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THE MANAGEMENT OF NIGHT TIME URINARY INCONTINENCE: EFFECTS ON SLEEP

AIMS OF STUDY: Disturbed sleep is common amongst nursing home residents [1] and night time pad changing (and resident turning) have been found to be associated with sleep fragmentation [2] However sleep problems are known to be multi-factorial and it has not been demonstrated that changes in night time continence management result in less sleep fragmentation. In this study we aimed to answer the question: What is the effect of different pad changing regimes on the sleep of elderly women living in residential settings? In addition, we wished to explore earlier findings [3], which indicated that a substantial proportion of residents who were turned by staff, also turned themselves.

METHODS: A cross-over design was used. Following a two week baseline period subjects from residential settings were randomly allocated to one of two pad changing regimes, a *more frequent* pad changing regime (whereby residents were changed at 22.00, 02.00 and 06.00) or *a less frequent* pad changing regime (with residents changed at 22.00 and 06.00 only). Each regime lasted four weeks and was followed by the alternative regime. The Visi-lab (Stowood Scientific Instruments) was used to measure sleep. This comprises a video tape recorder and a computer attached to an infra-red camera. A video tape is made enabling direct observation of the resident's sleep/wake patterns and activities. Sleep disturbance is measured by calculating recorded body movements, using analysis software supplied by the manufacturer. Sleep recordings were taken for 10 hours, for two nights per subject during each regime.

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RESULTS: Twenty-one subjects with night time incontinence from four residential settings for elderly people completed the study. No significant differences were found in sleep disturbance between the two regimes (*more frequent* pad change regime 57.9 SD 39.4 (mean movements per hour), *less frequent* pad change 71 4 SD 48.2 (mean movements per hour)) The trend towards subjects moving less (and therefore sleeping more) during the *more frequent* pad changing regime is probably spurious, but a possible explanation may be that subjects who were changed more frequently were more comfortable and therefore slept more. During both pad changing regimes staff seldom turned residents. Five of the subjects turned themselves during the night and all five were also turned by staff usually because they appeared to have adopted uncomfortable or precarious positions.

CONCLUSIONS: We found no evidence that a *less frequent* pad changing regime results in less sleep fragmentation for elderly women in residential settings. Sleep disturbance in institutional settings is multi-factorial and it is therefore likely that a single additional pad change does not have a measurable effect on sleep. We found that staff seldom turned residents even at the time of pad changing, although self-turning residents *were* turned.

1 (1987) Seventy-two hour polygraphic and behavioral recordings of wakefulness and sleep in a hospital geriatric unit comparison between demented and nondemented patients *Sleep* **10** (2) 143-59. 0161-8105.

2 (1993) The nighttime environment, incontinence care, and sleep disruption in nursing homes. *J-Am-Geriatr-Soc* **41**, 910-4

3 (1993) Nighttime sleep and bed mobility among incontinent nursing home residents. *J-Am-Geriatr-Soc* **41**, 903-909.