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## Attitudes of surgical trainees towards transplantation surgery as a career

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**Abstract** At present there are a number of unfilled consultant posts in transplantation surgery in the United Kingdom, particularly within the field of kidney transplantation. Unless the current shortfall is addressed, it seems highly probable that the number of unfilled consultant posts will continue to increase. This survey aimed to highlight the reasons underlying trainees' reluctance to enter the field of transplantation surgery and to assess how the specialty might be changed to attract new trainees. Questionnaires were sent to 102 surgical trainees requesting details on age, sex, training grade, research interests and chosen specialty. They were asked to consider nine specified reasons commonly thought to influence a trainee's decision on whether or not he/she would enter their chosen specialty and to grade each of these according to their relative importance in the context of considering a career in transplantation. The survey then suggested five changes in training/structure, and the trainees were again asked to grade the relative importance of each with regard

to whether it would attract them towards transplantation surgery. Replies were received from 61 trainees (60%). Trainees were deterred from transplantation surgery because of the on-call commitment, unpredictable workload, lack of exposure and a lack of information on the specialty. A reduced on-call commitment, increased income, increased exposure, improved training structure and increased information would all serve to attract new trainees to the specialty. To attract new trainees to transplantation surgery, there must be exposure to the specialty at an earlier stage in training, and a proactive stance must be adopted in providing information for the trainees. In addition, there needs to be ongoing commitment to improvements in training structure. The issues of increased income and an acceptable on-call commitment must be addressed.

**Key words** Transplantation surgery, survey, trainees · Survey, trainees, transplantation surgery · Trainees, transplantation surgery, survey

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### Introduction

At present, one of the major problems facing the field of transplantation surgery within the United Kingdom is the increasing number of unfilled consultant posts, particularly with respect to kidney transplantation. Howev-

er, this is certainly not a new problem, and the need for expansion of consultant posts and training grades was highlighted by the British Transplantation Society in 1985 in a paper relating to the provision of renal transplantation services [2]. It demonstrated that the number of renal transplants being performed at that time was in-

sufficient to meet the referral rate of patients suitable for transplantation. Furthermore, it predicted the expansion in consultant numbers required to allow the necessary increase in transplants per annum.

More recently, in 1995, the British Transplantation Society Training Committee Audit [1] found that despite an expansion in the absolute number of kidney transplantation surgeons in post and an increase in the number of transplants per annum (1955 transplants in 1995 compared with 1531 in 1984), there remained a need for further expansion in consultant numbers if annual transplantation targets were to be met (2500 transplants per annum were required in 1995). The current shortfall prediction equates to the need for a further 24 transplant surgeons by the year 2005. Unfortunately these ambitions must now be viewed against a backdrop of waning enthusiasm for transplantation amongst trainees and an almost inevitable rise in the number of unfilled consultant posts. Reasons suggested for this shortfall include the nature of the on-call commitment, the unpredictability of the workload and the limited repertoire of procedures performed.

With the advent of Calman training posts, greater prominence has been placed on the issues relating to higher surgical training and in particular to the designation of a 'home' specialty (or, indeed, specialties) for the attainment of higher training. At present, the majority of trainees are based in general, vascular or urological schemes, but debate continues as to whether transplantation surgery should be a single designated specialty or freely accessed from one of a number of specialties. Many variables confound the answer to this question and, in a survey by the Rouleaux Club in 1997, vascular trainees indicated a preference not to include training in transplantation surgery as part of their higher surgical schemes [3]. In addition, transplantation is no longer a formal component of the urology training schemes.

The current survey aimed to ascertain the reasons underlying trainees' reluctance to enter the field of transplantation surgery and to assess whether certain changes in the specialty would serve to attract new trainees.

## Methods

Postal questionnaires were sent to 102 surgical trainees, comprising 54 basic and 48 higher surgical trainees, based in the Nottingham Teaching Hospitals during the period from December 1997 to January 1998. The proforma requested details on age, sex, training grade, research interest and chosen specialty.

The trainees were then asked if they would consider, or had ever considered, a career in transplantation surgery.

Nine reasons thought to influence the decision of whether or not to enter a chosen specialty were then presented, and the trainees were requested to grade each factor according to its relative importance with respect to considering a career in transplantation surgery (Table 1). A grading scale of 0–5 was used, whereby a score

**Table 1** Factors influencing career choice

- On-call commitment
- Unpredictability of workload
- Limited repertoire of operative procedures
- Career progression
- Based in tertiary centre
- Lack of private income
- Lack of exposure
- Lack of information
- Concern regarding future of specialty

**Table 2** Factors to attract new trainees

- Reduced on-call
- Increased income
- Improved exposure
- Greater provision of information
- Improved training structure

of 0 indicated 'no influence' and a score of 5 equated to 'heavily influenced'. These nine factors were initially identified in a preliminary phone survey of surgical trainees.

