The European Working Time directive

In 2009 the European Working Time Directive limits the weekly working hours to an average of 48 in all European Union member states.

Differences in the postgraduate training programs of neurosurgical residents are suspected throughout Europe. The influence of working hour restrictions by the European Working Time Directive (WTD) 2003/88/EC on the number of surgical procedures remains unclear.

Stienen et al., designed a survey to collect information on the number of surgical procedures, performed by European neurosurgical trainees during residency.

The electronic survey was distributed among the European Association of Neurosurgical Societies (EANS) member countries by national delegates of the training committee, as well as by members of the Young Neurosurgeons' committee. The EANS mailing list of individual members was also used for distribution. All responses received between 04/2018 and 12/2018 were considered.

From n = 180 responses received, 42 were omitted as responders were still in residency and for 58 relevant information was missing. The final sample was n = 80, with a mean responder's age of 43.0 years (SD 8.6) and 88.8% being male. Responses came from 16 European countries; board certification was received between the years of 1976-2018. The numbers of surgical procedures performed independently were 511 (mean, 95% confidence interval (CI) 413-610), supervised were 514 (95%CI 360-668) and assisted were 752 (95%CI 485-1019) throughout residency. More detailed numbers for specific procedure types are reported in the article. Independently performed cranial procedures outnumbered spinal procedures ($p < 0.006$), and adult procedures outnumbered pediatric procedures ($p < 0.001$). There was a strong decrease in caseload between 1976 and 2018, with trainees performing on average 65 cases less throughout residency for each calendar year increase in board certification (95% CI - 116 to - 15, $p = 0.012$). Trainees graduating residency before introduction of the European WTD 2003/88/EC participated in more procedures than those graduating afterwards (mean 2797 vs. 1418, $p = 0.005$).

The preliminary analysis of the first 80 responses now provides a first reference frame for caseload that can be used by current and future European residents to critically compare their own operative numbers to. There was a strong decline in surgical cases over time, and trainees graduating after introduction of the European WTD 2003/88/EC had less surgical exposure. The survey remains open, and we invite further European neurosurgeons to provide their data in order to get even more robust estimates [1)].

Due to the European Working Time Directive (EWTD) and a new collective agreement for doctors working at University hospitals in 2006 new shift models had to be designed in the Department of Neurosurgery of the University Hospital Tübingen, Germany. The aim of the study was to show the fit of the models regarding the average weekly working time limits (aWTL), the daily maximum of 10-h working time (10-h dWT), and the staff expenditures 3 years after implementation.

The new shift model was implemented in 2008, and hence planning and documentation were done electronically. Adherence to the work schedules was measured, and aWTL adherence rates were

compared. The relative number of 10-h dWT violations in 2009 and 2010 was analysed. Staff costs relative to performance before and after implementation were calculated and tested using analysis of variance (ANOVA). Four other departments without alteration of shift models served as a control group in cost trend analysis.

In 2010 all doctors in the Department of Neurosurgery were able to stay within the limit of 54 h/week; one doctor without opt-out exceeded the 48 h/week limit (50.1 h/week). The median per capita rate of 10-h dWT violations in 2009 was 20.3 % of all eligible working days and further declined to 10.7 % in 2010 ($p < 0.001$). Staff costs per case-weight point did not change significantly (2007: 339.88€, 2009: 307.99€, 2010: 322.54€; $p = 0.22$) in neurosurgery or in the control group (2007: 633.72€, 2009: 637.06€, 2010: 690.30€; $p = 0.67$).

After implementation of the new shift model, current monitoring and properly matching modifications led to long-term stability in complying with the EWTD regulations without increasing costs for staff expenditures [2)].

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studied the effect that the EWTD has had in these areas for residents in the neurosurgical unit at St. George's Hospital, London, UK.

METHODS: Case notes for 50 emergency and 50 elective operative admissions were randomly selected before and after implementation of an EWTD compliant resident roster (total, 200 episodes). Each was objectively scored for continuity of care from the operating surgeon. Rosters from 3 months before and after implementation were compared to assess training opportunities available.

RESULTS: A significant reduction was observed in continuity of emergency care following introduction of the EWTD compliant roster ($P < 0.009$). The same proportion of residents consented and operated on elective cases; however, a significant reduction in continuity of postoperative care was observed ($P < 0.0001$). Resident training opportunities were substantially affected with reduced involvement in outpatient (72% vs. 60%) and operating sessions (79% vs. 63%) with their nominated consultant.

The EWTD has had a marked adverse impact on continuity of care for neurosurgical patients at St. George's Hospital. Residents' training opportunities were reduced [3)].

A survey of the British Neurosurgical Trainees' Association which aimed to assess current rota patterns and their compliance with the government's working time regulations. The survey questioned whether trainees felt that shift working, imposed as a result of the European working time directive, is continuing to impact on patient care and training opportunities in neurosurgery. The responses to this survey indicate that neurosurgical trainees remain concerned with the impact that the current working time regulations have on all facets of their work: training, work- life balance, and the provision of patient care. The survey comments show that the majority would support a change in legislation to allow greater flexibility in the working time regulations [4)].

In European Union member states with traditional long working hours for hospital doctors the reduced working hours led to a decrease in trainee case loads. A negative effect on patients care is only suspected, but not yet measured. In particular, British anesthetists started a discussion about the required changes in training and assessment to counterbalance the lack of practice. European Surgical Disciplines demand for 48 h working time and 12 h teaching and education time per week for

trainees. So far many member states have delayed the implementation of European laws in national laws.

There are less measured clinical facts than political statements published. The actual working time directives in the European Union member states are inconsistent and further political development on this topic across the European Union remains unclear [5].

1)
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