Establishing a generic training programme for future junior doctors: a role for neurosurgery within the framework of clinical neurosciences

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ABSTRACT

INTRODUCTION To describe the opinion of junior doctors in neurosurgery in the UK and Eire about future reforms to training, and to relate this to the establishment of a generic neurosciences training programme.

METHODS A postal questionnaire survey of neurosurgery units in UK and Eire (36 units). All senior house officers (SHOs) taking part in a neurosurgery on-call rota during the 6 months between February and August 2003 (n = 236); 190 respondents (response rate 81% overall, 90% neurosurgery SHOs and 55% neurology SHOs). The questionnaire covered most aspects of provision of training, working pattern and job satisfaction gained from the post. Also included were questions on future reforms for training.

RESULTS There is an overwhelming acceptance amongst SHOs for training to be centred on generic programmes. The audit also identified that there are many aspects of neurosurgical training which will be very suitable for trainees from other fields, thus supporting the establishment of a generic neurosciences training programme.

CONCLUSIONS The establishment of a generic training programme would encourage an improvement in training standards for the whole SHO grade. To ensure the success of this proposed generic training programme, support from junior doctors and all those involved in postgraduate education is required. Neurosciences teaching has the excellent potential to move towards the planning and formation of a generic neurosciences training programme in-line with the proposed reforms.

KEYWORDS

SHO training – Training reforms – Generic training – Generic neurosciences programme – Competence-based assessment

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Training at the senior house officer (SHO) grade is going through radical reforms as part of the UK Government initiative to create a suitable environment in which medicine is taught and learnt. A more structured basic specialist training programme to link with the current higher specialist training programme has been planned to allow for a seamless training pathway. This will involve a broad-based, time-capped, basic training which is meant to impart appropriate knowledge and skills to a trainee such that it allows for a competence-based career progression. Based on these reforms, newly qualified doctors will undertake an integrated, planned two-year foundation programme (FP) of general training

before progressing to basic specialist training programmes. The main objectives throughout these programmes are to provide wide, similar exposure to trainees thus ensuring that generic skills and competencies are acquired.

Neurosurgical care is primarily provided by 36 units in the UK and Ireland. Being tertiary referral centres, there are usually strong links with other specialties such as neurology, neuroradiology, neuropathology, neurophysiology, neuro-intensive care and anaesthesia, usually in the settings of a teaching hospital. This provides an ideal opportunity to train both medical and surgical trainees of all grades in the aspects of diagnosis, treatment and care within clinical neurosciences.

Table 1 Limiting senior house training to a predetermined period and specialised SHO training system

Question	Yes	No	Possibly	Unsure
In your opinion, should training at the SHO level be limited to a predetermined period to prevent repetition of similar jobs?	103 (54%)	34 (18%)	44 (23%)	9 (5%)
In your opinion, do you feel that a specialised training system should be initiated from the SHO level to allow for a shorter duration of training and greater expertise in that speciality?	114 (60%)	42 (22%)	27 (14%)	7 (4%)
Values are numbers (percentages).				

Our department set out to audit the opinion of doctors taking part in a neurosurgery on-call rota at the SHO level regarding current training and changes for the future. The aims were to establish deficiencies in the current system and identify ways of improving it in line with recommendations set by the Chief Medical Officer¹ for a more structured SHO training programme. We also set out to identify aspects of neurosurgical training which might be beneficial for other trainees, if considering a generic 'neurosciences' training programme.

Materials and Methods

Following a pilot study, we constructed a questionnaire comprising various aspects of training, working pattern, staffing and job satisfaction. Questions also related to knowledge and experience gained during the post and on future reforms to the SHO training. It was in the form of closed questions except when actual figures were required (*e.g.* age, staffing numbers, *etc.*). The bulk of the questionnaire was in the format of themes and individual SHOs were required to choose an answer which best suited their opinion (ranging from strongly agree to strongly disagree). The questionnaire was sent to all trainees (at house officer level) taking part in a neurosurgery on-call rota and was completed towards the end of their 6-months' post.

The audit was endorsed by the council of the Society of British Neurological Surgeons (SBNS) and SBNS liaison officers of each unit were approached to prevent any misconceptions about the audit. To obtain a high response rate, we followed up initial non-responders in each unit and completed the questionnaires over the telephone.

