

SAM Acute Medicine Trainees Skills Survey 2009

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Abstract

Specialist trainees in Acute Medicine have expressed concerns over skills training in the curriculum, compared with skills training in practice. Thus, an online survey was conducted in 2009 to investigate these comments in detail. The responses from 132 trainees were analysed. The results show that the majority of practical skills are being performed by trainees who feel that they have reached a level of competence sufficient to enable them to teach the skill to others. The major causes for concern were highlighted as temporary cardiac pacing, endotracheal intubation and Sengstaken Blakemore tubes. We recommend that these skills should be taught via simulation where not available in practice, but true competence cannot be expected for the majority.

Keywords

Skills, curriculum, temporary cardiac pacing, endotracheal intubation, Sengstaken Blakemore tube.

Introduction

Since the Acute Medicine curriculum was written and accepted by PMETB in 2003, the issue of which level 3 skills an acute physician trainee should acquire has come up time and again at trainees meetings.

Concerns have been voiced that some of the skills classed as essential in the curriculum are not suited to Acute Medicine trainees and that there are also some omissions. In addition to essential skills, the curriculum has been accused of being unclear as to which additional skills are acceptable and to which set standards these skills should be obtained.

The Acute Medicine curriculum is due to be reviewed in the near future. We see this time before that review as an opportunity to collate opinions and gather information from our trainees on what they feel should be revised.

Methods

The data has been collected through a survey designed by the Society for Acute Medicine (SAM) trainee representatives. An internet-based tool called SurveyMonkey was used to construct and distribute the questionnaire by email to all trainees registered with SAM as either members or previous attendees

at meetings. Data was collected from 12th August 2009 to 12th September 2009.

The results have been collated and written into this report. This report has been presented to trainees at the SAM meeting in September 2009 and to members of the GIM/Acute Medicine Specialist Advisory Committee in October 2009.

Results

139 trainees completed the online survey. Of these trainees, 77 were Specialty Trainees Year 3 and above, 53 were Specialist Registrars, 2 were LAT/LAS trainees, and 7 others did not fall into any of these categories. These last 7 responses were excluded from the results that follow.

The first question in the survey asked trainees to rate their competency level for the practical skills listed in the Acute Medicine curriculum¹. The curriculum states:

“The trainee is expected to be competent in performing the following procedures by the end of core training (CMT or ACCS(M)). The trainee must outline the indications for these interventions. For invasive procedures, the trainee must recognise the indications for the procedure, the importance of valid consent, aseptic technique, safe use of local anaesthetics and minimizing patient discomfort. During Specialist Training (Levels 2 and 3) the trainee should be competent at the instruction, appraisal and assessment of junior doctors in the performance of these procedures.”

Page 98, The Physician of Tomorrow, Curriculum for General Internal Medicine (Acute Medicine), Federation of the Royal College of Physicians

Respondents were given four answers to choose from for each skill listed – “I have not performed this skill”, “I have performed this skill”, “I can perform this skill unsupervised”, and “I could teach this skill”.

Figure 1 shows the results to this first question which asked trainees to assess their own ability to perform the skills detailed in the curriculum.

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	I have not performed this skill	I have performed this skill	I can perform this skill unsupervised	I could teach this skill
Venepuncture	0	0	0	100
Cannula insertion	0	0	0	100
ABG	0	0	0	100
Lumbar Puncture	0	1	3	96
Pleural Tap and Aspiration	0	0	1	99
Intercostal drain (Seldinger)	1	2	5	92
Ascitic Tap	0	1	6	93
Abdominal Paracentesis	1	5	3	91
Central Venous Cannula	0	1	16	83
Initial Airway Protection	2	2	16	80
Advanced CPR	0	1	15	84
DC Cardioversion	1	6	14	79
Urethral Catheterisation	0	0	3	97
NG Tube Placement	2	5	12	81
ECG	1	4	4	91
Knee Aspiration	12	12	25	51
Temporary Pacing (Wire or external)	19	34	28	19
Skin Biopsy	79	15	5	1

Figure 1. Trainees' ability to perform skills detailed in the curriculum (%).

