

# Safe Shift Working for Surgeons in Training

POLICY STATEMENT FROM THE EWTD WORKING PARTY OF  
THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

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The Royal  
College  
of  
Surgeons  
of  
England

## 1. Introduction

The European Working Time Directive (EWTD) applies to the majority of employed workers in the European Community. Doctors in training were exempt from the requirements of the directive until August 2004 however they are now subject to a limit of 58 hours per week with the application of defined rest periods. Under the current legislation there will be further sequential reduction to 56 hours in 2007 and to 48 hours in 2009.

## 2. Implications for Surgery

The progressive implementation of the EWTD has and 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 to the working time limits have had a deleterious effect on training especially in the craft specialties and this has been demonstrated by a series of surveys conducted by The Royal College of Surgeons of England.<sup>(1,2)</sup> Innovative working practices have been introduced under the *Hospital at Night* scheme following research<sup>(13)</sup> which has shown:

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

## 3. View of The Royal College of Surgeons of England

The Royal College of Surgeons of England (RCSEng) has published provisional statements<sup>(3,4,5)</sup> relating to the implementation of the directive and provides advice and information on the College website for surgeons on how best to implement the requirements of the directive whilst protecting training and education and ensuring patient safety ([www.rcseng.ac.uk/service\\_delivery/ewtd](http://www.rcseng.ac.uk/service_delivery/ewtd)).

The College has consistently highlighted with government its concerns and feels that it is timely and appropriate to make a further definitive policy statement on full-shift working arrangements and safety. This is designed to encourage surgeons, service planners, Trusts and SHAs to explore every avenue in order to maintain high quality and safe surgical care whilst safeguarding the training of future surgeons.

In particular RCSEng feels that the continued widespread application of full shift working patterns designed to provide solutions to the EWTD for surgical trainees should be carefully reviewed in the light of an increasing introduction of extended three-session day-working and an emphasis on the completion of routine and non-acute work during regular working hours.

## 4. Shift Working and Safety – Collection of Evidence

### 4.1 Evidence from surveys

Surveys from RCSEng<sup>(1,2)</sup> and other royal colleges<sup>(6,7)</sup> have demonstrated that full shift working patterns are frequently detrimental to training, patient care and morale. The majority of SHOs are currently working between six and eight night shifts in a row. From reports received we believe that the average length of shift is between 11 and 13 hours. One RCSEng survey indicated that most SHOs have between one and three days rest between changes in night/day working. Only 9% reported having seven rest days.

## 4.2 RCSEng 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 College of Physicians, the Royal College of Anaesthetists, the Royal College of Physicians of Edinburgh, the Faculty of Occupational Health, national trainee associations, postgraduate deaneries and the Department of Health. 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 amongst others Professor Simon Folkard<sup>(8)</sup> and Professor Charles Czeisler<sup>(9)</sup> both internationally recognised experts on shift working in 24/7 organisations\*, body rhythms and sleep medicine.

## 4.3 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;
- > the type of shift;
- > the consecutive pattern of shifts; and
- > the 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 US, a series of studies of medical interns<sup>(10,11,12)</sup> who worked extended duration shifts of 30 hours demonstrated that:
  - After 24 hours of sustained wakefulness, cognitive psychomotor performance had decreased to a level equivalent to a blood/alcohol level of approximately 0.10%.
  - For each extended duration shift scheduled per month, interns had a 16% increased monthly risk of a motor vehicle accident whilst 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.

\* organisations required to provide services 24 hours per day, 7 days per week and 365 days per year.

- 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.

## 5. What Needs to be Done?

5.1 Whilst continuing accurate demand profiling is required in all hospitals and specialties, the College believes:

- > Wherever possible senior surgical trainees should be removed from night shifts in order to consolidate learning and maximise daytime training opportunities. In particular it is recommended that surgical specialist registrars should not be required to undertake inappropriate cross-cover nor to work a full shift pattern. However if the latter is required on training grounds this should take the pattern of a single night shift followed by a day off duty.
- > It is recognised that early year trainees working towards a career in surgery may gain significant value from shift working during modular training for example in critical care.
- > Further 24/7 modelling of workload is required along the lines of that leading to the introduction of the pilot *Hospital at Night* schemes recognising the importance of matching the skill mix of staff to the demands of the workload.
- > 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. The need for fully staffed emergency operating theatre facilities as recommended by NCEPOD<sup>(15)</sup> cannot be underestimated.
- > In addition to the recognised value of the extended roles of non-medical healthcare professional to diminish any service gap, opportunities for the use of new and emerging technologies such as telemedicine and remote monitoring of patients should be explored.
- > Greater efficiency in the care of patients admitted for elective procedures should also be explored for example by the use of patient completed computer-based questionnaires.<sup>(14)</sup>

5.2 In the event that following in-depth assessment of demand in specific locations precludes the re-introduction of on-call arrangements for surgical trainees the following broad principles should be considered in order to ensure safe shift working for trainee surgical staff and a quality service for patients. On the basis of research work on risk already carried out in other 24/7 organisations and following consultation with recognised international experts<sup>(8,9)</sup> the evidence suggests:

- > The length of shifts should be no longer than 12–13 hours.
- > Night shifts should not exceed more than 2–3 consecutive nights and be followed by two uninterrupted nights sleep before returning to day time working.
- > Adequate rest breaks must be provided (every four hours according to the enactment of the EWTD in the UK),<sup>(18)</sup> and facilities for such rest breaks must be appropriate. This should 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 appropriate rest including short periods of sleep.<sup>(17)</sup>

## 6. Future Work

The NHS National Workforce Projects (NWP) team is currently exploring solutions for 2009 compliance and wish to identify appropriate pilot studies which take into consideration safety, training, work/life balance and service requirements. £10m has been reserved for such pilot studies.

The College has clearly indicated its wish to work with NWP, the DH and other relevant bodies. It has identified the following potential areas for future work and investigation to be undertaken at the earliest possible time:

- > To work, with the Health & Safety Executive and the NPSA to define an acceptable level of risk and design work schedules that could be shown to fall within that limit.
- > To support the further research of experts such as Professor Charles Czeisler and Professor Simon Folkard by initiating contact with trainees to facilitate studies into shift working and safety.
- > To develop specialty-specific guidance on safe shift working.
- > To support the development of programmes such as a number of those in the *Hospital at Night* project which reduce or remove surgical trainees from night duties in order to maximise training opportunities and consolidate learning.
- > To assist in bidding for, designing and supporting deanery-wide pilot studies that explore safe shift working opportunities.
- > To work with other medical royal colleges to find solutions to 2007 and 2009 EWTD compliance whilst ensuring patient and staff safety.
- > To monitor proposals from the European Union Commission for adjustment of the legislation in relation to the definition of working time, the workplace and the provision on compensatory rest.
- > To lobby the government to influence the EU to adjust the rigid constraints of the European Working Time Directive as it applied to surgical trainees.<sup>(16)</sup>

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