



The M.D.—Medical doctorate or mandatory doctorate?☆

A.H.F. MacQuillan*, N. Wilson-Jones, A.O. Grobbelaar

The RAFT Institute of Plastic Surgery, Mount Vernon Hospital, Rickmansworth Road, Northwood, Middlesex HA6 2RN, UK

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Summary The introduction in the UK of the Calman Registrar training scheme envisaged seamless progression from Senior House Officer (SHO) grade through to Consultancy. Within this framework research was acknowledged to be a valuable (but optional) part of the training programme, as laid out by the 'Orange Guide' to Specialist Registrar (SpR) Training [A Guide to Specialist Registrar Training 1998; HM Press]. Time is provided for this activity within the SpR training scheme, but it is becoming increasingly evident that the majority of formal research (towards post graduate degrees) is being carried out by so-called 'gap' SHO's in order to gain entry into Higher Surgical Training (HST) programmes [Ann R Coll Surg Engng 81 (1999) 182], [Br J Plast Surg 55 (2002) 463-468]. With this in mind, a survey of all Plastic Surgery SHO's in the UK was undertaken to assess the extent of clinical research undertaken by individuals, and the perceived need for formal research for career progression.

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There has been a steady increase in the ratio of eligible SHO's wishing to pursue a career in Plastic Surgery compared to National Training Numbers (NTN's) available (Table 1). In order to survive in an increasingly competitive market place (i.e. short-listing for SpR (Specialist Registrar) interviews) the need for an individual to stand out becomes greater.¹ The value of publications and formal research as important criteria for short listing committees has been shown previously.^{4,5} With an

increasing need for the former, and the latter providing time and resources to achieve this, it is becoming evident that formal pre-SpR research is being seen as a way to become more competitive in SpR shortlisting. To ascertain the views of those destined to compete in the market place, a questionnaire on the subject of research and publications was sent out to Plastic Surgery SHO's throughout the UK.² In conjunction with this a survey of the shortlisting procedures, points scoring systems and person profiles used by the UK Deaneries for Plastic Surgery SpR recruitment was also undertaken to estimate the actual impact of research on an individuals chances of being short-listed for an NTN within the specialty.

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*Corresponding author. Tel.: +44-7855-957-252; fax: +44-1923-844-031.

E-mail address: antmacquillan@hotmail.com

Table 1 The ratio of eligible BSTs to NTNs (nb: in this case 'eligible BST' refers to SHOs who have completed five SHO jobs, but not necessarily having attained the MRCS qualification, nor spent time in Plastic Surgery, but have expressed Plastic Surgery as their preferred career choice)⁷

Year	No. of eligible BSTs	No SpRs gaining CCST ± SWAG allowance	Ratio
1999/2000	91	27	3:1
2000/2001	156	17	9:1
2001/2002	266	20	13:1

Methods

This research was conducted in the period between March 2001 and August 2001. Using the British Association of Plastic Surgeons Members Handbook 48 Plastic Surgery Units were identified across the UK. The secretary to the Unit Director was contacted by telephone and asked for the number of SHO's currently employed by the department in posts recognised by the Post Graduate Dean. All questionnaires were accompanied by a stamped, self addressed envelope to return the document. Two waves of questionnaires were sent out; an initial batch in March 2001 and a second wave in July 2001. All questionnaires were anonymous both in person and unit.

The questionnaire requested information on the following topics

- The general experience of each SHO, time in Plastic Surgery, date of qualification, date of fellowship/membership and whether they regarded themselves as career plastic surgeons.
- The number and type of publications (letter, case report, paper), and presentations each possessed, the authorship and who had the original idea for the paper. Each was asked to comment on what were the major difficulties they encountered in attaining publications.
- Research experience, whether they possessed a higher degree and whether they thought a higher degree was essential for attaining a higher surgical training post.

