



- Approximately 20% of all fatal traffic accidents are caused by fatigue and insomnia.
- Fatigue-related accidents are among the most lethal types of crashes, often occurring at high speeds and characterized by a lack of skid marks (no braking).
- Accidents are most frequent during time slots when the body's biological clock (circadian rhythm) is programmed for sleep: between 02:00 – 05:00 and 13:00 – 15:00 (post-lunch dip/afternoon slump).



Staying awake for 17-19 hours leads to a performance decline equivalent to having a 0.05% BAC (Blood Alcohol Concentration). Staying awake for 24 hours is equivalent to a 0.10% BAC.

STAGES OF SLEEP

- **NREM 1 (Transition Stage)** The bridge between wakefulness and sleep. It is a light sleep where muscles relax and the heart rate begins to slow down. (5–10 minutes)
- **NREM 2 (Light Sleep)** Body temperature drops, and the connection with the environment begins to fade. A large portion of total sleep is spent in this stage. Mental refreshing begins. (10–25 minutes)
- **NREM 3 (Deep Sleep)** The most critical stage for drivers. This is the stage where the body physically repairs itself and restores energy. If you are forcibly awakened from this stage, you will experience "sleep inertia," making it extremely dangerous to get behind the wheel.
- **REM (Rapid Eye Movement)** The stage where dreaming occurs. The brain processes information learned during the day and commits it to memory. It is critical for mental health and cognitive function.

