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Sleep deprivation and pain perception.

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Source

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Abstract

Chronically painful conditions are frequently associated with sleep disturbances, i.e. changes in sleep continuity and sleep architecture as well as increased sleepiness during daytime. A new hypothesis, which has attracted more and more attention, is that disturbances of sleep cause or modulate acute and chronic pain. Since it is well-known that pain disturbs sleep the relationship between the two has since recently been seen as reciprocal. To fathom the causal direction from sleep to pain we have reviewed experimental human and animal studies on the effects of sleep deprivation on pain processing. According to the majority of the studies, sleep deprivation produces hyperalgesic changes. Furthermore, sleep deprivation can interfere with analgesic treatments involving opioidergic and serotonergic mechanisms of action. The still existing inconsistency of the human data and the exclusive focus on REM sleep deprivation in animals so far do not allow us to draw firm conclusions as to whether the hyperalgesic effects are due to the deprivation of specific sleep stages or whether they result from a generalized disruption of sleep continuity.

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