

## **Br. light, dark and mltn can promote circadian adaptation in night shift workers**

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### **Abstract**

The circadian rhythms of shift workers do not usually phase shift to adapt to working at night and sleeping during the day. This misalignment results in a multitude of negative symptoms including poor performance and reduced alertness during night work and poor daytime sleep at home. After an introduction to circadian principles, we discuss the efficacy of appropriately timed bright light exposure (natural and artificial) and exogenous melatonin administration for producing circadian adaptation to night work. Interventions that generate alternative 24h light/dark patterns that facilitate appropriate circadian phase shifting are discussed. Such interventions include minimizing night workers' exposure to the external light/dark cycle, and the use of intermittent and moving patterns of bright light at work. The efficacy of melatonin in phase shifting circadian rhythms in the field is also addressed and compared to that of bright light. We present sleep/light exposure schedules that could produce circadian adaptation in permanent night workers. We conclude this review by discussing the impact of individual differences on possible circadian interventions and issues associated with the use of bright light interventions in the field.

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