

## **THE RELATIONSHIP BETWEEN HEADACHE AND SLEEP**

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Sleep and headache are closely related.

In the ICHD-II: 4.5 Hypnic Headache is described as a

Dull headache fulfilling criteria B-D

- A. Develops only during sleep, and awakens the patient
- B. At least two of the following characteristics:
  1. occurs > 15 times per month
  2. lasts  $\geq$  15 minutes after waking
  3. first occurs after age of 50 years
- C. No autonomic symptoms and no more than one of nausea, photophobia or phonophobia
- D. Not attributed to another disorder

Also the international classification of sleep disorders (ICSD-2 2006) headache related to sleep is described.

This confirms a long known relationship between sleep and headache. Recent literature confirms this finding

The possible relationships between the two can be as follows:

1. No relationship at all
2. Sleep induces headache
3. Sleep disturbances cause headache
4. Headache interferes with sleep
5. Sleep changes headache
  - Headache reduction
  - Headache increase
6. The REM sleep association

Classic hypnic headache, migraine that occurs in the night in 71% of the sufferers and cluster headache, all do suggest a strong relationship between sleep and headache.

However a possible pathophysiological mechanism and mode of action of arousal processes occurring during sleep which result in headache, are not yet well established.

We all know for a long time that OSAS and lack of sleep are causes of headache in adults and children.

However a possible mechanism from which this bad sleep results in pain is not yet completely understood.

In the present study this relationship is described. The aim of this presentation is to clarify the link between the two which will result in a better understanding of the role that bad sleep plays in the occurrence of headache.

Close observation on muscle tone during different sleep stages and sleep studies in affected and non-affected patients and the role of arousals during REMsleep will be described as a possible final common pathway.

The role of the hypothalamus in sleep regulation and its functional relationship in the perception of pain will be described.