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Review

Developing a human factors and patient safety programme at the Royal College of Surgeons in Ireland

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ABSTRACT

Personal skills are now recognised to be important components of effective medical practice. These skills are explicit in the CANMED competencies from Canada, the recommendations of the ACGME from the United States and the recently revised ‘Tomorrow’s Doctors’ paper from the Medical Council in the United Kingdom. The recommended core competencies which encompass personal skills in these international manifestos highlight a paradigm shift in a system which emphasised technical skills and knowledge to a recognition of the key role played by personal skills.

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Introduction

Personal skills are now recognised to be important components of effective medical practice. These skills are explicit in the CANMED competencies from Canada, the recommendations of the ACGME from the United States and the recently revised ‘Tomorrow’s Doctors’ paper from the Medical Council in the United Kingdom. The recommended core competencies which encompass personal skills in these international manifestos highlight a paradigm shift in a system which emphasised technical skills and knowledge to a recognition of the key role played by personal skills.

In recent years, there has been an increasing focus of the academic surgical world on topics such as patient communication, the effective management of stress, crisis management, decision-making and cognitive training, teamwork and leadership skills, and finally human factors and medical error.

The Royal College of Surgeons in Ireland (RCSI) established a training programme in Human Factors and Patient Safety 6 years ago. The programme is a mandatory component of surgical training at RCSI and trainees Basic Surgical Training (2 years) and the first 3 years of Higher Surgical Training attend for 3 full training days per year. This results in 15 training days in human factors and patient safety for each trainee over the course of their surgical training programme.

Course content and participants

At RCSI, Basic Surgical Trainees (BST) receive instruction in operative technical skills and surgical knowledge. These programmes are taught through the use of an online e-learning knowledge – based programme (School for Surgeons) and surgical skills teaching in a surgical skills laboratory using

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Table 1 – Human factors and patient safety curriculum at RCSI.

Year of surgical training	Module 1	Module 2	Module 3
BST Year 1	Human factors and patient safety in hospital practice.	Talking to patients and relatives	Crisis management.
BST year 2	Conflict resolution and negotiation	Teamwork	Patient safety and error disclosure
HST year 1	Medical error and patient safety	Stress management	Emotional intelligence
HST year 2	Personality and professionalism	Advanced negotiation skills	Teamwork
HST year 3	Presentation/interview skills	Critical decision-making	Leadership

simulation. The Human Factors and Patient Safety programme is taught alongside these two strands of surgical training. The assessment of all three is of equivalent weighting in the annual appraisal process. The course content of the BST Human Factors and Patient Safety programme is described in Table 1. Teaching is learner-focussed and active rather than passive. Didactic teaching is kept to a minimum and learning outcomes are addressed through classroom activities as much as possible. Use is made of journal club presentation style activities so that learners come to their own conclusions through reading and critiquing academic journal articles relevant to the topics. Tasks are set to groups of trainees to facilitate their direct experience of team skills and leadership abilities. Communication skills for challenging situations are taught through the use of role play exercises both with each other and with professional actors.

At Higher Surgical Training level (HST), the programme takes account of the advanced learning requirements of the trainees. Experts from a variety of backgrounds support the teaching e.g., pilots, indemnity representatives, lawyers, medical council officers and eminent surgeons and psychologists are invited to co-facilitate specific teaching sessions. Once again, use is made of various exercises both during and in advance of each class in order to maximise the learning experience.

Assessment ('Assessment drives learning')

We assess our trainees on the Human Factors and Patient Safety programme at RCSI in a number of ways:

- *Written reflective assignments.* Following each class, trainees are required to submit a written assignment which is based on the topics just addressed. The assignment is designed to facilitate the trainees' application of the relevant knowledge, skills and attitudes in the workplace. For example, trainees may be required to observe how their senior colleagues disclose an error to a patient and to offer a critique with recommendations, if appropriate. Other assignments may require trainees to evaluate their profiles on a psychological instrument such as a measure of emotional intelligence or to submit a SWOT (Strengths/Weaknesses/Opportunities/Threats) analysis.
- *Skills assessment (OSCE).* This year, a 3 station OSCE was introduced for trainees at entry and completion of the two year BST programme. Professional actors were employed to play the role of either patients or other health professionals. Examples of scenarios used were a conflict with a nursing colleague and disclosure of an error (retained swab) to

a patient. The method of assessment was designed according to the Calgary-Cambridge model of communication skills – an internationally recognised, evidence-based model of communication skills teaching and assessment. The model has as its central theme the integration of clinical (content) skills with communication (process) skills. The OSCE model represents the first objective assessment of surgical trainees' personal skills across a spectrum of scenarios at RCSI.

- *Emotional intelligence (EI)* is a concept which has attracted considerable attention and interest over the last 20 years both in popular media and in the academic world. EI is thought to play a key role in the ability to communicate effectively and to lead others and has been shown to be a key element of optimum performance in the world of business and education. There is some evidence that the EI of the consulting doctor plays a role in patient satisfaction and in the development of effective clinical skills in medical students. EI has recently been identified as an important element in the development of leadership skills in surgeons. Emotional intelligence is a topic of one of the training sessions conducted in the HST programme and is also assessed as one component of the aptitudes battery for the RCSI HST selection process. Two estimates of EI are employed: 1. EQ-i, a self report measure which assesses interpersonal and intrapersonal skills, adaptability, stress management and mood; 2. MSCEIT V2.0, an objective measure of EI where the candidate is asked to choose the best answer to a range of scenarios and pictures. Research is currently underway at RCSI to investigate the validity of EI assessment and training for surgical trainees.

Conclusion

Human factors have long been identified as critical components of safe surgical practice both in and out of the operating room. Surgical training colleges are best positioned to design and run standardised, assessed training courses which facilitate the development of enhanced personal skills in surgical trainees. At RCSI, we have introduced human factors training and have demonstrated that it can be successfully integrated into the established knowledge and skills – based programmes.

Conflict of interest

None declared.