



Patient simulation in emergency medicine

The use of high fidelity simulations to train multidisciplinary teams in critical environments is well established. The airline and nuclear industries are the two most widely recognised examples. Indeed the thought of travelling on a plane where the pilot hasn't been first trained and then regularly retested on an aircraft simulator seems ridiculous. Yet junior medical and nursing staff are looking after critically unwell patients without any consideration that they should be trained on a patient simulators first. It has been said "[There is an] ethical obligation to make all efforts to expose health professionals to clinical challenges that can be reasonably well simulated prior to allowing them to encounter and be responsible for similar real-life challenges."¹

STOP WORRYING, THIS IS HOW WE HAVE ALWAYS DONE THINGS

Well, medical education is stuck in a rather awkward place right now. We have reduced training time but not come up with solutions to replacing the traditional technique of learning by osmosis. Simulation is a way of redressing this issue. Trainees can be exposed to predefined list of conditions, a specified number of times, all within normal office hours. Perhaps not as effective as seeing a real-life case but far more reliable than relying on the chance attendance of a patient.

EVEN SO, PEOPLE ARE STILL GETTING TREATED AND GETTING BETTER?

True, but there is a significant minority for whom this is not the case. The medical professions are slowly coming to terms with the fact that medical error is widespread and that the vast majority of it is Human in origin.² The focus now lies on our inability to recognise the critically unwell and then act to prevent further deterioration.^{3,4} The recent NICE and NPSA documents highlight this issue and make it harder to avoid.

HOW IS PATIENT SIMULATION GOING TO HELP?

When patient simulation is shown to health professionals it is almost universally accepted. There is something innately sensible about training in this way. Discuss simulation with lay people and they are shocked that this isn't part and parcel of training for all staff within the NHS.

This is because learning by doing is part of very sound educational theory. It is the way most of us have learnt all the skills we use everyday. Otherwise known as experience, unfortunately some has been gained by making mistakes on real patients. In simulation these same errors harm nobody but allow the same lessons to be learnt. Not only this, but simulation allows instant reflective practice as scenarios are replayed electronically.

Simulation allows us to focus on the major source of medical error, the non-technical or human factors that effect performance of the individual and the team.

SO WHAT CAN YOU EXPECT IN A SIMULATOR CENTRE?

In its most basic form you will find a room with a manikin within it. At first these manikins looked like steroid-filled bodybuilders tied down by an enormous collection of wires and speakers. Now they are wireless and look more like your average 70 kg male, albeit with interchangeable genitals. In an attempt to increase realism some manikins can sweat and cry. Cyanosis is simulated with blue-coloured LEDs but no one has made the move to replicating smell. They have all the features of an advanced airway simulator producing tongue oedema and laryngospasm. As well as this they breathe, talk and even bleed. The baby version can even develop a swollen fontanelle. The next generation will be increasingly realistic with reactive pupils and sweating skin that can change colour and even texture.

The manikin itself is placed in an area designed to simulate various environments—theatres, ITU, resus room and home setting can all be recreated. This increases the sensation that what is happening is real, strengthening the experiential nature of the teaching episode. While the training scenario is taking place it is relayed to other trainees and is recorded so that it can reviewed during debrief.

DOES IT WORK TO INCREASE PATIENT SAFETY?

The evidence for this consists of large numbers of studies all suggesting increased awareness and ability to respond to the critically unwell. Simulation training in aviation has shown a definite increase in aircraft safety.

WHAT'S THIS GOT TO DO WITH EMERGENCY MEDICINE?

The College has recently recognised the position of simulation in delivering the curriculum and are in the process of setting up a simulation committee. This will develop CEM simulation courses, not only for trainees but also for non-trainees and consultants. The arrival of simulation-based OSCEs for our exams is a few

years away but is sure to occur. Our regulatory bodies have already used simulation in their approach to the failing doctor and its use for revalidation is likely within 10 years.

CONCLUSION

Perhaps the last word should go to David Gaba⁵ who pioneered the use of simulation in medicine when he said in 1992: "No industry in which human lives depend on the skilled performance of responsible operators has waited for unequivocal proof of the benefit of simulation before embracing it." Today the evidence is mounting. We are still waiting, but it's on its way.

For further information or to get involved in patient simulation development

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A resuscitation too far

We have recently noticed a trend which may be widespread throughout the country. Increasingly our resuscitation room beds are taken up by very elderly patients who are undeniably sick but for whom the prospect of meaningful resuscitation seems remote.

Mrs X is over 90 and has lived in a local nursing home for years. She has become increasingly frail and confused, and is now bedridden, doubly incontinent and unable to feed herself. She no longer recognises her family who now hardly ever visit (a bad prognostic sign).