In conjunction with the above, a list of Post Graduate Deaneries was sourced from the Royal College of Surgeons and each of the Deaneries was contacted, being asked to supply the person specification sheet sent out to candidates applying for SpR positions and the method employed by the Deanery to shortlist the applicants (together with relevant scoring sheets if applicable). In certain cases, where this information was not held by the Deanery but locally by the Regional Lead Unit's Medical Staffing Department, these were contacted. There are 18 Deaneries within the UK. For

the purposes of this study the Military Deanery was excluded as it places its trainees within the other regions. The Wessex Deanery does not recruit SpRs in Plastic Surgery, their trainees being supplied by the Oxford Deanery. Of the 16 remaining Deaneries two declined to give any of the requested information (Mersey and the West Midlands) and Northern Ireland did not have current documentation on the subject. Thirteen Person Specification sheets were received from the remaining Deaneries. Seven of the Deaneries did not have a scoring sheet for shortlisting, the process being carried out by a panel of judges (usually consisting of a Chairman from another specialty or management, two or three local plastic surgeons, and one external national judge, normally a plastic surgeon). Four scoring sheets were received, the remaining two Deaneries declining to send out their scoring systems (Wales and Trent).

The Personal Specification sheets consisted uniformly of essential and desirable criteria. All Deaneries stated that candidates must fulfill all essential criteria in order to be shortlisted. If the number of applicants was still too great after this had been examined then desirable criteria would be used for elimination purposes in the case of panel decisions, with score sheets being used elsewhere. To determine the benefit of research, in terms of accruing marks on scoring sheets or fulfilling desirable criteria, the following subjects were included under the umbrella of research: 'Higher Degrees', 'Publications', 'Presentations', 'Awarded Grants', 'Attended Meetings'. Understanding that essential criteria had to be fulfilled in order to apply for a post (determined from the person specification sheet), the percentage of remaining points attributable to 'research' was calculated for Deaneries using a score sheet. For those Deaneries using person specification sheets only the number of desirable categories attributable to 'research' was expressed as a percentage of the total number of desirable criteria.

All data was compiled using Microsoft Excel, analysed and represented graphically using Graphpad Prism III.

Results

Experience

Two hundred and eight SHOs were working in the UK in March 2001, 97 replies were received giving a reply rate of 47%. A range of Plastic Surgery experience was noted, from one to 37 months (mean 8 months) and the relative proportions are demonstrated in Fig. 1. Forty-eight per cent of SHOs working in Plastic Surgery possessed MRCS or equivalent, and 47% regarded themselves as career Plastic Surgery SHOs. Of those considering themselves as career plastic surgeons, 63% were post-MRCS and had completed at least 6 months in the specialty and were, therefore, eligible to apply for SpR jobs ('eligible SHOs'). When these figures are extrapolated this suggests that 62 career Plastic Surgery SHOs would have been able to apply for an NTN in the specialty. Nine per cent of all respondents possessed a higher qualification (MSc, MPhil, MD, MS, PhD—the BDS dental qualification was included in this group also). Twenty-one per cent of 'eligible SHOs' possessed a higher degree.

Publications and presentations

The average number of publications for an SHO without research was 0.9 ± 0.1 (mean \pm SEM, $n = 88$) compared to 3.5 ± 2.0 , $n = 9$ for the research group (Fig. 2(A)), this marked difference was statistically significant $p = 0.0007$, (unpaired t test).

The average number of presentations given to learned societies was 0.9 ± 0.1 , $n = 88$ in those who had not undertaken formal research and 5.4 ± 3.2 , $n = 9$ for those who had (Fig. 2(B)), this difference was statistically significant $p < 0.0001$, (unpaired t test).

The average career Plastic Surgery SHO had

marginally more presentations and publications than the noncareer Plastic Surgery SHOs, but significant differences between the research group and nonresearch groups persisted (Fig. 3(A) and (B)).

Sixty-seven per cent of SHOs felt that a higher degree was essential to attaining a NTN in Plastic Surgery.

Person specification and shortlisting

The proportion of person specification sheet 'desirable criteria', which could be attributed to research, was on average 34% (range 0–100%). The average number of points attributable to research on the supplied scoring sheets was 29% (range 16–36%).

