

Optimising Working Hours to Provide Quality in Training and Patient Safety

A Position Statement by
The Association of Surgeons in Training

January 2009



The Association of Surgeons in Training
At The Royal College of Surgeons of England
35-43 Lincoln's Inn Fields
London WC2A 3PE
Telephone: 0207 973 0301
Fax: 0207 430 9235
Web: www.asit.org
Email: president@asit.org

Authors:

- Mr Ben Cresswell** (ASiT President)
- Mr Conor Marron** (ASiT Honorary Treasurer)
- Mr Will Hawkins** (ASiT Honorary Secretary)
- Mr Ewen Harrison** (ASiT Past-President)
- Mr Edward Fitzgerald** (ASiT Vice-President)
- Mr Alex von Roon** (ASiT Vice-President)

Ratified by ASiT Council on Friday 16 January 2009

I Executive Summary

- I.1 The Association of Surgeons in Training (ASiT) represents UK trainees from all surgical specialties and has over 2200 members. ASiT has been concerned about the European Working Time Directive (EWTD) since its introduction. In May 2006 we published a report on the impact of the EWTD in Surgery highlighting concerns and urgent actions required to limit potentially detrimental effects on surgical training.[1]
- I.2 ASiT continues to believe that reducing working hours has impacted on surgical training and continuity of patient care. The majority of surgical trainees would welcome the opportunity to work in excess of the hours permitted by the EWTD[1, 2].
- I.3 ASiT has conducted the largest survey of surgical trainees to date on the EWTD, with 1096 responses from trainees representing all nine surgical specialties and regions in the UK.
- I.4 Results from the ASiT survey confirm that there is significant underreporting of hours worked by surgeons in training. As a result, the number of non-compliant posts is far higher than previously thought, making achievement of EWTD targets unlikely.
- I.5 Within units purporting to be EWTD compliant, a significant problem has been identified whereby “rota gaps” (created by a failure to recruit non-training doctors), have been filled by rearranging internal cover so that hours may appear compliant

“on-paper”. The reality of such solutions however is that individuals are working in excess of the reported 48 hours.

- I.6 Shift working has been shown to lead to more fatigue and increased medical errors when compared to 24 hour on-call rotas[3-18]. Those working full shift rotas have reported a deterioration in the quality of training over the last two years.
- I.7 The ASiT survey suggests that surgical trainees wish to continue working out-of-hours on-call rotas and that the majority would welcome the opportunity to work beyond the 48 hours imposed by EWTD. Overall 80% favoured either an individual or a specialty opt-out.
- I.8 ASiT suggest that to ensure optimal training, with adequate time for exposure and high quality patient care with increased continuity, it is necessary to return to a working week of approximately 65 hours. For higher specialty trainees (ST3 and above), on-call rotas rather than shift working would best protect training opportunities, and would be the optimal arrangement where workload permits.

2 Introduction

- 2.1 The Association of Surgeons in Training (ASiT) represents UK trainees from all surgical specialties and is one of the largest specialty trainee organisations in the UK with over 2200 members.
- 2.2 In May 2006 ASiT published its report on the impact of the European Working Time Directive (EWTD) in Surgery, focussing on the effects on surgical training, patient care, health of the worker and lifestyle[1]. The report was endorsed by all of the major professional surgical organisations and circulated to the Prime Minister, Secretary of State for Health and numerous European bodies, with a request for urgent action to be taken.
- 2.3 ASiT continues to believe that the restrictions imposed by the EWTD will detrimentally affect the quality of training of junior surgeons and therefore the quality of surgical service provision in the future. We believe that the current EWTD restrictions will ultimately be detrimental to patient care[1, 2, 18-21].
- 2.4 ASiT has recently performed a survey of its trainee members from all surgical specialties and, with 1096 responses, can now provide an accurate reflection of current working practices and aspirations of those training for a surgical career with regards to the EWTD.

3 Background

- 3.1 The current EWTD limit of 58 hours per week is due to be further reduced to 48 hours in August 2009. The current limit has seen a fall in total available training hours from 32,000 to 21,000, and from August this will be limited to a maximum of 18,000 during the 8-year core and specialty training periods.
- 3.2 The effects of the reduction in hours have been further compounded by the SiMAP and Jaeger rulings of the European Courts of Justice[22]. These decree that all time spent in the workplace should be regarded as 'work', whether at rest or not.
- 3.3 Surgery is a craft specialty and requires significant exposure to “hands-on” training. Operative and procedural skills define the surgical craft and these are finite in number, with the majority to be gained during working hours. It is recognised however that in order to provide a high quality service, an exposure to out-of-hours emergencies remains essential.
- 3.4 One effect of the initial reduction in working hours to a maximum 58 per week has been the significant reduction in the number of logged Index procedures performed by surgical trainees. Studies have consistently shown a greater than 20% reduction in operative cases performed[1, 2, 23-33]. With a contraction in working hours to 48, the number of procedures performed by trainees will inevitably be further reduced, as the proportion of time spent working out-of-hours will increase relative to the normal working day[34, 35].

