SLEEP & STRESS

Is Your Screen Really Ruining Your Sleep?

The link is real, but blue light is only part of a more complicated-and less certain-story.

The bedtime bargain

You mean to check one message. Then there is another video, another headline, another small reason not to put the phone down. By the time the room is quiet, sleep feels less like an arrival than a task you have somehow failed.

It is easy to blame the glow. Public-health guidance supports keeping televisions, computers and phones out of the bedroom, while the National Heart, Lung, and Blood Institute advises avoiding bright artificial light from screens before bed. The explanation sounds satisfyingly simple: light may tell your brain it is time to be awake.

But "screens ruin sleep" compresses several different questions into one slogan. Does evening light affect the body's internal timing? Is using a phone linked with later or poorer sleep? Would filtering blue light solve the problem? The evidence gives a different answer to each.

That distinction matters because sleep is not empty time. It supports learning and memory, restores energy and helps maintain health. Poor or insufficient sleep can impair clear thinking, reactions and memory, and it is linked with risks ranging from mood problems to high blood pressure and type 2 diabetes. Your scrolling habit may be ordinary. The sleep it presses against is not trivial.

The link is there

The strongest recent evidence about screen use itself is observational. A 2023 systematic review examined digital media and sleep among people aged 16 to 25. Of 60 identified studies, the authors included 42 rated moderate or high quality. Digital media use was associated with shorter sleep and poorer sleep quality.

The association appeared with general screen use and with mobile phones, computers, internet use and social media. It did not appear for television, game consoles or tablets in that review. Most studies examining bedtime or nighttime use found links with poor sleep outcomes, while nighttime mobile-phone use was associated with later bedtimes and daytime tiredness.

That sounds damning, but the review's wording deserves attention: associated with.

Observational studies can show that two things travel together without proving which one drove the other. The reviewers said more research was needed to establish the causal direction and understand the mechanisms.

In other words, young people who use digital media more may sleep less or worse, but these studies do not settle exactly what the screen did. The device may matter. The timing may matter. The light may matter. The review does not allow you to divide responsibility neatly among them-and it does not prove that removing one device will repair every troubled night.

Blue-light glasses are an answer being sold before the question has been settled.

Light can move the clock

There is firmer experimental evidence that light can affect the body's circadian system. A 2020 systematic review gathered 128 articles on light exposure and circadian rhythm. Most investigated melatonin secretion, while far fewer examined REM sleep. Many studies were tiny: 39 included ten or fewer participants.

After applying quality criteria that required at least 20 participants and adequate details about the light exposure, the reviewers were left with 13 studies on melatonin and two on REM sleep. Those studies indicated that evening blue-light exposure suppressed melatonin. The greatest suppression occurred at an even shorter, violet wavelength.

Yet the same review complicates any story in which blue light alone is the villain. Red light and intermittent light also produced circadian resetting responses. Even low light during sleep, with eyes closed, induced a circadian response. Timing mattered too: light in the evening, at night and in the morning affected the circadian phase of melatonin levels.

The laboratory finding is meaningful, but it is not a direct verdict on your nightly phone use. The reviewed experiments used defined light exposures, and the stronger synthesis drew on relatively few qualifying studies. Most participants were adults in their twenties or thirties; children and older adults were rarely studied. A biological effect is not the same thing as proof that every screen, at every brightness, causes meaningful sleep loss.

Blue-blocking glasses are not a verdict

Once blue light became the culprit, blue-light filtering glasses became the tempting fix. Here the trial evidence disappoints. A 2023 Cochrane review assessed 17 randomized controlled trials comparing blue-light filtering lenses with non-filtering lenses in adults. The studies ranged from five to 156 participants and lasted from less than a day to five weeks.

For sleep quality, the evidence was very uncertain. Six trials involving 148 participants produced evenly split results: three reported improved sleep scores with filtering lenses, and three found no significant difference. The populations varied, and the reviewers lacked enough comparable quantitative data to combine the results in a meta-analysis.

The trials also had important weaknesses. None had a low risk of bias across every domain assessed by Cochrane. Many outcome assessors, participants or study personnel were not masked, and only 35 percent of studies had been preregistered. The review concluded that the effect of blue-light filtering lenses on sleep remained indeterminate.

Blue-light glasses are an answer being sold before the question has been settled. That does not prove they never help anyone. It means the best trial review available here cannot establish that they improve sleep. It also cannot tell you whether filtering one part of the light spectrum compensates for continuing to use the device at bedtime.

Make the experiment smaller

You do not need to treat your phone as poison to take the evidence seriously. For the next week, notice the practical bargain you are making at bedtime. If the screen stays, is sleep being crowded out? Is the room still bright when you are trying to wind down? Is the phone beside you because you chose it, or simply because it was already there?

Then change the setting rather than buying certainty in spectacle frames. Keep the bedroom cool, dark and quiet, without distractions such as televisions, computers and phones. Use the period before bed for quiet time and choose relaxing activities such as reading, listening to soothing music or taking a bath.

Be especially attentive if a teenager is involved. Adolescents exposed to more evening light-from room lighting or electronics-are less likely to get enough sleep, and technology use may contribute to late bedtimes. Teenagers also tend biologically to fall asleep and wake later, which can conflict with early school starts. A screen rule cannot move the morning bell.

Do not let a lifestyle experiment become a reason to postpone care. If trouble falling asleep or staying asleep continues, see a health care provider; insomnia or sleep apnea may be involved. Cognitive behavioral therapy for insomnia is usually the first option for long-term insomnia. This week, move the screen out of reach, leave the glasses unbought, and see what a darker, quieter bedtime actually changes.

Where this comes from

- Healthy Sleep

  MedlinePlus, U.S. National Library of Medicine · https://medlineplus.gov/healthysleep.html
- Sleep Deprivation and Deficiency: Healthy Sleep Habits

  National Heart, Lung, and Blood Institute · https://www.nhlbi.nih.gov/health/sleep-deprivation/healthy-sleep-habits
- Insomnia - Treatment

  National Heart, Lung, and Blood Institute · https://www.nhlbi.nih.gov/health/insomnia/treatment
- Sleep and Health

  Centers for Disease Control and Prevention · https://www.cdc.gov/physical-activity-education/staying-healthy/sleep.html
- The effects of physical activity on cortisol and sleep: A systematic review and meta-analysis.

  Psychoneuroendocrinology, 2022 · https://pubmed.ncbi.nlm.nih.gov/35777076/
- Digital media use and sleep in late adolescence and young adulthood: A systematic review.

  Sleep medicine reviews, 2023 · https://pubmed.ncbi.nlm.nih.gov/36638702/
- Blue-light filtering spectacle lenses for visual performance, sleep, and macular health in adults.

  The Cochrane database of systematic reviews, 2023 · https://pubmed.ncbi.nlm.nih.gov/37593770/
- Systematic review of light exposure impact on human circadian rhythm.

  Chronobiology international, 2020 · https://pubmed.ncbi.nlm.nih.gov/30311830/