Discussion

The introduction of 'Calmanisation' in 1996 heralded the merging of career Registrar and Senior Registrar grades (as well as many senior SHO posts) into a single seamless grade—the Specialist Registrar. These SpR positions were to be recognised by NTN's. An initial baseline of 77 numbers were allocated to Plastic Surgery in 1996 (covering all 6 years) to account for the number of consultant posts estimated to become vacant over the next 6 years.⁶ The changing nature of the national health-care delivery with its need for consultant expansion resulted in increased allocations of NTN's over the next 3 years, exact numbers determined by the Surgical Workforce Advisory Group (SWAG). For Plastic Surgery, their allocations were 38, 6 and 18 NTN's in 1996, 1997 and 1998, respectively.⁶ The number of SpR posts becoming vacant in any 1 year is determined by those gaining their CCST from the current SpR pool and the specialty's annual SWAG

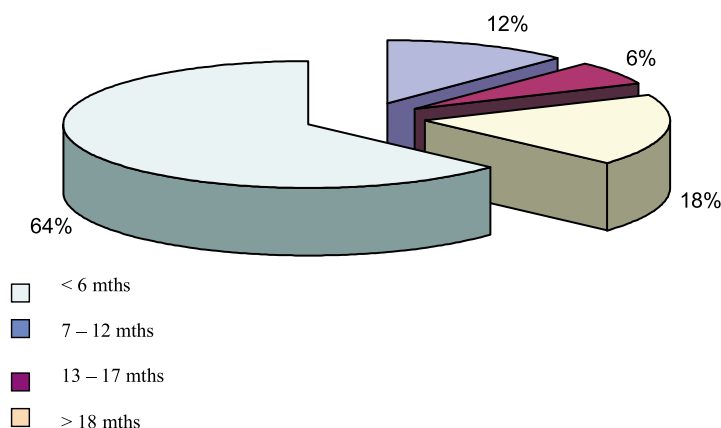


Fig. 1 Pie chart showing Plastic Surgery experience amongst SHOs in the UK.

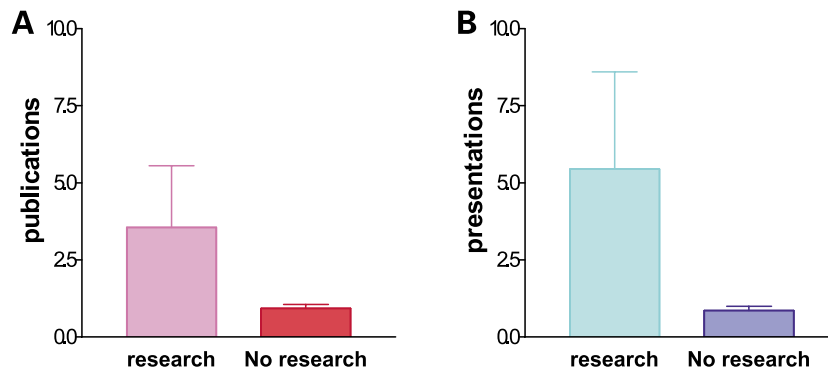


Fig. 2 (A) and (B): Comparison of number of publications and presentations amongst all SHOs in Plastic Surgery. Number of publications and presentations were significantly higher in the research group $p = 0.0007$ and $p < 0.0001$ respectively (unpaired t test). Graphs demonstrate the mean + SEM.

allocation (which can be negative, reducing the number of NTN's).

Coupled with 'Calmanisation' was the introduction of the MRCS exam to replace the FRCS, and the reduction of Basic Surgical Training (BST) from 4 to 2 years. The net effect of this was to increase the number SHO's eligible to apply for SpR posts.⁷ With increasing demand for NTN's seen across the board in all specialties, including Plastic Surgery, competition for these positions has become ferocious, and a bottle neck at SHO level has developed due to failure of registrar and consultant expansion.⁷ The Royal Colleges have recognised this and attempts have been made to reduce the number of eligible SHO's in the pool at any one time,⁷ however, this does not address the current problem. The perceived need for research in order to achieve career progression is not new, however, many trainees interested in pursuing a career in surgery now see a period of formal research as obligatory, as demonstrated by our results and trends seen in other surveys.⁸

Formal research allows the researcher the time and facilities to produce results that can then be

translated into papers and presentations. Grants and awards are often only open to those undertaking a higher degree, and the resultant work can be submitted for prizes and honours. Although all these things (with the exception of a further degree) are attainable without formal research, they are a lot easier to come by when undertaking a period of academic study, as demonstrated by this paper. The results of examining the person specification and shortlisting scoring sheets point to the significant advantage that a person with research can have over one who has only undertaken clinical jobs, when applying for SpR numbers. Interpreting our results and using data from other studies reveals an interesting profile of the pool of trainees applying for NTNs. Our survey suggests that there are in the region of 62 senior SHOs in clinical positions at any one time. Approximately, 20% of these will hold a higher degree ($n = 12$ in this study). The SAC when contacted stated that there were 171 NTNs in Plastic Surgery as of January 2003. This number would be spread over all six years of training, and so roughly 28 numbers would become vacant over the course of the year (as year six

