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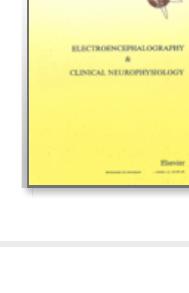
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## Abstract

Six male subjects slept nude except for shorts on a bed made from nylon webbing at 5 different ambient temperatures ( $T_a$ s): 21, 24, 29 (thermoneutrality), 34 and 37°C. Standard electrophysiological recordings were obtained and analyzed for sleep stages.

Temperature displayed significant quadratic trends for nearly every sleep variable, such that  $T_a$ s above or below thermoneutrality had similar effects on sleep patterns. Multiple comparisons showed that 21°C was the most disruptive condition, and that cold  $T_a$ s were generally more disruptive to sleep than warm  $T_a$ s. There were marked individual differences in sensitivity of sleep to cold.

Decreases in REM sleep in humans produced by heat or cold probably result from a general disruption of sleep processes rather than being specifically related to the status of the thermoregulatory system during REM sleep.

## Résumé

Six sujets de sexe masculin ont dormi nus à l'exception d'un short, sur un lit fait de sangles de nylon à 5 températures ambiantes différentes ( $T_a$ ): 21, 24, 29 (thermoneutralité), 34 et 37°C. Des enregistrements électrophysiologiques standards ont permis l'analyse des stades de sommeil.

On note des tendances quadratiques significatives entre température et à peu près toutes les variables du sommeil, de telle sorte que les  $T_a$  supérieures ou inférieures à la thermoneutralité ont des effets similaires sur les patterns de sommeil. Les comparaisons multiples ont montré que 21°C constituait la condition de plus grandes perturbations, et que les  $T_a$  froides ont davantage perturbé le sommeil que les  $T_a$  chaudes. Les auteurs ont montré d'importantes différences individuelles dans la sensibilité du sommeil au froid.

La diminution du sommeil paradoxal chez l'homme, provoquée par la chaleur ou le froid, résulte probablement d'une perturbation générale des processus de sommeil plutôt que d'une liaison significative avec l'état du système thermo-régulateur au cours du sommeil paradoxal.

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