A Peer Reviewed International Journal for the Advancement of Clinical Skills
- ‘docendo ac discendo’ – ‘by teaching and learning’

C.O.M.E.T. – A novel educational method in clinical skills
From simulation to reality
Shibboleths of incompetence
Development of a clinical skills bus: making simulation mobile
“See one, do one, teach one!” – the uphill struggle for clinical skills acquisition
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The International Journal of Clinical Skills looks forward to contributing positively towards the training of all members of the healthcare profession.
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The clinical skills arena is an ever expanding field with an increasing wealth of knowledge; however there is no central resource for the sharing of evidence based research and information. The International Journal of Clinical Skills (IJOCs) is a peer reviewed International Journal, which will promote the sharing of information and evidence based research, as well as bringing together the clinical skills community.

The Journal aims to develop and maintain standards in research and practice, lay a platform for discussion and debate, and provide opportunity to present evidence based medicine and critical appraisal of research. Provision of this much needed resource for both students, teachers and healthcare professionals, will ultimately enhance patient care.

The IJOCs will be a regular publication, three times a year in the first instance, both online and in print. The implementation of the IJOCs website will provide a continual resource for daily use. Also, in conjunction with the ‘Clinical Skills Lab’, the IJOCs will allow access to an online database on over 200 clinical skills – launching in 2008.

A diverse range of reviewers support the Editorial Board, all of whom are leaders in their respective fields and the IJOCs prides itself on the quality of content. Contribution of original ideas, research, audit, policy, reviews, case reports and ‘Letters to the Editor’ are welcome from all those involved in this multidisciplinary field. Submissions are not limited to these specific publication types and your novel suggestions will be considered.

I wish to thank all those involved in the development of this unique venture – a Journal whose remit is highly significant to today's needs.

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International Journal of Clinical Skills
– An exciting forum for clinical skills

There has been an explosion in the volume of medical information related to clinical skills, which are essential in our efforts to maintain optimal patient care. The International Journal of Clinical Skills (IJOCS) aims to disseminate this knowledge in an easily accessible form. This will not only enhance our attempts to provide a quality health service, possibly with some standardisation, but also provide a vehicle for teaching and learning, hence the Journal’s motto – ‘docendo ac discendo’ (by teaching and by learning).

The IJOCS will not only serve as an avenue for publication of research papers, but will also act as a means of communication between clinical skills professionals at an international level. Consequently, those involved in the clinical skills field, can keep those in other countries informed of their activities, as well as offering best practice guidance.

Alongside this valuable publication, a continually evolving online database (‘Clinical Skills Lab’) will become available for students and teachers to access – this will hold extensive information on over 200 clinical skills. The Clinical Skills Lab will be regularly updated by all those involved in this field and provide a platform for discussion and debate.

The IJOCS also aims to present comment on items of specialist interest. For example, the current issue contains a paper by Professor Harold Ellis CBE, on ‘Medico-legal consequences in surgery due to inadequate training in anatomy’, and explores the potential niche for anatomical clinical skills training within the newly developed medical Foundation Years (F1 & F2). It is hoped readers will make use of the Journal to comment on matters such as this – and on others relating to the subject of clinical skills – by means of ‘Letters to the Editor’, research based evidence and shared practice.

In order for IJOCS to become an exciting forum for clinical skills, the Journal welcomes submission of innovative research, papers, reviews and case reports. Of course, submissions are not only limited to these specific publication types and your innovative ideas would be greatly welcome by the Editor.

I am confident that IJOCS will be appreciated by a variety of health care professionals, at an international level. It promises to be representative of an ever expanding field, and with the support of all those able to contribute, it will, without doubt become increasingly influential.

I wish those responsible for the production of the International Journal of Clinical Skills, the success which their initiative deserves.

Professor The Lord McColl of Dulwich CBE
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Developing the continuum of clinical skills teaching and learning; from simulation to reality

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KEYWORDS:  
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Abstract

Background: Clinical Skills Centres have been adopted throughout the world to teach a range of practical skills on manikins. However this model can have limited fidelity to real practice and encourage students to memorise the steps of the process rather than thinking about the patient as a whole. The emerging emphasis on patient safety and patient centred care reinforces the need for a holistic approach to teaching and learning clinical skills in simulation so that it can be demonstrated in real practice.  

Objectives: There are a number of educational innovations that are moving toward preparing learners better for the transition from learning clinical skills in simulation to delivering them in practice. Three are considered here: interprofessional learning, scenario based teaching and supervised practice from the skills centre to the ward.  

Discussion: High fidelity simulation and scenario based teaching models have refocused the educational process on integration and holism. The educational model combines effective communication skills with the ability to perform the task. Teaching clinical skills interprofessionally helps to develop teamwork and reflects the reality of modern healthcare delivery. Providing students with continued support and feedback during the transition from simulation to real practice helps to ground the new knowledge in experience, gives them confidence in their ability and enhances patient safety. All of these elements bring the educational world of simulation much closer to how healthcare practitioners work in real life.

