

# A survey of the provision of educational supervision in occupational medicine in the Armed Forces

J. P. Owen

<b>Objective</b>	The aim of this study was to assess whether balanced educational supervision was being provided for occupational medicine (OM) specialist registrars (SpRs) in the Armed Forces and to consider the effectiveness of current supervision.
<b>Methods</b>	Anonymized postal questionnaires, using Likert five-point response scales, were sent to Service OM SpRs and their educational supervisors (Ed Sup) to assess the degree of understanding of the purpose, effectiveness and organization of the educational supervision being provided.
<b>Results</b>	Completed questionnaires were returned from 35 (92%) specialists and 14 (61%) SpRs. Less than a third of the specialists were involved as Ed Sup and only three (11%) had undergone any formal medical education training. There was an agreement about the purpose and effectiveness of educational supervision between both the groups, though there appeared to be a bias towards providing supportive functions with patient management and educational components scoring less highly.
<b>Conclusions</b>	A high response rate enabled an accurate assessment of OM supervision practices in the Armed Forces to be made. There was agreement over the relative effectiveness, importance and coverage of educational supervision, though this was being provided by a relatively small group of OM specialists, few of whom had undertaken any formal medical education training. The supervision provided also appeared to be biased towards providing supportive functions rather than patient management and educational components of training, which may result in an unbalanced training for the SpRs. Having assessed the relatively close-knit service OM community, there would be value in seeing whether similar patterns prevail in the wider OM community.
<b>Key words</b>	Educational supervision; occupational medicine training.

## Introduction

Specialist registrars (SpRs) in occupational medicine (OM) are required to be supervised during their training by at least one educational supervisor (Ed Sup) as stipulated in the Faculty of Occupational Medicine (FOM) Training Handbook [1]. This supervisor has a pivotal role in ensuring that the SpR fulfils the training requirements defined by the FOM and the Specialist Training Authority of the Medical Royal Colleges. While there are clear educational and competency requirements that the SpRs are required to develop through their training through the record of in-training assessment process, the criteria for the Ed Sup are less well defined

and appear to be even less consistently applied in practice.

In order to maximize the effectiveness of the SpR training, the education, training and competency requirements for the Ed Sups need to be as equally well defined and provided for as that of their trainees. In order to do this, it is necessary to identify the training that should be provided for the SpRs and to gauge how the current provision compares with the standard, which will enable any capability gaps to be identified and addressed.

## Background

The FOM requires the OM Ed Sups to be on the General Medical Council's specialist register as an accredited specialist in OM, and to be approved by the FOM Specialist Training Committee. When approving an Ed Sup, the FOM takes account of attributes including experience or knowledge of the faculty's training process

---

Army Medical Directorate, Former Army Staff College, Slim Road, Camberley GU15 4NP, UK.

Correspondence to: J. P. Owen, Army Medical Directorate, Former Army Staff College, Slim Road, Camberley GU15 4NP, UK. Tel: +44 1252 412648; e-mail: jp.owen@tiscali.co.uk

and content, compliance with the faculty's continuous professional development programme, involvement in regular medical audit and recent attendance at (or willingness to attend) an educational supervisory skills course [1]. However, these loose criteria allow significant leeway in interpretation, with the potential for SpRs to be left without the supervision they require. It also exposes shortcomings when measured against the General Medical Council's criteria for medical teachers, which states that the professional and personal qualities needed by the training bodies' role models should be made explicit, with formal arrangements both for reviewing the performance of supervisors and clinical teachers and providing feedback [2]. Further shortcomings are also apparent from reviewing the standards stipulated in 'Good Medical Practice for Occupational Physicians', which notes that those doctors with responsibilities for teaching must develop the skills, attitudes and practices of a competent teacher [3].

In medicine, supervision is generally understood to be concerned with ensuring patient safety and promoting professional development in the practitioner or trainee [4–6]. This definition has been expanded further to include the provision of guidance and feedback on matters of personal, professional and educational development [7–10]. However, while there is an emerging consensus on what constitutes the components of good medical educational supervision, it is much less certain whether these standards have been carried through into routine practice.