One day Mrs X takes a turn for the worse. She is pyrexial, with gurgling respiration and a rapid thready pulse. Her GCS is reduced by several points. Clearly all is not well and the nursing home swings into decisive action. Relatives are informed, an ambulance is called and the unfortunate patient is blue lighted into the nearest emergency department to be met at the door by the assembled team.

The clinical details from the home are scanty, the information sheet gives little useful information and the accompanying carer is not fully conversant with Mrs X's history. An F2 is delegated to get on the phone to the home, but by the time reliable information has been obtained the patient has progressed well down the Surviving Sepsis pathway. The Resus room is becoming crowded with intensivists and physicians, most of whom drift away as soon as the full history is read out.

The chances of such a patient leaving hospital are very small even with the best care, and few of us would want such an undignified performance for a member of our own family.

It was not always like this. A few years ago a GP would have been called urgently to the home and he or she would have made a decision based on a knowledge of the patient and the family combined with a realistic view of the likely medical outcome. The patient would have benefited from years of accumulated wisdom

and common sense. Things have changed due to the combined forces of fear of litigation, the GP contract and the long shadow of Dr Harold Shipman.

Many patients are being denied a peaceful death in their own beds and their last hours are clouded with pain, confusion and indignity. Decisions not to resuscitate are being made by emergency medicine doctors and physicians who have never seen the patient before, rather than by the family doctor.

Perhaps we should set up an outreach service—a sort of Elderly Flying Squad—who would visit the sick elderly in nursing homes and decide if it would be appropriate to transfer the patient to an acute hospital in the event of sudden decline? This should be possible. For years hospices have been running well-organised outreach services, and these are very effective at enabling patients with terminal malignancy and motor neurone disease to die in peace and dignity at home.

Such a service, as well as being humane, could also be self-funding. The cost of a blue light ambulance and an hour in the resuscitation room must be substantial.

Breaching patient confidentiality: terrorism

A 20-year-old Somali male presents to your Emergency Department (ED) with burns to his upper limbs. He claims that he sustained the injuries as a result of a firework accident whilst on holiday last week and was treated in a local hospital. Your examination reveals extensive infected burns to both hands and arms. He explains that he regrettably lost his hospital records during his journey home and cannot remember which hospital treated him. You are suspicious of his story and suspect that his injuries might be related to terrorist activity.

Acts of terrorism are increasing in the UK. Doctors are now more likely to treat patients who have been a victim or perpetrator of terrorist activity. Since the events of the London bombings in 2005, we have become aware that UK citizens are being recruited and trained in terrorist training camps overseas only to return and attack UK targets. It is therefore possible that these people may present to the ED with injuries sustained as a result of their illegal activities.

Senior members of the Metropolitan Police Anti-Terrorist Division recently visited our ED. The purpose of their visit was to highlight the current terrorist threat to our country and to enlist our help. The discussion centred around whether we were able to inform them of patients who presented to our department with injuries that might have been caused as a result of terrorist activity conducted in the UK or abroad.

It is often difficult to decide whether your patient is linked to terrorist activity and is therefore a risk to the public. Patients present to the ED with all types of injuries and with varied explanations. Patients with something to hide will rarely tell you the truth about how they really sustained their injuries.

Patients presenting with new or old blast injuries, significant thermal or chemical

burns to their hands, trunk or face, and implausible explanations for these injuries might alert you to the fact that your patient may be involved in terrorist activity.

If faced with this situation what should you do? Who should you inform? What if you get it wrong and your patient sustained their injuries through innocent misadventure?

The Anti-Terrorism, Crime and Security Act 2001, which came into law in December 2001 to augment the Terrorism Act 2000, states that doctors have a duty to inform the police when they have information which the doctor believes might be of material assistance in preventing an act of terrorism. A person would commit an offence if he or she did not disclose information as soon as reasonably practicable which they knew or believed might be of material assistance in preventing the commission of an act of terrorism, or in securing the apprehension, prosecution or conviction of a person in the UK of an offence involving the commission, preparation or instigation of an act of terrorism. A person commits an offence if he does not disclose the information as soon as reasonably practicable. Potentially, any person guilty of an offence under this section of the Act could face a maximum of five years in prison, a fine or both.

The Medical Defence Union (MDU) states that "in terms of a patient seen in the ED who had an injury, as the individual would be seen in an ED in the UK, it would appear immaterial as to whether the injury had been sustained in the UK or overseas."

As doctors, we fear the consequences of disclosing our patient's details to the authorities when they may be innocent.