The survey suggested five possible changes to the specialty, and the trainees were again asked to grade each of these with regard to whether it would attract them to transplantation (Table 2).

## Results

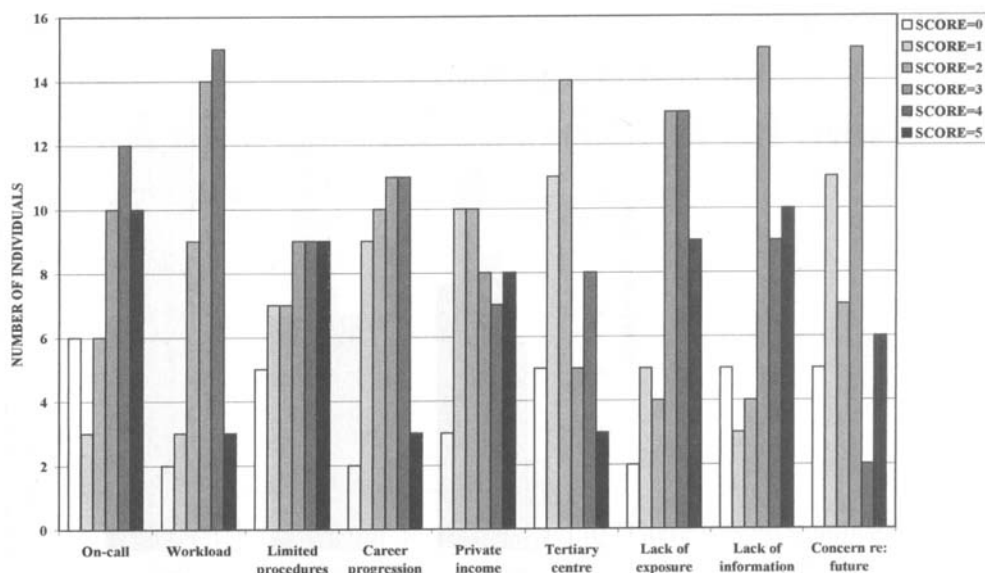
Questionnaires were received from 61 trainees (60%), comprising 29 basic surgical trainees (BST) and 32 higher surgical trainees (HST) – of these, 51 were male and 10 were female.

Amongst HSTs, 12.5% of the trainees said they would, or had, considered a career in transplantation surgery, 81.3% said they would not consider it as a career and only 6.2% considered it as a possibility. The distribution differed amongst BSTs with 14% of the group stating that they would, or had considered a career in transplantation surgery, 62% would not consider it but, interestingly, over 24% still viewed it as a possibility.

The factors influencing trainees' career choices were initially analysed according to trainee group considering BSTs and HSTs separately. However, both groups' pattern of responses was seen to be comparable, and it was therefore possible to consider all respondents in a single analysis. Regrettably, 15 of the 61 respondents did not complete these latter sections of the survey, and the subsequent analysis was confined to 46 trainees. The responses are shown in Fig. 1.

The most influential factors determining trainees' career choice with respect to transplantation surgery were the on-call commitment, unpredictability of the workload and a lack of information about the specialty coupled with a lack of exposure. The scoring on private income was evenly distributed as were the other factors listed.

**Fig. 1** Factors influencing trainees' career choice



The responses to the suggested changes in the specialty are shown in Fig. 2. Improved training structure and a greater provision of information were the most conclusive responses. Reduction in on-call commitment, increased income and increased exposure to the subject also proved to be important factors.

## Discussion

This study demonstrates the reasons underlying trainees' reluctance to enter the field of transplantation within the United Kingdom. Most trainees are deterred from pursuing careers in transplantation because of the intensity of the on-call commitment and the notoriously unpredictable nature of the workload. The average on-call rota compares unfavourably with that of general surgery or urology and, indeed, many consultants currently provide cover for these other specialties in addition to their transplantation commitments, thereby increasing their workload further.

In contrast to previous studies, this study examined the views of a range of trainees from various specialties as opposed to concentrating on the views of those trainees already within transplantation. Such an approach is necessary if recruitment of new trainees is to improve and, in turn, meet the demand of unfilled consultant posts.