Historically, the role of the Ed Sup has been vague, with some individuals taking a close interest in their trainees, providing an apprentice-type development programme, while others have taken a rather more 'hands-off' approach leaving the trainees to develop their own skills through self-motivated on-the-job training. Anecdotal reports from the British Armed Forces OM trainees indicate that this situation has been mirrored within the Defence Medical Services (DMS),

with some comparatively recent trainees stating that they had never seen their supervisors for any form of formally designated training (Tri-Service Occupational Medicine Conference, RAF Henlow, 2002). This view was also mirrored by reports from some Service OM Ed Sups, commenting on their own lack of training and knowledge to be supervisors (Tri-Service Occupational Medicine Conference, RAF Henlow, 2002). Examples included the case of a new consultant who, within a month of being appointed, was requested to be an Ed Sup to a first-year OM SpR.

Discussion of these concerns with the FOM Regional Specialist Advisers (RSAs) also revealed a similar range of views and experiences among the wider body of the Faculty. Concerns arose over the lack of direction on the requirements for Ed Sups' competencies, the lack of direction regarding OM specialists' required experience to become an Ed Sup, and lack of direction regarding an 'appropriate educational supervisory skills course' (FOM RSAs Meeting, May 2003). This is similar to the situation noted by Grant *et al.* [10], who identified a large variation in duration, frequency and quality of supervision provided for SpRs in a number of different hospital specialties. The vague criteria for supervisors' competencies are brought further into focus by comparison with the detailed supervision requirements for SpRs stipulated in the DOH's Guide to SpR Training [4] and the FOM Training Handbook [1], which are shown in Figure 1.

The concerns noted within the DMS and by the FOM RSAs indicate that the supervisory role is not well understood and that it is often interpreted in an idiosyncratic manner, with varying emphasis being given to the clinical, educational and managerial/supportive components required to ensure the SpR's development. The lack of direction regarding the Ed Sups' training further compounds this problem and reduces the likelihood that the SpRs' training requirements will be satisfied.

- The supervisor must have a thorough knowledge of the trainee's job and responsibilities.
- Provision of close supervision and be available to the trainee for consultation, at least daily in the first year.
- Provision of formal instruction on at least one half day each week, during the first year of training; with a gradual reduction in frequency of formal instruction to half a day each month in the final year of training.
- Encouragement and facilitation of other relevant activities to broaden the trainees experience including attendance at CPD programmes, plus visits to other workplaces and industries to that in which they are normally employed.
- Provision of assistance with dissertation planning and preparation for submission for the Membership of the Faculty of Occupational Medicine (MFOM).
- Provision of detailed annual assessments of the trainee for RITA reviews.
- Provision of regular trainee appraisals.

**Figure 1.** Ed Sups' responsibilities and duties (FOM Training Handbook, 2002 [1]).

This study assesses whether essential supervision components are being provided for OM SpRs in the Armed Forces and considers the perceived effectiveness of current supervision. This will enable any areas where the training needs are not being met to be addressed.

## Methods

The completeness and effectiveness of the OM supervision provided within the DMS was assessed by means of a postal questionnaire that was sent separately to both Service OM SpRs and their Ed Sups. The questionnaires were designed to assess the understanding and degree of application of the training criteria stated in the FOM Training Handbook. Using a similar format to that described by Grant *et al.* [10], the questionnaire assessed the degree of understanding of the purpose and effectiveness of supervision. The approachability, skills, motivation and interest of the supervisors were also assessed. A total of 15 questions were posed, using either Likert five-point response scales or close-ended 'yes/no' responses.

Questionnaires were distributed with a covering explanatory letter and a reply-paid return envelope for the returned forms. The individual Service OM cadres were also briefed about the study in order to maximize the response rate. The responses were returned directly to the author for collation and analysis. Participation in the study was voluntary; completed questionnaires were returned anonymously and no personally identifiable information was published. Once collated, the quantitative data were analysed using the Chi-squared test or Mann–Whitney *U*-test as appropriate. Simple descriptive analysis was also provided for the close-ended questions.

