# FOAMed* – the future of postgraduate medical education?

(* - 'Free, Open Access, Medical education')

**The FOAM Film Festival Organising Committee**

'If you want to know how we practised medicine five years ago, read a textbook. If you want to know how we practised medicine two years ago, read a journal. If you want to know how we practise medicine now, go to a conference. If you want to know how we will practise medicine in the future, listen in the hallways and use FOAM'.[1]

## The problem

We are living in a time of austerity. The medical needs of our aging population are growing faster than the healthcare budget. With the rapid pace of change in medical science and the high demand for delivery of up-to-date evidence-based medicine, the importance of continuing professional development (CPD) and medical education is greater than ever.

Conversely, education and the training of healthcare professionals are not always protected from the drive to improve efficiency. Time in the working week that was previously set aside for CPD is being lost to delivering direct clinical care, making quality training time increasingly precious. In short, we need to start learning more, faster.

Traditionally, medical education came from textbooks, journals and lectures. However, there is increasing evidence that these methods may not be the only effective way of learning. In 2008, two Colorado schoolteachers, Jonathan Bergmann and Aaron Sams, stumbled upon a novel idea. Faced with a problem of finding time to re-teach lessons to absent students. They began to record, annotate and post their lessons online, so those absent students could catch up. To their surprise they also noticed that their other students began using these videos to reinforce what they had learnt in class.

Taking this further, they encouraged all their students to initially study online material at home, learning important facts and technical details. Then, classroom time was used to check understanding, work through problems, and encourage deeper thinking.[2] Trials have demonstrated that this technique compares very favourably with more traditional teaching methods.[3]

The 'flipped classroom' method is easily applied to learning in theatre. The learning goals are identified in advance; the trainee does some initial learning at home, acquiring essential background knowledge. During the training session itself, the trainee is able to engage in a discussion of this topic with the trainer, clarifying uncertainties and evaluating evidence to acquire a deeper understanding of the topic. This discussion, critical evaluation of evidence, and encouragement of deeper thinking is at the heart of a new movement in medical education, and that is FOAM.

## What is FOAM?

'FOAM is a collection of online resources or media, produced by individuals or by groups, that may take a variety of forms including podcasts, blogs, tweets, Google hang-outs, online videos, text documents, photographs, drawings, info-graphics – just about anything.'[4] FOAM is not scientific research – it is simply a way of collating, disseminating and discussing the growing wealth of online medical resources that are free, open and easy to access. Recently published journal articles or guidelines are some of the most obvious sources for discussion, but it is by no means limited to this.

The unifying characteristic of FOAM resources is that they are freely accessible to all, willingly shared and modified for use in different settings. Sharing of ideas and collaboration between individuals and groups is encouraged. This distributive model of education encourages peer-to-peer learning, at a time and place to suit the learner. These novel education methods have the potential to transform postgraduate medical education and revolutionise how CPD and lifelong learning is achieved.

One of the most important features of FOAM, that sets it apart, is its ability to distil a topic into something manageable and understandable. A focused literature search of any topic in the anaesthetic curriculum will produce thousands, if not hundreds of thousands, of results. It is easy to get overwhelmed and lost with all of this information, and it can be almost impossible to pick out the important and significant articles from the rest.

With FOAM, much of this work is already done – an up-to-date, well-written blog by an expert is likely to cite landmark research papers, discuss controversies, and highlight further research questions. This is not to discourage us from reading the original research papers ourselves, but to add value and encourage thought when we do read the paper. Comments left by others can be equally educational, perhaps offering a different perspective, a new argument, or interesting criticism of the article.

## Blazing a trail

Emergency medicine and critical care are leading the way with FOAM. Indeed, the Royal College of Emergency Medicine (RCEM) has its own FOAM network, created in addition to the RCEM's more conventional online learning environment. This website is 'not trying to replace traditional education but instead be a chatty and informal commentary to engage everyone in the fascinating and engaging nature of medicine.'[5]

Other FOAM resources include www.thebottomline.org.uk;[6] (probably the best online educational resource for searching clinical imaging), Critical Care Horizons[7] and The Bottom Line[8] (which lead the way in succinct critical care opinion pieces, commentaries and review articles), and Cambridge Critical Care[8] (which encourages users to use the 'flipped classroom' approach to learning).

The online FOAM collection is already vast and ever-growing, with new resources being added every day. Lifeinthefastlane.com,[4] for example, which includes a collection of blogs, podcasts, ECG library and other resources, gets more than 30,000 hits daily. Social Media and Critical Care held its first conference in Sydney in 2013 and, despite no formal backing from any society, university or college, attracted 700 delegates. The 2016 conference in Dublin sold out with a cap of 2000 delegates![9] FOAM is now impossible to ignore.

## The issues with FOAM

There are issues with FOAM we have to think about. The direction we are heading is towards a model where all medical education in some form will be delivered by various media platforms that demand unrestricted sharing, and where peer review happens when journal papers are published online, rather than anonymously before publication. This raises potentially significant governance and quality assurance problems. How do you know on what platforms and what information your trainees are learning? How can you be sure whether or not someone is actually an expert? Can you be sure whether there are conflicts of interests, or whether resources have been funded directly or indirectly by the pharmaceutical or medical devices industries? Finally, where does this leave our previous regulatory organisations within postgraduate medical education, when you potentially find and generate training material yourself and from your peers?

## Our experience

Enthused by the possibilities of FOAM and aware of its pitfalls, a group of anaesthetics trainees in East Anglia have got together to create a novel learning resource - inspirational, educational and peer-reviewed films, archived and freely available.[10] We have all worked with inspirational colleagues who are fantastic teachers. These people may have a gift for developing an instant rapport with their patients, a passionate encyclopaedic knowledge of their subject, or particular expertise in a practical skill. Whatever these magical qualities are, learning from these individuals leaves us with a feeling of energy and enthusiasm and a desire to find out more, and we felt that these brilliant teaching moments were too good not to be shared.

Last year, we invited colleagues and peers in our region to make short, five to eight minute, educational videos. Through an advertising campaign, marketing video, social media presence and a website, a number of colleagues produced videos for the inaugural competition, with a prize for the winning film presented at our annual regional meeting. Topics included, among others, rectus sheath blocks, management of bronchospasm under general anaesthesia, and ROTEM interpretation.

It's not difficult to produce a film. You are never far away from a phone with video capability, and no additional high-tech lighting or sound systems are needed (though clearly participant consent, and avoiding breaches of patient confidentiality are essential). We are running the film competition again this year, and we invite you to submit your own films In doing so, you will be participating in the wonderful world of FOAM, and could even win a prize!

## The future

FOAM is changing the face of how we think about medical education, training and CPD. FOAM re-defines what medical education is, how we access it, how we disseminate it, and has come at a time when there is a clear need to find ways of making better use of the time we have for learning. We have little option but to embrace the brave new world of FOAM, maximising the opportunities that it offers, and finding solutions to the problems, changing medical education forever, for the better!

## References


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