Referring to the GMC guidance on Confidentiality with regard to *Disclosures*

in the Public Interest, paragraph 22 says: "Personal information may be disclosed in the public interest, without the patient's consent, and in exceptional cases where the patients have withheld consent, where the benefits to an individual or to society of the disclosure outweigh the public and the patient's interest in keeping the information confidential. In all cases where you consider disclosing information without consent from a patient, you must weigh the possible harm (both to the patient, and the overall trust between doctors and patients) against the benefits which are likely to arise from the release of information."

The MDU advice is that "disclosure without patient consent may result in a doctor being subject to a complaint, litigation (and as a hospital employee, this would be directed at the NHS Trust), and of course complaint to the GMC. Any disclosure of information therefore has to be carefully considered and the doctor needs to be satisfied that there is justification for disclosure. If a doctor was to undertake disclosure of information without consent in accordance with the GMC ethical guidance or in terms of the Acts, then it is unlikely that there would be any sustainable complaint or claim against the doctor. The doctor would be able to show that they had been acting in accordance with their ethical guidance and indeed as required by the law."

As doctors, we have a duty of care to our patients, but as members of our society we also have a responsibility to help ensure public security. Doctors have an ethical and legal duty to respect patient confidentiality. However at times we must breach patient confidentiality in "the public interest". Deciding when to breach a patient's trust is not easy and if doubt remains always ensure that you have involved the Consultant on duty, the Medical Director or the trust's Caldicott Guardian.

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MedicAlert

“In an emergency situation, when the identification of a patient’s underlying medical conditions can be vital to their survival, MedicAlert is there, 24/7, working with the NHS to make this information available to improve patient care and save lives.”

The MedicAlert Foundation is starting an education campaign to raise the profile of the charity and its 280 000 UK Members among emergency medical professionals. Our ultimate aim is to ensure that all ambulance and A&E clinicians are aware of MedicAlert’s identification system, can recognise its range of emblems and can act upon the potentially life-saving information they provide.

There is an educational poster and a PowerPoint slide for teaching purposes.

The poster is also available pre-printed in glossy A2 format on high quality card and can be supplied together with a pack of educational materials.

Along with the poster the key points we want to communicate are:

- ▶ MedicAlert Members wear a tailor-made bracelet, necklet, sports band or watch (known as an emblem) engraved on the back with their personal identification number, main medical condition(s) and an emergency telephone number.
- ▶ Members carry wallet cards printed with further medical details.
- ▶ Additional medical and personal information is held on record and can be accessed by calling the 24-hour emergency line, hosted by the London Ambulance Service NHS Trust.

- ▶ Our own dedicated medical team decide what details go on each emblem and wallet card to ensure that the information available to you is relevant in an emergency.
- ▶ MedicAlert emergency lines will accept reverse charge calls from anywhere in the world 24 hours a day, 365 days a year.

I would stress that the MedicAlert Foundation is a not-for-profit charitable organisation and not a commercial enterprise. A membership fee, to cover costs, is charged only to those who can afford to pay.

At MedicAlert we believe that in a time critical situation additional knowledge about the patient gives additional power to the professional treating them. MedicAlert exists to act as a tool for use by clinicians, not to be an obstacle to their fulfilling their role.

If all departments could display the poster in an accessible place this will assist your staff in identifying potentially life-saving information in an emergency. If you were also able to incorporate the slide into your junior doctor teaching sessions then that would also help to raise awareness significantly.

If you wish to order copies of the poster, the power point slide, our larger A2 poster, additional educational materials or sample emblems (all free of charge) or if you would like further help in raising the awareness of MedicAlert among your staff please don’t hesitate to contact Jo Cartwright, the Education and Policy Manager at MedicAlert at jcartwright@medicalert.org.uk or 0207 923 6474. Thank you for taking the time to give this your consideration.

Ian Todd

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Helping You Save Lives! MedicAlert[®]

A Registered Charity

The MedicAlert Foundation provides emergency medical identification for people with hidden medical conditions and allergies, communicating essential information to Medics 24 hours a day, 365 days a year.

Protect and save lives	Minimise risk	Ensure patient safety
<p>1 - Check the patient’s wrist and neck for MedicAlert identification worn as a bracelet, necklet or watch</p>	<p>2 - Read the back of the disk for vital medical information to help speed diagnosis and treatment.</p> 	<p>3 - Call MedicAlert’s 24 hour emergency number 0207 407 2818 for more detailed information, including medications, consultant contact details, implant information and next of kin.</p>

What to look for: The easily recognisable MedicAlert Emblem is carried on over 70 different styles of medical identification jewellery.



To order additional educational resources, including an easy-reference wallet card and sample emblems, call 0800 581 420, email education@medicalert.org.uk or visit www.medicalert.org.uk



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