

# Modernising Medical Careers and the British surgeons of the future

*The Modernising Medical Careers reforms in medical training have led to significant changes in the way junior doctors are trained. However, not all these changes have been welcomed by both trainees and trainers. This article seeks to examine some of the issues regarding training in surgery.*

General surgery has traditionally been among the most competitive disciplines in medicine. Medical training has always been an apprenticeship with a defined hierarchical structure. This is particularly the case in surgery where, in addition to accumulating a wide knowledge base, trainees must learn technical skills and the ability to perform unsupervised procedures competently and with confidence. Historically, surgical training involved skills being passed down through the ‘firm’ structure of graded responsibility, from consultant to senior registrar, senior registrar to registrar, registrar to senior house officer and senior house officer to houseman. However, this system was perceived to lack structure with no objective method of assessing whether or not a trainee had reached a suitable standard. It became a case of ‘see one, do one, teach one.’ By performing a procedure repeatedly, one was expected to have reached a safe standard, although this often necessitated learning from mistakes and improving by default.

In a bid to create a more structured curriculum, medical training has undergone two major overhauls in recent years. The introduction of the Calman reforms between 1995 and 1997 brought about specialist training and the Membership of the Royal College of Surgeons examina-

tion (Hunter and McClaren, 1993; Working Group on Specialist Medical Training, 1993; Department of Health, 1995). The second, and arguably the most controversial change in medical training in history, has been the Modernising Medical Careers (MMC) initiative (Department of Health, 2003).

One cannot have failed to notice the debacle surrounding the recruitment process in 2007 and the harsh criticism from several quarters of the medical world with regards to MMC. Whether or not MMC, or indeed Professor Tooke’s alternative version (Tooke, 2008), will produce surgeons of an equivalent standard to the past is yet to be seen.

The authors conducted a detailed nationwide survey of foundation year 2 (FY2) doctors’ experiences during their foundation year 1 (FY1) surgical posts to reveal how these may have shaped their interest in surgery.

## Method

A detailed questionnaire was distributed to FY2 doctors working in a mixture of district general and teaching hospitals across the UK (Figure 1). All had completed 4 months surgery during FY1. They were asked to record their experiences of FY1

surgical posts. Responses were kept anonymous and returned to one of the researchers. The responses were maintained on a central database and were a reflection of their experiences during their first foundation year.

## Results

The questionnaire was distributed to 440 FY2 doctors of which 422 agreed to participate, providing a response rate of 95.9%. The results for each question are described below.

### Question 1: Were you interested in surgery before FY1?

A small majority (54.0%,  $n=194$ ) were interested in a surgical career before FY1, while 46.0% ( $n=228$ ) were not interested in a surgical career when they left medical school.

### Question 2: How many times did you attend theatre during your FY1 surgical post?

All FY1s attended theatre more than five times: 75.8% ( $n=320$ ) attended 6–10 times, 5.7% ( $n=24$ ) attended 11–15 times, 10.9% ( $n=46$ ) attended 16–20 times and 7.6% ( $n=32$ ) attended 20 or more times.

Figure 1. Questions included in the survey. FY1 = foundation year 1.

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Foundation programme surgical training survey						
Question						
1	Were you interested in a career in surgery before your FY1 surgical placement?					Yes/No
2	How many times did you attend theatre during your FY1 surgical post?	0–5	6–10	11–15	16–20	20+
3	How many times did you watch your consultant operating?	0–5	6–10	11–15	16–20	20+
4	How many emergency surgical procedures did you observe or assist with?	0–5	6–10	11–15	16–20	20+
5	How many times did you attend outpatients clinics?	0–5	6–10	11–15	16–20	20+
6	Do you feel you had sufficient surgical exposure to make an informed decision to pursue a career in surgery?					Yes/No
7	After your FY1 surgical placement are you more or less inclined to pursue a surgical career?					More/same/less

**Question 3: How many times did you watch your consultant operating?**

Of respondents, 39.3% ( $n=166$ ) saw their consultant operate 0–5 times, 42.2% ( $n=178$ ) between 6 and 10 times, 10.0% ( $n=42$ ) between 11 and 15 times, 7.6% ( $n=32$ ) between 16 and 20 times and 0.9% ( $n=4$ ) saw their consultant operate 20 times or more.

**Question 4: How many emergency procedures did you observe or assist with?**

The majority of respondents, 60.7% ( $n=256$ ), observed or assisted in 0–5 emergency procedures, 20.4% ( $n=86$ ) observed or assisted in 6–10 emergency procedures, 14.7% ( $n=31$ ) between 11 and 15 emergency procedures; 2.8% ( $n=12$ ) between 16 and 20, and 1.4% ( $n=6$ ) observed or assisted in 20 or more emergency procedures.