It is perhaps not surprising that a lack of exposure to the specialty is another of the reasons given for trainees not considering transplantation as a career. To address this problem, a percentage of rotational posts should offer BSTs the opportunity to spend a short attachment in transplantation units, and an interest in transplantation should be generated by firsthand experience. Lack of information about the specialty is also implicated in the

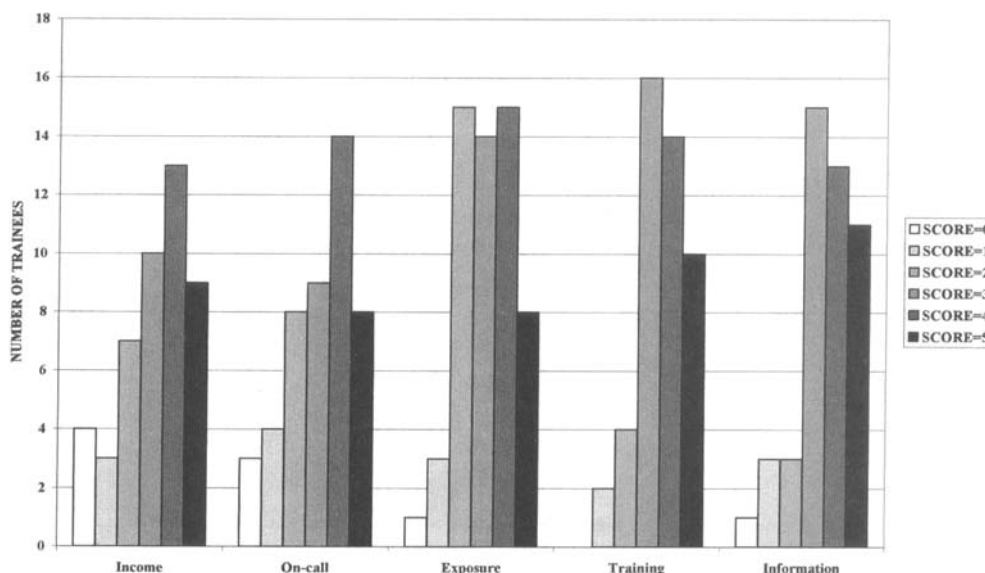
study, and trainees have many misconceptions that must surely be attributable in part to our failure to provide the relevant advice. The British Association of Urological Surgeons have produced a publication aimed at providing information to trainees, and this is mailed to the individual trainees via the Royal College of Surgeons, alongside other college information routinely sent out. The British Transplantation Society should consider publishing a similar booklet and adopting a proactive stance by similarly mailing it to the trainees via the colleges, thereby providing them with career information and a summary of useful contact numbers and addresses, in addition to providing an enthusiastic insight into the specialty.

With regard to changes in the specialty that would serve to attract new trainees, the issues requiring address become more complex. It is clear from the results that trainees would be attracted by a reduction in on-call and an increased income. Increased exposure to the specialty would also serve to attract trainees. The most conclusive responses, however, were those in favour of an improved training structure and a greater provision of information, with the vast majority of trainees rating these factors as heavily influential in their decision-making.

At present, the majority of kidney transplant surgeons provide on-call cover more than one night in three, and this should be brought in line with other surgical specialties. Reducing on-call commitment could only be achieved feasibly by reducing the number of transplantation centres and concentrating services – indeed, this may occur by necessity if the number of unfilled consultant posts continues to rise and smaller centres close.

Trainees want their level of on-call commitment to be reflected by an appropriate salary, and it has been

**Fig. 2** Factors to attract new trainees



suggested that this may be achieved by starting consultants at a higher level on the incremental pay-scale. This would allow recognition of the increased clinical commitment and, in addition, may attract other trainees whose career choice is in part influenced by the restricted potential to earn private income when compared to neighbouring specialties.

It has already been discussed how the lack of exposure and information might be addressed, and the need to respond to this is reinforced by the survey's evidence that changing the specialty's approach in these respects may increase recruitment.

Finally, the decisive call for an improved training structure must surely be a matter requiring urgent appraisal. This was highlighted in Sells et al. [2] over 13 years ago and, although it is recognised that this issue is currently under review by more than one body, trainees will remain unwilling to commit themselves to the specialty until clear guidelines are produced in collaboration with the Royal Colleges. A consensus must be reached on whether a Calman 'package' should be offered for higher surgical training or whether trainees should be allowed to access transplantation surgery

from higher training in one of the three main specialties of general, vascular or urological surgery.

## Conclusions

The shortfall of trainees in transplantation surgery has now been recognised for a period in excess of ten years and, despite this, the recruitment of trainees and appointment of consultants continues to fall in relative terms. It is imperative that measures are now taken based on the information we have received from trainees, or we may be forced to observe a continuing decline in one of the most rewarding of surgical specialties. Information must be delivered to current trainees in a manner akin to other specialties, and an information booklet must be prepared alongside the British Transplantation Society.

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