AUDIT

Supervision and responsibility: The Royal College of Anaesthetists National Audit†

G. A. McHugh1 and G. M. M. Thoms2,3 *

1School of Nursing, Midwifery and Social Work, University of Manchester, Manchester, UK.
2Department of Anaesthesia, Central Manchester and Manchester Children’s University Hospitals NHS Trust, Manchester, UK. 3University Department of Anaesthesia, University of Manchester, Manchester, UK

*Corresponding author. E-mail: gavin.thoms@cmmc.nhs.uk

Background. The Royal College of Anaesthetists audited consultant supervision and responsibility in anaesthesia in the UK during 2003.

Methods. Consultants (supervising) and non-consultants (supervised) were surveyed on their attitudes to supervision, experience of their own hospital system for supervision and of induction for new starters. Local coordination was achieved through anaesthesia audit coordinators who provided information on local policies, induction programmes and anaesthesia charts. Supervision was audited over a 5-day period.

Results. 135 departments of anaesthesia took part (43% of 315 departments), questionnaires being returned by 2297 anaesthetists. Anaesthesia record charts in use do not meet criteria considered desirable locally. Most trainees, but less than half staff grade/associate specialists, received an induction programme, often not supported by written documentation. Consultants find conflicting demands of service and supervision difficult. Many work in systems which do not permit providing direct, immediate support to those supervised. Most anaesthetists think supervision is very important. Around half disagree with national guidance that every NHS patient should have a named consultant. Two per cent of non-consultants during the audit period reported assistance from consultants not being obtainable soon enough.

Conclusions. This audit found departure from standards and the potential for risk and failure. New standards may be needed regarding anaesthesia record sheets, induction, accountability, when to seek help and care of sick patients. Supervision systems in over 40% of hospitals need review to ensure they provide a named consultant and immediate direct support for elective lists.


Keywords: anaesthesia; audit, clinical; supervision, consultant supervision

Accepted for publication: April 25, 2005

Following the success of its audit recipe book, Raising the Standard: A compendium of audit recipes for continuing quality improvement in anaesthesia,1 The Royal College of Anaesthetists contracted the University of Manchester to carry out two national audits. The first audit topic, Supervision and Responsibility, explores hospital policies and systems, anaesthetists’ attitudes to supervision and their experience of supervision in late 2003. Consultant supervision was noted in the 2002 report of The National Confidential Enquiry into Perioperative Deaths to be a concern,2 as supervising consultants could not always be traced when trainee anaesthetists undertook solo elective lists. However, Royal College guidance3 dating from 1999 (reviewed 2004) states that every patient requiring anaesthesia should have a named consultant anaesthetist.

In the UK, most anaesthetists are either consultants or anaesthetists in training. Consultants, the most senior grade, supervise others as well as providing much of the service. Staff Grade and Associate Specialist anaesthetists are non-consultant career grades and may supervise trainees. They are supervised by consultants and are normally accountable to the clinical director.4 Trainees start as Senior House Officers (SHOs) for 2–3 yr, then spend around 5 yr as

†This article is accompanied by Editorial II.
Specialist Registrars (SpRs). Guidance from The Association of Anaesthetists places a duty on trainees to know to which named consultant they are responsible at all times.5 When trainees are supervised by a Staff Grade/Associate Specialist, the trainee still has to have unimpeded access to a named consultant.6

The Royal College definition9 distinguishes direct supervision (supervising consultant anaesthetist present or only seconds away), from indirect supervision, which may be local (supervising consultant on same site, available within 10 min) or distant (off-site, over 10 min away). Royal College guidance requiring accurate recording of names of anaesthetists on anaesthesia charts, including absent supervising consultants, has been in place since 1996,7 and best practice now includes an annual audit of record keeping.8

Guidance from The Association of Anaesthetists requires an induction programme for all new staff, including a written policy on accountability.9,10 A comprehensive set of anaesthesia standards was developed by NHS Quality Improvement Scotland in 2003,11 including protocols defining when those requiring supervision should seek consultant advice and explicit systems to identify a supervising consultant for each patient. The Association of Anaesthetists recently published a statement of advice, The Named Consultant in December 200412 focusing on consultant responsibility and better systems for supervision in anaesthesia departments.