**Question 5: How many times did you attend outpatients clinics?**

A total of 84.4% ( $n=356$ ) attended outpatients 0–5 times, 13.7% ( $n=58$ ) attended outpatients 6–10 times, 1.9% ( $n=8$ ) attended outpatients 11–15 times and no FY1s managed to attend outpatients more than 15 times.

**Question 6: Do you feel you had sufficient surgical exposure to make an informed decision to pursue a career in surgery?**

The majority, 73.9% ( $n=312$ ), felt they did not have sufficient surgical exposure during their FY1 year to make an informed career decision while 26.1% ( $n=110$ ) felt they had.

**Question 7: After your FY1 surgical placement are you more or less inclined to pursue a surgical career?**

A majority of respondents, 57.8% ( $n=244$ ), were less inclined to pursuing a surgical career after their FY1 surgical placement, 29.4% ( $n=124$ ) were more interested and 12.8% ( $n=54$ ) remained unchanged in their career choice.

An overall summary of responses to these questions is shown in *Figures 2 and 3*.

**Discussion**

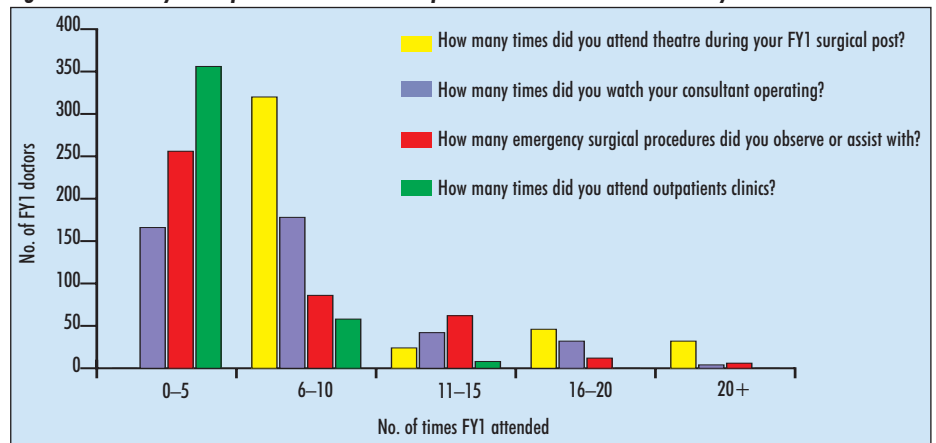
**Evolution of surgical training**

Surgical training fundamentally relies on adequate clinical exposure for which there is no substitute. However, with changes in junior doctors' working patterns, this must be achieved within a shorter period of time (NHS Management Executive, 1991; Pickersgill, 2001). Furthermore, with pressures on hospital beds and 'breach' targets, much of the time which was traditionally set aside for operative teaching has been replaced by the demands of service provision. The creation of additional posts for specialist nurses and surgical care practitioners to tackle waiting lists has reduced the number of suitable cases available for training junior surgeons (Bruce et al, 2006). This has led to the new and challenging situation of training highly skilled professionals within a shorter time during an era of increased patient and managerial expectations. The proposed solution to this situation in the UK was MMC.

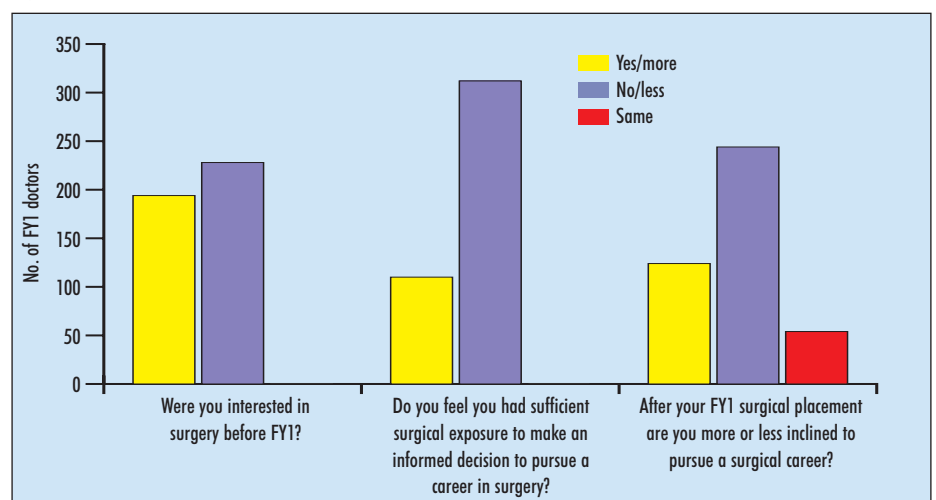
Before the introduction of MMC, medical and surgical training operated within the reforms set out by former Chief Medical Officer, Kenneth Calman (Working Group on Specialist Medical Training, 1993). Many of the concerns voiced at that time revolved around a reduction in the training period – a direct result of decreased working hours (Bates, 1996). Perceived lack of juniors' experience and therefore the need for increased supervision left many senior doctors concerned, believing this would impact on them by increasing their workload and potentially introducing a resident on-call consultant (Mather and Elkeles, 1995).

