Royal College of Anaesthetists

Difficult Airway Society

Tayside Mastery Learning Programme

Introduction to airway management

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WELCOME

Welcome to this airway teaching package based on the concept of Simulation Based Mastery Learning (SBML). This is designed to give you a grounding in the principles and practice of airway management, providing you with foundation knowledge and skills for you to build on and help you practice safely as an anaesthetist in the initial stages of training. Airway management can be difficult and complex. The package covers basic skills used in the standard management of patients and it is not designed to cover more complex strategies or procedures.

WHY SIMULATION BASED MASTERY LEARNING?

Reduction in clinical exposure secondary to the COVID-19 pandemic means that there is an increased need for simulation training in airway management using task trainers and manikins. There is also an ethical argument for initial learning on inanimate plastic rather than on patients, and there is a lot of evidence that it can be a very effective way of training. SBML for teaching practical procedures has a strong evidence base[1,2] regarding its effectiveness in training, but has also been shown to reduce complications.[3] Our model for SBML is two-staged, involving learner engagement with:

1. **Pre-course material**
    - a **reading pack** with relevant information, procedural steps and checklists.
    - a **video** of each procedure being performed.
2. **Clinical skills session** with focus on practise and feedback. During this session you will be expected to perform the procedure uninterrupted, while observed by the trainer who will assess you according to an agreed checklist, and then give you specific feedback on your performance. You will then repeat the procedure until you have completed it correctly (i.e. achieved the minimum passing grade).

Ideally there will be opportunity to practise outside the supervised training sessions, in pairs or small groups (although it will be important to maintain social distancing). You are strongly encouraged to do this.

It is important to recognise that once you have performed the procedure to a satisfactory level on the manikin, you will not be deemed to be 'competent' to perform the procedure on patients, or that you have 'mastered' it. The clinical skills session is one stage on a continuum of learning that should be followed by supervised practice in the clinical setting, ideally using the same checklist, and in DOPS form. Every patient is different, and although some are straightforward to manage, you will find that others are extremely difficult.

TRAINING PACK SECTIONS

Airway training is complex, and needs to be further divided. There are 6 sections to this training pack:

1. Anatomy. (This has been taken from the UCL Airway Matters Massive Open Online Course (MOOC), which is an excellent resource and we would strongly recommend that you complete this as part of your training. It goes into much more detail about the theory and ethos of safe airway management.)

2. Pre-oxygenation, basic airway management and bag/mask ventilation.
3. Airway assessment and Intubation.
4. Supra-glottic airway use.
5. Extubation.
6. Difficult airway management and emergency front of neck airway.

It is essential that you read the relevant sections and watch the videos before attending the clinical skills sessions.

REFERENCES

1. McGaghie WC, Issenberg SB, Barsuk JH, Wayne DB. A critical review of simulation-based mastery learning with translational outcomes. *Med Educ* 2014;**48**:375–85.
2. McGaghie WC, Issenberg SB, Petrusa ER, Scalese RJ. A critical review of simulation-based medical education research: 2003–2009. *Med Educ* 2010;**44**:50–63.
3. Barsuk JH, McGaghie WC, Cohen ER, *et al*. Simulation-based mastery learning reduces complications during central venous catheter insertion in a medical intensive care unit. *Crit Care Med* 2009;**37**:2697–701.