There are only 2 essential level 3 skills listed in the curriculum – Endotracheal intubation with safe airway protection, and Sengstaken Blakemore tube insertion and management. Figure 2 shows trainee's own assessment on their ability to perform these two skills.

The curriculum does not differentiate between male and female catheterisation or between blind and ultrasound guided central venous access. We therefore asked for trainees' to assess their ability to perform each of these skills (Figure 3.)

Acute Medicine trainees are asked to learn an additional skill during their specialty training, which they can then

continue to practice during their consultant careers. This may be a practical skill or otherwise. The survey asked trainees to assess their ability at performing the practical skills listed in Figure 4.

Of course, not all trainees choose to learn a practical procedure as their additional skill. Figure 5. shows the numbers of trainees learning some of the non-procedural skills.

The survey questions up to this point have not included every skill trainees may be performing, and therefore a free text question asked "Do you practice any additional skills not detailed in the curriculum?" There

	I have not performed this skill	I have performed this skill	I can perform this skill unsupervised	I could teach this skill
Endotracheal Intubation with safe airway protection	22	40	22	16
Sengstaken Blakemore tube insertion and management	74	19	4	3

Figure 2. Trainees' ability to perform Essential Level 3 skills detailed in the curriculum (%).

	I have not performed this skill	I have performed this skill	I can perform this skill unsupervised	I could teach this skill
Male urinary catheterisation	0	0	4	96
Female urinary catheterisation	31	18	21	30
"Blind" central venous access	5	14	22	59
Ultrasound guided central venous access	5	5	16	74

Figure 3. Detailed trainees' ability to perform urinary catheterisation and central venous access (%).

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	I have not performed this skill	I have performed this skill	I can perform this skill unsupervised	I could teach this skill
Transvenous Temporary Pacing	28	36	19	17
Upper GI Endoscopy	75	17	4	4
Echocardiography	50	39	9	2
Abdominal Ultrasound	82	14	3	1
Bronchoscopy	71	23	6	0

Figure 4. Trainees' ability to perform suggested additional practical skills (%).

	I am acquiring this skill	I am not acquiring this skill
Critical Care training as defined by Intercollegiate Board for Critical Care Medicine	47	53
Diploma in Medical Education	28	72
Remote & Rural Medicine	9	91

Figure 5. Trainees' learning an additional non-procedural skill (%).

Skill	Number Of Responses
None	22
Arterial Lines	8
NIV	5
Healthcare management	3
Chest US	3
Pleural Biopsy	2
Medical Student teaching / supervision	2
ETT	1
Neurology	1
Pleurodesis	1
MSc Critical Care	1
Large bore chest drain	1
PICC line insertion	1
Ambulatory Medicine	1
ALS Instructor	1
Tilt testing	1

Figure 6. Additional skills trainees practice which are not detailed in the curriculum.

were 55 responders to this question. 22 responders stated they did not perform any skills other than those listed in the curriculum. The next 2 most frequent answers to appear were Arterial Lines and Non-Invasive Ventilation (NIV) (Figure 6).

The final question of the survey asked trainees to list which skills they felt should be essential for all level 3 competent Acute Medicine trainees. There were 64 responders to his question and not every trainee wrote down an exhaustive list. Figure 7 shows the number of times a skill was mentioned.

Several trainees stated that ET tube insertion, transvenous cardiac pacing and Sengstaken Blakemore tube insertion would ideally be essential, but that in reality they had seen very few, and actually performed even fewer. They

therefore questioned how they could be trained in these skills and how their competency could be maintained.

Recommendations

The majority of practical skills are being performed by trainees who feel that they have reached a level of competence sufficient to enable them to teach the skill to others. The exceptions are discussed below.

Three specific skills were highlighted where competency is difficult to achieve in routine clinical practice:

- The issue of **temporary transvenous cardiac pacing** has been controversial for many years. The decreasing numbers of patients requiring temporary pacing, combined with rapid access to tertiary centres for percutaneous coronary intervention has decreased exposure of trainees to this procedure². Most trainees in the survey (72%) had experience of transvenous pacing. However, only 36% described themselves as competent to perform the procedure unsupervised or as able to teach the skill. It was commented in the trainees' responses that transvenous temporary pacing wire training is difficult to obtain. Thus, competency is difficult to acquire and maintaining that competency even harder. Only 13 respondents stated that it should be an essential level 3 skill.

