options can be used for these sign offs and suggestions include:

A study day/half day run by the Educational Supervisor linked to the ARCP requirements in which trainees flag up problem areas and these could be addressed in the form of teaching, presentations, videos, simulation, e-learning (e-ICM) or vivas. Depending on the level of competency needed several competencies could be signed off within a group educational session which targets the areas needed, with appropriate preparation beforehand. A well-written reflective piece that is then discussed would be another way to sign off a competency. We have compiled a table based on trainee feedback (**see appendix 2**), the table also includes the level of competency required to be demonstrated before sign-off at each stage. Please refer to the ICM curriculum for a description of these levels. These competencies will be reviewed in line with on-going work to review the curriculum as a whole see appendix 2 for more examples.

Appendix 1

Example 1- A complex congenital cardiac surgical patient

Competencies in the FICM curriculum: 1.1, 2.2, 2.5, 2.6, 2.7, 2.8, 3.4, 3.5, 4.3, 4.8, 5.18, 6.2, 8.2, 11.5, 12.2, 12.3, 12.4, 12.5, 12.7, 12.12

Complex congenital cardiac case, very protracted ICU stay with multiple complications including acute bleeding post op, return to theatre, endocarditis, respiratory failure, renal failure, delirium, issues with sedation, tracheostomy and liver failure causing acute upper gastrointestinal haemorrhage.

I was involved with the care of a 22-year-old man over a period of around 2 months on and off. I was familiar with his complex set of problems. He had undergone long/complex redo cardiac surgery to correct a problem with his congenitally stenosed pulmonary valve and regurgitant mitral valve, which had been previously operated on multiple times during childhood. He subsequently bled in the immediate post operative period and required intensive resuscitation, he then went on to develop further problems with his heart valves and needed to go back to theatre for repeat valve replacements this time receiving a metallic mitral valve. Unfortunately he then developed endocarditis and underwent a long period of antibiotic treatment. During this time he developed acute kidney injury requiring renal replacement therapy. He also developed liver failure- it was uncertain if this was secondary to right sided heart failure or a combination of other factors (sepsis, prolonged ICU stay, toxins etc.). He developed very problematic gastric and rectal varices and had a large upper gastrointestinal bleed. I was involved in his care during these acute bleeding episodes and he became haemodynamically unstable. Due to the multitude of professionals involved in his care and the complex and acute nature of the problem the decision making around the best approach for management was not straightforward. The options revolved around whether it is physically possible to perform a transjugular intrahepatic portosystemic shunt (TIPSS) procedure. However the anatomy was not suited to this option and it was felt that in the acute situation this would be even harder. The other option was to place a Sengstaken-Blakemore tube (SBT) to try to tamponade the gastric varices but the position of the varices was not amenable to this option working and it was felt that it might actually cause more trauma and further bleeding.

After some initial resuscitation including the administration of blood products, adjusting ventilatory settings and increasing cardiovascular support I recognised that this case required consultants from all different specialities involved to talk together to formulate a plan that was in the patients best interests. We organised a conference at the bedside and within the ICU to discuss all of his imaging and to make a plan. This included the cardiac intensivist, gastroenterologist, adult congenital cardiologist, and 2 interventional radiologists and the cardiac surgical team.

It was decided that aggressive intervention was probably not in his best interests and a plan was made to treat him without an attempt at a TIPSS procedure.

Learning points to take away from this experience/reflection

- This case allowed me to reflect on the complexities of managing adult congenital cardiac patients. These patients have often had multiple surgeries, have multiple professionals involved in their care and very often have family members who know and understand their medical, psychological and social needs far better than any medical professionals do. Sometimes objectivity in critical decisions can be very demanding for clinicians who may have been involved in the care of these patients over many years. What is technically possible is not always in the patient's long term best interests, true collaborative decision making is crucial in these cases with rapid and timely planning when things do not go to plan.

- Learning around the anatomical problems with placing a SBT and the impossibility to perform a TIPSS procedure if the hepatic vessels are too small/tortuous.
- This case also allowed me to reflect on the transition between paediatric and adult intensive care appreciating some of the nuances between how decisions are made with parents especially if the patient lacks capacity.

This complex case including the acute management and decision-making required multiple competencies from the FICM curriculum. The above competencies that were felt most relevant to this case are listed above, 20 have been listed as relevant in this particular case.

Example 2- A case of meningococcal septicaemia in a 4-year-old child

Competencies in the FICM curriculum: 1.1, 1.4, 2.1, 2.2, 2.4, 2.5, 2.6, 2.7, 2.8, 3.3, 3.6, 3.9, 4.2, 4.3, 4.4, 4.8, 5.1, 5.2, 7.1, 9.1, 10.1

A 4 year old child was brought in to ED via 999 ambulance after being found lethargic, off her food with nausea and vomiting for 24 hours and feeling hot and cold, her mother had noticed some spots on her legs and buttocks that had rapidly gotten worse over the last 3 hours and she called 999.