## Results

A total of 43 OM Specialists/Ed Sups and 21 OM SpRs were identified who were still undergoing the record of in-training assessment process. Two further doctors were identified who had just completed training but had not yet been appointed as consultants and were therefore included within the SpR group. Five senior specialists were subsequently excluded as they worked exclusively in senior executive appointments and no longer had any clinical or educational supervisory roles. Therefore, the study group that received questionnaires consisted of 38 specialists/Ed Sups and 23 OM SpRs. Completed questionnaires were received from 35 (92%) specialists and 14 (61%) SpRs. In view of the high initial response rate and inability to target any secondary briefing and repeat mail shot, no secondary mailing or briefing was undertaken.

## Study population data

*SpRs.* Examination of the 14 responses for the SpR group showed that all but one individual had commenced OM SpR training within the last 4 years (the time required for higher professional training in OM). Similarly, all but one (the same individual as previously) had been formally assigned an Ed Sup. The outlier was an individual who had completed SpR training but had not yet been appointed as a consultant.

*Specialists.* Examination of the 35 responses for the specialists group revealed that 12 personnel had never been, and were not currently, Ed Sups. The average time since qualification as a specialist for this group was 2 years (range: < 1–7 years). The remaining 23 consultants, with a mean time since specialist qualification of 8 years (range: < 1–18 years), had been Ed Sups at some stage, though only 11 of them were supervising at the time of the study. In view of the fact that the study was to carry out a comparison between the Ed Sups and the SpRs, those data from specialists who were not currently supervising were excluded in order to ensure that the results were comparable. In all but one case, SpRs were formally assigned to Ed Sups; however, only three (9%) of the whole specialists group had undergone any form of recognized educators' training, with one other individual having undertaken an internal instructional course.

## Purposes of educational supervision (Table 1)

All of the participants were asked about the purposes of educational supervision, with 11 items covering the areas of education, patient management and support for the SpR being graded according to importance on a Likert scale (1 = not important, 5 = great importance). When the results were ranked according to the mean scores, the SpR support components ('monitor SpR progress', 'support to SpR' and 'identify SpR problems') were identified as being most important, with patient management factors generally then being graded as being more important than educational components. Generally, there was a good agreement between the ratings provided by the Ed Sups and SpRs, with only one sub-group showing a significant difference in opinion, when the SpRs assigned greater importance to 'gaining from the Ed Sup's clinical experience' (Mann–Whitney *U*,  $P < 0.01$ ) than their supervisors.

Both the groups were also asked whether they considered there to be a difference in the role of the Ed Sup and the consultant to whom the SpR was responsible. Overall, 80% agreed that there was a difference, with no statistical difference (Chi-squared) being noted between the SpR and Consultant groups, as shown in Table 1.

**Table 1.** Purposes of educational supervision

	Overall mean score	Overall (SD)	Current Ed Sup ratings	Current Ed Sup (SD)	SpR ratings	SpR (SD)
Monitor SpR progress	4.4	0.6	4.4	0.5	4.4	0.6
Support to SpR	4.4	0.7	4.5	0.7	4.3	0.7
Identify SpR problems	4.4	0.6	4.1	0.7	4.6	0.5
Educate SpR	4.0	0.8	3.7	0.9	4.1	0.7
Promote high standards of care	4.0	0.8	4.0	1.1	3.9	0.7
Ensure patient safety	4.0	0.7	4.1	0.8	3.9	0.7
Offer teaching	3.5	0.9	3.7	0.9	3.4	0.9
Gain from the supervisor's clinical expertise	3.5	0.7	2.9 <sup>a</sup>	0.7	3.8 <sup>a</sup>	0.6
Monitor SpR welfare	3.3	0.8	3.3	0.8	3.4	0.9
Help SpR communicate with patients	3.0	0.6	3.0	0.6	3.0	0.7
Learn clinical skills	3.0	0.9	3.3	0.6	2.9	0.9
Are the supervisor and consultant roles different?	Yes = 20, No = 5		Yes = 9, No = 2		Yes = 11, No = 3	

<sup>a</sup> $P < 0.01$ , Mann-Whitney  $U$ .