Background

The first Clinical Skills Centre was developed at the University of Limberg (now the University of Maastricht) in the mid 1970’s to compliment their new Problem Based learning (PBL) course1. The teaching and learning approach spread throughout the UK in the 1990s2,3,4 and is now part of healthcare education in many institutions worldwide5,6,7 and desired by many more8.

The approach has provided opportunities for healthcare students to learn practical, procedural skills on manikins with the aim to develop their understanding of the task and acquire psychomotor skills in preparation to undertake the procedure in real practice. As described by Gaba, simulation is a technique “to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner”9.

A key aspect of this approach has been to fragment skills into their component parts so that the student can understand each of the steps. Often the resulting memorisation of the process can be seen when observing students practising or at assessments like the OSCE. This teaching and learning style has been indirectly driven by the use of part trainer manikins, which are developed for one skill and often are made up of anatomically small area e.g. testicles, breasts. In this educational environment students learn one skill on one manikin.

While many teachers have tried to incorporate appropriate interpersonal and communication skills into the way they teach clinical procedures, it can be difficult when the novice student is faced with a manikin which represents only a very small part of a person. Fidelity to real life is limited and can pose a challenge to some students who find it difficult to role-play or conceptualise how real patients may present. Students who have no previous clinical exposure to certain anatomical areas e.g. pelvises for gynaecological examination, cannot be expected to understand the normal variance they may encounter in real practice.

Similarly because of the very nature of the manikins, students can find it difficult to transfer the skills acquired in the Skills Centre to the clinical environment. Many of the arms for venepuncture and cannulation for example have full and easily accessible veins, which may not represent the real patient population. While students can learn how to gain venous access in the equivalent of a young fit, slim man, they may still struggle when trying to perform the procedure on an elderly, dehydrated woman.

One of the more recent forces directing clinical skills teaching and learning is that of patient safety. Patient safety is high on professional and political agendas in the UK10,11, Australia12, Canada13 and the United States14. The international recognition of the fundamental importance of patient safety is also expressed by the World Health Organization15. Part of ensuring patient safety is the necessity for practitioners to have excellent communication skills and competence in communicating risk16,17. These interpersonal skills compliment the newly highlighted goals of patient centeredness and the inclusion of the patient’s views in all aspects of their care18,19.

The clinical skills movement is responding to these challenges. The changing emphasis from single skill acquisition to holistic practice has some implications for clinical skills teaching and learning in simulation. The aim is to better prepare learners for the reality of clinical practice and enable them to think critically, bring together knowledge gained from various sources, prioritise actions, communicate with colleagues and patients, and safely and successfully perform the action.
Objectives

There are a number of educational innovations that are moving toward preparing learners better for the transition from learning clinical skills in simulation to delivering them in practice. Three that are considered here are: interprofessional learning, scenario-based teaching and supervised practice from the Skills Centre to the ward.

Very few healthcare practitioners work in isolation and therefore to provide the best quality care we can, students must learn to work with others of their profession and colleagues from other professional groups. This is becoming increasingly important, especially in the UK where the professional boundaries are shifting and skills previously performed by doctors are now routinely done by nurses and the emerging "Healthcare Practitioners"\(^{20}\). Clinical skills teaching environments offer good opportunities for interprofessional learning\(^{21, 22}\), which has been described as occurring "when two or more professions learn from and about each other, to improve collaboration and the quality of care"\(^{23}\).

Interprofessional teaching and learning in Clinical Skills Centres can be the norm. In many Centres the teachers are nurses teaching a range of students, nurses, medical and dental students, radiographers etc. In the simulated environment it is the skill that is important, not the person who is performing it. Because groups of students from professional backgrounds are learning the same skill at the same time, there are real opportunities for them to get to know more about each other, realise the strengths of other professionals and develop confidence in colleagues.

The development of the high fidelity medical simulators has gone a long way in capturing the holistic delivery of clinical skills and assurance of patient safety. The education model in use in many of the medical simulation centres supports the learners to enable them to work in teams, solve clinical problems, prioritise actions and perform practical skills in response to a clinical scenario. Very importantly, time is protected at the end of each scenario-based session to debrief the learners about the experience and give them individual and group feedback on their performance\(^{24}\). While there is no question that high fidelity simulators are expensive to set up and run, the benefit to patient care is now becoming evident. What is important to a wider audience are the educational principles that can be transferred to less costly and less sophisticated environments.

Kneebone and colleagues have used a scenario-based approach to teaching procedural skills alongside appropriate communication skills\(^{25, 26}\). They have demonstrated the educational utility of including simulated patients in scenarios when using part-trainers to improve the fidelity to real life. It is more real and challenging to a student learning male catheterisation when there is a person behind the manikin who expresses fears and anxieties when compared to performing the skill on the model of a male pelvis in isolation. To build in opportunities for reflection and feedback, students can be recorded so that their performance can be reviewed soon after the event\(^{27}\).