I was part of the receiving team in the ED as part of my PICU placement. A pre-alert had been given to the team that a possible 'meningococcal child' was imminent. We were able to prepare certain drugs and equipment in advance and calculations were made regarding fluids, antibiotics and equipment sizes such as possible ETT based on her age.

The child arrived and it was immediately apparent that she was severely unwell and shocked with obvious signs of meningococcal septicaemia. The team was led by the PICU consultant with input from the ED paediatric consultant and 3 senior trainees. The initial HR was 140, RR 33 with an unrecordable BP and a clear purpuric rash widespread on the lower limbs and buttocks. IV access was initially impossible and I placed an IO needle, 20mls/kg of IV fluid was administered alongside 80mg/kg ceftriaxone. It was immediately apparent that this child was extremely sick and would require tracheal intubation. After a further 20mg/kg IV fluid with very limited response blood was ordered and human albumin solution was given. I&V was performed after the 3rd bolus of fluid with low dose noradrenaline running peripherally via a cannula that had now been placed. I&V was performed using ketamine and rocuronium. A femoral CVC line was then placed and a noradrenaline was switched to the CVC line. An arterial line was also placed at this time.

The child was stabilised in the ED and after a total of 80mls/kg (including blood) resuscitation and vasoactive support she began to show enough stability to move to PICU.

Once 'stable' I was able to accompany the consultant to speak to the parents to explain the diagnosis and the treatment thus far.

Learning points to take away from this experience/reflection

- This case allowed me to reflect on multiple aspects of acute paediatric emergency management.
- The importance of pre-planning and team organisation was critical to ensuring that tasks were completed in a timely manner. I was quite surprised by how calm the situation was, the PICU consultant was very hands off and led the team from the end of the resuscitation bay this allowed her to keep an objective overview on the progression of the resuscitation. It was a very well run situation.
- After the case there was a 'hot debrief' and then 4 weeks later there was a MDT debrief which was extremely useful. One of the topics that was discussed was the presence of child's mother in the resuscitation room. It was interesting to reflect on the subtle differences in opinion on this matter from some of the staff involved in the case.
- I also reflected upon the impact that such unwell children can have on some members of the team, especially staff who do not routinely deal with very sick children.

This case again demonstrates the wide breadth of competencies that could be discussed and addressed in a single patient encounter. The above competencies that were felt most relevant to this case are listed above, 21 have been listed as relevant in this particular case.

Example 3- A case of traumatic brain injury on ICU

Competencies in the FICM curriculum: 1.1, 1.5, 2.2, 2.6, 3.6, 4.4, 4.9, 5.1, 5.2, 5.6, 5.9, 5.10, 6.3, 7.3, 7.4, 7.5, 11.6, 12.1

A 64 year old man was found collapsed next to a high wall. He was unconscious at the scene with evidence of a head injury and therefore taken to the local major trauma centre. The patient was met by the Trauma team, including myself as the neurosciences ICU registrar. His GCS was 5/15 with evidence of airway obstruction. He was sedated and intubated, ensuring cardiovascular stability and neck alignment (manual inline stabilisation).

CT brain demonstrated a large subdual haematoma with associated contusions. He was taken to theatre for evacuation of the clot and was ventilated post-operatively on ICU. On return from theatre, ICP-directed therapy was used to minimise secondary injury. I inserted a subclavian central line. Noradrenaline was commenced to ensure a CPP of at least 60mmHg. I commenced ICU care bundles, as per local protocols for our ICU patients, including commencing NG feeding. Collateral history suggested alcohol excess and therefore parental vitamins were also started.

After 48 hours of further sedation, ICPs remained stable and sedation was held. The patient appeared agitated off sedation, and did not follow commands. His best motor score was four. I commenced a systematic review of the patient, drugs and results to exclude delirium, and introduced haloperidol to control the agitation.

After a further two failed sedation holds, the option of tracheostomy was discussed with family. The neurosurgeons were hopeful of a good functional recovery, and the clinical situation was relayed to the family, allowing plenty of opportunity for questions and further explanations.

I performed a percutaneous tracheostomy with the supervision of the consultant. Sedation was stopped again and gradually the patient demonstrated a reliable and repeatable localising motor score. His ventilation was weaned until he was liberated from the ventilator. At this point, he was occasionally obeying commands and interacting with staff. On day 21, he was decanulated.

On day 23, he was moved to the high-dependency unit. A multi-disciplinary meeting was prior to discharge to the ward. Issues surrounding ongoing care needs, including episodes of aggressive behaviour, and long-term rehab placements were discussed. It was decided that a placement in a local rehabilitation centre that specialised in young male patients would be found.

Learning points to take away from this experience/reflection

- This case allowed me to work with the multi-speciality Trauma Team. I was able to reflect on how an organised team that has a clear leader and designated roles assigned enable rapid assessment and management of a complex patient. I also found it helped to reduce the inevitable anxiety associated with this emergency situations.
- I was able to reflect on the importance of good communication on the ICU, in particular between the intensivists and the neurosurgeons prior to family discussions. This was most obvious when

discussing prognosis and likely duration of recovery. In contrast to this experience, I have previously seen examples of poor communication that has resulted in distress to the family.

