

# Assessing performance 6: Reviewing proceduralists

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## Keywords

Competence, performance, assessment, knowledge, skills

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## Introduction

General practitioners are the doctors about whom most competence concerns are expressed to the Medical Council (Table 1). However, when the number in each specialty is taken into account, proceduralists occupy four of the top five places, representing a total of 56 (20%) of the 285 concerns the Medical Council has received. (We know that it is the combination of substandard performance with poor communication that leads to complaints about doctors, and we tend to stereotype surgeons in this mould; but after competence review, only six (18%) of the 34 doctors found to be

practising at a substandard level were surgeons. That is the same percentage as received complaints, so the competence concerns about surgeons were similar to other doctors). Surgery is, of course, the stuff of drama, and some of these surgeons have been accorded very high profiles by the media. At high risk are the patients of surgeons who do few procedures, in hospitals that do few procedures: the relationship between volume of procedures and outcome is now well established.<sup>1</sup>

Cuschieri questioned UK master surgeons about competence and revalidation, using a Delphi survey.<sup>2</sup> The group agreed on the need for competence checks during the professional careers of surgeons, covering knowledge, as well as clinical, operative and humanistic skills, and they thought an external agency should do the assessments. However, they were concerned about the validity and reliability of existing systems. How then should the Council

go about assessing procedural performance?

## Measurement of outcomes

The history of surgical audit is outlined by Wright.<sup>3</sup> Audit implies measurement (counting complication rates and other outcomes), and publication (for peer review).

Let's look at a hypothetical procedure where the acceptable complication rate is 5%, and try to assess a surgeon according to outcomes (Figure 1). Large numbers of procedures are necessary for reliability: at fewer than 10 there are insufficient data to make an analysis. Beyond that a numerical audit of procedures will show complication rates with increasing accuracy, and even a retrospective audit can be useful in assessing surgical performance. As with all things, prospective audits can be designed for specific purposes, and have advantages over retrospective ones – and of course surgeons practising at a substandard level will often have

Table 1. Competence concerns received by the Medical Council of New Zealand, by specialty.

Specialty	No. with APC	No. of Concerns	Per cent
General Surgery	196	23	11.7
Obstetrics and Gynaecology	200	17	8.5
GP (Gen Reg)	1304	104	7.8
Otolaryngology	77	5	6.5
Orthopaedics	171	11	6.4
GP (Voc Reg)	2098	93	4.4
Psychological Medicine	327	11	3.4
Radiology	237	4	1.7
Internal Medicine	580	10	1.7
Anaesthetics	422	7	1.7

substandard recording of their outcome audits.

Simple outcomes have limited meaning, unless stratified for surgical risk, and various methods have been devised for such adjustments.<sup>4,5</sup> Outcomes are also dependent on the whole surgical team (not just the surgeon) so they measure performance rather than competence.<sup>6</sup> A competent surgeon may perform poorly because of problems with the team, hospital, health service or because of illness or stress.

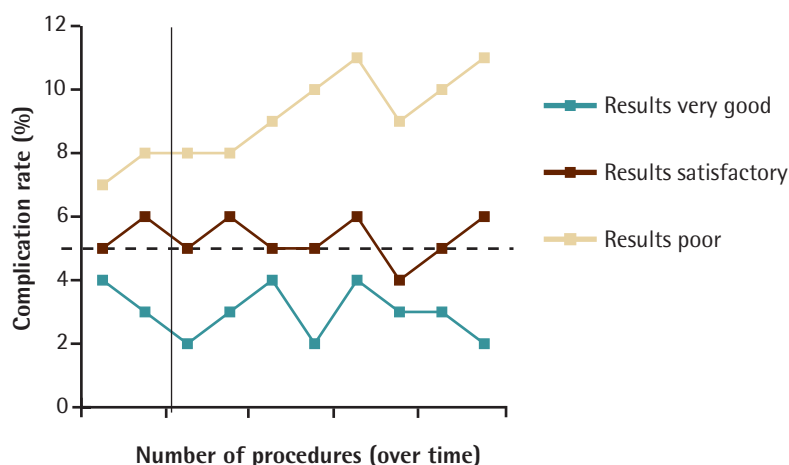
### Other measures

There are other important measures to be considered apart from outcomes: knowledge, clinical and communication skills in the outpatient department or clinic, case selection, manual dexterity, hand-eye coordination, and disruptive behaviour (poor team player) for instance.