Methods

Ethical approval was not required for this audit. To ensure anonymity, identity numbers were used on questionnaires and results were analysed in aggregate rather than by hospital.

After collation of relevant standards and with the assistance of local audit coordinators and other experts, questionnaires were developed and piloted in September 2003. The audit was carried out in October 2003. All audit coordinators that could be traced in 315 departments of anaesthesia were invited to recruit members of their department and take part. They were asked to manage the audit locally, including distributing and collecting paperwork and returning completed questionnaires to the coordinating centre. They were encouraged to achieve at least 50% coverage in both main groups of respondents, that is, those supervising and those supervised.

Each audit coordinator received a set of instructions and a questionnaire to obtain information on the official departmental view on supervisory systems, policies in place and staff numbers. They were also asked about the ability of existing anaesthesia charts to record key supervision issues, and what, in their view, would be desirable. Master copies of two other questionnaires were included in each toolkit, designed to make multiple copies locally to supervising consultants and to those being supervised (trainees and staff grade/associate specialist anaesthetists).

These questionnaires were used to obtain data on:
- grade;
- attitudes regarding supervision;
- experience of relevant induction processes;
- consultants’ experience of supervising;
- non-consultants’ experience of being supervised.

Respondents also recorded their experience over five working days of supervising or being supervised during normal working hours. Non-consultants recorded solo lists and provided more detail when additional assistance was required from a consultant.

Data were sent to a commercial data entry company to create a database. Quality assurance measures included double data entry on 5% of questionnaires. Departments of anaesthesia were offered an electronic database in which to enter their own completed questionnaires, so as to enable them to produce results locally. Sixteen departments (12%) took up this opportunity. Descriptive statistics were produced using SPSS® v.11.5 and Microsoft® Excel 2002.

Results

Sample

We approached all UK departments of anaesthesia (n=315), received responses from 135 anaesthesia departments (43%) and obtained 2297 individual completed questionnaires, 1315 from consultants and 982 from non-consultants (720 trainees, 252 staff grade/associate specialist anaesthetists, 10 not stating grade). Approximately 70% of departments achieved 50% individual response rates and around 20% of departments achieved over 80% individual response rates. The median response rate in participating hospitals was 55% for consultants and 40% for non-consultants. Most trainees and staff grade/associate specialist anaesthetists were permanent members of staff, locums making up only 3.6% of the sample. Trainees were evenly spread over the training years.

Most consultants responding (1133, 90%) had supervisory responsibility for trainees or staff grade/associate specialist anaesthetists, or both. A few departments did not have trainees (three, 2%) or staff grade/associate specialist anaesthetists (10, 8%). During the 5-day audit period, consultants worked a mean 4.8 elective theatre sessions. Non-consultants (all considered together), had a mean 1.8 solo lists, breaking down into: trainees mean 1.1 (SD 1.5); staff grade/associate specialist anaesthetists mean 3.4 (SD 2.5).

Anaesthesia charts

Most audit coordinators (98, 75%) considered that their local anaesthesia chart adequately records details of anaesthesia staff involved. However, answers to more detailed questions conflict with this picture (Table 1), when comparing information relating to anaesthesia personnel that can be recorded on existing charts and that seen as desirable by audit
coordinators. Few charts record grade, handovers or details of supervision, so there is a discrepancy between what can currently be recorded and what is seen as desirable.

**Policies and induction**

Most trainees (618, 86%), but fewer staff grade/associate specialist anaesthetists (121, 48%) reported having an induction programme on joining the anaesthesia department. Less than half of trainees and less than a quarter of staff grade/associate specialist anaesthetists reported receiving a copy of a departmental policy on accountability. Fewer than half of departments (n=58, 48%) provided written guidance on consultant supervision for trainees. Only 23 departments (21%) reported providing written guidance on consultant supervision for staff grade/associate specialist anaesthetists.