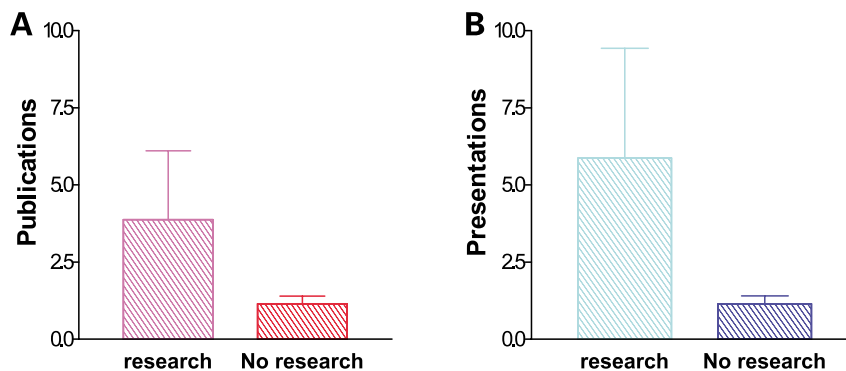


Fig. 3 (A) and (B): Comparison of number of publications and presentations in career plastic SHOs with and without research. Publications: 1.2 ± 0.2 , $n = 38$ (mean \pm SEM) in nonresearch group compared to 3.9 ± 2.2 , $n = 8$ in the research group. Presentations: 1.1 ± 0.3 , $n = 38$, compared to 5.9 ± 3.5 , $n = 8$ in the research group. These differences were statistically significant $p < 0.05$ and $p < 0.01$, respectively.

trainees are awarded their Completion of Specialist Surgical Training certificates (CCSTs), and leave the training scheme). The estimated number of Plastic Surgery Research Fellows (traditionally senior or 'eligible SHOs') engaged in work towards higher degrees across the country has been quoted as 48 (spread amongst MScs, MDs, PhDs and the like).³ Assuming that a two year MD is the average (though it is highly likely that 1 year MScs are more popular than 3 year PhDs) a conservative estimate would envisage 20 research fellows completing their research every year. This would bring the total of SHOs with a higher degree (and the shortlisting advantages that it entails) to 32, more than the estimated number of NTN's becoming available. Although a crude calculation, this does serve to demonstrate the type of situation being encountered by those competing for SpR jobs. This current state of affairs is unlikely to change for the foreseeable future. In 2000, an estimated 47% of SpRs in Plastic Surgery had a higher degree (interestingly only two in post SpRs were taking time out of registrar training for research) at a time when the ratio of SHOs wishing to be plastic surgeons to NTN's available was significantly lower than that at which it currently stands.^{3,7} It can only be concluded that if a similar survey were undertaken 2 years from now the percentage of SpRs with post graduate qualifications would be even higher.

The cross roads at which (Plastic) Surgery stands is one at which it (the specialty) either has to accept that research prior to gaining entry to HST is essential by default, or consider changing the way HST is undertaken. Currently surgical training is marred by working hours directives, pressures for a consultant led service and an emphasis on academic excellence. There is little evidence that academia translates into practical ability, and that as such aptitude for surgical training should not be assessed by primarily academic achievement (as this study would indicate it is), but by surgical skills testing and practical experience. The vacancy of many Professorial Chairs and Senior Lecturer Posts as

quoted by Kang and Sanders³ demonstrates that Academic Plastic Surgery may be better served by a differentiation in the training pathway. The value of a PhD/MD is probably more important in pursuing a career in Academic Plastic Surgery than a practical one. The creation of two types of NTN (similar to pathways suggested Oncology and Cardiology)—one for those who specifically wish to undertake research with a higher degree built in at the beginning of the training period coupled with registrar on call commitments and a reduced subsequent clinical component (say by an year), and another for those clinically orientated undertaking a full six year training programme, would allow the meagre resources available to be productively channelled into research, whilst allowing those who have a more practical orientation to proceed towards consultancy quicker, answering the need for increased consultant numbers.

As the situation currently stands it is no longer 'publish or perish', it is research or retrain.

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