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
I would like to take this opportunity to show appreciation to all those involved with the production of the International Journal of Clinical Skills. This has been a time consuming task but every minute of it has been worth it!

Special thanks goes to all members of the Editorial and Executive Boards, Nathaniel Coleman, Ziarat Khan, Federico Iannaci, Humayun Uddin, Vikram Raju, Amjad Anwar, Michael Todd, Mohammed Faraaz, all members of Amersham Vale GP practice, the ‘Anderson’ family, and last but not least the ‘Ayub’ family – all of whom have been extremely patient in the production of this everlasting legacy. And not forgetting Kameron – it wouldn’t have happened without you.

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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.
International Journal of Clinical Skills

Mission Statement

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.

Dr Humayun Ayub
Editor-in-Chief
International Journal of Clinical Skills

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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.
Preparing for practice – use of simulation to identify sub-optimal levels of care with junior medical students

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KEYWORDS:
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Rectal carcinoma
Simulation

Abstract

In the foundation years of clinical practice following graduation from a UK medical school, doctors are expected to participate in multidisciplinary team meetings both for their service contribution and as part of their educational programme. There is evidence that students benefit from the early introduction to team work and the role of other health care professionals in patient care. There is also emerging evidence that the early introduction to patient safety and the prevention of adverse events is beneficial. In response to these findings a simulated multidisciplinary meeting in relation to a patient with rectal carcinoma was designed for a cohort of second year medical students. Taking on the roles within the simulated multidisciplinary teams students were required to analyse patient information and to identify sub optimal points of care in the patients journey. The results demonstrated that even with limited clinical experience it is possible for students to apply their theoretical knowledge of rectal carcinoma to the care of a patient with rectal carcinoma and to identify standards of care expected in accordance with evidence based guidelines.

Introduction

Simulation (McGaghie, 1999) is increasingly being used as a technique to rehearse areas of clinical practice in a learner centred, safe, realistic clinical environment (Ker 2006). It was traditionally used to develop technical skills (Grancharov 2004, Kneebone 2003) but there is increasing evidence of its benefit in the development of non technical skills such as teamwork, decision making and clinical reasoning (Fletcher et al 2003). As health care has become more complex the delivery of safe, efficient care has become more challenging in terms of the number of health care practitioners required (Plesk and Greenhalgh 2001). Healthcare students can therefore benefit from an early introduction to both interprofessional working (Barr 1999, Parsell 1998) and safety (Reason, 2000).

Many medical conditions now require more than one expert in the delivery of standards of care and this has led to the development of multidisciplinary teams. Such teams comprise a group of health care professionals who meet on a regular basis to plan the journey of care for individual patients with a specific disease process. This type of working is now standardised for various cancer types by the National institute for Clinical Excellence and there is emerging evidence that this approach is associated with improved outcomes. (NICE, 2004)

Rehearsing patient interaction using aligned dimensions of simulation, even with the use of paper, has been shown to be of benefit in transferring learning from theory to practice. (Maran and Glavin 2003, Gaba 2004).

This study identifies whether students with limited clinical experience can identify suboptimal points of care from extracts of patients notes in a simulated clinical setting.

Methods

Medical students at the University of Dundee participate in an integrated systems based curricular programme framed around over a 100 core clinical problems over the first three years to progress in their competence in twelve outcome areas. In their six week gastroenterology programme in year 2 they build on their basic principles from year 1. Theory and practice are linked through a timetable which involves lectures, small group work, simulated exercises and structured clinical experience. There is an excellent clinical skills programme to prepare students for early clinical contact, which uses simulation as appropriate. To enhance their understanding of how healthcare is delivered in relation to colorectal cancer all students were timetabled to participate in a 2 hour Multidisciplinary team meeting (MDT ) session at the end of week 5 of the gastroenterology programme.

Development of materials for Simulated Exercise

The authors' observations and participation in MDT meetings over a period of 10 years was used to develop the simulated MDT exercise and discussion structure. A patient’s notes who had a history of rectal carcinoma were anonymised by removing all dates, personal information including date of birth and address. Any unique information which was felt to be identifiable was removed in accordance with local Caldicott guardian guidelines. The relevant extracts from the notes were labelled alphabetically and were developed into a booklet for each member of the MDT and placed in the simulation box for each team.
Each MDT box contained the following materials:

- instructions for the chairperson
- patient note extracts
- instruction sheet for discussion
- description of role in MDT
- a summary sheet to be signed by all participants in the simulated exercise listing suboptimal points of care
- a quick review guide of the SIGN guidelines on rectal cancer

The extracts from patient notes included the GP letter, relevant clinic letters, admission notes, operating notes, nurse and pharmacy reports and pathology and specialist investigation results.

Identification of Standards of Clinical Practice

Each of the 16 groups of 10-12 second year medical students were invited to participate in the simulated MDT meeting. After a short briefing meeting each group were given a multidisciplinary team box which had to be signed out and they were given 45 minutes to identify sub-optimal levels of care in the patient journey. The team were asked to discuss the patient’s notes in accordance with the interaction guide given (see Fig 1). This figures details the roles given to the medical students to form the multidisciplinary team and the tasks assigned to each role. The letters indicate the anonymised extracts from the patient’s notes made available to the team.

