

Stages of Sleep Chart

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Introduction: The stages of sleep consist of four distinct stages: one rapid eye movement (REM) stage and three non-REM (NREM) stages. These stages are categorized through the analysis of brain activity during sleep, each displaying unique patterns. These stages cycle in the order of: Wake, N1, N2, N3, REM

Wake/Alert (Wake): Varies duration. This is the period of alertness before sleep. Brain is active, and body is responsive. Transition to sleep begins with relaxation and slowed brain activity.

Stage 1 (N1) NREM: 1-5 minutes. This is the transition from wakefulness to sleep. Light sleep where awareness of surroundings remains. Slow eye movement, reduced heart rate, and muscle relaxation. Easily awakened.

Stage 2 (N2) NREM: 10-25 minutes. This is the transition from light sleep to deep sleep. Heart rate and breathing slow further, body temperature drops. Sleep spindles (bursts of brain activity) occur. This is the largest portion of total sleep time.

Stage 3 (N3) NREM: 20-40 minutes. Deepest sleep stage. Slow brain waves, relaxed muscles, and minimal movement. Difficult to wake. The body repairs tissues and releases growth hormones.

REM Sleep: 10-60 minutes. Occurs ~90 minutes after sleep begins. Rapid eye movement, increased brain activity, shallow breathing, and heart rate. Muscles become paralyzed to prevent movement during dreams. Supports memory and learning.

Sleep cycle overview: Each cycle lasts 90-120 minutes. Typical sequence: Wake → N1 → N2 → N3 → N2 → REM. A person goes through 4-5 cycles per night.

Clinical importance: Stage 3 (N3) is essential for physical restoration. REM sleep is critical for cognitive functions like memory and emotional regulation. Sleep disturbances in specific stages can indicate conditions like insomnia, sleep apnea, or neurological disorders.

Additional notes