- 3.5 Though much work and effort has been put in to the development of EWTD compliant rota design, significant numbers of individual units are struggling to accommodate the new restrictions. There is a strong belief that some units achieving EWTD compliance have done so to the detriment of training, and in some instances by inaccurate hours reporting and bullying. The ASiT survey has confirmed these concerns and shown that current working practices are both far from being EWTD compliant and have adversely affected the quality of training.
- 3.6 Expanding the number of doctors on a rota dilutes training for all involved. To maintain future standards of care the available training opportunities can only support a finite number of trainees.
- 3.7 In an effort to produce compliant rotas, some Trusts create extra rota spaces to be filled by doctors outside of formal training schemes – jobs to which they have then struggled to recruit to. A separate survey with 466 respondents considered the problem of ‘rota gaps’ specifically. The creation of “rota gaps” has been reported by 53% of survey respondents, with 78% of rotas with gaps purporting to be 48-hour compliant. This leads to trainees being taken out of their usual daytime commitments to cover service issues. 69% of those with gaps on rotas have lost procedural training opportunities to provide cover, and 62% have no additional daytime support to cover patient care or service issues. Out of hours cover was provided by “internal locums” in 57% of cases which, although permitting a compliant rota on paper, results in non-compliant hours for those individuals acting as locums. This is of serious concern in relation to patient safety and 64% of trainees working with ‘rota gaps’ feel that patient care has suffered as a result.

3.8 The Institute of Medicine in the United States of America has recently recommended there be no further reduction in the limit of 80 hours per week. This is has been based on considerations of patient safety and worker health as well as medical education and training. Instead, changes have been made to the mechanisms of achieving rest rather than focusing on number of hours worked[36].

4 ASiT EWTD Survey Data

4.1 *Demographics*

A total of 1096 responses were received, with proportional representation of all surgical specialties and geographical regions in the UK.

4.2 *Current Actual Hours Worked*

90% of trainees reported exceeding their rostered hours on at least a weekly basis, and 85% reported that they had attended procedural sessions during a rostered day off, the majority doing so on a regular basis. 57% of respondents have been required to attend on a rostered day off in order to support service provision and to ensure that patient care is maintained. Only 25% of respondents felt that the working patterns held by their Human Resources Departments, and on which their contracts are based, accurately reflected their actual hours worked. Although 51% of trainees report a maximum shift length of 13 hours, a significant proportion (31%) still work 24 hours or greater as a single on-call period with a maximum reported continuous duty period of 72 hours.

4.3 *Pressure to Declare False Working Hours*

55% of trainees report having been pressurised to falsely declare their actual hours worked and that pressure was reported to have come from Managers, Consultants, Peers and themselves in almost equal measure.

4.4 *The Effect of Shift-Working on Training and Work/Life Balance*

68% of respondents reported a deterioration in the quality of their training over the last two years as a result of shift-working, with their operative skills having suffered

the most. Similarly, 71% report that reductions in working hours have not led to any improvements in their work/life balance and 74% report that new shift patterns have led to pressures on their social relationships.

4.5 *Trainees and EWTD*

80% of surgical trainees responding to the survey would support an “opt-out” of EWTD to protect their training and a further 10% “didn’t know”.