Non-consultants were asked about availability of written guidelines on managing ASA III, IV and V patients. Seventeen per cent of respondents (161) left questions in this section blank. Non-availability of such guidance was reported by 668 (68%) for ASA III, 635 (65%) for ASA IV and 631 (64%) for ASA V.

**Supervisory systems**

Audit coordinators worked with their clinical directors to provide information on the systems used by their departments (Table 2) for ensuring consultant supervision of non-consultants who do solo elective lists. The hospitals (n = 6) running more than one system were regarded for analysis purposes as running the most effective system.

The first three types of system (n=82, 75 hospitals, 57.2% of those responding) provide a named consultant and immediate support to non-consultants working solo. The fourth system (n=31, 28 hospitals, 21.4% of those responding) provide a named consultant but do not guarantee immediate support to non-consultants working solo. The fifth system (n=28, 28 hospitals, 21.4% of those responding) provides neither a guaranteed named consultant nor immediate support to non-consultants working solo.

**Immediacy of direct supervision**

Consultants reported on their ability to provide immediate assistance to those being supervised in another theatre. 373 consultants (31%) reported that they could always do this, 663 (55%) sometimes were able to do this with 174 (15%) consultants reporting never being able to provide immediate supervision. Two per cent of trainee respondents (17 of 917, spread over 17 hospitals) reported that consultant input was needed immediately during the 5-day audit period but was not obtainable soon enough.

**Reason for requesting consultant input**

During the 5-day audit period, 296 non-consultants (33% of the non-consultants responding) reported 301 episodes when consultant input was needed for clinical reasons (Table 3). We also studied 75 episodes when a consultant took over clinical care of an operating list and this shows a similar picture. The three most common reasons for trainees seeking urgent consultant assistance when this was not provided in time were: assistance with obese patient (three cases); assistance with ASA III/IV patient (three cases) and failed block (two cases). Unfortunately we did not seek further data on these cases.

**Importance of supervision**

Consultants and non-consultants were asked the strength of their agreement or disagreement with key sentiments about
supervision, using a five-point scale (Table 4). Responses to the general question (line A), shows strong support for the importance of consultant supervision. Lines C–F show moderate confidence in the system in place in the consultants’ own hospital, although around one-third of consultants and trainees disagree with the statement that good support is available for solo elective lists. About 50% agreed with the principle that every NHS patient undergoing general anaesthesia has the right to a named consultant anaesthetist (line B). There was regional variation for this question. We found agreement to be more frequent amongst consultants in Scotland (72%) than the rest of the UK (57%). Substantial minorities of consultants are either unclear about who they are supervising at any time (line G) or have views which seem incompatible with systems of supervision on which anaesthesia departments need to rely (lines J and K).

Key perceptions about supervision among consultants vary between the different supervisory systems. Those working in a system of explicit supervision and immediate availability (n=785) were rather more likely than those working in the least explicit and immediate systems (n = 278) to agree with the statements (a) that a consultant should be responsible for every trainee elective list (669, 86% vs 210, 77%; (b) that a consultant anaesthetists should be responsible for every NHS surgical patient (463, 60% vs 144, 52%) (Table 5).

**Improving supervision systems**

Consultants’ comments on improving supervision featured most prominently the essential nature of the named consultant, the difficulty of providing supervision whilst doing another list, and the concern that when help is needed from consultants it is often required immediately. Comments from trainees featured most prominently having a named consultant supervising, having more discussion with consultants, and having better support systems.