### Fig 1: Multidisciplinary Team Interaction Guide

<table>
<thead>
<tr>
<th>Role</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairperson</td>
<td>Co-ordinates discussion</td>
</tr>
<tr>
<td>Surgeon</td>
<td>Leads discussion on A1, B1, and B2, answers on F</td>
</tr>
<tr>
<td>GP</td>
<td>Leads discussion on A2, Answers on A1</td>
</tr>
<tr>
<td>Colonoscopist</td>
<td>Answers on B1</td>
</tr>
<tr>
<td>Pathologist</td>
<td>Leads discussion on F, answers on B2 and G</td>
</tr>
<tr>
<td>Radiologist</td>
<td>Answers on B3</td>
</tr>
<tr>
<td>Nurse Specialist</td>
<td>Answers on C</td>
</tr>
<tr>
<td>Foundation Year 2 doctor</td>
<td>Answers on D</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>Leads discussion on E</td>
</tr>
<tr>
<td>Oncologist</td>
<td>Leads discussion on B3 and G</td>
</tr>
<tr>
<td>Specialist Registrar</td>
<td>Answers on H</td>
</tr>
<tr>
<td>Medical student</td>
<td></td>
</tr>
<tr>
<td>Medical student</td>
<td></td>
</tr>
<tr>
<td>Foundation Year 1 doctor</td>
<td>contributes to D</td>
</tr>
</tbody>
</table>

Through discussion each group was asked to identify and record on a signed sheet sub-optimal points of clinical care.

The sub-optimal care points identified were analysed using a standard proforma developed by the authors reflecting the SIGN guidelines (SIGN 2003).

### Results

All 16 groups in year 2 participated in the simulated exercise. Some groups only had 5 members in their MDT group. They reviewed the materials with the membership they had.

<table>
<thead>
<tr>
<th>Sub optimal points of care identified using SIGN guidelines</th>
<th>% of teams identifying sub-optimal point of care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent GP referral</td>
<td>87.5%</td>
</tr>
<tr>
<td>Rectal examination performed</td>
<td>69%</td>
</tr>
<tr>
<td>Screening of family</td>
<td>50%</td>
</tr>
<tr>
<td>Incomplete colonoscopy investigation</td>
<td>50%</td>
</tr>
<tr>
<td>Require evidence of invasive cancer before starting major surgery</td>
<td>31%</td>
</tr>
<tr>
<td>Pre-operative XRT considered</td>
<td>50%</td>
</tr>
<tr>
<td>CT or CXR of chest required preop</td>
<td>56%</td>
</tr>
<tr>
<td>Patient counselling re defunctioning ileostomy</td>
<td>62.5%</td>
</tr>
<tr>
<td>Aspirin and clopidogrel risk factors for bleeding</td>
<td>62.5%</td>
</tr>
<tr>
<td>Examination details required</td>
<td>62.5%</td>
</tr>
<tr>
<td>Prophylactic antibiotics</td>
<td>50%</td>
</tr>
<tr>
<td>Defect in mesorectum indicative of careless surgery</td>
<td>44%</td>
</tr>
<tr>
<td>No mention of liver or other sites of metastatic disease</td>
<td>31%</td>
</tr>
<tr>
<td>Poor position of ileostomy</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

Discussion

On graduation medical students need to have the skills to identify sub-optimal areas of care as well as the skills to participate constructively in the management of a patient with a disease process requiring a complex care process. This simulated exercise demonstrated that even with limited clinical experience students have the ability to identify sub optimal points of care. This was especially in relation to primary care and in therapeutic management issues.

This higher percentage of identification of aspects of sub-optimal care at the beginning of the patient journey perhaps reflects a familiarity with ward documentation. Their operating theatre experience is very limited at this stage and this may have contributed to them not identifying significant specialised areas of practice.

The limited implementation of guidelines is well documented in the literature and this simulated paper exercise may have an added benefit of demonstrating to students the need for guidelines and how to implement them in practice to ensure standards of care.

It would be interesting to identify whether learning from this simulated experience was transferred into the workplace when the students are on their clinical attachments in year 4.

Multidisciplinary team working is now at the heart of clinical practice and it is essential that medical students are prepared for this aspect of their practice.
In addition, with modernising medical careers, foundation doctors will have to make career decisions early regarding their choice of career. For this reason it is important that medical students have a clear idea of how different specialities operate. This low fidelity simulated multidisciplinary team experience provided an insight into this process.

Information on authors

Jean Ker is a practising general practitioner who is also director of the multiprofessional clinical skills centre and has led several innovative programmes involving simulation for the undergraduate curriculum.

Bob Steele is currently the Professor of surgical oncology at the University of Dundee. He is a world leader in relation to the prevention of rectal carcinoma and is the convener for the gastroenterology systems teaching in the undergraduate curriculum.

References

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If you wish to submit material for publication, please email info@ijocs.org
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.

CSL is Launching in April 2008 – view sample material at www.ijocs.org and take advantage of a 50% discounted rate if booked prior to 1st March 2008 (enter promotional code CSL63R at registration)