In the data analysis, all respondents who ticked 'strongly agree' and 'agree' were combined to a 'yes' answer and similarly, respondents who ticked 'unsure', 'disagree' and 'strongly disagree' were combined to a 'no' answer. Statistical analysis was carried out using SPSS software (v. 11.5) and results were considered significant at $P < 0.05$.

Results

Overall, 236 SHOs took part in the neurosurgery on-call rota and were eligible to take part in the audit (165 neurosurgery SHOs [9 in Eire], 55 neurology SHOs, 5 paediatric SHOs, 3 ENT SHOs, 2 cardiothoracic SHOs and 7 pre-registration house officers [2 in Eire]). Of the trainees, 190 (81%) responded to the audit questionnaire – 149 (90%) neurosurgery SHOs, 30 (55%) neurology SHOs, 5 paediatric SHOs, 1 cardiothoracic SHO and 5 pre-registration house officers (PRHOs). The majority of the neurosurgical non-respondents were from units in Eire; thus, excluding these units, gave a 95% respondent rate solely for neurosurgery SHOs from the UK. Of SHOs in neurosurgery, 89% were in College-recognised basic surgical training (BST) posts.

Current training programme

Of trainees, 54% (103) felt that training at an SHO level should be limited to a predetermined period to prevent repetition of similar jobs (Table 1). Some 60% (114) of trainees also felt that a specialised training programme should be initiated from the SHO level to allow for a shorter duration of training and greater expertise in a speciality (Table 1). Of all the doctors questioned, 81% (154) felt that a more structured approach to the whole SHO training is needed in all specialities to meet the educational needs of trainees.

Looking at training issues, on average of more than 75% of SHOs in the audit agreed that they had gained useful knowledge and understanding about neurosurgical practice including clinical skills, communication skills and managing common neurosurgical emergencies (Table 2).

Generic training programme

More than 85% of SHOs felt that the knowledge and experience obtained during this post would be appropriate to be part of any form of a generic training programme for a junior doctor. It was felt that this generic training should be