**Table 4** Views on supervision: sentiments agreed with. Denominator varies owing to non-responses

<table>
<thead>
<tr>
<th>Sentiment</th>
<th>Consultants agreeing n (%)</th>
<th>Non-consultants agreeing n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Consultant role</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. ‘A consultant anaesthetist should be responsible for every trainee elective list’</td>
<td>1094 (84)</td>
<td>841 (87)</td>
</tr>
<tr>
<td>B. ‘A consultant anaesthetist should be responsible for every NHS surgical patient’</td>
<td>763 (59)</td>
<td>418 (44)</td>
</tr>
<tr>
<td><strong>Trainee and staff grade/associate specialist support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. ‘Trainees here have good consultant support when doing solo lists’</td>
<td>855 (67)</td>
<td>426 (62) of trainees</td>
</tr>
<tr>
<td>D. ‘Trainees here have good consultant support when anaesthetising ASA IV patients’</td>
<td>1166 (92)</td>
<td>525 (84) of trainees</td>
</tr>
<tr>
<td>E. ‘Staff grade/associate specialist anaesthetists here have good consultant support when doing solo elective lists’</td>
<td>522 (46)</td>
<td>113 (46) of staff grade/associate specialist</td>
</tr>
<tr>
<td>F. ‘Staff grade/associate specialist anaesthetists here have good consultant support when anaesthetising ASA IV patients’</td>
<td>825 (73)</td>
<td>179 (74) of staff grade/associate specialist</td>
</tr>
<tr>
<td><strong>Consultants’ own work pattern</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. ‘I always know which solo trainee elective lists I am supervising’</td>
<td>562 (45)</td>
<td></td>
</tr>
<tr>
<td>H. ‘Unless a trainee contacts me for advice, I am generally unaware that I am providing supervision’</td>
<td>484 (37)</td>
<td></td>
</tr>
<tr>
<td>I. ‘It is acceptable for consultants to take ultimate responsibility for a trainee without personally seeing the patient’</td>
<td>730 (56)</td>
<td></td>
</tr>
<tr>
<td>J. ‘I feel responsibility for solo elective trainee lists lies with the clinical director/lead clinician rather than with identified consultant anaesthetists’</td>
<td>301 (23)</td>
<td></td>
</tr>
<tr>
<td>K. ‘I am only content to supervise trainees when they are accompanying me on my own theatre list’</td>
<td>244 (19)</td>
<td></td>
</tr>
</tbody>
</table>

**Table 5** Views on supervision broken down by type of supervisory system. Denominator varies owing to non-responses

<table>
<thead>
<tr>
<th>Consultants agreeing with statements on supervision</th>
<th>Most explicit supervisory systems: consultant named and immediately available</th>
<th>Intermediate supervisory systems: consultant named but not always free</th>
<th>Least explicit supervisory systems: no named consultant</th>
<th>All consultants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultants in system</td>
<td>785</td>
<td>252</td>
<td>278</td>
<td>1315</td>
</tr>
<tr>
<td>Key statements on supervision agreed with</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Trainees have good consultant support for solo lists</td>
<td>578 (76)</td>
<td>172 (69)</td>
<td>105 (39)</td>
<td>855 (67)</td>
</tr>
<tr>
<td>Staff grade/associate specialist anaesthetists have good consultant support for solo lists</td>
<td>354 (53)</td>
<td>107 (48)</td>
<td>61 (24)</td>
<td>522 (46)</td>
</tr>
<tr>
<td>I always know which solo trainee elective lists I am supervising</td>
<td>376 (50)</td>
<td>112 (46)</td>
<td>74 (28)</td>
<td>562 (45)</td>
</tr>
<tr>
<td>Unless a trainee contacts me for advice, I am generally unaware that I am providing supervision</td>
<td>252 (33)</td>
<td>89 (36)</td>
<td>143 (55)</td>
<td>484 (37)</td>
</tr>
</tbody>
</table>
Discussion

Just under half of UK anaesthesia departments took part in this audit project. Some audit coordinators who were unable to take part expressed a wish to be involved in future Royal College audits.

There are two main limitations of this study. Collecting data by questionnaire is open to the criticism, even after piloting and refinement, that respondents’ individual interpretation of questions may lead to spurious responses and that when questions are not answered, reasons for non-response are unknown. It is also possible that results we describe differ from those that would be obtained in non-responding hospitals. Non-response bias may reduce reliability of extrapolation based on our findings. In an attempt to explore bias, overall results were intended to be compared with results in a randomly selected 10% sample, which was intended to have high coverage. However, our requests to achieve high coverage in this sub-sample, backed up by small incentives, proved ineffectual. If future national audits are to include the aim of understanding impact of non-response bias, a more direct, effective and expensive method is needed.

