

CNS-Physiology

Archive

lecture 5

Arousal mechanism

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***Some questions from chat-gpt**

Which neurotransmitter is primarily released by neurons originating in the brainstem during the awake state?

- A) GABA B) Serotonin and norepinephrine C) Dopamine D) Acetylcholine

Answer: B

Orexins, involved in maintaining wakefulness, are produced in which part of the brain?

- A) Thalamus
B) Cerebellum
C) Hypothalamus
D) Medulla

Answer: C

The transition from sleep to wakefulness is mediated by:

- A) GABAergic neurons in the preoptic nucleus
B) Monoaminergic neurons of the RAS
C) Serotonergic neurons in the raphe magnus nucleus
D) Cortical inhibitory pathways

Answer: B

The synchronization of alpha rhythms in an EEG is replaced by beta waves during:

- A) Deep sleep
B) Light sleep
C) Arousal or alerting response
D) Relaxation with closed eyes

Answer: C

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In the EEG, low amplitude and high frequency waves indicate:

- A) Relaxation
- B) Deep sleep
- C) Alertness and cognitive activity
- D) Narcolepsy

Answer: C

In the reticular formation, the descending fibers are involved in:

- A) Enhancing sensory perception
- B) Inhibiting transmission in sensory and motor pathways
- C) Regulating consciousness
- D) Stimulating the thalamus

Answer: B

What characterizes alpha waves in an EEG? A) Frequency of 4-7 Hz, seen during light sleep

- B) Frequency of 8-13 Hz, seen in awake adults with closed eyes
- C) Frequency of 13-30 Hz, associated with alertness
- D) Frequency of 1-3 Hz, observed during deep sleep

Answer: B

Which EEG wave type is most associated with intense cognitive activity?

- A) Gamma waves
- B) Delta waves
- C) Beta waves
- D) Theta waves

Answer: C

The RAS receives collateral input from all the following systems except:

- A) Visual
- B) Auditory
- C) Olfactory
- D) Endocrine

Answer: D

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All of the following statements about alpha waves are true

EXCEPT:

- A) Dominant waves in awake adults at rest with eyes closed
- B) Voltage around 50 V
- C) Frequency 8-13 Hz
- D) Most marked in occipital regions
- E) Mostly found in children

Answer: E

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أخرجني من حولي وقوتي
إلى حوك وقوتك..

الطب والجراحة

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