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## Alertness

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## Synonyms

[Awareness](#); [Consciousness](#); [Vigilance](#);  
[Watchfulness](#)

## Definition

A state of being mentally perceptive and responsive to external stimuli. A “readiness to respond” that can be detected by electroencephalography (EEG). Alertness is susceptible to fatigue; maintaining a constant level of alertness is difficult, particularly for monotonous tasks demanding continuous attention. Stimulants such as nicotine, caffeine, and amphetamines can temporarily boost alertness. Diminished alertness is often associated with the physiological response of yawning, which may boost the alertness of the

brain. Impaired alertness is a common symptom of a number of conditions, including narcolepsy, attention deficit disorder, traumatic brain injury, chronic fatigue syndrome, depression, Addison’s disease, and sleep deprivation. Although a broad neurological network modulates alertness, the basal forebrain and a distinct group of neurons located in the periventricular areas of the mid-brain, pons, and medulla, referred to as the reticular activating system (RAS), appear to be most directly responsible for modulating alertness and sleep.

## Cross-References

- ▶ [Attention](#)
- ▶ [Attention Deficit](#)
- ▶ [Basal Forebrain](#)
- ▶ [Brain Injury](#)
- ▶ [Coma](#)
- ▶ [Consciousness](#)
- ▶ [Hindbrain](#)
- ▶ [Hyperactivity Disorder](#)
- ▶ [Reticular Activating System](#)
- ▶ [Vigilance](#)