

Safe shift working for surgeons in training:
Revised policy statement from the
Working Time Directive working party

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

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of
Surgeons
of
England

1. Background

Safe Shift Working for Surgeons in Training was first issued in January 2006 as a result of the findings of a subgroup of the College's working time directive (WTD) working party.

The original guidance note, along with other strands of the College's work and that of related medical royal colleges, prompted a wide-ranging examination of the working practices introduced as a response to the requirements of the European Working Time Directive (EWTD) and facilitated a wider assessment of the impact of full-shift working on patient and doctor safety.

While many of the principles of that original guidance note remain, recent developments in thinking around the safety of shift working, maximising training opportunities and appropriate arrangements for the delivery of surgical services have led us to revise the 2006 guidance.

2. Introduction

Limits to working hours and strict rules on rest requirements apply to the majority of workers in the European Union. In the UK, doctors in training were exempt from the requirements of the EWTD until August 2004. However, they are now subject to a maximum of 58 hours per week with the application of defined rest periods. There will be further reduction in working hours to an average of 48 per week in August 2009. The EWTD is now enacted in UK health and safety legislation.

3. Implications for surgery

The progressive implementation of the EWTD will continue to have profound effects on the delivery and continuity of acute surgical care and the training of tomorrow's surgeons. In particular, full-shift solutions have had a deleterious effect on training, especially in the craft specialties, as has been indicated by a series of surveys conducted by this College.^{1,2} Innovative working practices have been introduced under the Hospital at Night scheme,^{3,4} where research showed:

- > a significant reduction in the need for acute surgical intervention (except for life- or limb-threatening conditions) between 22.00 and 08.00; and that
- > the majority of work undertaken by surgical staff during this period relates to the management of medical co-morbidities

The focus of the Hospital at Night project was critically to examine the staffing requirements of the hospital in the out-of-hours period. In order to meet 2009 EWTD requirements, there is a need to look at appropriate staffing arrangements across the 24-hour period. National Workforce Projects (NWP), the NHS body with responsibility for assisting organisations to meet EWTD 2009 requirements, has recognised this and is actively piloting potential solutions (for more details, please visit <http://www.healthcareworkforce.nhs.uk/workingtimedirective.html>).

4. View of The Royal College of Surgeons of England

The College has published several statements^{5,6,7} relating to the implementation of the directive. The WTD working party provides advice and information via the College website on how best to implement the requirements of the directive while ensuring patient safety and improving training and education. Recently, the

working party has published three guidance notes: *Safe handover*, *Delivering surgical services: options for maximising resources* and *Rota planning*. These can be accessed from http://www.rcseng.ac.uk/service_delivery/wtd.

The College has consistently brought its concerns to the government's attention and this revised guidance note makes a further policy statement on full-shift working arrangements and safety. The guidance is designed to encourage surgeons, service planners, Trusts and strategic health authorities to explore every avenue in order to maintain high-quality and safe surgical care, while safeguarding the training of future surgeons.

In particular, the College feels that the continued widespread application of full-shift working patterns should be carefully reviewed in light of the increasing introduction of extended three-session day working, the separation of elective and emergency care and an emphasis on the completion of routine and non-acute work during regular working hours.

There is a growing body of evidence showing the impact of shift working on patient and doctor safety and on the volume and quality of training. These are summarised in appendix 1.

5. What needs to be done?

We recognise that there is no uniform solution and that accurate demand profiling is required in all hospitals and specialties. However, the following principles should provide the basis for ensuring patient and doctor safety and maximising training within shortened hours.

General principles – early year trainees (F1, F2, ST1 and ST2)

Early year trainees working towards a career in surgery may gain significant value from shift working during modular training, for example in critical care.

General principles – senior specialist trainees (ST3+ and current SpRs)

- > Wherever possible, senior specialist trainees should be removed from night shifts in order to consolidate learning and maximise daytime training opportunities.
- > In particular, surgical specialist trainees should not be required to undertake inappropriate cross-cover.
- > Wherever possible surgical specialist trainees should not be required to work a full-shift pattern. However, if this is required on training grounds this should take the pattern of a single night shift followed by a day off duty.

General principles – full-shift working

There must be a full and in-depth assessment of demand in specific locations to ensure the most appropriate level of cover to safeguard patients and maximise training opportunities.

If after such assessment on-call arrangements are not considered feasible for surgical trainees the following broad principles, formed on the basis of research work on risk already carried out in other organisations working all day, every day and guidance issued by the WTD national stakeholder group, should be taken into consideration:

- > The length of shifts should be no longer than 12–13 hours.
- > The use of 7 x 13-hour night shifts is strongly discouraged.⁸
- > Ideally night shifts should not exceed more than two to three consecutive nights and be followed by two uninterrupted nights' sleep before returning to daytime working. However, it is recognised that for rota planning in the transition period a combination of 4/3 night shifts might be practical with appropriate rest in between.