5 An “Ideal” Job Plan

- 5.1 A single ideal job plan is impossible to produce owing to the inevitable differences between the working pattern and requirements of individual surgical specialties and individual units. Several generic principles do apply to all specialties however, and the following suggestions relate to higher specialty trainees (ST3 onwards).
- 5.1 Shift working has been shown to result in a large reduction in the proportion of overall hours spent in daytime training activities, with a corresponding increase in out-of-hours service provision. Whilst it is accepted that cross-cover between surgical specialties may be appropriate at core training level, very few units afford a sufficiently heavy workload to require shift working by specialty trainees and a return to an on-call system (whether resident or non-resident) is strongly recommended. This would result in fewer daytime training opportunities being missed whilst maintaining exposure to out-of-hours emergency work, improving continuity of care and hence patient safety and reducing the number of doctors required on the rota tier with the potential for financial savings. The ASiT consensus for the optimal frequency of on-call duties is a 1:6 pattern, which would effectively reduce to 1:5 with prospective cover.
- 5.2 Daytime sessions offer the greatest number of training opportunities and the increase in staffing numbers required to cover compliant rotas has led to competition between training and non-training grades. Ideally, trainees should have access to three half-day operating lists a week, two outpatient sessions, a special interest session (such as endoscopy) and time protected for research / audit and administrative tasks to include teaching of juniors. In addition, most specialties involve some form of inter-specialty interaction and attendance at multi-disciplinary team meetings (MDT) is essential to

education. It is recognised that various specialties will have their own unique requirements, for instance a requirement for a greater number of MDT meetings, outpatient clinics or specialist sessions. The timetable would therefore be customised for the individual specialty and unit, but the overall hours requirement would remain similar. A sample timetable for an individual trainee would therefore appear thus:

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Outpatients	Theatre	On-call	Academic Activities	MDT/ Outpatients
PM	Endoscopy	Theatre	Emergency Theatre List	Off	Theatre
Night			On-call		

5.3 Based on a normal working day of 8am to 6pm, with 1:6 evening and weekend on-calls this would require a total working time of 65 hours per week, when averaged over a 6 week rota cycle.

6 Summary

- 6.1 Surgical training has inevitably suffered with reducing working hours and, shift-working has led to a significant increase in reported fatigue, a deterioration in work / life balance and a loss of continuity in patient care, prompting serious concerns for patient safety.
- 6.2 The majority of surgical trainees would strongly welcome the opportunity to work in excess of the hours permitted by the EWTD[2, 37].
- 6.3 As an organisation, we feel that a high quality training process is not achievable within the constraints of a 48 hour week and would suggest a return to longer working hours in order to protect Patients of the future.

