Intended outcome and impact: Data from the full cohort will be used to assess heart rate and respiratory rate across each night and stage of sleep which could reveal clinically useful methods in the emerging field of ambulatory sleep monitoring. The feasibility and challenges of using ambulatory monitoring devices in patients with chronic respiratory disease will be reported. This study will guide future work that could potentially improve ambulatory monitoring through user-friendly and clinically feasible devices.

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AN EXPLORATION OF FACTORS THAT AFFECT PERCEIVED ONSET LATENCY DURING THE MSLT TEST

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It is assumed that during the MSLT test, the sleep laboratory environment will be appropriately resourced to facilitate sleep. However, anecdotal evidence suggests that a variety of factors may actually hinder sleep onset, although this possibility has not been formally investigated in the literature. Thirty-four MSLT participants, who attended the sleep unit between 2018 and 2019, completed a questionnaire that was designed to test perception of sleep onset latency by asking them how easy/difficult it was for them to fall asleep on 17 items that came from four categories. The four categories were the 1. sleep unit environment, e.g. noise/ room temperature; 2. the MSLT procedure, e.g. wires/fixed nap times; 3. the MSLT staff e.g. manner/ clarity of explanations and 4. pain/distress unrelated to the test. All items were rated on a five-point Likert scale. Space was provided for written comments for each category. Overall, the relationship with staff had the greatest impact on perceived sleep onset latency. Forty-one percent of participants reported that the provision of a thorough explanation of the day's procedure helped them fall asleep in naps. Thirty-five percent reported that their own pain and discomfort affected their ability to sleep. Light and noise had little impact. This research indicates that the staff-patient relationship plays a significant role in patient's experience of the MSLT and may potentially affect test outcomes.

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THE EFFECT OF LIGHT INTERVENTIONS ON SLEEP MACRO- AND MICRO-ARCHITECTURE IN SLEEP AND CIRCADIAN RHYTHM DISORDERS: A SCOPING REVIEW

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Introduction: Light interventions have been used to treat sleep and circadian rhythm disorders. However, there are limited studies on the effect of light on electroencephalographic (EEG) activity during sleep. Therefore, we aimed to provide an overview of research using light intervention on sleep macro- and micro-architecture.

Methods: We searched for randomised controlled trials that used light interventions and examined the effect on sleep measured using EEG in MEDLINE, PubMed, CINAHL, CENTRAL and PsycINFO databases. We included studies that examined the light intervention on sleep EEG in participants with a sleep or circadian rhythm disorder.

Results: Four studies met the inclusion criteria in patients with insomnia only. These studies reported only sleep macro-architecture outcomes with three studies showing no effect of the timing or intensity of light intervention on total sleep time, wake after sleep onset, sleep efficiency and sleep stage duration. Only one study reported a significantly higher sleep efficiency after night-time light intervention (>4,000 lx, 21:00-23:00 h) compared with afternoon light intervention (>4,000 lx, 15:00-17:00 h). However, none of these studies reported sleep micro-architecture (power spectral analysis).

Conclusion: Overall, there was limited evidence about the effect of light intervention on EEG sleep measures and studies were confined to insomnia patients only. This review could not find any data on sleep EEG spectral power related to light interventions. Research needs to be conducted into the effect of lighting interventions in clinical populations on sleep macro- and micro-architecture to better understand the effect on objective sleep timing and quality.