Table 2 Theme of questions

Question	Useful knowledge/ understanding gained	Suitable for generic training	Training should be part of SHO or PRHO rotation
Basic science of the nervous system, <i>e.g.</i> anatomy, physiology, pathology, <i>etc.</i>	Yes – 133(70%) No – 57(30%)	Yes – 150 (79%) No – 40 (21%)	PRHO – 76 (40%) SHO – 114 (60%)
Taking history relevant to neurosurgery	Yes – 171 (90%) No – 19 (10%)	Yes – 171 (90%) No – 19 (10%)	PRHO – 133 (70%) SHO – 57 (30%)
Clinical examination skills of the nervous system	Yes – 177 (93%) No – 13 (7%)	Yes – 179 (94%) No – 11 (6%)	PRHO – 150 (79%) SHO – 40 (21%)
Clinical pharmacology and prescribing as relevant to neurosurgery	Yes – 146 (77%) No – 44 (23%)	Yes – 146 (77%) No – 44 (23%)	PRHO – 105 (55%) SHO – 85 (45%)
Pre-operative preparation of a patient for a major life threatening procedure	Yes – 156 (82%) No – 34 (18%)	Yes – 167 (88%) No – 23 (12%)	PRHO – 150 (79%) SHO – 40 (21%)
Documentation of neurological observations, <i>e.g.</i> GCS, AVPU	Yes – 177 (93%) No – 13 (7%)	Yes – 177 (93%) No – 13 (7%)	PRHO – 140 (74%) SHO – 50 (26%)
Basic interventional procedures, <i>e.g.</i> lumbar puncture, central venous access, arterial access	Yes – 163 (86%) No – 27 (14%)	Yes – 173 (91%) No – 17 (9%)	PRHO – 112 (59%) SHO – 78 (41%)
Managing the unconscious person	Yes – 160 (84%) No – 30 (26%)	Yes – 179 (94%) No – 11 (6%)	PRHO – 116 (61%) SHO – 74 (39%)
Managing epilepsy and its complications	Yes – 101 (53%) No – 89 (47%)	Yes – 160 (84%) No – 30 (26%)	PRHO – 135 (71%) SHO – 55 (29%)
Managing the spectrum of head injured patients	Yes – 162 (85%) No – 28 (15%)	Yes – 173 (91%) No – 17 (9%)	PRHO – 97 (51%) SHO – 93 (49%)
Managing the spectrum of acute spinal conditions and injuries	Yes – 141 (74%) No – 49 (26%)	Yes – 158 (83%) No – 37 (27%)	PRHO – 25 (15%) SHO – 161 (85%)
Management of a space occupying lesion and assessment of urgency of its treatment	Yes – 175 (92%) No – 15 (8%)	Yes – 167 (88%) No – 23 (12%)	PRHO – 25 (15%) SHO – 161 (85%)
Management of acute cerebral haemorrhage	Yes – 173 (91%) No – 17 (9%)	Yes – 171 (90%) No – 19 (10%)	PRHO – 38 (20%) SHO – 152 (80%)
Management of back/neck pain with or without sciatica/brachialgia and assessment of urgency of its treatment	Yes – 150 (79%) No – 40 (21%)	Yes – 165 (85%) No – 25 (15%)	PRHO – 29 (15%) SHO – 161 (85%)
Breaking bad news to the patient/relatives	Yes – 131 (69%) No – 59 (31%)	Yes – 169 (89%) No – 21 (11%)	PRHO – 144 (76%) SHO – 46 (24%)
Managing an emotional, confused, distressed patient and/or relative	Yes – 150 (79%) No – 50 (21%)	Yes – 175 (92%) No – 15 (8%)	PRHO – 124 (65%) SHO – 66 (35%)
Managing an angry patient and/or relative	Yes – 146 (77%) No – 44 (23%)	Yes – 161 (85%) No – 29 (15%)	PRHO – 129 (68%) SHO – 61 (32%)
Explaining the risk-benefit of an intended life threatening procedure to a patient/relative in an acute setting	Yes – 135 (71%) No – 55 (29%)	Yes – 146 (77%) No – 44 (23%)	PRHO – 40 (21%) SHO – 150 (79%)
Conveying issues and explaining reasons related to withdrawal of life- saving treatment or Do Not Resuscitate Order to the relatives of a patient who is gravely unwell with a very poor prognosis	Yes – 131 (69%) No – 59 (31%)	Yes – 158 (83%) No – 37 (17%)	PRHO – 51 (27%) SHO – 139 (73%)
Effective communication skills and ability to relay information to others	Yes – 171 (90%) No – 19 (10%)	Yes – 180 (95%) No – 10 (5%)	PRHO – 144 (76%) SHO – 46 (24%)
Working as part of a team to achieve effective patient care	Yes – 165 (87%) No – 25 (13%)	Yes – 179 (94%) No – 11 (6%)	PRHO – 131 (69%) SHO – 59 (31%)
Issues surrounding clinical governance and audit	Yes – 65(34%) No – 125 (66%)	Yes – 131 (69%) No – 59 (31%)	PRHO – 59 (31%) SHO – 131 (69%)

[Values are numbers (%) from a total of 190 respondents]

undertaken either at a PRHO or SHO level depending on the skill being learnt (Table 2).

The majority of respondents felt that at PRHO level, basic skills such as history taking, clinical examination, pharmacological prescription and basic interventional procedures were best taught along with management of common conditions such as an unconscious patient and epilepsy. At SHO level, acquiring further knowledge of basic science of the nervous system and management of spinal injuries, acute cerebral haemorrhage and space-occupying lesion were felt appropriate. Although communication skills should be taught throughout the training programme, more complex communication issues should be undertaken at SHO rather than PRHO level (Table 2).

Issues surrounding clinical governance and audit were thought to be more appropriate to be taught at SHO rather than PRHO level (Table 2).

Generic neurosciences training programme

We looked at the response obtained from non-neurosurgery SHOs (36) to reflect their knowledge and skills learnt during their limited exposure in neurosurgery whilst being on call.

Of the SHOs questioned, 64% (23) enjoyed their exposure to neurosurgery and, on average, more than 80% of SHOs learned useful knowledge about the practice of neurosurgery. This included history taking, clinical examination and pharmacological prescription, management of common neurosurgical emergencies and pre-operative preparation of patients for major life-threatening procedures, communication skills and working as part of a team. There were also certain training deficiencies that were highlighted by this group. It was felt that basic science of the nervous system, exposure in high dependency care/intensive care unit and issues surrounding clinical governance and audit in neurosurgery were poorly learnt.