As part of the MMC initiative, junior doctors are required to go through a 2-year foundation programme. FY1 involves consolidating skills and knowledge of undergraduate teaching while FY2 focuses on management of the ill patient. The fundamentals of this are a competency-based curriculum whereby certain standards

**Figure 2. Summary of respondents' answers to questions 2–5. FY1 = foundation year 1.**



**Figure 3. Summary of respondents' answers to questions 1, 6 and 7. FY1 = foundation year 1.**



must be fulfilled before being deemed suitable for progression. This includes demonstrating competence in a 'list' of skills. MMC allows for exposure to a greater number of specialties over a 2-year period, devoting only 4 months to surgery in many cases.

### The junior doctors' perspective

This survey provides a reflection of current surgical experience in FY1 posts across the UK. There are without doubt challenges associated with the new junior doctor curriculum but the situation is not as dire as some commentators lead us to believe.

The operating theatre can be a daunting place for an FY1 doctor and early familiarization with this environment is important in encouraging further attendance. Learning the correct method of 'scrubbing' for surgery and preparing a patient for an operation can only be taught effectively in theatre. Encouraging theatre attendance allows FY1s to feel more comfortable in theatre and an important member of the team.

The majority of respondents (61%) saw their consultant operate six or more times during their foundation surgical training. This is encouraging, particularly as many consultants may only have one dedicated theatre list per week. Furthermore, all respondents had been to theatre at least six times during their post and 20% had attended more than sixteen times. However, a significant group (39%) saw their consultant operate less than five times. The pressures of service provision in a busy hospital often take precedence over training with the efficient running of the hospital relying on FY1 doctors performing administrative duties. This leaves little time for these doctors to become involved in theatre sessions. This is not the fault of foundation training per se, but may simply reflect the current imbalance between service provision and training in addition to a system failing to cope.

One may argue that not all doctors are interested in attending theatre as they do not wish to pursue a surgically-orientated career, but medical students and doctors are a self-selected group of individuals rich in motivation and intellectual curiosity. Further, there is no doubt that individual consultants display different levels of enthusiasm in teaching juniors. Despite this, it would be highly unusual for consultants to actively dissuade junior members

of their team from attending theatre and most trainers take pride in teaching.

Traditionally, emergency operations have been an excellent opportunity to be involved in theatre given that such operations are often the most exciting, interesting and relevant to junior doctors. Where the most junior members of the team may feel supernumerary during elective operations owing to the sheer number of individuals competing to assist, out-of-hours procedures often require FY1s to participate with real relevance. The results showed that 61% had been in theatre during an emergency case less than five times during FY1 training.

There are several possible explanations for this beyond MMC. The European Working Time Directive and issues around rota compliance mean that many FY1s are simply not in the hospital when these procedures are performed or are 'too busy' on the wards to participate. In years gone by, on-call commitments were more demanding and considered to be an integral part of the job description. The introduction of shift patterns and an increase in the number of junior doctors has meant that these on-call commitments have been reduced (Tait et al, 2008) and therefore exposure to surgical emergencies has decreased. It is also possible that the advent of the Hospital at Night initiative has denied the current cohort of trainees the opportunities afforded to their predecessors, as they may find themselves being 'resourced' elsewhere in the hospital, often to other specialties. There are no mechanisms within the foundation training programme by which FY1s have mandatory exposure to surgical emergencies, particularly since the European Working Time Directive and Hospital at Night schemes, which clearly impinge on attending emergency operations, predate the introduction of MMC.

Outpatient clinics are undeniably a fantastic learning opportunity for the most junior of doctors. Despite many outpatient clinics now becoming specialized, many referrals are general surgical complaints such as hernias and benign cutaneous or subcutaneous lesions. Such pathology is unlikely to be found on the wards, yet the results suggest that these opportunities are not being grasped. No doubt some of the reasons behind difficulties in attending theatre will apply here, but outpatients has

never been a popular environment for house surgeons. Any teaching opportunities are usually given to medical students.

