

Field interviews

To identify the non-technical skills specific to the role of scrub nurse, semi-structured interviews were conducted at three Scottish hospitals with scrub nurses (n=25) with a mean of 18 years' experience in the role. Consultant surgeons (n=9) from four Scottish hospitals were also interviewed to gain their perspective of which scrub nurse behaviours make the surgical task easier or more difficult. These interviews are currently being analysed.

Examples from the nurse interviews:

'I wouldn't contradict him (the surgeon), I'd try and couch it in slightly more diplomatic terms.'

'A surgeon said to me, "can I have the buzzy thing?" I handed him the diathermy, which was in my hand already.'

The first statement indicates, when attempting to make a point or express her opinion, that this nurse selects the words carefully. The nurse in the second example had anticipated (using situation awareness) that the surgeon required the diathermy and realises that, due to the concentration required for the surgical task, the surgeon's working memory is fully occupied, so he can not access the correct name from his memory store. This appeared to be a fairly typical occurrence and was confirmed later in the study with two consultant surgeons who independently said:

'If I'm concentrating really hard on a task, I'll forget the names of instruments I use every day.'

'I sometimes have blanks about what something is called, the nominal-aphasia kicks in but she knows what I need and has it there for me.'

What cognitive and teamwork skills does a scrub/instrument nurse need to assist a surgeon effectively and safely? Equally, how does a surgeon's behaviour affect the nurse's task performance and how do these expectations match? Little research has been done on this topic but operative surgery requires a group of people with a variety of skills to work together effectively to deliver patient care.

In addition to their technical expertise, all members of an operating theatre team, including the nurses, will utilise a range of 'non-technical' skills. These are the cognitive and social skills that complement technical skills to achieve safe and efficient practice in safety-critical occupations: For instance; communication, leadership, teamwork, stress management, and situation awareness. This is a relatively new area of research for healthcare based on a well developed approach from the aviation industry.

Following air accident investigations in the 1970s, it was acknowledged that, despite technical expertise and reliable systems, the behaviour of pilot and crew contributed to accidents. This led to the development of crew resource management (CRM) programmes to train and assess flight crew members in non-technical skills to ensure that, in addition to their individual technical expertise, they maintain the necessary teamwork, cognitive and communication skills to meet aviation industry requirements.

The effectiveness of CRM training can be evaluated by observing and rating individuals' performance during task execution to establish whether training has resulted in knowledge transfer and improved skill execution. To increase the reliability and objectivity of these observations, behavioural rating tools have been developed by identifying the non-technical skills relevant to the task domain and devising a rating system to assess them.

A recommended tool for rating airline pilots' behaviour called NOTECHS was developed by European pilots and psychologists (including a team from the University of Aberdeen). Taxonomies of

