Fatigue and doctors

The Association of Anaesthetists of Great Britain and Ireland (2004) recently issued guidelines *'Fatigue and Anaesthetists'*. Although aimed primarily at anaesthetists, the document will prove helpful to all doctors and health-care staff. It provides a useful insight into the problem of fatigue, the implications for patients and staff, and looks at ways of reducing its impact in the workplace.

WHAT IS FATIGUE?

Fatigue can be defined as a subjective feeling of the need to sleep, an increased physiological drive to fall asleep, and a state of decreased alertness (Murray and Dodds, 2003). Fatigue results in an inability to continue effective performance of physical or mental tasks. Severe fatigue may result in 'microsleeps' during which an individual may become unresponsive for seconds or even minutes. All doctors are prone to fatigue as it is a natural response to repetitive tasks, overwork or sleep deprivation. Often in the NHS these factors are combined.

Sensitivity to fatigue is different between individuals and cannot be prevented by self-discipline, motivation or a sense of duty. Fatigue is not always recognized as such and may be misinterpreted as boredom or a lack of motivation, either by the doctor themselves or their colleagues. Fatigue is worsened by health problems, dehydration, hypoglycaemia, and alcohol or drug use and abuse.

EFFECTS OF FATIGUE

Fatigue is known to reduce the performance of doctors and increase the numbers of errors made. Dawson and Reid (1997) showed that sleep deprivation for 24 hours produces similar levels of performance degradation as 100 mg/dl of blood alcohol (driving limit in the UK is 80 mg/dl). Simple tasks may therefore be performed badly or not at all (Morris and Morris, 2000), and the loss of motivation may have serious consequences for patients. Drug errors are a particular area of difficulty (Landrigan et al, 2004), as are interpretation of the results of clinical tests, all of which may have a significant impact. Most of us can remember times when fatigue has affected our personal performance.

WHAT CAN BE DONE?

The institution of the New Deal and the European Working Time Agreement has helped with reducing the numbers of excessively long shifts undertaken by junior doctors. Some of these changes, made by trusts to meet the requirements of the New Deal, have not been able to eliminate fatigue. The shift systems instituted in many specialties are themselves a potent source of sleep disturbance and fatigue.

With circadian rhythms playing such a vital role in our physiological systems, it is not surprising that fatigue is a particular problem in the adaptation phase to working nights. Certain shift patterns are easier to adapt to, but it is inescapable that fatigue will remain a problem despite adoption of optimal patterns. Two consecutive nights of optimal sleep are required to recover fully from significant sleep loss.

It is known from the airline industry, that when working shifts, the opportunity to nap when possible for not less than 45 minutes has the potential to significantly improve alertness and performance (Rosekind et al, 1994). Although the concept of trainees sleeping while being paid to work may seem superficially illogical, physiological systems need help when adapting to working unnatural hours. This has resource implications for trusts, as quiet areas where sleep is possible should be available.

Although in some areas it may be felt that the old on-call systems provided higher quality care, particularly in terms of continuity, this has been shown not to be the case in busy specialties such as intensive care. Adoption of appropriate shifts and effective handovers may help minimize these effects, and reducing shift lengths has been shown to be beneficial in reducing errors (Landrigan et al, 2004).

The additional potential difficulties faced by trainees when working fixed shifts must not be forgotten. These include loss of social and family time, a reduction in training hours, and a loss of the consultant team approach in which to function as a valued member.

Senior doctors on call from home for busy specialties may work excessive hours, and arrangements for taking compensatory rest must be practical. They must also ensure that all commitments are sensibly planned during the working week. It may be appropriate for some senior clinicians to have the opportunity of reducing their on-call commitments.

Senior doctors and hospital managers must accept that fatigue is a continuing problem for trust staff, which will need to be managed both by the individual and the trust. Solutions are needed at all levels of health care including national directives, effective local job planning, shift patterns, rest arrangements, refreshments, protocols for difficult local situations and personal responsibility by the doctor.

The problem is not restricted to the UK (Morris and Morris, 2000; Australian and New Zealand College of Anaesthetists, 2001; Gaba and Howard, 2002; Howard et al, 2002; Parshuram et al, 2004).

The Association of Anaesthetists' document (Association of Anaesthetists of Great Britain and Ireland) makes a number of recommendations, which can assist in minimizing the impact of fatigue in the workplace. All are practical suggestions:

- Minimize sleep debt by maximizing sleep before going on call
- Nap whenever possible for 45 minutes or >2 hours
- Overcome sleep inertia by increasing ambient light levels, stretching, walking briskly, being relieved and taking refreshment
- Alert colleagues if microsleeps or nodding off occurs and ask for relief
- Take a break whenever relief is available
- Drink caffeinated drinks
- If working the next day, nap rather than working through
- Nap before driving home
- Post-call, sleep rather than partying to pay off the sleep debt. Go to bed earlier than normal
- Ensure rigid handover protocols.

The topic of maintaining on-call rooms, which were needed when doctors were on call, sleeping in the hospital, is controversial. If napping is useful to reduce fatigue and increase alertness, then there must be a place where an effective nap may be taken. Additionally there will be occasions when sleep will be required following a period of duty before driving home. A facility for both of these will be needed at trusts, and not just for doctors. Perhaps on-call rooms should not be designated for individual specialists, but according to need with keys available from a central source in the trust.

CONCLUSIONS

Fatigue remains an important patient safety issue which needs to be better understood by education, prevented when possible and managed in a practical way by individual doctors and trust managers. HM

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KEY POINTS

- Fatigue is a significant patient-safety issue.
- Every doctor and manager should be aware of the implications of fatigue.
- Job plans and rotas should take fatigue into account.
- There are practical ways of working, which reduce the impact of fatigue.