

Background

- Adolescents average 5.5–8.5 hours/day¹
- Sleep disruption mechanisms include:
 - Delayed bedtime
 - Blue light = ↓ melatonin production; cognitive arousal
 - Nighttime notifications^{1,3}
- Primarily behavioral(time displacement) > physiological¹
- ~20% sleep <7 hours; 41% irregular sleep¹

Clinical Significance

- Recommended sleep: 8–10 hours/night³
- Sleep deprivation linked to:
 - Depression, suicidal ideation, obesity, and poor academic performance^{1,3}
- Social media: strongest negative sleep associations³
- Portable devices #1 for sleep disruption³
- Devices in bedroom worsens sleep³

Blue Light Physiology

- Suppresses melatonin → delays sleep onset³
- Increases alertness → circadian disruption³
- Contributes to behavioral sleep delay¹

Systematic Review & Meta-Analysis Findings¹

- Increased screen use → later sleep onset
- No consistent association with sleep duration, quality, or efficiency
- Stronger negative associations with post-bedtime use
- Supports sleep displacement hypothesis

Systemic Review & Meta-Analysis Summary¹

- Evidence quality: moderate–strong
- Timing (night use) = strongest factor
- Limitations:
 - Self-reported data
 - Confounding variables

Evidence-Based Recommendations

- Avoid screens 1–2 hours before bed^{3,5}
- Avoid post-bedtime screen use¹
- Aim for ~9 hours sleep⁵

Anticipatory Guidance

- Consistent bedtime routine⁴
- Structured routine (“4 Bs”: bathe, brush, book, and bed)⁵
- Replace screen use with reading, music, or meditation⁴
- Family media plans/parental controls⁴

Behavioral Interventions

- Reducing nighttime screen use improves:
 - Sleep onset, duration, and daytime alertness³
- Encourage:
 - Physical activity, family time, and in-person socialization^{4,5}

Practical Strategies

- Remove devices³
- Create screen-free zones/times^{3,5}
- Turn off notifications³
- Reduce screen use at night³
- Avoid interactive screen use in bed³

Key Takeaways

- Primarily behavioral (delayed bedtime), not direct physiological disruption¹
- Nighttime = highest-risk behavior¹
- Behavioral interventions are effective and feasible³

References

- ¹ Bourke, M., Maddren, C. I., Sippel, F., & Thomas, G. (2026). Within-person association between daily screen use and sleep in youth: A systematic review and meta-analysis. *JAMA Pediatrics*. Advance online publication. <https://doi.org/10.1001/jamapediatrics.2025.6490>
- ² Fiore, M., Arena, D., Crisafi, V., Grieco, V., Palella, M., Timperanza, C., Conti, A., Cuffari, G., & Ferrante, M. (2025). Digital devices use and sleep in adolescents: An umbrella review. *International Journal of Environmental Research and Public Health*, 22(10), 1517. <https://doi.org/10.3390/ijerph22101517>
- ³ Munzer, T., Milkovich, L. M., Madigan, S., Tomopoulos, S., Parga-Belinkie, J., Ajumobi, T., Cross, C., Gerwin, R., & Council on Communications and Media. (2026a). Digital ecosystems, children, and adolescents: Technical report. *Pediatrics*, 157(2), e2025075321. <https://doi.org/10.1542/peds.2025-075321>
- ⁴ Munzer, T., Parga-Belinkie, J., Milkovich, L. M., Tomopoulos, S., Ajumobi, T., Cross, C., Gerwin, R., Madigan, S., & Council on Communications and Media. (2026b). Digital ecosystems, children, and adolescents: Policy statement. *Pediatrics*, 157(2), e2025075320. <https://doi.org/10.1542/peds.2025-075320>
- ⁵ Muth, N. D., Bolling, C., Hannon, T., Sharifi, M., Section on Obesity, & Committee on Nutrition. (2024). The role of the pediatrician in the promotion of healthy, active living. *Pediatrics*, 153(3), e2023065480. <https://doi.org/10.1542/peds.2023-065480>