- I also became involved in a multi-disciplinary team meeting to plan on-going care after the ICU stay. The exposure to this process allowed me to reflect on the complex needs of the serious injured patient who will require prolonged rehabilitation. It was useful to observe how each discipline brought their own expertise to the discussion, but ultimately how this patients care is very dependent on collaborative care.

The above competencies that were felt most relevant to this case are listed above, 18 have been listed as most relevant in this particular case.

Appendix 2

Parts of the curriculum that are more challenging to achieve in everyday practise and strategies to achieve them

Table 1: strategies for harder to achieve competencies

Level of Competency Required			Curriculum Item	Suggested methods to demonstrate competency
Stage 1	Stage 2	Stage 3		
2	3	4	1.5 Assesses and provides initial management of the trauma patient	<ul style="list-style-type: none"> • ATLS course, APLS • European trauma course • ATACC http://www.atacc.co.uk/ • Use internal study leave to spend some time in a local MTC/air ambulance team. • E-LfH- Major Trauma: Assessment and Initial Management • Core topics certificate • Attend a MTC major incident training day at the local MTC
1	2	3	1.6 Assesses and provides initial management of the patient with burns	<ul style="list-style-type: none"> • Regional teaching day at burns centre, including simulation. • http://www.emsb.org.uk/ run a burn course • Core topics certificate • e-ICM Module 5 - Traumatic Injuries - Burns
1	2	3	1.7 Describes the management of mass casualties	<ul style="list-style-type: none"> • Attendance of a simulated mass causality/'majax' event • MIMS course http://www.alsg.org/uk/MIMMS • Core topics certificate • e-ICM Module 5 - Major Incidents – Critical Care and Major Incidents • Attend a MTC major incident training day at the local MTC
2	3	4	3.10 Recognises and manages the patient following intoxication with drugs or environmental toxins	<ul style="list-style-type: none"> • Arrange regional half day teaching on toxicology • Organise a journal club where once a month a different common toxin is discussed (just for 5-10 mins) • Spend a shift working in the ED with ED consultant • Core topics certificate • e-ICM Module 3 – Toxicology – Overdose and Poisoning
2	3	4	3.11 Recognises life-threatening maternal peripartum complications and manages care	<ul style="list-style-type: none"> • Arrange time in the anaesthesia obstetric unit • Attend local emergency obs anaesthetic course • Core topics certificate • RCOG run training days • e-ICM Module 3 – Obstetrics – Physiology/Medical Conditions and Pregnancy

1	2	3	4.5 Describes the use of mechanical assist devices to support the circulation	<ul style="list-style-type: none"> • Cardiac surgical case involving an intra-aortic balloon pump • Arrange to spend some time in the cath lab/CCU with cardiology • Arrange a teaching day on this • Core topics certificate • e-ICM Module 2 – Organ Support - Cardiac
3	4	4	5.11 Performs defibrillation and cardioversion	<ul style="list-style-type: none"> • ALS course • Teach ICU nurses/ODPs • Core topics certificate
2	3	4	5.12 Performs transthoracic cardiac pacing, describes transvenous	<ul style="list-style-type: none"> • Arrange to spend time in the cath lab with cardiology • ALS course • Core topics certificate • e-ICM Module 8 – Critical Incidents and Emergences – Emergency Cardiac Procedures
1	2	3	5.13 Describes how to perform pericardiocentesis	<ul style="list-style-type: none"> • ALS course • Core topics certificate
1	3	3	6.2 Manages the care of the patient following cardiac surgery under supervision	<ul style="list-style-type: none"> • This should be easily achievable in stage 2 • Core topics certificate • e-ICM module 3 – Perioperative Medicine – Post Cardiac Surgery
1	3	3	6.3 Manages the care of the patient following craniotomy under supervision	<ul style="list-style-type: none"> • Should be easily achievable in stage 2 • Core topics certificate • e-ICM Module 3 – Perioperative Medicine – Post Neurosurgery
1	3	3	6.4 Manages the care of the patient following solid organ transplant under supervision	<ul style="list-style-type: none"> • Spend some time (possibly using study leave) in a transplant centre for a few days this will then be very easy to achieve • Core topics certificate • e-ICM Module 3 – Perioperative Medicine – Post Transplant
2	3	4	6.5 Manages the care of the patient for surgery for trauma under supervision	<ul style="list-style-type: none"> • ATLS • Spend time in MTC • Core topics certificate
1	4	4	8.4 Performs brain-stem death testing	<ul style="list-style-type: none"> • NHSBT donation training course, which is FREE! • http://www.deceaseddonationsim.com/courses/national/ICMTrainees/ • Arrange to spend time on neuro critical care • Core topics certificate • e-ICM Module 2 – End of Life Care – organ donation
1	3	4	8.5 Manages the physiological support of the organ donor	
1	3	4	8.6 Manages donation following cardiac death	