Simulation centres and scenario-based teaching include one of the key principles of teaching and learning in their educational philosophies; timely, specific and effective feedback. While all good teachers should seek to give feedback to students, there are many who argue that while it is possible in a simulated situation it is too difficult in the clinical setting. The work of teachers in simulation has proved how important it is to the learning process. Those principles can be carried over to the clinical environment but the teacher has to make time for the feedback and encourage students to reflect on the learning episode to maximise the educational gain\(^{28}\).

In general, students are comfortable learning clinical skills in simulated settings. They know that their actions cannot harm patients and that failure is not seen negatively but as an indicator for additional practice. They can practice a skill until they are confident and competent and they receive feedback on their performance. It is not uncommon for the Skills Centre teaching staff to see individual students more frequently than any other member of the clinical faculty as students attend for taught and self-directed sessions throughout their training. This relationship enhances performance in simulation. But what happens when the student has to transfer the knowledge and skills they have acquired in the Skills Centre, on a manikin, and under close supervision, to a ward where the procedure has to be performed on a patient, perhaps without supervision?

In some countries, including more recently the UK, students have limited opportunities to undertake clinical procedures on patients. This makes those opportunities potentially more challenging. One way to help students overcome the anxiety they have in translating the skills learned in simulation to real practice is to ensure they have adequate and facilitatory supervision. While in many institutions this may come from senior doctors, in others because of the clinical pressures, supervision may best be provided by specialist facilitators who understand the skill, the importance of appropriate feedback and have the time to spend with the student\(^{29}\).

In the UK there is increasing use of clinical skills teachers, often nurses, who not only teach in the Skills Centre but also work with students on the wards. These teachers are cost effective for the institution, provide high quality learning experiences for students and demonstrate interprofessional working in practice. They help students with the transition from simulation to practice by maintaining the educational principles that have proved successful in the Skills Centres and simulation environments.

Discussion

There is no doubt that the clinical skills and simulation movements have improved student learning and patient safety. One of the reasons is that the learning environment is protected and procedures can be learned as "best practice". The faculty who work in the simulated arenas do so because they have a particular interest and expertise in teaching clinical skills. However, partly because of the nature of the training manikins, many practical and procedural skills have been taught in a fragmented way, concentrating on the psychomotor execution of the task.

Teaching clinical skills in simulation provides realistic opportunities for interprofessional teaching and learning which helps to develop teamwork and reflects the reality of modern healthcare delivery. This is increasingly important when the roles of all healthcare professionals are changing in response to numerous drivers.

The more recent development of the high fidelity simulation and scenario-based teaching models has refocused the educational process on integration and holism. The educational model combines effective communication skills with the ability to perform the task. The outcomes developed by the simulation sector has shown that with careful construction, scenarios can be devised to include team working, clinical decision making and prioritisation. All of these elements bring the educational world of simulation much closer to how healthcare practitioners work in real life.

So where do we go from here? With the new body of knowledge and expertise about what is effective in promoting holistic skill acquisition, we are moving to a new phase in clinical skills teaching. Clinical skills...
programmes should now be moving away from teaching just a single skill on part trainers and towards methods that promote effective communication skills with patients and holistic healthcare delivery.

Using scenarios, which may include simulated patients, is one way to break down the barriers between what happens in the Skills Centre and what happens on the wards in order to better contextualise the learning. Once students have practiced the scenarios in simulation they should continue to be observed in practice. They can then demonstrate their transition to practice, receive feedback and have time to reflect on the process to ground the new knowledge in experience, giving them confidence in their ability and enhancing patient safety.

While high fidelity simulators are expensive and out of reach of many institutions, the sound educational principles that have emerged in recent years offer a way forward in the continuum of clinical skills teaching and learning. They key features of grounding the skill in a clinical scenario; integration and feedback are essential in all clinical teaching and learning strategies.

Information on the author

Patsy Stark has worked in medical education since 1994. Along with colleagues, she set up the Clinical Skills Centres at the Leeds School of Medicine UK. After completion of her PhD she moved to Sheffield UK, where she has acquired responsibility for clinical skills teaching and learning, the Personal and Professional Development programme, Student Selected Components and curriculum development.

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The Clinical Skills Lab database will comprise information on over 200 clinical skills, broadly separated into:

- History taking skills
- Communication skills
- Clinical examination/interpretation skills
- Practical skills

Not only will this valuable resource provide material to students as a learning tool and revision aid, for example, OSCEs, it will also offer educational materials for teachers from all disciplines, allowing some standardisation of practice. The Clinical Skills community will also be encouraged to contribute, making this database interactive.

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