The early experiences of a young doctor will almost certainly impact on his/her career aspirations. Approximately equal numbers considered a career in surgery while medical students, yet by the time the same group had completed surgical foundation 29% of respondents were 'less interested' in surgery and those 'definitely less interested' had increased to 58%. Whether or not this is a new phenomenon is not the question here and it may well be the case that a similar survey performed 10 or 20 years ago would have seen a similar final outcome in terms of percentage of doctors wishing to pursue a career in surgery. However, the introduction of foundation training has been the first opportunity in years to refine and improve surgical exposure and allow junior doctors to really understand what surgery entails. Has MMC failed to meet this challenge?

### MMC: success or failure?

The results suggest that the majority of FY2 doctors felt they had not had adequate surgical experience and exposure from their foundation training at a time when they would need to make decisions about a future career. Furthermore, the inadequacies of foundation training will impact on the level of confidence these doctors have during specialty training. Unfortunately, this cohort of doctors would not have had the most basic of surgical experience, knowledge and capability: 74% of those surveyed felt they had not had sufficient exposure to surgery to make an informed decision with regards to a career in surgery. A worrying conclusion drawn from this is that a significant number of individuals are applying for (and will be entering) surgical training with no real idea of what they are committing themselves to or indeed why. This may be a direct consequence of MMC forcing them to make uninformed career decisions at too early a stage.

The results are interesting and can be interpreted for or against MMC. Although it may appear that the majority of individuals did not attend a significant number of outpatient clinics nor did they spend a significant amount of time in theatre and the majority had little or any exposure to operative surgical emergencies, this is not

necessarily all the fault of MMC. Further, it is questionable whether a reduction in exposure goes towards explaining why 58% were less inclined towards a career in surgery by the time they had completed the surgical element of their foundation programme training. What is more certain is the lack of flexibility of the new system, which streamlines doctors early in the career. How informed are doctors with regards to choosing their future career after a foundation programme which in many cases allows for only 4 months in that chosen specialty?

It is interesting to note how the concerns at the time of the introduction of the Calman reforms were almost identical to those raised with MMC. Many senior doctors have already noticed how the standard of trainee appears lower than in years gone by with regards to clinical experience and, in the case of surgery, less technical ability. Selecting surgeons following a 2-year foundation programme will not necessarily select the best or most appropriate doctors for a career in surgery. However, the difference and ultimate acceptance of the Calman reforms may have been a result of the senior house officer grade. This allowed trainees to consolidate their skills and reach an accepted standard before being accepted into higher training. And more importantly, it allowed doctors to make informed career decisions before throwing them-

selves into rigid training schemes. This is not the case with MMC and the lack of flexibility within such a framework has led to grave concerns. Clearly, lateral entry to run-through training would be a solution, but with such limited places available, this is not a realistic option for the majority.

### Conclusions

This survey targeted the first cohort of FY2 doctors and questioned the validity of the FY1 with regards to surgical exposure. The results show that the significant majority of those trained under MMC feel ill-prepared to make a life-defining career decision. Surgery is not for everyone but the introduction of a new training scheme which involves a 2-month reduction in time spent in a surgical post has failed to address a multitude of issues and is denying the right of juniors to make an informed career decision.

There also encouraging aspects in that several doctors are managing to participate in a number of surgical activities. It would be interesting to know why there were such differences and the reasons behind some FY1s being able to attend theatre and emergencies while others were not.

In a competency-based programme there should be dedicated time to attend theatre under supervision during consultant-led operations and emergency procedures. Quite simply, surgeons operate, and it is imperative for junior members of the team

to actually witness what their consultants do. Interest is stimulated by empowerment and allowing junior team members to be involved in decision making is clearly a good thing, particularly as this allows freedom from the shackles of mere service provision. These results show dissatisfaction among the first individuals on whom MMC has been imposed, the majority finding their FY1 surgical experience inadequate. MMC is here and if it is to survive and succeed these issues must be addressed immediately, and surgery be given the opportunity to inspire and educate in the way it truly can. Failure to do so will be failing the very individuals MMC was created to help. **BJHM**

*Conflict of interest: none.*

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### KEY POINTS

- Modernising Medical Careers has significantly changed the way medical training is delivered.
- These changes remain contentious with both trainers and trainees.
- Surgical training and other craft specialties require adequate exposure and technical training.
- Foundation year doctors are not all getting adequate training opportunities.
- Some foundation year doctors feel ill-informed to make early career decisions.