SD = standard deviation.

### Organization of supervision (Table 2)

All but two of the current Ed Sups and two of the SpRs reported having specific supervision meetings. However, the frequency and duration of the meetings varied, with the SpRs reporting supervision meetings lasting an average 75 min (range: 45 min–2 h) while the Ed Sups reported the average length to be 113 min (range: 30 min–3 h). The SpRs also reported that these meetings, occurred less frequently than the Ed Sups. When examining whether specific tutorials occurred, four of the current Ed Sups reported that no such meetings were held, compared with five SpRs who reported the same. As with the supervisory meetings, the SpRs also reported a shorter mean duration of 88 min (range: 15 min–2 h) for the tutorials against a mean of 107 min (range: 1–3 h) from the Ed Sups, with the SpRs also reporting less frequent meetings than the Ed Sups.

All the Ed Sups reported that they considered themselves to be approachable and this was mirrored by the SpRs' reports. However, availability for training purposes was more variable, with three of the SpRs reporting that their Ed Sups were not suitably available. When considering appraisal meetings, further variation was reported with just under half of the Ed Sups (45%) and SpRs (43%) reporting that these meetings did not happen.

### Identifying supervision practices (Table 3)

Both the Ed Sups and SpRs scored 17 supervision activities using a Likert scale to identify the extent to which each element was covered (1 = not covered, 5 = full coverage). On all but one activity ('discussing individual patients'), the Ed Sups reported a greater

**Table 2.** The organization of supervision

	Ed Sups ( $n = 11$ )		SpR ( $n = 14$ )	
	Yes	No	Yes	No
Specific meetings to consider supervision?	9	2	12	2
Specific meetings concerned with SpR progress and development?	10	1	13	1
Specific appraisal meetings?	6	5	8	6
Is the Ed Sup/SpR available for training purposes?	11	0	11	3
Is the Ed Sup approachable?	11	0	14	0
Should the SpR have a choice of Ed Sup?	6	5	11	3

degree of coverage being provided than the SpRs. The SpR supportive components of the supervisory practice ('giving advice and support', 'monitoring SpR performance', 'addressing successes/problems in SpRs performance') were scored in the top ranks for both the groups, with the educational components ('developing presentation skills', 'developing communication skills', 'teaching specific techniques and procedures') being identified by both the groups as only having some coverage. None of the sub-groups was shown to have a significant difference (Mann-Whitney  $U$ ) between the Ed Sups and SpRs.

### Identifying the effectiveness of supervision (Table 4)

The Ed Sups were also asked to indicate how effective they considered the supervision activities to be, again using a Likert scale (1 = not effective, 5 = great effect).

**Table 3.** Identifying supervisory practices

	Overall mean	Overall (SD)	Ed Sups	Ed Sups (SD)	SpR ratings	SpR (SD)
Giving advice and support for personal and professional development?	3.7	0.9	4.1	0.5	3.4	1.0
Monitoring SpR performance	3.7	1.0	4.1	0.7	3.4	1.1
Discussing individual patients	3.7	1.1	3.5	0.9	3.8	1.2
Addressing successes/problems in SpR performance	3.6	1.2	3.8	0.9	3.4	1.3
Provide informal feedback	3.6	1.2	3.9	0.8	3.4	1.4
Ensuring SpR has appropriate clinical duties	3.5	1.2	3.6	1.3	3.4	1.1
Review the process of supervision	3.3	1.1	3.7	0.9	3.0	1.2
Discussing the management of specific disorders	3.2	1.0	3.4	0.8	3.1	1.2
Giving career development advice	3.2	1.0	3.6	0.9	2.9	0.9
Providing feedback through appraisal	3.2	1.4	3.5	1.0	2.9	1.6
Planning SpR learning	3.2	1.1	3.5	0.8	2.9	1.2
Ensure patient safety	3.0	1.0	3.2	0.9	2.8	1.1
Developing teamwork skills	2.7	0.8	2.9	0.7	2.5	0.9
Ensure SpR safety	2.7	1.1	2.9	0.8	2.5	1.2
Developing communications skills	2.6	1.0	2.8	0.9	2.5	1.1
Teach specific techniques and procedures	2.6	0.9	2.6	0.9	2.6	0.9
Developing presentation skills	2.4	0.9	2.5	0.8	2.4	0.9

SD = standard deviation.