Timing of generic neurosciences training programme

We compared the achievement of learning objectives, job satisfaction and recommendation of the neurosurgery post to a colleague, between pre-registration house officers (5) and first year neurosurgery SHOs (including those doing their first SHO post, 38) against pre-membership (Member of the Royal College of Surgeons, MRCS) SHOs in years 3 and above (32). We found that trainees achieved more from neurosurgery posts when undertaken earlier in their career ($P < 0.05$) rather than at the end of their basic surgical training.

Discussion

Non-respondents to this audit were mainly from SHOs in neurology who cross-covered neurosurgical on-calls probably because of the neurosurgical focus to the audit.

The other large group of non-responders was from units in Eire whose SHOs are part in a rotational programme lasting 2–3 months, thus making it difficult to establish and maintain contact.

Generic training programme

*Modernising Medical Careers*² is a broad policy statement jointly issued by the four UK health departments in response to the consultation paper *Unfinished Business* by the Chief Medical Officer.¹ The main aims of this statement were to endorse many of the specific proposals set out by the consultation paper and to indicate how this modernisation of postgraduate medical education will be taken forward in the context of wider workforce reforms.

One of the main reforms to junior doctor training is the establishment of a generic training programme, ensuring that trainees will be equipped with similar, wide, appropriate skills and knowledge regardless of their final chosen career. As it currently stands, it has been proposed that this generic training should be undertaken as part of the FP1–5 with the whole training programme coming into effect in August 2005.^{3,4}

Apart from obtaining generic skills and knowledge, another advantage of this proposed training programme is that it offers an opportunity for trainees to gain exposure in a variety of fields, such as general practice, psychiatry, pathology, *etc.* This has the effect of exposing fields of medicine which have previously been deemed ‘unpopular’ and can benefit trainees when deciding on a future career intention. A further advantage is that it allows for a standardised assessment system. In this proposed training programme, a standardised competence-based approach will be used, where trainees are required to show competency at certain generic skills and knowledge before being permitted to progress in their career. The systematic acquisition of these competencies will also allow for a smooth change in career choice during the training period, either at the request of the trainee or based on career advice to fulfil workforce requirements. This promotes career flexibility and encourages ‘career breaks’ which may be important for female trainees.^{4,5}

The results from our audit confirm that this generic approach to training is well accepted by the respondents. In our opinion, this is an important finding as this acceptance is amongst junior and senior SHOs in current training throughout UK. The SHOs in this audit have further emphasised that certain skills and knowledge have to be taught appropriately either at the level of PRHO or SHO. This again is important as trainees become more experienced, mature and acquire professional attitudes, they will then be able to take on more clinical responsibilities without direct supervision as long as they have been assessed as having the necessary competencies.

Generic neurosciences training programme

In the context of clinical neurosciences, there needs to be a combined approach to teaching with amalgamation of all divisions of neurosciences to form a generic programme. This programme will be required to cater for the needs of trainees who are unsure of their future career intentions, trainees who are acquiring generic neurosciences skills and knowledge as part of their individual training pathway and those trainees who are genuinely interested in pursuing a career in a division of clinical neurosciences.

We have shown in this audit that the current training in neurosurgery promotes acquisition of clinical skills and knowledge, communication skills including forming effective relationships with colleagues and patients, and working as part of a team in a multiprofessional practice. This is especially true if these skills are taught and learnt early in the training pathway. These skills and knowledge form some of the appropriate generic attributes that are required of a junior doctor as part of the new proposed training programme. Therefore, a well-timed generic neurosciences training programme will benefit junior doctor training in-line with the proposed changes.

Conclusions

Senior house officers have been described as 'lost tribes' in medicine due to the lack of supervisory role for the grade.⁶ This coupled with the introduction of European Working Times Directives⁷ will make future training issues more difficult to manage if the current situation persists. The UK Government is now taking steps to address these problems by proposing a new basic training programme which will eventually link with the current higher training programme.

Support for this proposition is evident from the current SHOs in training (based on our audit findings) but clearly

this will not be sufficient. All persons involved in postgraduate medical education need to back this proposed programme and ensure that measures are taken to allow for a smooth introduction to new doctors in August 2005 when it is implemented.

To be prepared to face changes affecting the SHO grade, neurosurgical teaching will also need to adapt. Plans for a generic neurosciences training programme linking all aspects of neurosciences teaching is currently being looked into. Such training programmes could also be implemented in other specialties, benefiting all junior doctors in the future.

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