For such assessments in New Zealand we have chosen a kit of review tools, including the case-based oral, record review, interview, sitting in on clinics, obtaining ratings from peers and co-workers, and direct observation of procedures. Objective assessment of surgical skills can be undertaken in the clinical skills laboratory, on virtual reality (VR) simulators, by direct observation in theatre, or by video recording. Tests of psychomotor skill have a limited place as 75% of events in an operation concern decision-making ability and 25% relate to manual dexterity.<sup>7</sup> However, more advanced simulations can also test decision-making ability.

In Britain, the General Medical Council's proposals include a 'Phase 1 peer review' of all doctors, comprising extended curriculum vitae, structured interview, medical record keeping, case based discussion, observation of consultation, third party interviews, site tour (two medical and one lay assessor). For surgeons who appear to be practising at a substandard level at Phase 1, there are 'Phase 2 tests of competence', comprising a knowledge test (200 items, matching sets format),

Figure 1. Assessing the outcome of a procedure



communication skills (10 simulated patients), technical skills (nine or 10 OSCE stations, seven generic and two or three specialty specific).<sup>8</sup>

The OSCE for technical skills is renamed OSATS (Objective Structured Assessment of Technical Skills).<sup>9</sup> The generic simulations test scrubbing and gowning, preparing the patient, knotting, suturing, vessel ligation, tissue dissection, and hand-eye coordination. The tests have been shown to discriminate well between volunteer surgeons, and those performing at a substandard level.<sup>10</sup> The specialty specific simulations test more advanced (integrated) procedural skills such as laparoscopic cholecystectomy. Task-specific checklists are useful for simple simulations but global ratings are better for complex procedures, especially when assessing experts.<sup>11</sup>

Sophisticated virtual reality (VR) simulators are available for anaesthetists and may be the only way to assess an anaesthetist's performance in response to an emergency objectively. Endoscopy simulators are now available for bronchoscopy, fibre-optic intubation, gastrointestinal endoscopy, ureteroscopy and angiography. Validation studies have shown significant differences in bronchoscopy simulator performance among

novices, intermediates and experts.<sup>12</sup> Testing on a VR laparoscopic simulator also correlates well with intraoperative assessment during laparoscopic cholecystectomy.<sup>13</sup> VR simulators are not yet available for open procedures, partly because of the problems of providing tactile (haptic) feedback. However advances in computer processor power mean that such simulators are now on the horizon. VR simulators provide automated scoring systems that avoid the risk of observer bias.

Direct observation in theatre is probably the 'gold standard', and has good inter-rater reliability.<sup>14</sup> However, direct observation is costly in terms of assessor time and can have positive or negative effects on performance (audience effect).<sup>15</sup> Direct observation also requires thorough training of the assessor to prevent observer bias (halo effect).<sup>16</sup> Blinded video recording tends to avoid both effects and can be quicker because of the ability to 'fast-forward', but there may be some loss of information compared with direct observation.<sup>17</sup>

### Disclaimer

These are the authors' views, and are not necessarily those of the Medical Council of New Zealand or its members or other staff.

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*'The recent proliferation of lay and professional 'therapists' who claim special expertise in ministering to the psychological, sexual, and family aspects of chronic illness confuses patients and practitioners. Is counselling something the practitioner should relinquish to other specialists while he pursues increasingly complex technological questions? If so, will such a radical split in the functions of the practitioner separate the psychological component of care even further from its biomedical counterpart? Will this split end up alienating and dehumanising the physician? If medical psychotherapy is integrated as a core clinical task of the physician, how is its quality to be assured? How will it be funded and evaluated? Dozens of equally difficult practical questions surround the professional sector of care in contemporary society. Up to now, the health debate in North America has centred on large-scale policy questions. But I wish to argue that questions about the small-scale clinical nature of our health care system must also become the focus of debate if real medical reform is to occur.'*

Kleinman A. The illness narratives. Suffering and the human condition. Basic Books Inc; 1988. p. 264-265.

*'The majority of so-called mental illnesses encountered by family physicians, however, are existential crises, and these are problems of the human spirit rather than illnesses. The anxieties and physical symptoms produced by these crises are not abnormal. They are not something to be treated and cured. They should be regarded more as an invitation to self-examination. These patients can be viewed as facing and resolving existential crises of this kind, at the cost of some pain to themselves and to others. I think any family doctor's day could produce examples of patients in various stages of this struggle or patients who are suffering because they are unaware that they have avoided facing it. Some critics of medicine and psychiatry have argued that it is no business of the physician to become involved in questions of this kind. To this, I think any family physician would reply, "Tell me how I can avoid it." I think it is their experience of the human condition that makes family physicians deeply sceptical of all easy routes to peace of mind, especially "new" therapies that promise to relieve all stress and anxiety.'*

McWhinney IR. A textbook of family medicine. New York: OUP; 1989. p. 68.