There was a close correlation in the ranking and relative scores for the perceived effectiveness of the supervision elements and the degree to which they were covered. The supervisory elements headed up the list, being considered to be between ‘effective’ and ‘good effect’, compared with the educational components appearing at the bottom of the ranking and being rated as only showing ‘some effectiveness’.

**The extent to which supervision affects practice (Table 5)**

The final section of the data examined the way in which supervision was perceived to affect the SpRs’ performance, using a Likert scale with a series of 12 questions. Supervision was considered to have between a moderate and a good effect for about half of the performance criteria, though it is interesting to note that in all the categories the effects were marked as being higher by the Ed Sups than the SpRs, though none of the sub-groups demonstrated significant differences (Mann–Whitney *U*) between Ed Sups and SpRs. While the question assessing the effects on ‘level of confidence’ showed a moderate to good effect overall, this section revealed the widest variation in response from the SpRs with some individuals reporting ‘no effects’ to others reporting ‘excellent effect’.

**Discussion**

This study has demonstrated that it is possible to assess the way in which OM educational supervision is provided

**Table 4.** Examining effectiveness of supervision

	Ed Sups	Ed Sups (SD)
Giving advice and support for personal and professional development?	3.6	0.8
Monitoring SpR performance	3.6	0.8
Planning SpR learning	3.5	0.9
Ensuring SpR has appropriate clinical duties	3.5	1.1
Review the process of supervision	3.4	0.9
Addressing successes/problems in SpR performance	3.3	0.9
Provide informal feedback	3.3	0.9
Discussing the management of specific disorders	3.2	0.6
Discussing individual patients	3.2	1.0
Giving career development advice	3.2	1.1
Providing feedback through appraisal	3.2	1.0
Ensure SpR safety	3.2	0.6
Ensure patient safety	3.1	0.7
Teach specific techniques and procedures	2.8	0.6
Developing teamwork skills	2.8	0.9
Developing presentation skills	2.7	0.6
Developing communications skills	2.5	0.5

SD = standard deviation.

by means of a postal questionnaire. Considering the amount of information that was being collected in the questionnaires, this study achieved a very good response rate (92% of specialists and 61% of SpRs) from a single

**Table 5.** Estimating the extent to which supervision affects performance

	Overall mean	Overall (SD)	Ed Sups	Ed Sups (SD)	SpR ratings	SpR (SD)
Taking appropriate management action	3.8	0.8	3.8	0.6	3.8	1.0
Professional development	3.7	0.9	3.9	0.9	3.5	1.1
Recognizing and working within own limits	3.6	0.9	3.7	0.6	3.5	1.2
Developing knowledge and skills	3.6	0.8	3.6	0.5	3.5	1.0
Level of confidence	3.6	1.0	3.8	0.8	3.4	0.8
Liaison with colleagues	3.2	1.0	3.5	0.8	3.1	1.0
Referring patients where indicated	3.1	1.1	3.5	0.7	2.9	1.1
Record keeping	3.1	1.1	3.5	0.7	2.8	1.1
Assessment and examination of patients	2.7	1.1	2.8	1.1	2.6	1.2
Delegation of care or treatment	2.6	0.8	2.6	0.5	2.6	1.2
Providing investigations or treatment	2.6	1.0	2.6	1.1	2.5	1.0
Communicating with patients	2.4	1.0	2.7	0.8	2.1	1.0

SD = standard deviation.

mail shot using anonymized returns. However, the rate was probably influenced by the fact that, within the armed services, the OM cadre is a relatively small close-knit group and that maximum use was made of briefing opportunities at cadre meetings to encourage participation. Therefore, it should be accepted that the response rate achieved here was probably better than could be expected in a wider ranging study.