The present Royal College minimum data set requires only that the names of anaesthetists are recorded on anaesthetic charts. Most respondents wanted more detailed documentation, including supervisory details and handovers. The need for more clarity is highlighted in the recent AAGBI Named Consultant document and the NHS Quality Improvement Scotland standards. A more robust national standard is now needed. A detailed analysis of charts in use would also be valuable.

The Association of Anaesthetists’ guidance expects all departments to have induction programmes for trainees starting, which should be supported by written documentation. Less than half of our trainee respondents (and fewer staff grade/associate specialists) reported receiving documentation on accountability or on managing sick patients. Departments need to support induction with documentation guiding clinical care for the sickest patients in the hospital, making explicit how the local supervision system works and setting out when trainees should request help.

The main system for providing consultant supervision of solo elective work (the starred consultant system) involves doubling up a consultant with a capable trainee to enable a rapid response. This system works well in some places but appears flawed in others. Good supervisory systems may lead to better attitudes and practice. Anaesthetists working within the best supervisory systems knew more about their supervisory responsibilities and reported better levels of supervision in place. Although 60% of systems appeared satisfactory, around 70% of consultants were concerned that they are working within a system, which does not always enable them to provide immediate assistance. Fifteen per cent report that they can never do so. This suggests that the Royal College standard stating that patient safety must never be compromised by lack of an appropriate supportive response from a consultant, is regularly violated. Hospitals operating the least responsive systems are operating at a higher risk level. It is unclear how tolerant of risk society and hospitals now wish to be and how much is to be invested to eliminate the risk of non-consultants needing, but not obtaining, practical assistance from their supervising consultant. However, it may be that good systems cost no more than bad ones. It can be argued that 42% of UK anaesthesia departments may need to review their supervision policy in order to comply with existing Royal College standards.

The importance of direct supervision combined with immediacy of response is highlighted by the 2% of trainees reporting that a consultant did not arrive in time. Unfortunately, we did not investigate the consequences of this consultant non-availability. Whether the number of such events in a 5-day period is above or below the threshold for action is a question of resources and ethics, as well as training and logistics. The frequency and impact of supervising consultant being needed and not being available is an important future audit topic for departments.

When asked about proposals for quality improvement, anaesthetists favoured explicit systems providing clear supervisory arrangements, named consultants and immediate responsiveness to trainees when needed, in line with the AAGBI Named Consultant document. Anaesthetists told us that they think the general issue of supervision is extremely important. Many respondents appear concerned that systems they are working within are ineffective or under strain and that they can be torn between conflicting demands when a supervisory relationship converts into a specific request for immediate assistance.

On one central issue, that every patient has the right to a named consultant anaesthetist, the leadership shown by The Royal College of Anaesthetists and The Association of Anaesthetists appears to be running somewhat ahead of professional opinion. Only 60% of consultants and 40% of non-consultants agreed with this view. Rather more agree that every list should be allocated to a named consultant anaesthetist. There is more agreement on every NHS patient’s right to a named consultant anaesthetist in Scotland than elsewhere in the UK, which is congruent with the recently developed Scottish anaesthesia quality standards.

Contributing hospitals may find it useful to compare their own findings with the overall picture for the country. The Royal College plans to enable this for all departments that wish to do so, which may re-introduce a need for safeguards on anonymity.

Acknowledgements

Anaesthesia audit coordinators and clinical directors across the UK: The project steering board, Professor R. Heller, Dr A. Lack and Professor B. Pollard; The NCEPOD assessors, Dr A. Gray and Dr K. Sherry; Mr L. Coleman.
References

7 Adams AP. A revised anaesthetic record set. The Royal College of Anaesthetists Newsletter 1996; 26: 8–9