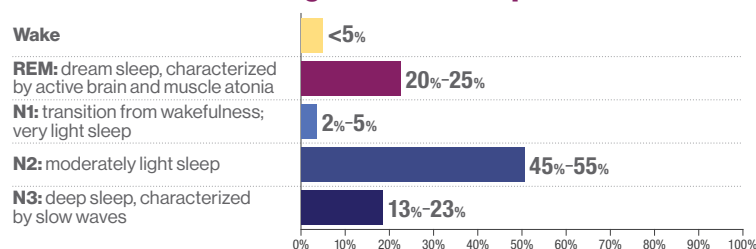


Sleep Architecture in Healthy Adults and Patients With Narcolepsy and Idiopathic Hypersomnia

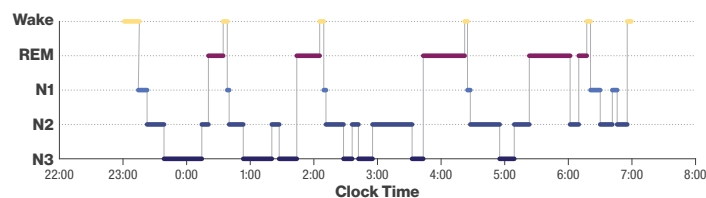
Healthy Sleep Architecture

Percentage of Time Spent in Sleep/Wake States During Nocturnal Sleep Period¹



Hypnogram in an Individual With Healthy Sleep^{2,a}

A healthy hypnogram reflects an **alternating pattern of sleep-wake stages** in approximately 90-minute cycles¹



Sleep Architecture in Narcolepsy and Idiopathic Hypersomnia

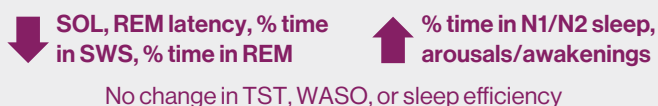
Sleep in Narcolepsy

- Individuals with narcolepsy often report **poor sleep quality** and **frequent nocturnal awakenings**, known as disrupted nighttime sleep³
- Sleep instability in narcolepsy involves **spontaneous awakenings, arousals, and excessive sleep stage transitions**⁴
- Transitions become irregular** in patients with narcolepsy, causing manifestations of sleep to intrude into the waking state and wakefulness to intrude into the sleep state⁴

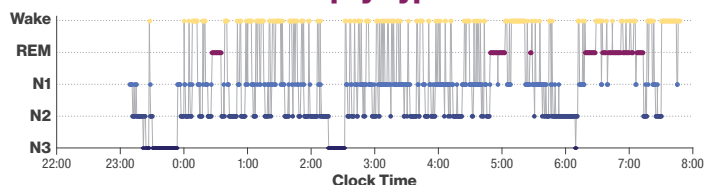
A recent review found that compared with healthy controls or individuals with self-reported hypersomnolence, individuals with narcolepsy have demonstrated:⁴



A retrospective study found that compared with healthy controls, individuals with narcolepsy have demonstrated:⁵



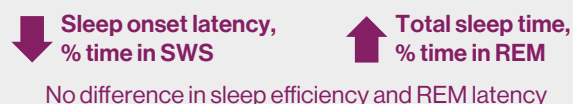
Hypnogram in an Individual With Narcolepsy Type 2^{6,c}



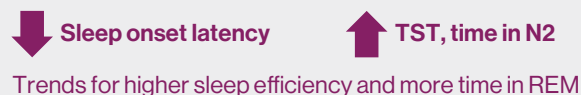
Sleep in Idiopathic Hypersomnia

- Sleep architecture in patients with idiopathic hypersomnia is not yet fully understood and is an active area of investigation
- Individuals with idiopathic hypersomnia often report **prolonged, nonrestorative nighttime sleep**^{7,8}
- Diagnostic criteria for idiopathic hypersomnia include objective mean sleep onset latency ≤ 8 min and/or **total sleep time ≥ 660 min/24h**⁸
- Patients with idiopathic hypersomnia may also have **less stable or less consolidated SWS**, which could contribute to the **nonrestorative nature of nighttime sleep** associated with idiopathic hypersomnia⁹

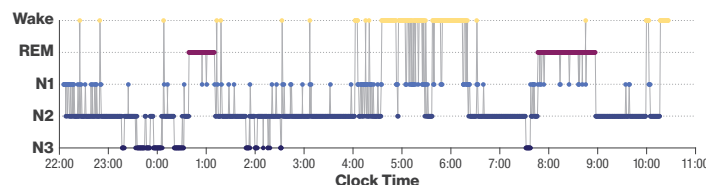
A meta-analysis found that compared with controls, individuals with idiopathic hypersomnia have demonstrated:¹⁰



A retrospective study found that, compared with healthy controls, individuals with idiopathic hypersomnia had:¹¹



Hypnogram in an Individual With Idiopathic Hypersomnia^{6,c,d}



^aFigure adapted from Blume C, et al. *Front Hum Neurosci*. 2015;9:1-14. <https://creativecommons.org/licenses/by/4.0>. ^bIn patients with narcolepsy type 1 with cataplexy. ^cNarcolepsy and idiopathic hypersomnia hypnograms are derived from the pre-treatment phase of Jazz DUET (Develop hypersomnia Understanding by Evaluating low-sodium oxybate Treatment): a phase 4, prospective, multicenter, single-arm, open-label interventional study evaluating sleep architecture in a narcolepsy cohort and idiopathic hypersomnia cohort.¹ ^dSleep architecture may differ in patients with long sleep time compared with those without long sleep time.

h, hour; min, minute; N1/2/3, non-REM stage 1/2/3 sleep; REM, rapid eye movement; SOL, sleep onset latency; SWS, slow wave sleep; TST, total sleep time; WASO, wake after sleep onset.

References: 1. Carskadon MA, Dement WC. Monitoring and staging human sleep. In MH Kryger, T Roth, & WC Dement (Eds.), *Principles and Practice of Sleep Medicine*, 5th edition; 2011:16-26. 2. Blume C, et al. *Front Hum Neurosci*. 2015;9:1-14. 3. Roth T et al. *J Clin Sleep Med*. 2013;9:955-965. 4. Maski K, et al. *J Clin Sleep Med*. 2022;18:289-304. 5. Jiménez-Correa U, et al. *Arq Neuropsiquiatr*. 2009;67:995-1000. 6. Data on file. Jazz Pharmaceuticals. 7. Vernet C, et al. *J Sleep Res*. 2010;19:525-534. 8. American Academy of Sleep Medicine. *International Classification of Sleep Disorders – Third Edition, Text Revision*. Darien, IL: American Academy of Sleep Medicine; 2023. 9. Maski KP, et al. *Sleep*. 2021;44:zsab021. 10. Plante DT. *Sleep Med*. 2018;45:17-24. 11. Deshaies-Rugama A-S, et al. *Sci Rep*. 2024;14:16407.