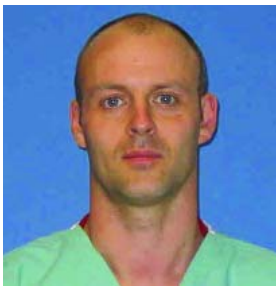
Simulation – where are we now?



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"Tell me I will forget, show me I may remember and involve me and I will learn"

The above quote is attributed to Confucius; however for generations we have appreciated that situated learning is a highly effective learning strategy. Many of us are most familiar with the situated learning provided by the role-play component of the Neonatal Life Support and Advanced Paediatric Life Support courses. However as technology has developed it is now evident that the current medium to high fidelity infant simulators are a potentially extremely rich source of learning for all members of a multi-disciplinary team. Recent articles in this journal have discussed the clear benefits and advantages of simulation in paediatric and neonatal training[1,2].

The discussion as to whether to grasp and run with simulation as an educational tool has continued for decades now. Proponents of simulation will point to the aviation, oil rig or nuclear industry and quote Professor Gaba: "*No industry in which human lives depend on skilled performance has waited for unequivocal proof of the benefits of simulation before embracing it*"[3]. Opponents have questioned the evidence of actual clinical benefit for the significantly demanding financial and time input required to run simulation teaching sessions. A counter to this argument is that although it is difficult to demonstrate actual benefit for many individual aspects of medical training, there is now an accumulation of evidence that simulation is indeed effective and of benefit in many areas of paediatric training[1].

The debate continues to cycle, however the ground is shifting. Although expensive, the cost of infant simulators is rightly not so prohibitive as to prevent their purchase by large numbers of trusts and deaneries. There are of course a number of drivers to the development of risk-reduction strategies that focus on particular clinical skills and perhaps more importantly the non-clinical skills of team working, situation awareness, decision making and stress management. These drivers include our own desire to provide a first class service for the infants who are entrusted into our care, the decreased clinical exposure due to recent changes in working patterns, the Tanner report and others including future assessment and revalidation.

It would strike me that there are definite educational opportunities presenting themselves to us at this moment. One is how to best utilise the educational potential that simulation can provide. A second and equally challenging opportunity could be for us appraise the educational techniques intuitive to simulation and consider applying them to other aspects of competency-based training.

The first challenge is to continue to develop the simulation infrastructure that already exists, in terms of the capacity and capability of educators to meet identifiable educational needs. A high emphasis is placed on quality assurance to encourage the adoption of appropriate standards in terms of teaching skills of faculty members and educational impact of courses. On a regional level such strategies aim to dovetail with the vision of each strategic health authority in terms of workforce commissioning and educational learning, to ensure maximal benefit for all members of the multi-disciplinary team.

Different regions of the UK appear to be achieving these goals at different rates. On a national level, we are well positioned with the National Association of Medical Simulators (http://www.namsonline.com/). National simulation courses continue to develop and grow in different disciplines, an example of an evidence-based national collaboration is The Managing Emergencies in Paediatric Anaesthesia course[4] (http://www.mepa.org.uk/).

When reviewing the educational theory associated with simulation, it is evident that other industries have benefited enormously. The evolution from a facilitator-directed didactic teaching methodology, to a self-directed learner motivated by self awareness and self evaluation design as occurred with simulation in the aviation industry, demonstrated marked risk reduction[5]. One can envisage infant simulation courses composed of goal-based learning scenarios, with role-play, debriefing and strategy formation, designed to develop analysis, synthesis and evaluation, in addition to basic comprehension and memory. It is easy to focus upon the technology, the highly authentic immediate physiological feedback of the simulated infant, to an intervention occurring or not.

However a key element of this experiential learning process, which facilitates the transfer of insights from exposure and experience into subtle behavioural change, is the debrief[6]. The ability to utilise a reflective cycle as described by Gibbs[7] or others, to tease out underlying thought processes and develop strategies for future events, is but one of the elements of simulation that may enhance our teaching of the management of infants in general.

References

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