Clinical audit

Out-of-hours work in cardiothoracic surgery: implications of the New Deal and Calman for training

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Summary

With the introduction of the New Deal and the Calman Report, the duration of higher specialist training will be halved. We have examined the effect of reduced on-call rotas on exposure to relatively uncommon out-of-hours emergencies in cardiothoracic surgery. Operations for post-infarction ventricular septal defect, aortic dissection or transection, oesophageal perforation and pulmonary embolus performed out-of-hours between 1990 and 1995 were identified from hospital records. Over 6 years, the period of higher specialist training in cardiothoracic surgery, a trainee would see seven aortic emergencies on a 1:2 rota, four on a 1:4 rota and two on a 1:6 rota. These figures provide a powerful argument in support of the English Clause which allows trainees to be available for 83 hours a week, equivalent to a 1:4 rota, rather than 56 hours a week, equivalent to a 1:6 rota under the New Deal. This may need supplementation by a mechanism whereby trainees are 'on call for training'.

Keywords: training; cardiothoracic surgery; emergency surgery; hours of work

Traditionally, surgeons in training have gained their practical skills and experience by apprenticeship. The Calman Report changes this to structured teaching for a fixed period of time. The combined effects of this and the New Deal have been calculated to halve the number of hours spent in higher specialist training.¹ Whilst this may not adversely effect exposure to elective operations in cardiothoracic surgery, trainees are concerned that experience with

relatively uncommon operations may be reduced.² This study analyses the out-of-hours workload in a cardiothoracic unit over 6 years (the training period in cardiothoracic surgery under Calman is 6 years) to quantify the effects of different rotas on exposure to uncommon emergencies.

Methods and results

Analysis of computerised hospital records allowed us to identify the frequency with which four complex operations were started outside the hours of 08.00 to 18.00 and at weekends between January 1990 and December 1995. The number of these operations performed annually in Sheffield was compared to the national average (total number of operations per year divided by the number of cardiothoracic units) by reference to the cardiac and thoracic surgical registers published by the Society of Cardiothoracic Surgeons of Great Britain and Ireland. Surgery for aortic dissection or transection is not included in these figures as this is not separately identified in the register.

To calculate the time spent on-call, we assumed 6 weeks annual leave and eight public holidays per year. Thus a 1:2 rota is equivalent to 43%, 1:4 to 22% and 1:6 to 15% of the annual out-of-hours cover. The exposure to each type of operation was calculated by dividing the number of operations by proportion of time on-call.

The number of procedures a trainee would expect to see out-of-hours during a 6-year period with different rotas are shown in the table. The number of these operations performed in Sheffield during this period was similar to the national average (table).

Comment

Although a fair proportion of these operations were apparently performed 'in-hours', this will be an overestimate as an operation started at, say, 17.59 is classed as 'in-hours'. Compared to their predecessors, Calman trainees will have less direct experience in the management of these emergencies. This may be acceptable if the central tenet of the Calman Report, that structured teaching can compensate for loss of direct experience, is applicable to these challenging operations. If not, more experience can only be gained by spending more time on-call.

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Table Number of cases of each emergency operation seen in a six year period on different on-call rotas

Operation	Sheffield annual average	National annual average	Number (% of total) of operations performed out-of-hours 1990-95	Number on each rota		
				1:2	1:4	1:6
VSD*	6.0	5.0	16 (44)	7	4	2
Pulmonary embolectomy	1.5	0.5	7 (78)	3	2	1
Oesophageal injury	2.7	2.8	14 (88)	6	3	2
Aortic emergency*	7	N/A	17 (41)	7	4	2

*VSD = post-infarction ventriculo-septal defect; aortic emergency = aortic dissection or transection

This must be achieved without compromising exposure to elective surgery. The English Clause allows higher surgical trainees to be available for 83 hours per week (although only working 56 on average) and thus provides some flexibility. The use of the English Clause may be supplemented, or even possibly replaced, by a system of being 'on-call for training'. This would involve training targets being set for trainees and, if in the last 2 years of their training period they are behind these targets, they should be available outside their service commitments for the sole and express purpose of training in emergency cases.

The possibility that trainees may 'complete' their training unable to perform these emergency procedures still exists, with the result that, on appointment to a consultant post, there may still have to be provision for cover for complex cases. This raises the concept of junior and senior consultants, whereby a more

experienced consultant would be available for supervision out of hours. If this situation were to arise, it could be argued that the senior registrar grade was being recreated, only with a different title. This may solve the problem of cover, but there would need to be a system whereby it would be possible to identify when a consultant was ready to become 'senior'. Also, in light of public pressure on the profession to provide the best service, it may be difficult to define what a junior consultant would be allowed to do without supervision or cover. This also has legal implications.

There may be other solutions to this problem, but it is important that it is addressed in the near future, so that higher surgical trainees can be fully trained by the end of their training period.

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1 Anon. New Scottish CMO criticises training reforms. *BMJ* 1996;313:947.

2 Alkhulaifi A, and 64 others. New Deal not satisfactory for cardiothoracic surgery. *BMJ* 1995;311:953.

Medical Anniversary

Sir Frederick Gowland Hopkins, 20 June 1961

Sir Frederick Gowland Hopkins (1861–1947) was born at Eastbourne, and was educated at the City of London School, and at Guys, graduating in 1894. As a Cambridge chemical physiologist, he identified tryptophane, lactic acid following muscle activity, glutathione, and vitamins. For his discovery of vitamins or accessory factors he won a Nobel prize (1929). He became professor of biochemistry at Cambridge (1914), President of the Royal Society (1930–35), and was knighted (1925). He died at Cambridge on 16 May 1947. —
DG James