7 References

- [1] Marron C, Shah J, Mole D, Slade D. European Working Time Directive, a Position by the Association of Surgeons in Training. In: Training AoSi, ed. London 2006.
- [2] Lowry J, Cripps J. Results of the online EWTD trainee survey. *Ann R Coll Surg Engl (Suppl)*. 2005;87:86-7.
- [3] Akerstedt T. Consensus statement: fatigue and accidents in transport operations. *J Sleep Res*. 2000 Dec;9(4):395.
- [4] Bamford N, Bamford D. The effect of a full shift system on doctors. *J Health Organ Manag*. 2008;22(3):223-37.
- [5] Barger LK, Cade BE, Ayas NT, Cronin JW, Rosner B, Speizer FE, et al. Extended work shifts and the risk of motor vehicle crashes among interns. *N Engl J Med*. 2005 Jan 13;352(2):125-34.
- [6] Chow KM, Szeto, C.C., Chan, M.H.M., Lui, S.F. Near-miss errors in laboratory blood test requests by interns. *Q J Med*. 2005;98:753-6.
- [7] Connor J, Whitlock G, Norton R, Jackson R. The role of driver sleepiness in car crashes: a systematic review of epidemiological studies. *Accid Anal Prev*. 2001 Jan;33(1):31-41.
- [8] Fletcher KE, Davis SQ, Underwood W, Mangrulkar RS, McMahon LF, Jr., Saint S. Systematic review: effects of resident work hours on patient safety. *Ann Intern Med*. 2004 Dec 7;141(11):851-7.
- [9] Fletcher KE, Saint S, Mangrulkar RS. Balancing continuity of care with residents' limited work hours: defining the implications. *Acad Med*. 2005 Jan;80(1):39-43.
- [10] Folkard S, Lombardi DA, Tucker PT. Shiftwork: safety, sleepiness and sleep. *Ind Health*. 2005 Jan;43(1):20-3.
- [11] Folkard S, Tucker P. Shift work, safety and productivity. *Occup Med (Lond)*. 2003 Mar;53(2):95-101.
- [12] Harrington JM. Shift work and health--a critical review of the literature on working hours. *Ann Acad Med Singapore*. 1994 Sep;23(5):699-705.
- [13] Hobson J. Shift Work and doctors' health. *Student BMJ*. 2004 November;12(11):412-3.
- [14] Horne JA, Reyner LA. Sleep related vehicle accidents. *Bmj*. 1995 Mar 4;310(6979):565-7.
- [15] Nicol AM, Botterill JS. On-call work and health: a review. *Environ Health*. 2004 Dec 8;3(1):15.
- [16] Scott-Coombes D. European working time directive for doctors in training. Reduction in juniors' hours abolishes concept of continuity of care. *BMJ*. 2002 Mar 23;324(7339):736.
- [17] Spurgeon A. Working Time. Its impact on safety and health: International Labour Organization 2003.
- [18] Cairns H, Hendry B, Leather A, Moxham J. Outcomes of the European Working Time Directive. *BMJ*. 2008;337:a942.
- [19] Pounder R. Junior doctors' working hours: can 56 go into 48? *Clin Med*. 2008 Apr;8(2):126-7.
- [20] Murray A, Pounder R, Mather H, Black DC. Junior doctors' shifts and sleep deprivation. *BMJ*. 2005 Jun 18;330(7505):1404.
- [21] Lowry J, Cripps J. The EWTD and retirement intentions: a survey of surgical consultants. *Ann R Coll Surg Engl (Suppl)*. 2005;87:272-4.
- [22] Sindicato de Medicos de Astsencia Publica (SiMAP) v Clnsellaria de Sandid y Consumo de la Generalidad Valencia C-303/98. EC. 2000.
- [23] Marron CD, Byrnes, C.K., Kirk, S.J. An EWTD Compliant Shift Rota Decreases SHO Training Opportunities. *Ann R Coll Surg Engl (Suppl)*. 2005;87:246-8.
- [24] Anwar M, Irfan S, Daly N, Amen F. EWTD has negative impact on training for surgeons. *BMJ*. 2005 Dec 17;331(7530):1476.
- [25] Benes V. The European Working Time Directive and the effects on training of surgical specialists (doctors in training): a position paper of the surgical disciplines of the countries of the EU. *Acta Neurochir (Wien)*. 2006 Nov;148(11):1227-33.
- [26] Chan YC. European working time directive for doctors in training. Profession needs to modernise surgical training. *BMJ*. 2002 Mar 23;324(7339):736-7.
- [27] Chesser S, Bowman K, Phillips H. The European Working Time Directive and the training of surgeons. *BMJ*. 2002;325:S69-70.
- [28] Garg D, French J, Bradburn M. Shift work and surgical training: an observational study in one district general hospital. *Ann R Coll Surg Engl (Suppl)*. 2003;85:196-8.
- [29] Lim E, Tsui S. Impact of the European Working Time Directive on exposure to operative cardiac surgical training. *Eur J Cardiothorac Surg*. 2006 Oct;30(4):574-7.
- [30] Morris-Stiff G, Ball E, Garris D, Foster M, Torkington J, Lewis M. Registrar operating experience over a 15-year period: more, less or more or less the same? *Surg J R Coll Surg Edinb*. 2004;2(161-164).
- [31] Soo A, Alam M, Mitchell T, Healy DG, Nolke L, Wood AE. A step towards being EWTD compliant: a single institution study of the cardiothoracic surgery experience. *Ir Med J*. 2007 Oct;100(9):596-8.

- [32] Stephens M, Pellard S, Boyce J, Blackshaw G, Williams D, Lewis W. Influence of EWTD compliant rota on SHO operative experience. *Ann R Coll Surg Engl (Suppl)*. 2004;86:120-1.
- [33] Tait MJ, Fellows GA, Pushpanathan S, Sergides Y, Papadopoulos MC, Bell BA. Current neurosurgical trainees' perception of the European Working Time Directive and shift work. *Br J Neurosurg*. 2008 Feb;22(1):28-31; discussion 2-3.
- [34] Ahmed-Little Y. The European Working Time Directive 2009. *Br J Health Care Manag*. 2006(12):373-6.
- [35] Ahmed-Little Y. Implications of shift work for junior doctors. *BMJ*. 2007 Apr 14;334(7597):777-8.
- [36] Iglehart JK. Revisiting duty-hour limits--IOM recommendations for patient safety and resident education. *N Engl J Med*. 2008 Dec 18;359(25):2633-5.
- [37] Horrocks N, Pounder, M.D. Working the Night Shift. An audit of the experiences and views of specialist registrars working a 13-hour night shift over 7 consecutive nights. 2004 [cited; Available from: http://www.rcplondon.ac.uk/news/ewtd_nightshift.asp]

The Association of Surgeons in Training
At The Royal College of Surgeons of England
35-43 Lincoln's Inn Fields
London WC2A 3PE
Telephone: 0207 973 0301
Fax: 0207 430 9235
Web: www.asit.org
Email: president@asit.org