We would recommend that the safer alternative, **external pacing**, should be stated as a distinct, essential skill for all level 3 trainees. We accept that this recommendation ignores the wider issue of provision of temporary transvenous pacing in hospitals without 24 hour cardiology cover. We would suggest that hospitals need to devise policies to ensure that patients have access to this procedure by competent practitioners when required. If trainees could be guaranteed quality training in this skill and then given the opportunity to maintain that skill, we would recommend that transvenous pacing

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Skill	Number of Responses
Central Venous Cannulation (US guided specified = 2)	27
Temporary Cardiac Pacing (Transvenous specified = 13, External specified = 5)	25
Airway Skills (ET Tube specified =13, Basic airway management specified =4)	21
Echocardiography	16
Chest Drain (Seldinger specified = 4)	13
Lumbar Puncture	12
Basic Ultrasound (Chest and Abdominal)	12
Non-Invasive Ventilation	9
Ascitic Tap	8
Arterial Line Insertion	8
Advanced Life Support Certified (not instructor)	7
Management Skills	5
DC Cardioversion	5
Ascitic Drain	5
Teaching	4
Upper GI Endoscopy	3
Sengstaken Blakemore Insertion	3
Pleural Aspiration	3
Medical HDU and ITU Skills (not specified)	3
Long Line Insertion	3
Use of Inotropes	2
CT Image Interpretation	2
Ultrasound Doppler Legs	1
Thrombolysis	1
NG Tube Placement	1
Knee Aspiration	1
Flexible Sigmoidoscopy	1
Bronchoscopy	1
A&E skills (not specified)	1

Figure 7. Skills thought to be essential for all level 3 competent acute medicine trainees.

wire insertion stays in the curriculum as essential. Otherwise, this should be a purely optional skill.

- It was encouraging that almost all trainees have initial airway protection or advanced CPR skills. However, only 38% described themselves as competent to perform **endotracheal intubation** unsupervised or as able to teach the skill. 22% had never performed the skill. Many respondents feel that endotracheal intubation is a skill that belongs in the anaesthetist's domain. We would recommend

that all level 3 competent trainees should hold a valid ALS certificate and be competent in basic airway management. Endotracheal intubation should be an optional skill.

- 74% of trainees have never had the opportunity to insert a **Sengstaken Blakemore tube**. Furthermore, only 7% of trainees described themselves as competent to perform unsupervised or as able to teach the skill. Although this is clearly an important and potentially life-saving intervention, there appear to be too few opportunities for an Acute Physician to become truly competent at this skill. We would recommend that this become an optional skill only.

Although it would be challenging to achieve competence in the three skills discussed above, we accept that in emergency situations they can all be life saving. Therefore, we propose that all senior trainees should receive compulsory theoretical and simulation training in these three skills as part of their regional training programmes. This would not deem the trainee fully competent, but this would enable a trainee to intervene in emergency situations where a competent practitioner was not available.

It is clear that most trainees never get to perform a **skin biopsy** and very few judge themselves competent. We would therefore recommend that it is removed from the curriculum's skill list, particularly as no trainee listed an interest in Dermatology as their optional skill.

Most trainees (76%) could perform **knee aspiration** unsupervised or even teach the skill. 12% had never performed the skill. We would continue to recommend that this remains as an essential skill for an acute physician, based on the fact that it can be an essential investigation which may need to be performed urgently to alter management decisions in medical patients. It is also an achievable skill for the majority.

Trainees suggested a broad range of skills they felt should be essential for all level 3 competent acute medicine trainees. However, these skills were suggested by too few trainees to represent a majority opinion. Furthermore, previous trainee surveys have highlighted difficulties with obtaining training in complex practical skills such as echocardiography and ultrasound. It would be impossible to recommend such skills as essential.

Trainees are also undertaking a variety of other non-practical skills which could conceivably fit under the umbrella of additional level 3 skills. We would suggest that rather than attempting to provide an exhaustive list of potential skills, individual skills should be discussed with Training Programme Directors. This mechanism would ensure that skills were acceptable to RITA/ARCP panels as valid options.

References

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