- > Adequate rest breaks must be provided (every four hours according to the enactment of the EWTD in the UK).⁹
- > Facilities for such rest breaks must be appropriate and address issues of posture and comfort, appropriate lighting, sound dampening, privacy hygiene and catering.
- > Terms and conditions of employment should be reviewed to ensure safe shift working, for example in the provision of accommodation and facilities for taking rest including short periods of sleep.¹⁰

General principles – service delivery

- > Further all-day every-day modelling of workload is required, recognising the importance of matching the skill mix of staff to the demands of the workload.
- > Trainees must be appropriately supervised, especially in the out-of-hours period. Consultant surgeons and other experienced career grade staff must be prepared to take on an advanced frontline role to ensure patient safety and the appropriate use of resources. Trusts must take account of this in their workforce plans.
- > Work should wherever possible be brought into the extended day to ensure optimum training opportunities, with only life- or limb-threatening conditions scheduled for emergency operative procedures outside this period.
- > Wherever possible, emergency and elective surgical care should be separated.
- > There is a need for adequate provision of fully staffed emergency operating theatre facilities as recommended by the National Confidential Enquiry into Perioperative Death.¹¹
- > In addition to the recognised value of the extended roles of non-medical health care professionals in diminishing any service gap, opportunities for the use of new and emerging technologies such as telemedicine and remote monitoring of patients should be explored.

6. Future work

The College continues to work with the surgical specialist associations, related royal colleges, the British Medical Association, trainee organisations, the Department of Health (DH), NWP and other relevant bodies to:

- > develop further guidance on implementing the EWTD while protecting training and maximising safety;
- > support programmes to meet EWTD requirements;
- > share good practice;
- > assist in bidding for, designing and supporting deanery-wide pilot studies that explore safe shift working opportunities;
- > monitor proposals from the European Commission for adjustment of the legislation in relation to the definition of working time, the workplace and the provision on compensatory rest, lobby the government to influence the EU to adjust the constraints of the EWTD as it applies to surgical trainees; and
- > advise the president and College Council on matters relating to the EWTD.

Appendix I

Shift working and safety – collection of evidence

Evidence from surveys

Surveys from the College^{1,2} and other royal colleges^{12,13} have demonstrated that full-shift working patterns are frequently detrimental to training, patient care and morale. Many SHOs are currently working between six to eight night shifts in a row. From reports received we believe that the average length of shift is between 11 and 13 hours. One College survey indicated that most SHOs have between one and three days' rest between changes in night and day working. Only 9% reported having seven rest days.

College task group

In 2005 the College became increasingly concerned about the work schedules of many doctors in training and through its EWTD working party convened a multiprofessional task group including key stakeholders from the royal colleges of physicians (London), anaesthetists, physicians (Edinburgh), the Faculty of Occupational Medicine, national trainee associations, postgraduate deaneries and the DH. The task group's aim was to receive and examine evidence in relation to the effects of shift working, including:

- > patient and staff safety
- > quality and continuity of care
- > training
- > fatigue
- > productivity and economic aspects, and
- > work–life balance.

The task group received evidence from, among others, Professor Simon Folkard¹⁴ and Professor Charles Czeisler,¹⁵ both internationally recognised experts on shift working (in organisations that work 24 hours a day), body rhythms and sleep medicine. Its findings are detailed below.

Risk associated with shift working

It is inherently difficult to measure or associate the incidence of health problems in relation to work schedules. It has been shown that it is more instructive to measure incidents and accidents over the course of a shift to determine the relative risk associated with the

- > length of shift
- > type of shift
- > consecutive pattern of shifts, and
- > interval between rest breaks.

Evidence shows that the relative risk of acute injuries and accidents increases with the length of time on shift, and rises significantly when working night shifts. In addition, the risk almost doubles from the fourth night onwards in comparison with the first. The relative risk also increases with extended length of time between rest breaks.

- > The difference in relative risk between a 48-hour working week and a 60-hour schedule is, however, relatively small. Therefore, it is not necessarily the number of hours worked in a week that produces difficulties.
- > It is vital to compare and contrast the features of different work schedules (ie length and type of shift, consecutive pattern and rest breaks) rather than considering each in isolation.
- > In the United States,^{16,17,18} a series of studies of medical interns, , who worked extended duration shifts of 30 hours demonstrated that:

- After 24 hours of sustained wakefulness, cognitive psychomotor performance had decreased to the level associated with the UK's blood alcohol limit for drivers.
- For each extended duration shift scheduled per month, interns had a 16% increased monthly risk of a motor vehicle accident while commuting from work.
- Elimination of such 30-hour work shifts and shortening the working week improved sleep, decreased attention failures and decreased serious medical errors.
- Sleep loss has an impact on learning and memory consolidation. It is therefore important for the craft specialties in particular to recognise that sleep obtained after learning a new skill task is critical for memory consolidation.

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