Having achieved a high response rate, it was then interesting to note that a third (34%) of the specialist group had never had any involvement with supervision of trainees and that another third (34%) were not currently involved with supervision. Given that the ratio of service OM SpRs/specialists was 1:1.6 (excluding those personnel in senior executive appointments), this would indicate that a high proportion of educational supervision is being undertaken by a relatively small proportion of the consultant cadre. It is also notable that only a very small proportion (9%) of the specialists had undertaken any formal educational training, with only one individual from this sub-group, across all three services, currently being used as an Ed Sup.

The results demonstrate broad agreement between the Ed Sups and SpRs over the relative effectiveness, importance and coverage of the educational supervision most of the areas assessed. Statistically significant differences between Ed Sup and SpR scores were only demonstrated for one sub-group ('gaining from Ed Sup's clinical experience') using standard non-parametric tests (Chi-squared and Mann-Whitney *U*). Caution should also be applied in interpreting these data as the small number of subjects in each group reduces the power of this study. However, a qualitative review has shown some notable trends.

When examining the purposes of educational supervision, both the Ed Sup and SpR groups indicated that they considered supportive function to be the most

important, with patient management and educational components scoring less highly. This trend was also seen when examining which components of supervision were being provided and their perceived effectiveness in altering performance in the workplace. There could be several reasons for this imbalance, including the fact that the Service SpRs are a relatively mature group of doctors, nearly all of whom would have qualified as general practitioners prior to starting specialist OM training. Therefore, they would have already demonstrated their clinical competence in the primary care setting, thus reducing the perceived benefit of this supervisory component.

It may also be the case that, as medical officers within the DMS, most of the Ed Sups would have had previous experience in military managerial or command roles and that they may therefore feel more comfortable when addressing their supportive function rather than the educational roles for which they are largely untrained. While this support is of value to the SpRs, it suggests that some of the elements described in the DoH's Guide to SpR Training and the FOM Training Handbook are being overlooked, which may result in an unbalanced training for the SpRs.

It is recommended that further attention be given within the DMS to facilitate and encourage potential and current Ed Sups to obtain appropriate educational training qualifications. This will enable the Ed Sups to provide broader based and less biased SpR supervision. It is also recommended that consideration be given to running a similar study among a wider group of OM Ed Sups and SpRs outside the armed services. This would provide insight into the actual level of educational support, clinical training and supervisory methods being applied nationally and help the FOM to address any imbalance that may be brought to light.

## References

1. Faculty of Occupational Medicine. *Specialist Training Handbook*, 2nd edn. London: Faculty of Occupational Medicine, 2002.
2. General Medical Council. *The Doctor as Teacher*. London: GMC, 2002.
3. Working Group on Good Medical Practice. *Good Medical Practice for Occupational Physician*. London: Faculty of Occupational Medicine, 2001.
4. Department of Health. *A Guide to Specialist Registrar Training*. London: DoH, 1998.
5. Coles C, Peyton JWR, eds. The Educational Supervisor's Role in Medicine. *Teaching and Learning in Medical Practice*. Herts, Rickmansworth: Medicare Europe Ltd, 1998.
6. Hesketh EA, Laidlaw JM. Developing teaching instinct 2: supervision. *Med Teach* 2002;**24**:364–367.
7. Kilminster SM, Jolly BC. Effective supervision in clinical practice settings: a literature review. *Med Educ* 2000;**34**: 827–840.
8. Kilminster SM, Jolly B, Grant J, Cottrell D. *Good Supervision: Guiding the Clinical Educator in the 21st Century*. Sheffield: University of Sheffield, 2004.
9. Cottrell D, Kilminster SM, Jolly BC, Grant J. What is effective supervision and how does it happen? A critical incident study. *Med Educ* 2002;**36**: 1042–1049.
10. Grant J, Kilminster SM, Jolly B, Cottrell D. Clinical supervision: where does it happen and is it effective? *Med Educ* 2002;**37**:140–148.