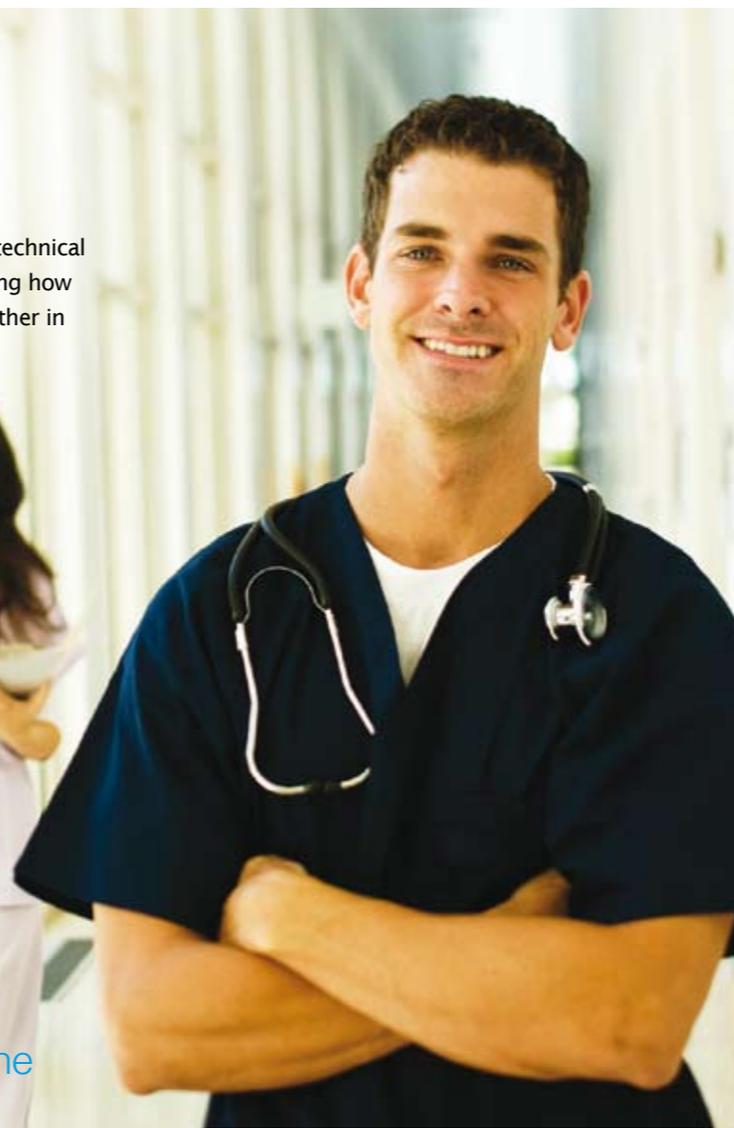
the right skills

A new research project on non-technical skills for scrub nurses is revealing how surgeons and nurses work together in practice, writes *Lucy Mitchell*

'Some attitude surveys of theatre staff have reported nurses expressing dissatisfaction with communication in the operating theatre'

these non-technical skills for anaesthetists (ANTS) and surgeons (NOTSS) were later developed. The NOTSS behavioural rating system is currently being tested for use in professional surgical training in a number of studies, including work funded by the RCSEd.

The new project to identify the non-technical skills of the scrub nurse was funded by NHS Education Scotland (who funded part of the surgical project) and began in 2007 with a literature review. It was



found that very few nursing studies had systematically examined the cognitive or teamwork skills required by scrub nurses during operations.

Although some communication skills were described for scrub nurses, these were mainly with reference to the whole theatre team. Studies were also identified which highlighted nurses experiencing difficulties in speaking up and voicing concerns to the surgeons they were working with.

Some attitude surveys of theatre

staff have reported nurses expressing dissatisfaction with communication in the operating theatre. The nursing literature suggests that, although the relationship between nurse and doctor has evolved since the 'hand-maiden to the surgeon' days of old, scrub nurses still feel a responsibility to 'keep the surgeon happy'.

The skill of situation awareness (the ability to perceive and understand cues to make sense of an environment) has not been mentioned in the nursing literature, which is surprising since competent scrub nurses have been described as 'thinking ahead of the surgeon'.

The ability to follow the stages of a procedure, read the surgeons' demeanour, assess operative situations, (as well as the more obvious technical skill of selecting the correct instrument for handing to the surgeon during a procedure without interrupting) are all non-technical skills which need to be formally labelled. This process of identifying key behaviours and categorising into non-technical skills is ongoing.

Panels of expert theatre nurses are being recruited to help with this task. Elements in each of the non-technical skill categories will also be categorised and labelled and examples of poor and good behaviours in each of those elements will be provided so that a meaningful and objective system is developed. It is hoped that this 'Nurse NOTECHS' system will then be used as an aid to teaching and assessment of non-technical skills of theatre nurses. ■

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For more information

- www.abdn.ac.uk/iprc
- Flin, R. O'Connor, P. & Crichton, M. (2008). Safety at the Sharp End. A Guide to Non-Technical Skills. Ashgate: Aldershot.
- Mitchell, L. & Flin, R. (2008). Non-technical skills of the operating theatre scrub nurse: literature review. Journal of Advanced Nursing, 63, 15-24.

Nurses were very proud of their contribution when procedures ran smoothly:



'I am really pleased if I have been able to make everything flow in a challenging case.'

This is clearly appreciated by surgeons who described the most efficient scrub nurses' ability to anticipate:

'They watch so they know what you're doing so it's in your hand before you've thought that you want it. It is that automatic.'

'She's just very slick, she's got everything very well organised and she's ahead of the game really, she's ahead of me.'

