

**THE SLEEP HABITS, SLEEP-DISORDERED BREATHING AND
DAYTIME SLEEPINESS OF INDUSTRIAL WORKERS.**

Murray Johns[#], Bruce Hocking⁺, Vicky Ryan^{*}.

[#]Sleep Disorders Unit, Epworth Hospital, Melbourne, 3121.

⁺Chief Medical Officer, Telecom Australia, Melbourne, 3000.

^{*}Statistical Consulting Centre, Melbourne University, 3052.

Several epidemiological surveys have shown how common snoring and sleep-disordered breathing are in the community (1,2). However, they have not provided reliable estimates of the prevalence of excessive daytime sleepiness (EDS) and hence of obstructive sleep apnea syndrome (OSAS) because they did not use a standardised and validated method for measuring daytime sleepiness. The Epworth Sleepiness Scale (ESS) provides such a measure (3). The ESS was incorporated into a sleep questionnaire, used here to survey the sleep habits of a whole population of Telecom workers in SW Victoria.

A specially designed (27-item) questionnaire was given to all 507 employees of Telecom in SW Victorian centres. Completed questionnaires were returned anonymously by 331 people - 267 men and 64 women, aged between 20 and 60 years, representing 65% of that workforce. The questions referred to the subject's age, sex, height, weight and many aspects of their usual sleep habits, such as the habitual time of going to bed at night and of getting up on weekday mornings, the frequency of snoring and of stopping breathing or making choking noises when asleep, etc. The ESS component comprised the standardised format of questions about the chances of dozing off in 8 different situations in daily life (3).

The usual duration and timing of sleep at night was similar to that of other Australian adults. Some form of insomnia was present in 11% of men and 19% of women. Snoring, at least fairly often, increased with age and was reported by 40% of men and 19% of women. Sleep-disordered breathing (snoring at least fairly often and stopping breathing or making choking noises) was reported by 28% of men and 12% of women. Presumed OSAS (snoring at least fairly often, stopping breathing, and having EDS with an ESS score > 10) was present in 2.7% of men (95% confid = 1.1 - 5.5), but in none of the women (95% confid = 0.0 - 5.6). The men and women who were "normal" sleepers (without insomnia, snoring, OSA etc) had a mean ESS score of 4.5 (SD = 2.8, n = 73, range 0 - 10). Overall, EDS (ESS > 10) was present in 11% of men and women, unrelated to their age. This suggests that many more people in the general community have EDS than have OSAS. The additional causes of their EDS require further investigation. However, the consequences of EDS, in terms of decreased work efficiency and increased industrial and motor vehicle accidents, presumably reflect the severity rather than the cause of the EDS.

1. Young T, Palta M, Dempsey J et al. The occurrence of sleep-disordered breathing among middle-aged adults. *New Eng J Med* 1993; 328:1230-5.
2. Bearpark H, Elliott L, Cullen S et al. home monitoring demonstrates high prevalence of sleep-disordered breathing in men in the Besselton (Western Australia) population. *Sleep Research* 1991; 20A:411.
3. Johns MW. A new method for measuring daytime sleepiness: The Epworth Sleepiness Scale. *Sleep* 1991; 14:540-45.